United States General Accounting Office

GAO

Report to Congressional Requesters

February 2000

MARINE POLLUTION

Progress Made to Reduce Marine Pollution by Cruise Ships, but Important Issues Remain

GAO/RCED-00-48

Contents

Abbreviations

APHIS	Animal, Plant, and Health Inspection Service
APPS	Act to Prevent Pollution from Ships
CMC	Center for Marine Conservation
ECP	environmental compliance plan
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigation
IMO	International Maritime Organization
ISM	International Safety Management
ISP	International Shipping Partners
MARAD	Maritime Administration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSIS	Marine Safety Information System
MSO	Marine Safety Office
NOAA	National Oceanic and Atmospheric Administration
RCCL	Royal Caribbean Cruises, Ltd.
RCRA	Resource Conservation and Recovery Act

United States General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-282376

February 28, 2000

The Honorable John D. Dingell
Ranking Minority Member
Committee on Commerce
House of Representatives

The Honorable Henry A. Waxman
Ranking Minority Member
Committee on Government Reform
House of Representatives

From 1993 through 1998–the most recent year for which data are available–cargo ships, tankers, cruise ships, and other commercial vessels registered, or "flagged," in foreign countries have been involved in almost 2,400 confirmed cases of illegally discharging oil, garbage, and other harmful substances into U.S. coastal waters. Cruise ships, nearly all of which are flagged in foreign countries, accounted for about 4 percent of all confirmed illegal discharge cases by commercial foreign-flagged ships during this period. Although the more than 100 cruise ships operating in U.S. waters have been involved in a relatively small number of these pollution cases, several cruise ship cases have been widely publicized. For example, on a number of cruise ships operated by one cruise ship company, pollution control devices were deliberately bypassed and records were falsified, leading to criminal prosecution and an $18 million fine in 1999. Several other cruise ship companies have also received substantial criminal penalties, in the hundreds of thousands of dollars, for similar incidents.

Given that cruise ship activity in North American ports increased by almost 50 percent from 1993 through 1998 and ships with thousands of passengers can generate large amounts of waste, the actions being taken by federal regulators and the cruise ship industry to prevent future illegal discharges are a matter of interest to the Congress. As agreed with your offices, we focused our work on the following specific questions:

- What are the nature and extent of reported illegal discharge cases for foreign-flagged cruise ships from 1993 through 1998?
- What efforts have relevant federal agencies made to prevent, detect, investigate, and prosecute illegal discharges from foreign-flagged cruise ships?

- What actions have cruise ship companies with proven illegal discharge violations taken to prevent future illegal discharges?
- What are the views of relevant federal agencies and third-party interest groups regarding the actions that cruise ship companies have taken, and what issues, if any, do they believe require further attention?

Results in Brief

Federal data indicate that foreign-flagged cruise ships were involved in 87 confirmed illegal discharge cases in U.S. waters from 1993 through 1998. Overall, the number of confirmed illegal discharge cases by cruise ships in U.S. waters generally declined during this period. Oil or related chemicals were discharged in 81 cases; 6 cases involved discharges of garbage or plastic. We determined that about three-fourths of these cases were accidental, resulting from human or mechanical error, while the remainder were either intentional or their cause could not be determined from the available information. A few of the 87 cases involved multiple illegal discharge incidents that, according to the Department of Justice, numbered in the hundreds over the 6-year period. In addition to the 87 confirmed cases, 17 other alleged incidents were referred to the countries where the cruise ships were registered because the incidents occurred outside U.S. waters or because jurisdiction could not be clearly ascertained. Both large and small cruise ship companies were involved in illegal discharge cases.

The Coast Guard, the Department of Justice, and, to a lesser extent, other agencies undertake a variety of efforts to prevent, detect, investigate, or prosecute illegal marine discharges by foreign-flagged cruise ships. The Coast Guard inspects ships in port, watches them as part of aircraft surveillance in the open sea, investigates reported incidents, and if warranted, adjudicates cases under its civil penalty procedures. However, the Coast Guard's ability to detect and resolve violations is constrained by the narrow scope of its routine inspections, a significant reduction in aircraft surveillance for marine pollution purposes, and a breakdown of the process for identifying and resolving alleged violations referred to flag states. Both the Coast Guard and the Department of Justice have been involved in these pollution cases, with Justice prosecuting the most serious offenses. Civil penalties levied from 1993 through 1998 against cruise ship companies by the Coast Guard ranged from a warning with no penalty to a $17,500 penalty; Justice's criminal penalties against cruise ship companies ranged from $75,000 to $18 million. In addition, federal agencies have implemented or partially implemented a number of recommendations made by GAO and others to improve the coordination of enforcement, data sharing, and other efforts among relevant agencies.

We spoke with representatives from 9 cruise ship companies responsible for ships involved in nonaccidental pollution cases, as well as from 3 additional companies (involved in accidental cases) that represent a large segment of the cruise ship industry. These 12 companies have implemented new or updated environmental plans designed to enhance ship safety and prevent pollution. The plans, which were prepared pursuant to new international standards or were mandated by U.S. district courts after the companies pled guilty to pollution violations, call for such steps as regular third-party verification of ships' compliance with environmental procedures. Among the 12 companies, the 8 that operate relatively large fleets of ships have taken additional steps to reduce the amounts of plastics and other potential wastes brought onboard, as well as to install incinerators and additional equipment for treating or storing solid wastes, hazardous wastes, and oily bilgewater. Officials from the four smaller companies said they have not had to take these additional steps because their ships are away from port only 5 to 7 hours daily and have space onboard to store wastes until the ships return to port.

Officials from the Coast Guard, the Department of Justice, and the Center for Marine Conservation (a nongovernmental, science-based advocacy, research, and public education organization that monitors marine pollution issues) said that cruise ship companies were making progress toward changing a maritime "culture" that once permitted discharges of garbage and oil from ships before international standards and U.S. laws to control such discharges were adopted. They pointed out, however, that cruise ship companies must demonstrate a sustained commitment to eliminate illegal discharges at sea. Some officials expressed concern about the large volume of wastewater from sinks, showers, drains, and sewage systems that cruise ships legally discharge at sea and the possible effects of these discharges on sensitive marine life.

Background

The worldwide cruise ship fleet includes more than 223 ships that carried an estimated 9.5 million passengers in 1998, according to industry sources. About one-half of the fleet was positioned in the North American market. Over a 6-year period (1993-98), cruise ship embarkations from North American ports increased by almost 50 percent, and by 2003, cruise ship companies plan to add 33 new and/or bigger cruise ships to this market, which will increase passenger capacity by about 35 percent. The major U.S. ports of call are located in Florida. A large number of passengers also embark from ports in Alaska, California, Louisiana, Massachusetts, New York, Puerto Rico, and Texas.

International safety and pollution standards for ships are set through the International Maritime Organization (IMO), a United Nations specialized agency. Pollution standards are addressed under IMO's International Convention for the Prevention of Pollution from Ships (MARPOL).[1] The country where a ship is registered (the "flag state") is responsible for certifying the ship's compliance with pollution prevention standards, although many nations delegate this task to classification societies, which perform pollution prevention compliance (and other) inspections under contract.[2] The country the ship visits (the "port state") can conduct its own examinations to verify the ship's compliance with international standards and can detain the ship if it finds significant noncompliance. The Coast Guard performs these examinations and enforces standards in U.S. ports.

[1]MARPOL currently contains six annexes, four of which pertain to preventing pollution from vessels, including cruise ships. Annex I (prevention of pollution by oil) entered into force in 1983, and Annex V (prevention of pollution by garbage/plastics) entered into force in 1988. Neither Annex IV (prevention of pollution from sewage) nor Annex VI (prevention of air pollution from ships) has entered into force because they have not been ratified by the requisite number of nations. In 1995, GAO issued a report, *Coast Guard: Enforcement Under MARPOL V Convention on Pollution Expanded, Although Problems Remain* (GAO/RCED-94-143, May 30, 1995), regarding the Coast Guard's efforts to enforce Annex V.

[2]In addition to MARPOL, the United States is party to four other international conventions governing the safe operation of ships that, according to Coast Guard officials, protect both people and the environment. These conventions include the International Convention for the Safety of Life at Sea; the International Convention on Load Lines; the International Convention on Standards, Certification and Watchkeeping; and the International Labor Organization Convention No. 147, Concerning Minimum Standards on Merchant Ships. The Coast Guard's vessel examination program helps to ensure that foreign-flagged vessels comply with applicable U.S. and international regulations.

The Act to Prevent Pollution from Ships[3] and the Clean Water Act[4] are the key domestic laws governing the discharge of materials into U.S. waters. The Act to Prevent Pollution from Ships incorporates the provisions of MARPOL into U.S. law. The Clean Water Act generally prohibits the discharge of any pollutant within 3 nautical miles of the United States and of oil and hazardous substances within 12 nautical miles of the United States. It also requires those who discharge oil to immediately report the spill to the appropriate federal agency. These U.S. laws apply to foreign-flagged ships while they are in U.S. waters.[5] If violations of U.S. law occur, the Coast Guard can levy administrative civil penalties up to $25,000 per violation. The Coast Guard refers more serious cases to the Department of Justice (Justice) for possible criminal prosecution.

MARPOL requires parties to adopt specific standards governing the design, construction, and operation of ships and their equipment and places restrictions on the discharge of certain substances, such as oil, hazardous substances, garbage, and plastics from ships. These restrictions generally relate to the type, size, and/or quantity of the substance and the location of the discharge. All ships of signatory countries are subject to MARPOL's requirements regardless of where they are operating.[6] Typically, according to Coast Guard officials, the United States has taken direct action against foreign-flagged ships when incidents have occurred within U.S. jurisdiction and has referred cases to flag states in accordance with MARPOL's provisions when incidents have occurred outside U.S. jurisdiction or jurisdiction could not be determined. Under this process, information regarding suspected cases is transferred from local Coast Guard units to Coast Guard headquarters for review. If Coast Guard headquarters personnel believe sufficient information is available to pursue a flag state case, they send the case to the U.S. Department of State. The case is then forwarded to the cognizant flag state for further investigation and action,

[3]33 U.S.C. 1901-1911.

[4]33 U.S.C. 1319, 1321, 1322.

[5]Depending on the severity of the pollution and the type of incident (i.e., oil, garbage, etc.), U.S. criminal jurisdiction ranges from 3 to 200 nautical miles. Inside 3 nautical miles, the United States has complete jurisdiction except on foreign vessels in "innocent passage." (A vessel is in innocent passage when it is passing through a nation's territorial sea without intending to stop or conduct certain operations within that territorial sea.)

[6]The MARPOL Convention does not apply to warships, naval auxiliary, and other government ships used only for noncommercial service.

according to a State Department official in the Office of Oceans Affairs. Under the MARPOL convention, the coastal state—upon detecting an alleged violation—is required to either take action on the violation under its own laws or forward the case to the flag state for its consideration. The flag state is required to promptly inform the party referring the case of the action it has taken.

In addition to the protections and sanctions provided under MARPOL and U.S. law, an updated international standard became effective for passenger and other ships on July 31, 1998. This new standard, referred to as the International Safety Management (ISM) Code, requires cruise ship owners and operators to establish a safety management system. The system should include an environmental protection policy, instructions and procedures for pollution prevention, defined lines of authority, internal and management reviews, and a written plan for both shore and shipboard personnel to follow. Cruise ship companies are required to have their systems and plans certified as in compliance with the ISM Code by the flag state or an authorized agent of the flag state. Ships without proof of a certified plan could be denied insurance coverage or entry into the world's major seaports.

Illegal Discharge Incidents Are Declining in Number but Involve Many Companies

The number of confirmed pollution cases involving foreign-flagged cruise ships has declined since 1993. These cases, which have involved mostly oil, have involved both large and small cruise ship companies.

Fewer Illegal Discharge Cases Have Been Confirmed in Recent Years

According to federal data, foreign-flagged cruise ships were responsible for 87 confirmed illegal discharge cases in U.S. waters from 1993 through 1998.[7] (See app. I for detailed information on each case.) This represents about 4 percent of the 2,395 confirmed illegal discharge cases for this period by all types of foreign-registered ships entering U.S. ports. In addition to the 87 cases, 17 other alleged discharge cases were referred to the countries where the cruise ships were registered because the discharges occurred outside U.S. waters or jurisdiction could not be clearly ascertained.[8]

As shown in table 1, the total number of confirmed illegal discharge cases in U.S. waters and referrals to flag states attributed to foreign-flagged cruise ships generally declined from 1993 through 1998. For example, the number of illegal discharge cases in U.S. waters by these cruise ships declined from 24 in 1994 to 9 in 1998. Similarly, in the last 3 years for which data were available, there were no referrals to flag states for alleged discharges by cruise ships.

Table 1: Illegal Discharge Cases in the United States and Alleged Discharge Cases Referred to Flag States for Foreign-Flagged Cruise Ships, 1993-98

Year	Illegal discharge cases in U.S. waters	Cases referred to flag states	Total
1993	16	9	25
1994	24	4	28
1995	17	4	21
1996	13	0	13
1997	8	0	8
1998	9	0	9
Total	**87**	**17**	**104**

Source: GAO's presentation of data from the Coast Guard and the State Department.

[7]An illegal discharge case can be adjudicated through administrative, civil, or criminal procedures, depending on the circumstances of the discharge.

[8]We separated the flag state cases from other violations because these cases are referred outside the U.S. administrative and judicial processes and we have little indication that the flag states have affirmed or denied the alleged incidents. In contrast, the civil penalty and criminal cases are all proven violations.

The general decline in discharge cases by foreign-flagged cruise ships is consistent with the general decline in discharge cases by all types of foreign-flagged ships. For example, in 1993, the Coast Guard documented 412 illegal discharge cases in U.S. waters for all foreign-flagged ships. In 1995, illegal discharge cases peaked for the 6-year period at 488, and in 1998, the number of cases dropped to 236. The total number of referrals to flag states by the United States has dropped off more dramatically. Coast Guard officials could not explain the sudden drop-off in these referrals.

Justice officials told us that some of the cases they prosecuted involved multiple discharge incidents; thus, while there were 87 proven cases of pollution from cruise ships, the Justice cases included many more separate discharge incidents over the period from 1993 through 1998. For example, in a plea agreement with Justice, one large company admitted to falsifying its oil record books and acknowledged "regular and routine" illegal discharges of "harmful quantities of oil-contaminated bilge waste and other pollutants" in numerous jurisdictions, including Florida, New York, California, Alaska, Puerto Rico, and the Virgin Islands. According to a Justice official familiar with the case, at least eight of the company's ships were involved in hundreds of separate illegal discharge incidents in 1994 and 1995; one of the company's ships continued the illegal discharges into 1998.

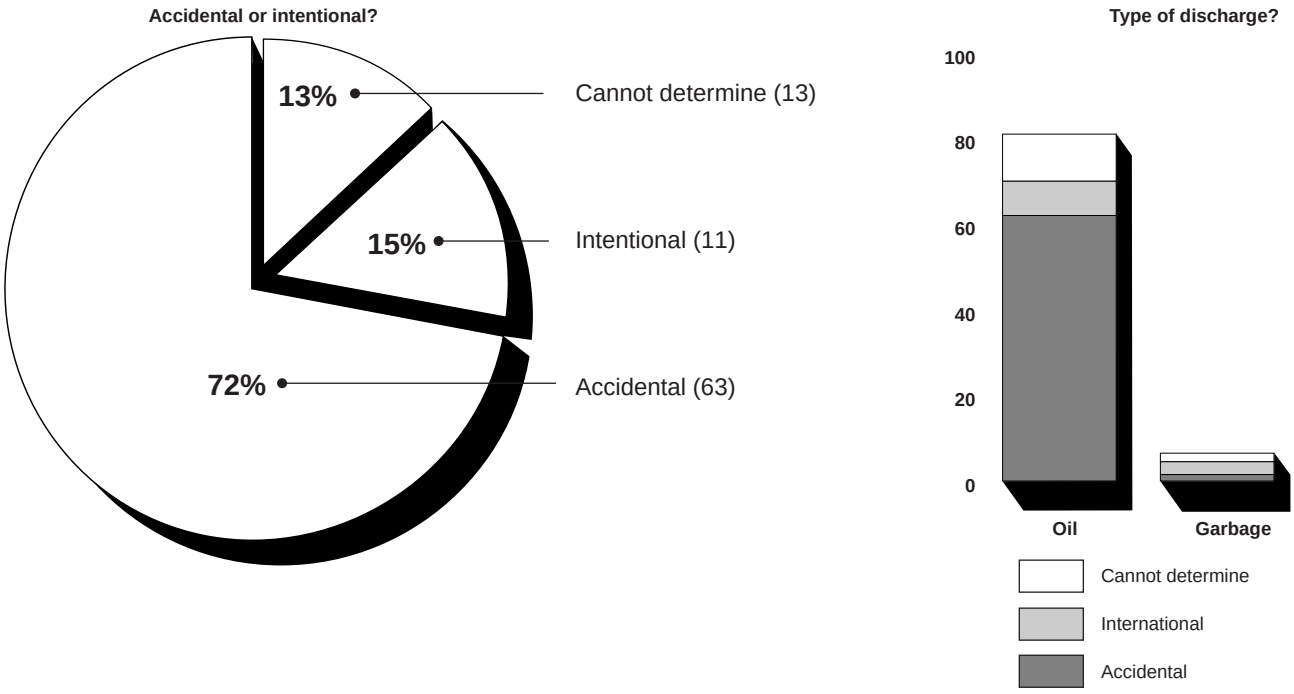
Nature of Discharges Varied

Eighty-one of the 87 cruise ship cases (93 percent) involving incidents in U.S. waters were for illegal discharges of oil or oil-based products, while the remaining 6 cases involved discharges of garbage or plastic. Of the 17 referrals to flag states for alleged illegal discharges, 10 involved oil and 7 involved garbage. The volume of discharged material associated with these cases varied widely, from hundreds of gallons of oil to drops of oil-based paint that spilled into the water during painting of a ship's hull. The volume of garbage discharged also varied. In one case, investigators determined that a cruise ship had illegally discharged garbage after more than 30 plastic bags of garbage were found floating offshore and investigators were able to link the garbage to a particular ship. In another case, a few bottles containing plastic pieces washed up on shore with information that linked them to a cruise ship that had recently passed through the area.

The circumstances surrounding the discharge cases also varied. On the basis of our analysis of case files for all 87 cases, we judged that 72 percent of the illegal discharge cases occurring in U.S. waters (63 cases) were accidental (i.e., associated with mechanical or human error). (See fig. 1.)

For example, many of the oil-related discharge cases involved ships loading fuel in port. Our analysis showed that some spills occurred because crew members were inattentive, while others occurred because equipment failed. In contrast to these accidental cases, we judged 13 percent of the cases (11 cases) to be intentional (i.e., a ship's crew was actively discharging illegal quantities or types of oil or garbage). For another 15 percent (13 cases), we could not determine from the available information whether the incidents were intentional or accidental.

Figure 1: Characteristics of Discharge Cases in U.S. Waters by Foreign-Flagged Cruise Ships, 1993-98



Source: GAO's analysis of the Coast Guard's marine violation data.

Of the 17 discharge cases referred to other countries, we judged 9 to be intentional, all involving alleged illegal discharges of garbage. We could not determine the causes of the other eight cases from the information available; all involved the alleged illegal discharge of oil.

Many Companies Were Involved in Incidents

In total, the 87 confirmed illegal discharge cases by foreign-flagged cruise ships in U.S. waters and 17 cases referred to other countries involved 69 ships associated with 42 different cruise ship companies. However, only 18 companies were involved in discharges that we judged to be intentional or whose cause could not be determined. We contacted nine of these companies for additional follow-up.[9] We also contacted three other companies that were involved in accidental cases and represented a significant segment of the cruise ship industry. (Apps. I, II, and III also provide information on the ships and companies involved in illegal discharge cases and referrals to other countries.) The 12 companies we contacted varied in size, in the types of cruises they conducted, and in the sizes of the ships involved in the incidents. Eight of the companies were large, operating 5 to 16 ships in multiple U.S. and international ports, and four of the companies were small, operating 1 ship to and from a U.S. home port. The ships ranged from small ships providing gambling day trips for 350 to 800 passengers to megaliners that provided overnight accommodations for up to 2,700 passengers for multiday cruises.

Federal Agencies Have Taken Action to Identify and Prosecute Illegal Discharge Cases, but Other Areas May Need Increased Attention

The Coast Guard, Justice, and, to a lesser extent, other agencies undertake a variety of efforts to prevent, detect, investigate, or prosecute illegal marine discharges by foreign-flagged cruise ships. However, the Coast Guard's ability to detect and resolve violations is constrained by the limited depth and scope of its inspections, a significant reduction in aircraft surveillance for marine pollution purposes, and a breakdown of the flag-state referral process, both within the Coast Guard and by flag states. In addition, federal agencies have implemented a number of recommendations made by GAO and marine environmental experts to improve the coordination of enforcement, data sharing, and other efforts among relevant agencies.

Coast Guard Is Responsible for Most Vessel Oversight Efforts

The Coast Guard is the main federal agency involved in preventing, detecting, and investigating discharges. Most illegal discharges are addressed through the Coast Guard's civil penalty process.

[9]Of the 18 companies, 4 went out of business or could not be located, 3 merged or were acquired by other companies, and 2 contracted with a service company to operate and manage their vessels for them.

Prevention and Detection Efforts

The Coast Guard uses four main methods to prevent or detect illegal discharges from cruise ships—passenger vessel inspections, aircraft surveillance, third-party reports, and self-reports. [10] Under the passenger vessel inspection program, which serves as both a prevention and a detection measure, cruise ships that operate in U.S. waters are to be examined quarterly. Coast Guard inspectors use inspection books with written policies to guide their examinations. The primary purpose of these inspections is to check for safety issues; pollution prevention issues are also addressed to a more limited degree. On a typical inspection, a Coast Guard team of two to four people spends 4 to 6 hours aboard a cruise ship performing tasks such as fire drills, life-boat launchings, fire door inspections, and record checks.

A number of factors limit the ability of Coast Guard inspectors to detect illegal discharges or violations of environmental laws and regulations. The inspectors' focus on safety, coupled with the large size of a cruise ship, the limited time for inspection, and limited staff resources, make it very difficult to perform detailed examinations of environmental functions, according to the inspectors we interviewed. Moreover, the element of surprise is missing. Company officials and crew members are notified of these inspections weeks, or even months, in advance of their occurrence and often know their nature and scope. According to Coast Guard officials, inspections are scheduled in advance to accommodate ships' sailing schedules and to ensure that key documents and personnel are available for the inspection. They said that cruise ships usually are in port for less than 10 hours and inspections must be accomplished during this time.

[10]Federal law requires persons in charge of vessels or certain facilities that have spilled oil to report their spills or face additional penalties. As a result, we identified cases in which a vessel operator or another involved party reported a spill as a self-report. A third-party report is typically provided by an uninvolved party who has come upon an incident.

Coast Guard officials in Miami said that during three of the four inspections they perform on each cruise ship each year, they limit pollution prevention checks primarily to inspections of documents. The Coast Guard inspectors we interviewed who conduct cruise ship inspections said they rarely have time to closely examine pollution prevention equipment and would have, for example, little time to lift floor plates and closely examine the piping for the oily water separator[11] to ensure that it is properly routed. Coast Guard officials estimated that they spend about 16 to 20 hours a year inspecting each cruise ship, allowing about half an hour of each 4- to 6-hour inspection for environmental compliance issues and pollution prevention equipment, unless a problem or suspected violations cause them to look further.

While acknowledging the limited scope of their routine environmental oversight aboard cruise ships, Coast Guard inspectors explained that they have latitude to pursue in more detail any item that raises their attention during an inspection. For example, after a Coast Guard aircraft observed a foreign-flagged cruise ship discharging oil near Puerto Rico several years ago, Coast Guard inspectors boarded the ship in Puerto Rico and examined the engine room. Having too little time to finish the investigation before the ship left port for Miami, the inspectors videotaped the ship's engine room. When the ship reached Miami, another inspection team continued the investigation and also videotaped the engine room. A later comparison of the two videotapes revealed that between the two videotapings, inappropriately installed piping had been removed in an attempt to hide the crew's practice of bypassing the oily water separator and illegally discharging untreated oily water at sea.

While the incident in Puerto Rico illustrates the Coast Guard's successful detection of a serious pollution violation, it also reveals shortcomings in the ability of the agency's inspection program—as currently structured—to detect illegal discharges from cruise ships. In this case, for example, if a Coast Guard aircraft had not observed the cruise ship illegally discharging oil, Coast Guard inspectors would probably not have boarded the ship in Puerto Rico or discovered through subsequent routine inspections that piping had been altered to bypass the oily water separator. According to marine inspectors in Miami, inspectors typically do not examine such

[11]Oily waste from a vessel's engines and water in the engine room are collected and pumped through an oily water separator that removes most of the oil; the cleansed water can then be legally discharged at sea if its oil content is less than 15 parts of oil per 1 million parts of water.

piping during their inspections unless they have cause for concern. Moreover, this case led to a larger criminal investigation by Justice, and in its plea agreement with Justice, the cruise ship company admitted that it had falsified its oil record books and routinely bypassed the oily water separators on eight of its ships—as recently as 1998 on one ship. A cognizant Justice official said the Coast Guard and classification society inspectors alike performed dozens of inspections of these ships during this period and did not detect the oily water separator bypasses. Crew members on some of these ships admitted to Justice investigators that they knew when inspectors were coming aboard and were able to disconnect bypass piping to make the operation of the equipment appear normal while the inspectors were onboard.

The Coast Guard also uses its aircraft to detect illegal pollution discharges. Coast Guard investigators and aircraft personnel said that aircraft surveillance of cruise ships is important both in detecting pollution from these ships and in deterring future illegal discharges. Investigators told us that overflights of shipping lanes where cruise ships travel are particularly helpful because, when aircraft observe illegal discharges, they videotape the incidents to provide clear documentation for prosecution actions.

Coast Guard officials explained, however, that aircraft personnel—while they routinely watch for such discharges while flying missions—are usually focused much more on their other primary missions, such as drug enforcement or migrant interdiction. The amount of time that Coast Guard aircraft spend patrolling shipping lanes and watching for pollution from ships is unclear. The Coast Guard's operational data do not accurately document this information because aircraft personnel do not regularly record information relevant to a mission's secondary purpose. For example, according to the Coast Guard's data, one air station near Miami recorded 58 aircraft mission hours for all marine environmental protection activities in 1998. This was less than 1 percent of the total aircraft mission hours for the station. Yet air station officials believe the recorded mission data understate their attention to these activities because they look for pollution incidents while on missions with a different principal purpose. Other missions, such as drug enforcement, migrant interdiction, and search and rescue accounted for over 9,000 hours for this air station.

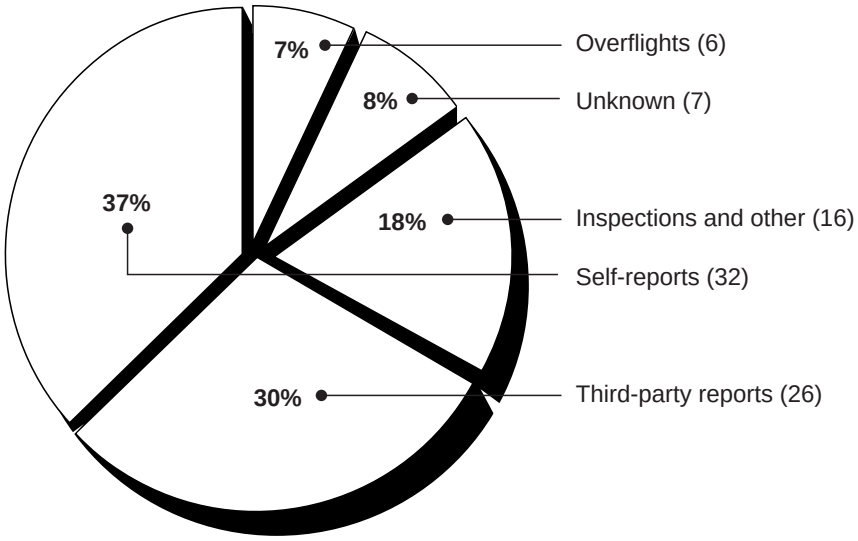
The aircraft hours devoted to marine environmental protection appear to be relatively low throughout the Coast Guard's District 7, which includes most of Florida and has the highest concentration of cruise ships embarking from U.S. ports. Moreover, according to the Coast Guard's data,

Coast Guard aircraft assigned to District 7 spent fewer than half as many documented hours for marine environmental compliance in 1998 (283 hours) as they did in 1993 (578 hours). Coast Guard officials attributed this decline to (1) the loss of two key aircraft, which devoted a significant number of hours to marine environmental protection in 1993 and 1994, and (2) a surge in aircraft hours associated with specific environmental protection initiatives in 1993 and 1994.

Coast Guard officials in District 7 indicated that they are looking into ways to better deploy their existing aircraft to improve their oversight of offshore vessel traffic. They told us that closer coordination between the air stations and the marine safety offices to monitor the offshore shipping lanes used by cruise and other ships may improve environmental surveillance by better combining multiple missions. For example, an aircraft heading to its assigned area for a drug-related patrol may be able to take a water route that coincides more closely with the paths of offshore ships. Coast Guard officials in Miami told us that the Marine Safety Office (MSO) and the air station had collaborated recently on efforts to choose flight paths over water rather than land, where possible, when aircraft are traveling to and from other missions, such as drug enforcement or migrant interdiction. Coast Guard officials in Miami believed that collaborative efforts like this between MSOs and air stations could increase the time spent on environmental overflights without detracting from other missions. Officials from the Coast Guard's District 7 said they are developing an agreement among their units to maximize the time spent over water routes when flying to and from air stations for other primary missions.

Most of the illegal discharges handled by the Coast Guard were reported by third parties or were self-reported (i.e. by cruise ship companies) and were not identified through Coast Guard overflights, inspections, or other agency activities. Of the 87 cases involving incidents in U.S. waters, 26, or about 30 percent, were reported by third parties, and 32, or about 37 percent, were self-reported. (See fig. 2.) A third-party report usually involves a person who witnesses an incident or its effects and then reports the incident to the Coast Guard. Such a person could be, for example, a passerby, a passenger, or a representative of a government agency who notices a discharge in the water. Upon receiving a third-party report, Coast Guard officials said, they typically refer it to the appropriate local Coast Guard unit for follow-up.

Figure 2: Methods of Detecting Illegal Discharge Cases in U.S. Waters Involving Foreign-Flagged Cruise Ships, 1993-98



Source: GAO's analysis of the Coast Guard's marine violation data.

By contrast, Coast Guard aircraft overflights did detect the majority of cases that were referred to flag states. Of the 17 cases referred to other countries, 10 were detected by Coast Guard aircraft. Often in these cases, aircraft personnel observed what appeared to be a discharge of oil at night, using the aircraft's infrared equipment to detect a sheen trailing the cruise ship. On several occasions, the aircraft videotaped the incident and the videotape was later forwarded to the ship's flag state. The remaining 7 cases were third-party reports by passengers aboard the cruise ships. For example, in a 1995 incident, passengers reported witnessing the ship's crew dump garbage into the ocean over several hours. In some cases, passengers photographed or videotaped crew members throwing plastic bags of garbage overboard, and the evidence was forwarded to the appropriate flag state.

Investigation and Case Resolution

A Coast Guard investigation is the key link between detecting an illegal discharge and resolving it. Coast Guard officials said they conduct a follow-up investigation to review more closely the issues raised by a detection report and develop a case against a ship, if warranted. The Coast Guard typically interviews the ship's crew members or other witnesses, reviews key documents maintained onboard (such as a garbage log or an oil record

book), and takes samples of discharged material, if available, to test against materials found onboard. For example, several oil discharge cases against cruise ships were linked to a ship by an oil "fingerprinting" process that confirmed a match between the spilled oil and a sample of oil taken from a ship's tank.

The Coast Guard resolved the incidents included in our review by levying fines under its administrative civil penalty processes, referring incidents to ships' flag states, or referring incidents to Justice for criminal prosecution. We discuss these three processes in more detail below. The nature of the case, determined by the information collected during the investigation, typically dictated which strategy was followed.

Administrative Civil Penalty Processes

The Coast Guard adjudicates the majority of illegal discharge cases that occur in U.S. waters through two administrative processes–a civil penalty hearing program and a ticket program. Under the civil penalty hearing program, a Coast Guard hearing officer reviews information provided in the Coast Guard unit's investigation report and information provided by the alleged violator. On the basis of the evidence presented, the hearing officer determines whether a violation occurred and, if so, how much the penalty should be. The amount of the penalty typically depends on the severity of the incident and other extenuating or mitigating factors, such as whether the same ship or company has had previous violations, according to Coast Guard guidance. Initiated in 1994, the ticket program is a simplified alternative to the civil penalty hearing process; it is limited to oil spills of less than 100 gallons that, according to Coast Guard guidance, involve "no significant gravity or culpability."

Of the 87 illegal marine discharge cases occurring in U.S. waters, the Coast Guard reviewed 54 under its civil penalty hearing program and 26 under the ticket program.[12] The penalties ranged from a warning (with no monetary penalty) for a spill of 1 gallon of lube oil after a piece of equipment broke, to a $17,500 penalty for a discharge of about 150 gallons of oil after a ship discharged water contaminated by oil when it emptied its ballast tanks. The average civil penalty for the 54 cases handled under the hearing process was $2,713; the average penalty for the 26 ticket cases was $444.

[12]The remaining 7 (of the 87) cases were prosecuted by Justice. Two of the seven cases also received a civil penalty under the hearing program but were referred for criminal matters.

Referrals to Flag States

From 1993 through 1999, the Coast Guard forwarded 17 cruise-ship-related pollution cases to the State Department for referral to flag states for further investigation and action because the alleged incidents occurred outside U.S. jurisdiction or jurisdiction could not be clearly ascertained. All of these cases occurred from 1993 through about mid-1995. Only one cruise-ship-related referral occurred from June 1995 through November 1999, the most recent month for which data were available. In fact, referrals to flag states for cases related to all types of vessels virtually stopped in mid-1995. From 1993 through 1995, for example, the Coast Guard sent about 163 cases (related to all types of vessels) to the State Department for referral to the appropriate countries. For the 4-year period from 1996 through November 1999, the Coast Guard forwarded only three cases for referral to flag states.

Coast Guard officials could not fully explain the dramatic decline in referrals to flag states but suggested that reduced oil pollution from vessels worldwide accounted for much of the decline. While reduced oil pollution could have contributed to the decline in referrals to flag states to some extent, it would have been unlikely to cause referrals to stop so abruptly. The fact that the referrals ceased so quickly and almost completely in mid-1995 indicates that other, more substantive factors came into play. Moreover, if reduced pollution worldwide had been a major factor contributing to the decline in flag-state referrals, one would expect the Coast Guard's data on marine violation cases (including ticket cases) to show a similar decline. However, the Coast Guard's data show that marine violation cases actually rose above 1993 levels through 1996. In 1997, marine violation cases fell slightly below 1993 levels, and in 1998, they fell further but still represented a significant number of cases.

One explanation for at least part of the decline in referrals to flag states may lie with changes in the Coast Guard's organization that occurred in the mid-1990s. During this time, the Coast Guard began streamlining its organization, including its marine environmental protection functions. According to Coast Guard officials, responsibilities for processing flag-state referrals received from the agency's MSOs in the field became more fragmented, and headquarters stopped maintaining separate files of submissions from MSOs or documentation about the disposition of these cases. We did not survey all MSOs about the flag-state referral cases they submitted since mid-1995; however, investigators in Miami told us they had submitted two flag-state referral cases to headquarters in the last year. According to the investigators, headquarters informed them about the disposition of one case, but they heard nothing further from headquarters

about the other case. Since headquarters officials do not maintain flag-state-referral files and did not document the disposition of these referrals, they could not tell us what happened with these cases.

Even when referrals have been made, the response rate from flag states has been poor. The final resolution of most of the 17 cases involving cruise ships remains unknown. Case files maintained at the Department of State contained no information from the flag states on how 11 of the 17 cases were resolved. State Department and Coast Guard officials said the flag states did not provide information for these cases, and although neither the Coast Guard nor the State Department routinely follows up on cases referred to flag states, the officials generally believe no action was taken against the ships. For the remaining six cases, one ship was fined an unknown sum, and one ship was to be "surveyed," even though the flag state indicated that it had "reasonable doubt" about the incident. For the four other cases, the flag state reported that it would take no action because it had reasonable doubt or insufficient evidence or believed that the charge was not proved. (See app. II for information about each flag-state referral case.)

This low response rate from flag states for alleged violations by cruise ships mirrors a situation that has existed for years for all types of vessels. In 1992, for example, the State Department analyzed responses from flag states for alleged MARPOL V violations (dumping of garbage and/or plastics at sea). The study showed that of the 111 cases referred by the agency to flag states from January 1989 through June 1992, the flag states did not respond to or took no action on 99 cases (89 percent) and assessed small fines for only 2 of the remaining 12 cases. On the basis of this study, the United States changed its enforcement policy for MARPOL V violations in 1992. According to a document provided by the State Department, the United States, under the new policy, would take direct enforcement action against vessels for MARPOL V violations occurring between 3 and 200 nautical miles from the United States rather than referring such violations to the flag states.

Under MARPOL, flag states are supposed to respond promptly to port states, as well as to IMO, about the disposition of cases referred to them. A cognizant IMO official told us that IMO only monitors the reported data and has no authority to follow-up when flag states do not report the actions they have taken. However, efforts by IMO suggest that it is aware of the difficulties in getting flag states to act. In 1992, IMO developed a new subcommittee to encourage flag states to respond to issues raised by port

states. A Justice official and a State Department official responsible for forwarding referrals to other countries told us that if the United States hopes to improve flag states' response rates through increased efforts at IMO, the Coast Guard should continue to forward to the State Department allegations of ship pollution violations occurring outside U.S. jurisdiction. By taking this action, the officials said, the Coast Guard would have a legitimate basis for raising the issue at IMO and pressing other countries to respond to flag-state referral cases.

Referrals to the Department of Justice

The Coast Guard referred 12 cases to Justice for criminal prosecution. Of these, nine were for incidents that occurred in U.S. waters, and three were for incidents that had been referred to flag states for action.[13] The next section describes what happened in these cases.

[13]Under international law, the United States, as a coastal state, can institute proceedings against a vessel it believes has committed a violation of international pollution standards inside its 200-mile exclusive economic zone. However, these proceedings will be suspended if the flag state decides to bring similar proceedings against the vessel within 6 months of the date that the coastal state's proceedings began. Two exceptions allow the coastal state to continue its proceedings: if there is major damage to the coastal state or if the flag state has repeatedly disregarded its obligations as a flag state to enforce MARPOL.

Department of Justice Leads Criminal Prosecution Efforts

Justice has prosecuted 10 of the 12 cases referred to it by the Coast Guard.[14] (See app. III for detailed information about each case.) The financial penalties for prosecuted cases ranged from $75,000 to $18 million. Three of the 10 prosecuted cases had been referred to flag states that took no known action against the ships. For these three cases, Justice's actions resulted in criminal penalties that ranged from $75,000 to $1 million. In addition to the financial penalties, most of the companies were also required to take additional actions, such as developing an environmental compliance plan, submitting to independent audits of their environmental practices, or purchasing new equipment. While the cases stemmed initially from discharge incidents, Justice's actions and further investigations developed some of the cases to include broader and more serious charges that resulted in significantly higher fines. For example, in one civil penalty case, the cruise company was assessed a $4,000 penalty for an illegal discharge by one ship. However, the criminal case that stemmed from it involved five of the company's cruise ships, included several felony counts, and resulted in multiple probation requirements and an $8 million fine.[15] Justice officials said that the Federal Bureau of Investigation (FBI) has provided valuable assistance in investigating many of the criminal cases against cruise ship companies.

The prosecution of criminal cases against cruise ship companies can have an effect beyond the individual cases. The large penalties, media attention, and probationary requirements may have a deterrent effect that Justice officials say is part of the Department's purpose in pursuing environmental crime cases. Industry and government officials also told us that the recent high penalties for cruise ship pollution cases are likely to deter future illegal discharges. Probationary requirements, such as those compelling companies to have annual third-party audits of their environmental practices, could also be a deterrent. These audits have the potential to provide detection information to the various government agencies and company managers receiving the reports, adding further assurance that future illegal behavior will be identified.

[14]Justice officials explained that most maritime environmental statutes contain both civil and criminal remedies; however, all of the 10 cases discussed in this report were referred to Justice for criminal prosecution and were prosecuted as criminal offenses.

[15]The felony counts included conspiracy to discharge harmful quantities of oil into U.S. waters, obstruction of justice, willful false statements to the Coast Guard, and violations of the Oil Pollution Act of 1990.

Besides prosecuting specific marine pollution cases, Justice has sponsored workshops, bringing in representatives from the Coast Guard, EPA, and FBI to discuss procedures for investigating environmental crime. According to Justice officials, federal agencies such as Justice, the Coast Guard, EPA, and FBI are making efforts to coordinate their investigations.

Other Federal Agencies Play Limited Roles

Several other agencies–including EPA, FBI, the Department of State, the Department of Agriculture's Animal Plant Health Inspection Service (APHIS), and the National Oceanic and Atmospheric Administration (NOAA)–are involved in illegal discharge issues to a limited degree.

- EPA strives to prevent illegal discharges through educational efforts–such as marine debris workshops and an Internet posting of "no discharge zones"–and responses to industry inquiries. EPA has also worked with other federal agencies, such as Justice and the Coast Guard, to investigate recent criminal cases against cruise ship companies. In addition, EPA–in cooperation with NOAA, the Coast Guard, and other federal partners–designed the National Marine Debris Monitoring Program to identify sources of marine debris and determine whether the amount of debris on U.S. shorelines is increasing or decreasing. The program is in the initial stages of implementation and requires 5 years of national data from 180 sites throughout the United States, Puerto Rico, and the U.S. Virgin Islands. EPA currently provides funding for this program.
- FBI is involved in investigating environmental crimes, including illegal discharges from cruise ships. In recent years, FBI has investigated nearly a dozen criminal cases involving pollution from cruise ships. FBI has developed working relationships with many other federal, state, and local agencies by participating in 34 task forces on environmental crimes across the United States. According to FBI, its special agents bring to these task forces their interviewing skills and familiarity with sophisticated surveillance techniques. FBI legal attaches stationed around the world have located and interviewed foreign witnesses and suspects in cruise ship pollution cases. In addition, FBI's laboratory has provided hazardous materials response personnel, aircraft, forensic computer analysis, and handwriting and document analysis capabilities to assist in the investigation and prosecution of these cases.
- The Department of State has served mainly as a diplomatic liaison between the Coast Guard and flag states, helping to ensure that flag-state referrals are forwarded to the appropriate representatives. In

addition, Department officials attend IMO meetings with Coast Guard officials to help address U.S. maritime concerns.

- APHIS sets certain food waste disposal standards and regularly boards cruise ships to ensure that these standards are being met. Onboard, APHIS inspectors can both prevent and detect problems as they review certain garbage disposal procedures and documents. According to agency officials, they notify the Coast Guard if irregularities are found during their inspections so that the Coast Guard can follow up.
- NOAA has no current long-term role in monitoring marine debris pollution on U.S. shores. However, from 1988 through 1996, NOAA—in cooperation with EPA and other federal partners—provided support for interagency, public, and private efforts to design a national marine debris pilot study program. According to agency officials, the efforts of this program led to the creation of the National Marine Debris Monitoring Program, which is coordinated by the Center for Marine Conservation, funded by EPA, and based on the use of data collected by dedicated volunteers.

Federal Agencies Have Implemented Some Recommendations for Improving Their Oversight of Marine Pollution

We identified 43 recommendations from nine studies and articles on marine pollution oversight conducted from 1990 through 1998 by GAO, the National Research Council, and others. (See app. IV for a list of the studies and app. V for a complete list of the recommendations and their current status.) The recommendations fell into three main categories:

- Clarifying enforcement requirements and coordinating enforcement actions. Examples include determining the adequacy of commercial waste-handling capacity at ports that receive garbage from ships, matching port receipts for garbage to ships' garbage logs for inconsistencies, and developing standards for compacted waste.
- Improving the reporting and sharing of enforcement information. Examples include directing the Coast Guard to issue periodic reports listing enforcement actions and assistance to other U.S. enforcement agencies and drawing attention to the need for an international data collection and reporting effort to highlight detected MARPOL violations and improve the responsiveness of individual flag states.
- Improving data on marine debris and improving treatment technology. Examples include research and development to identify efficient and affordable onboard garbage treatment; technical support to commercial and U.S. fleets on waste treatment methods; and long-term monitoring programs to gather data on the trend, movement, and impact of marine debris on wildlife.

Federal agencies and IMO have implemented or partially implemented 30 of these recommendations, according to knowledgeable agency officials who reviewed the list.

Cruise Ship Companies Have Improved Waste Management and Environmental Procedures

All 12 companies we reviewed have taken actions to prevent future illegal marine discharges.[16] (See app. VI for a list of the 12 cruise ship companies we reviewed.) These companies included eight larger companies—those with 5 to 16 ships sailing on multiple-day cruises—and four smaller companies—those with 1 or 2 ships sailing only on day cruises (no overnight stay aboard ship). The companies' actions involved similar themes and included three basic measures: developing enhanced waste management plans to emphasize the companies' environmental policies and highlight proper waste-handling procedures; increasing internal and third-party audit oversight of environmental procedures to prevent illegal discharges; and improving waste management and equipment to reduce or better treat waste items. Many of these actions were taken in response to new international standards or were mandated by U.S. district courts after several cruise ship companies pled guilty to illegal discharge incidents.

All Companies Reviewed Have Written Waste Management Plans

Each of the 12 companies we reviewed reported improving its waste management by developing and implementing an environmental compliance and waste management plan that has been certified as in compliance with IMO's International Safety management (ISM) Code.[17] The ISM Code sets the international standard for the safe management and operation of ships and for pollution prevention, and it requires companies and operators of vessels to organize their safety management activities both ashore and onboard to ensure that standards for safety and environmental protection are maintained. We verified that all 12 companies and their cruise ships had received ISM Code certification by July 1998.

[16]To gather detailed information on cruise ship companies' actions to prevent future illegal marine discharges, we concentrated on 12 companies. Some of these companies were responsible for incidents that we judged to be intentional acts or whose cause we could not clearly ascertain; others were large companies representing a significant segment of the cruise ship industry that were involved in accidental cases.

[17]In Nov. 1993, IMO adopted Resolution A.741 (18), entitled "International Management Code for the Safe Operation of Ships (International Safety Management [ISM] Code)."

The ISM Code plan goes beyond the companies' previous efforts to address environmental issues, according to company officials. Representatives of each of the 12 companies told us their company had written environmental plans in place before the current ISM Code plan. Most of these plans dated back to the early 1990s. However, while some representatives said the early plans were comparable to the plan required under the ISM Code, others said the early plans were more limited in scope and included various plans addressing single issues, such as how to respond to an oil pollution incident or how to operate and maintain certain equipment associated with waste treatment or discharge. Industry officials generally agreed that the plans modeled after the ISM Code go farther than these earlier efforts and have had a positive effect in enhancing ships' safety and environmental protection. For example, one company official said the ISM plan emphasizes the company's commitment to protecting the environment and stresses the need for training, recycling, producing less waste, and reducing discharges of waste at sea.

Besides preparing an environmental plan under the ISM Code, three companies have prepared additional environmental compliance plans mandated by U.S. district courts after the companies pled guilty to marine discharge violations that occurred from 1993 through 1998. The courts of jurisdiction approved these plans after finding that they met the conditions set forth in the plea agreements. The plans generally address the violations cited in the plea agreements and prescribe remedies ranging from specific procedures covering a single component of waste management (such as oily bilgewater management) to a more comprehensive set of procedures addressing systemwide components of waste management.

New Audits of Cruise Ship Companies' Environmental Procedures Have Been Implemented

Cruise ship companies and their ships are subject to new audits of their environmental procedures and operations, both by third parties and by company auditors. The new audits resulted largely from the ISM Code, which required external audits as part of the ISM Code certification process. These ISM certification audits, which must be paid for by cruise ship companies, are performed primarily by the authorized maritime organization within the ship's flag state or by a classification society such as Lloyd's Register of Shipping.

The 12 companies also reported conducting numerous internal audits or using checklists to evaluate their ships' environmental operations. Some of these audits and evaluations included weekly spot-checks of environmental and waste management equipment operations, quarterly departmental

audits of equipment and procedural compliance by ships' officers, and annual shipwide audits of environmental compliance performed by shoreside managers. Officials of all 12 companies said the results of both internal and external audits are sent to top managers to keep them aware of how ships' crews are managing environmental and waste management programs.

Like the Coast Guard's ship inspections, the new ISM-related audits are scheduled in advance, and the companies and ships' crews know when the auditors are onboard and generally what they are reviewing. Also, a sizeable portion of these audits focus on reviewing paperwork and processes. A representative of a major classification society said that close examinations of hardware, such as oily water separators and associated piping, cannot be accomplished in the time allotted for these audits. We did not accompany third-party or company auditors on any cruise ship inspections, although cruise ship company officials told us that their auditors do more than just "paper checks" when they are onboard.

Other types of oversight also take place. Cruise ships continue to undergo the annual and quarterly Coast Guard inspections described earlier. The three companies that are operating under court-ordered compliance plans are also subject to independent audits and quarterly reports on their implementation of the compliance plans. They are required to forward copies of these audit reports to the court and to selected federal enforcement agencies for review.

Completed court-required reports and internal audit reports for two cruise ship companies disclosed that these companies had a number of administrative and operational practices that needed improvement. Here are examples:

- A review of logbooks showed that on two separate occasions, a ship's captain gave permission to discharge wastewater while the ship was within 12 miles of shore. The company's standard, which is more strict than U.S. and international laws, calls for discharging wastewater only beyond 12 miles. This permission could have led to wastewater discharges that did not comply with the company's standards, according to the audit report.
- A ship's garbage record book was not completed and presented to the ship's captain in a timely fashion.

- Plastic items flushed down ships' toilets by passengers could have been discharged along with untreated sewage, which would be in violation of U.S. and international laws that prohibit the discharge of plastics at sea.

The findings of the reports we reviewed indicate that at least for some companies, the new processes and practices set forth in the plans are not yet fully proven and systematized throughout each company's fleet. However, the audits are identifying variances and deficiencies, and the results are being reported to enforcement authorities and the audited companies.

Larger Companies Have Adopted New Waste Management and Treatment Practices

While all 12 companies have taken steps to improve waste management and treatment aboard their cruise ships, the 8 large companies appear to have put more effort into implementing these practices than the 4 smaller companies. The large companies' efforts are dictated, in large part, by the size of the ships they sail. Many of these ships are small cities of 2,000 to 3,000 passengers and crew members that generate waste 24 hours a day, and their itineraries sometimes keep them away from port for days. Therefore, these ships have an incentive to adopt improved practices for dealing with the large volumes of waste generated. Moreover, because all of these companies have adopted new or more stringent environmental standards in recent years, they have also had to invest in equipment to reduce or better treat all the waste streams on their ships. An official for one large company estimates an investment of $5 million to $6 million to install the most up-to-date pollution control technology on the new cruise ships coming on line and as much as $1.3 million to refit each existing ship with newer pollution control equipment.

Cruise ship companies have waste management systems for solid waste, oily bilgewater, wastewater from drains and kitchen areas, sewage, and hazardous chemicals. Our review focused on three major waste streams: solids (i.e., paper, food, cans, glass, and plastic); oily bilgewater generated from the day-to-day operation and cleaning of engines and equipment; and hazardous chemicals used in dry-cleaning, photo-processing, painting, and other operations aboard ship. The eight larger companies were better able than the four smaller companies to point to recent changes to reduce discharges of all three types of wastes. The smaller companies, which mostly operate day cruises, can store wastes onboard until their ships return to port.

Solid Waste

All eight large companies told us that they have a policy goal of "zero discharge" for solid waste at sea. To reach this goal, they first tried to reduce the amount of waste coming onboard by, for example,

- replacing disposable plastic and Styrofoam cups and plastic stir sticks with reusable/washable plastic cups and wood stir sticks that can be burned,
- using less paper and plastic wrapping for some food items,
- replacing individual plastic condiment packages with bulk dispensers, and
- eliminating the use of plastic bags to line garbage containers.

In addition, the large companies have introduced new equipment to eliminate or recycle solid waste. For example, incinerators are now common on new cruise ships. Some of these incinerators are capable of burning paper, plastic, and de-watered food wastes. The ash is either returned to port or discharged at sea in accordance with U.S. and international standards, according to company officials. Other equipment includes glass crushers and can compactors that can help prepare waste for recycling when a ship returns to port. All but one of the eight larger companies said they have a waste separation and recycling program aboard each ship calling on U.S. ports. Recycled items include aluminum cans, glass, batteries, fluorescent tubes, metal cans, and cardboard.

We accompanied Coast Guard inspectors and/or cruise ship company officials aboard five cruise ships (representing five of the eight large companies) in Miami, Florida; Seattle, Washington; and Vancouver, British Columbia (Canada), to observe firsthand the waste-handling procedures and equipment aboard ship. While aboard, we (1) saw various types of equipment for handling solid waste, including glass crushers, metal can compactors, shredders, and incinerators; (2) reviewed practices and procedures for solid waste management; and (3) in some instances, observed crew members performing waste management procedures, including separating solid waste and storing recyclable material for off-loading in port.

Oily Bilgewater

Oily waste is generated onboard a cruise ship through normal engine and machine operations. The oily waste is collected along with freshwater and seawater in the bilge at the lowest part of the ship. While all cruise ships are required to have a system for separating the oil from bilgewater before it is discharged, newer cruise ships generally have redundant systems. Officials of some cruise ship companies told us that many older ships were

being fitted with backup systems as well. In addition, we were advised that innovative treatment technology is being developed that will improve the performance and reliability of existing oily water separators. MARPOL's standards allow for discharges of no more than 15 parts of oil per 1 million parts of water. Company officials believe that new technology and multiple systems will help ensure that standards are met—or even surpassed–and will prevent accidental discharges if one system breaks down. For example, officials of one large cruise ship company told us they had dual oily water separator systems aboard all their cruise ships. These systems, they said, were capable of treating oily bilgewater to 5 parts per million—the level adopted as the companywide standard. While onboard the five cruise ships we visited, we saw the oily water separator systems and the meters for measuring discharge levels, and we reviewed oily water discharge practices and procedures with company officials.

Hazardous Waste

For hazardous waste, as for solid waste, some of the larger companies reported taking actions to reduce the amounts onboard. They reported replacing hazardous chemicals with nonhazardous ones and implementing procedures to improve the collection and disposal of waste from hazardous materials that cannot be replaced and must still be used. For example, at least one company has replaced harmful cleaning solvents with more environmentally friendly material, according to company officials. Equipment has also been installed on many ships to recover silver from used photo-processing chemicals and to collect harmful dry-cleaning chemicals. Hazardous waste from photo laboratories, dry-cleaning operations, and other sources are collected, stored in separate locked rooms, and off-loaded in port, according to company officials. While onboard four of the five cruise ships we visited, we saw locked storage areas for hazardous chemicals, reviewed procedures for handling hazardous waste, and in some instances observed the equipment for collecting hazardous waste from photo-processing and dry-cleaning operations.

Smaller Companies Have Made Fewer Changes

The four smaller companies have not had to take major steps to manage and treat wastes because their ships are away from port only 5-7 hours daily and have space onboard to store wastes until the ships return to port. This is particularly true for solid wastes, such as paper, food, cans, glass, and plastics. All four companies said they have a “zero discharge” policy for solid waste; all solid waste is returned to port, and taken to a landfill. Only two of the companies said they had attempted to reduce the amount of waste brought onboard by purchasing items with less packaging and less

plastic. In addition, only one company said it had made any effort to sort solid waste for recycling, and none reported investing in new solid waste treatment equipment. Three of the four companies said they have oily water separators and meters on their ships to measure the oil content of the wastewater discharged at sea. An official from the company that did not report having an oily water separator onboard said the oily bilge waste is stored onboard and transferred to waste handlers in port.

According to Relevant Federal Agencies and Others, Progress Has Been Made, but Important Concerns Remain

Officials from the Coast Guard, Justice, and the Center for Marine Conservation (CMC) acknowledged that the cruise ship industry has made progress in addressing illegal discharge issues. However, they expressed concern about emerging issues, most of which are related to the purity of wastewater discharged from these ships.

Officials' Views on Actions Taken by Cruise Ship Companies

While officials from the Coast Guard, Justice, and CMC acknowledged the progress that cruise ship companies have made toward improving environmental compliance, they pointed out that these companies have not yet demonstrated that they can sustain their efforts and prevent pollution incidents from occurring.[18] They also noted that willful incidents, especially by individuals, and accidents are still possible.

These officials agreed that changing the views or "culture" of ships' crews and cruise ship company officials on waste disposal is critical in ensuring the effectiveness of companies' environmental programs. They told us that before the adoption of MARPOL and applicable U.S. laws, ships' crews could legally discharge oil, garbage, and other potentially harmful wastes, and the crews viewed such practices as a way of life at sea. Even though fewer illegal discharge cases by cruise ships have been reported over the last 6 years, the admission by one large company of continued illegal oil discharges occurring as recently as 1998 suggests that not everyone's views have completely changed.[19]

[18] Justice officials' comments focused on cruise ship companies that had been prosecuted for criminal violations, while the Coast Guard and CMC officials focused more generally on the cruise ship industry.

Coast Guard officials expressed optimism that the steps the cruise ship industry has taken would address illegal discharges. The officials said the ISM Code, which all cruise ship companies were required to adopt as of July 1998, would likely result in a more systematic and comprehensive approach to stemming marine environmental pollution. In a larger sense, they said, they were not as concerned about pollution by the cruise ship industry as they were about pollution from other parts of the maritime industry, such as cargo ships and tankers. Similarly, a CMC official said that while CMC is critical of past illegal discharges by cruise ship companies, it has been supportive of the cruise ship industry's voluntary actions, including efforts to reduce the volume of plastics and other eventual waste items brought onboard and to recycle glass, aluminum, and other types of waste.

Justice officials said the cruise industry needed to create a culture of compliance. In their view, environmental compliance plans, such as those required under their plea agreements, can help create such a culture. They also said that to be effective, a plan must have the right elements, the company must take it seriously by encouraging compliance and the self-reporting of violations, and people must be designated who will ensure that the plan is implemented. Otherwise, the plan is just a document. They further noted that having an environmental compliance plan, agreeing to outside audits of the plan's implementation, and sharing the results are not only good business practices but can also be mitigating factors under Justice's sentencing guidelines. While having an environmental compliance plan, based on the ISM Code or other standards, does not guarantee the elimination of future marine pollution incidents, Justice officials said a company that adopts a plan—as a valued aspect of its corporate activity—is much less likely to see environmental problems recur.

Concerns About Emerging Issues and the Quality of Federal Oversight

Justice and CMC officials raised concerns about several issues that are emerging for certain types of wastes generated by cruise ships and need further attention. Justice also identified several areas that may warrant increased scrutiny by the Coast Guard and other cognizant agencies.

[19]Justice officials told us that their policy does not allow them to discuss ongoing investigations. As a result, we do not know whether any illegal discharge incidents by cruise ships are currently under investigation.

Justice's Concerns About Emerging Issues and Federal Oversight

One area that Justice officials believe should receive increased scrutiny by the Coast Guard and other cognizant agencies in future cruise ship pollution cases is the discharge of "gray water," which is untreated water from showers, sinks, kitchen and laundry drains, dishwashers, and other areas of a ship. Each year, cruise ships legally discharge millions of gallons of gray water into both U.S. and international waters.

Justice recently prosecuted a large cruise ship company that was found to be improperly disposing of printing shop, dry-cleaning, and photo lab wastes into its gray water system. These wastes, which included potentially harmful chemicals and toxic silver, were discharged into the sea along with the gray water. According to Justice officials, apart from the potential criminal violations related to toxic substances in gray water discharges, there may be a need for the Coast Guard to review the regulatory definition of gray water to evaluate whether the current regulations adequately address the potential environmental hazards to marine life from gray water discharges. Justice officials believe that a more comprehensive or explicit definition of gray water may be needed that recognizes changes in the industry since the regulations were written.

Industry representatives for the larger cruise ship companies told us they are addressing gray water issues in a number of ways. Officials said they have taken steps to identify and segregate hazardous materials to prevent them from entering the gray water system. For example, they said that photo-processing and dry-cleaning chemical wastes are collected and off-loaded onshore and noted that the cleaning chemicals used in kitchens and bathrooms are not caustic in their diluted forms. In addition, they recently adopted a policy not to discharge gray water while ships are in port and are exploring new technologies for treating gray water, including the use of more sophisticated gray water filtration systems aboard ships. However, the effectiveness of these efforts is unknown because there is virtually no monitoring of gray water quality by any independent oversight agency or organization before the water is discharged from cruise ships.

Justice officials are also concerned about three additional areas where they say increased federal oversight of cruise ships by the Coast Guard and other cognizant agencies may be warranted.

- Maintaining and operating pollution prevention equipment. According to Justice officials, several cases have involved ships that, despite periodic inspections, were determined to have chronically malfunctioning or inoperable oily water separators that owners and operators failed to

maintain. This suggests, according to Justice officials, that future inspections and investigations concerning this equipment should probe more thoroughly into its condition and evaluate the adequacy of equipment maintenance procedures.

- Falsifying oil record books. According to Justice officials, a number of cases suggest that owners or operators have routinely fabricated entries in their ship's oil record book to create the appearance of full compliance with MARPOL's discharge limitations. Justice officials believe that enhanced scrutiny of these logbooks on a periodic basis may be warranted and may also help encourage broader compliance.
- Recording shoreside disposal of garbage and sludge. Recent case experience has revealed that some ships were unable to produce any records documenting what should be periodic off-loadings and disposal of plastics and oily sludge from the ships to onshore disposal facilities, according to Justice officials. They believe that more frequent reviews and analysis of these records may identify violators and also deter other unlawful discharges.

Center for Marine Conservation's Concerns About Wastewater Discharges

A CMC official also expressed concern about gray water and black water discharges. "Black water" is the effluent wastewater from a vessel's onboard sewage system. CMC officials said that the annual discharge of millions of gallons of gray water and black water may harm ecologically sensitive areas, affecting such things as the long-term vitality of coral reefs.

Reports from recent third-party audits involving five ships of a large cruise ship company support the CMC official's concerns about black water. These reports noted that plastics from personal hygiene and other products (e.g., toothbrushes, plastic bottles, disposable razors, feminine hygiene products, etc.) were being flushed down toilets by passengers and entering the black water system. Once in the system, the plastics could be discharged into the sea with the black water because the ships' approved toilet vacuum system did not have screening devices to remove debris, according to the audit reports. The company involved is currently installing special filters to prevent plastics and other solid materials from being discharged into the sea, according to company officials. The audit reports also noted that untreated sewage was discharged at sea when onboard sewage systems were down for maintenance. Like gray water effluent, there is little, if any, oversight over the contents of black water before it is discharged into the ocean, according to Coast Guard officials. Coast Guard inspectors we talked with said they rarely have time during scheduled ship examinations to inspect sewage treatment equipment or filter systems to

see if they are working properly and filtering out potentially harmful contaminants.

Conclusions

In recent years, both federal agencies and cruise ship companies have taken positive steps to develop plans, approaches, and/or hardware solutions to improve environmental compliance. Yet even with the progress that has been made so far, there are a number of areas where oversight could be improved.

Concerns related to marine pollution are emerging that may have a significant impact on the environment and may require further attention by both the cruise ship companies and federal oversight agencies. A key issue is the purity of gray and black water, which is particularly relevant for larger cruise ships, given the large volumes of this type of water they discharge at sea.

The process for referring to other countries alleged discharge incidents occurring outside U.S. jurisdiction (flag-state referrals) does not appear to be working either within the Coast Guard or internationally. As evidenced by the abrupt halt in flag-state referrals in 1995, the Coast Guard appears to have given up efforts to develop these cases, perhaps because the response rate from flag states has been so poor. However, the agency is obligated under MARPOL to take action on these cases when they occur. In addition, the relatively poor response rate from other countries on alleged discharge incidents is not in conformance with international agreements facilitated by IMO and undermines efforts to stem pollution of the world's oceans.

The Coast Guard may be able to improve its detection of illegal marine pollution incidents by modifying its aircraft surveillance, flying over water rather than land, where possible, when traveling to and from other primary missions. This change could provide more coverage of shipping lanes frequented by cruise ships and other commercial vessels and could strengthen the deterrent effect of this detection method. Such initiatives are being studied in one Coast Guard district, but formal action has not yet been taken.

Recommendations

To improve oversight of the cruise ship industry, we recommend that the Secretary of Transportation direct the Commandant of the Coast Guard to take the following steps:

- Initiate discussions with the cruise ship industry, other federal and state agencies, and environmental groups, as appropriate, on the need for improved water quality standards for gray water and black water discharged from cruise ships and other vessels and assess the need to periodically monitor the water quality of these discharges.
- In its capacity as a lead agency for the United States at the International Maritime Organization, the Coast Guard should work vigorously within the organization, using whatever means are available, to encourage the member countries to comply with procedures requiring flag states to respond when pollution cases are referred to them. To effectively accomplish this, the Coast Guard needs to renew efforts to develop and refer to the State Department alleged pollution cases occurring outside U.S. jurisdiction and make greater efforts to periodically follow up on these alleged cases.
- Reexamine ways—within existing resources and without detracting from other primary missions—to provide more effective aircraft surveillance of cruise ships and other commercial vessels.

Agency Comments

We provided a draft of this report to the Coast Guard, the Department of Justice, EPA, the Department of State, the Department of Agriculture, the Department of Commerce, the International Council of Cruise Lines, and the Center for Marine Conservation for their review and comment. All of these agencies and organizations generally concurred with the facts presented in the draft report. The Coast Guard, the Department of Justice, the Department of State, the International Council of Cruise Lines, and the Center for Marine Conservation specifically commented on and agreed with the draft report's conclusions and recommendations. The Department of Commerce, EPA, and the Department of Agriculture did not specifically comment on the draft report's conclusions and recommendations. Written comments from the Department of Commerce, the Department of Justice, and the Center for Marine Conservation are in appendixes VIII through X.

Several agencies provided other information to supplement the facts presented in the draft report. In commenting on the draft report, EPA maintained that the draft report downplayed EPA's leadership in the field of marine debris. We added and modified information in the report to clarify EPA's role in the marine debris area. The Department of Justice, the Department of State, and the Center for Marine Conservation also advised us about the importance of ensuring that the Coast Guard has adequate resources to fulfill its oversight responsibilities. Justice and the Center expressed concern that the Coast Guard's existing resources may not be

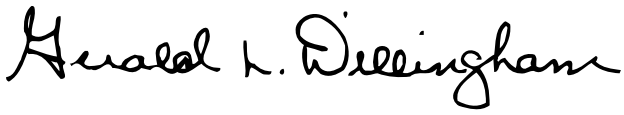
adequate to provide improved oversight of marine pollution. The State Department noted that budget cuts over the past 3 to 5 years have reduced the Coast Guard's resources to such extent that it is now extremely difficult for the Coast Guard to perform its marine environmental protection mission as efficiently as it once did. In addition, Justice and the Center raised concerns that insufficient Coast Guard resources could be associated with the decline in reported discharge incidents. While we regard resource constraints as a valid reason for a decline in reported incidents, there are likely to be many possible reasons for the decline. Such possible reasons include better compliance by ships' owners and operators and improvements in technology that could decrease the likelihood of discharge incidents. Largely because of constraints on our time, data, and resources for performing this type of analysis, we did not include such an analysis in our review. The Center also emphasized that sedimentation pollution caused by the drafts of larger ships stirring up bottom sediment can be harmful to the marine environment. The Center added that U.S. government ships should not be exempt from MARPOL's standards, that fines and penalties for marine pollution incidents were too low to be effective, and that a review of the strategies for imposing fines is needed. While these all may be valid issues, they were beyond the scope of this review.

These agencies and organizations all provided technical clarifications to the draft report, which were incorporated as appropriate.

We conducted our work from March 1999 through January 2000 in accordance with generally accepted government auditing standards. Appendix VII contains details of the scope and methodology of our review.

As you requested, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after the date of this letter. We will then send copies to the appropriate congressional committees; the Honorable Rodney E. Slater, Secretary of Transportation; Admiral James M. Loy, Commandant of the Coast Guard; the Honorable Janet Reno, Attorney General; the Honorable Madeleine K. Albright, Secretary of State; the Honorable Daniel R. Glickman, Secretary of Agriculture; the Honorable William M. Daley, Secretary of Commerce; the Honorable Carol M. Browner, Administrator, Environmental Protection Agency; the Honorable Jacob J. Lew, Director, Office of Management and Budget; and other interested parties. Copies will be made available to others on request.

If you or your staff have any questions about this report, please contact me at (202) 512-2834. Appendix XI lists key contacts and contributors to this report.



Gerald L. Dillingham, Ph.D.
Associate Director, Transportation Issues

Illegal Discharge Incidents–Marine Violation and Pollution Ticket Cases–by Cruise Ships in U.S. Waters, 1993-98

Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Regent Rainbow Bahamas	30-40 plastic garbage bags found 35 miles offshore from Ozona, FL, were linked to the *Regent Rainbow* by their contents. 2/4/93	Prosecuted by Justice	Regency Cruises, Inc. (Not operating)	3rd party
Regent Sea Bahamas	Passengers witnessed several incidents of illegal dumping of garbage, including plastic, in the Gulf of Mexico, off the coast of Tampa, FL. 2/14/93	Prosecuted by Justice	Regency Cruises, Inc. (Not operating)	3rd party
Viking Princess Panama	The ship discharged an undetermined quantity of oil, creating a sheen (approximately 3 miles long) in the Atlantic Ocean Contiguous Zone. 2/21/93	Prosecuted by Justice	Palm Beach Cruises Riviera Beach, FL	USCG overflight
Noordam Netherlands Antilles	One quart of oil was discharged into Elliot Bay, WA, after the oily water separator failed. The ship was in dry dock at the time. 5/14/93	$500	Holland America Line Seattle, WA	Self
Golden Odyssey Bahamas	A plastic bag full of garbage discovered in Endicott Arm, AK, was traced by its contents to the *Golden Odyssey.* 6/24/93	$1,500	Royal Cruise Line (Now Norwegian Cruise Line) Miami, FL	3rd party
Europa Jet Bahamas	A spill of approximately 20 gallons of oil into the Thames River, CT, was linked by chemical analysis to the *Europa Jet*. 7/7/93	$750	Europa Cruises of Florida Madeira Beach, FL	3rd party
Majesty of the Seas Norway	After a hose connection failed, approximately 300-400 liters (75-100 gallons) of lube oil drained into a gray water tank and was discharged into the Port of Miami, FL. 7/11/93	$3,750	Royal Caribbean Cruises, Ltd. Miami, FL	Self
Golden Princess Bahamas	Approximately 10 gallons of marine diesel oil was discharged into San Francisco Bay, CA, because a tank was overfilled. 7/23/93	$1,000	Birka Cruises (Not operating in U.S.)	Self
Star Princess Liberia	264 gallons of lubricating oil was discharged into Taiya Inlet, AK, after a propeller shaft seal was broken by a fishing line. 7/28/93	$100	Princess Cruises, Inc. Los Angeles, CA	Self
Pacific Star Greece	A spill of 500-1,000 gallons of oil in San Diego Bay, CA, was linked by chemical analysis to the bilge tank of the *Pacific Star*. 8/9/93	Prosecuted by Justice	Cross Med-Maritime, Inc. Starlite Cruises, Inc. (Not operating)	3rd party
Regal Empress Bahamas	In two instances, passengers witnessed illegal discharges of garbage, including plastic, into coastal waters approximately 12 and 25 miles from shore. 9/12/93	$5,000	International Shipping Partners Miami, FL	3rd party
Discovery I Panama	A spill of approximately 30-40 gallons of waste oil into Port Everglades, FL, was linked by chemical analysis to the *Discovery I*. 9/23/93	$5,000	Discovery Cruise Line (Now operated by International Shipping Partners) Miami, FL	3rd party

Continued

Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Regent Rainbow Bahamas	Oil-based paint dripped into the harbor of Tampa Bay, FL, while the ship's hull was being painted. 9/24/93	$500	Tony Travel (Regency Cruises, Inc.) (Not operating)	USCG
Pacific Star Greece	A spill of 200 gallons of fuel in San Diego Bay, CA, was linked by chemical analysis to the *Pacific Star*. 10/21/93	Resolved pursuant to a plea agreement for the 8/9/93 spill by the *Pacific Star*. See app. III.	Starlite Cruises, Inc. (Not operating)	3rd party
Dolphin IV Panama	The ship was observed pumping oil into the water while en route, approximately 5 miles from the U.S. coast. 11/15/93	$5,000	Dolphin Cruise Lines, Inc. (Now operated by International Shipping Partners) Miami, FL	USCG overflight
Santiago de Cuba Bahamas	Approximately 25 gallons of waste oil spilled into the Mobile River, AL, during pumping of bilge slops. The ship was in dry dock. 12/6/93	$1,100	Ferry Charter Florida, Ltd. (Not operating)	Self
Westward Bahamas	Approximately 20 gallons of diesel fuel spilled from a fuel vent during transfer operations. 12/20/93	$2,500	Norwegian Cruise Line Miami, FL	Self
Fair Princess Liberia	A hydraulic connector failed, causing approximately 1 gallon of hydraulic oil to spill into Los Angeles Harbor, CA, during operation of the ship's crane. 1/21/94	$500	Princess Cruises, Inc. Los Angeles, CA	Self
Golden Princess Bahamas	Approximately 210 gallons of fuel oil was discharged into Los Angeles Harbor, CA, when the ship's fuel tank was overfilled. 1/28/94	$4,000	Birka Lines A.B. (Not operating in U.S.)	Self
Starward Bahamas	The ship ran aground on St. John, VI, spilling about 100 gallons of hydraulic oil. 2/10/94	$7,000	Norwegian Cruise Line Miami, FL	Self
Sea Princess Australia	Approximately 1 gallon of lube oil entered the water at Apra Harbor, Guam, when the ship's oil holding tank was overfilled. 2/22/94	$500	Sea Princess Guam Corp. (No information available)	USCG
Saint Lucie Bahamas	A spill of about 150 gallons of diesel fuel into the Intracoastal Waterway at Port Everglades, FL, was due to the rupture of a fuel pipe and a leak in a containment area. 2/25/94	$3,000	National Liquidators (Not a ship-operating company)	USCG
Vistafjord Bahamas	A discharge of approximately 15 gallons of oily bilge waste during an internal transfer was due to the inadvertent closing of a holding tank valve. 2/28/94	$3,000	Cunard Line, Ltd. Miami, FL	3rd party
Regent Sun Bahamas	Fuel spilled into San Juan Harbor, PR, during a transfer operation because a valve on the overflow tank was left partially open. 4/29/94	$4,000	Regency Cruises (Not operating)	Self

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Golden Princess Bahamas	Oily waste was discharged into the Lynn Canal, AK, during the operation of the ship's oily water separator because the crew ignored alarms and failed to notice that waste was being routed to a nearly full tank. 5/19/94	The U.S. Attorney's Office for the District of Alaska declined to prosecute this case for lack of evidence.	Birka Lines A.B. (Not operating in U.S.)	3rd party
Universe Liberia	A small amount of oil leaked into Gastineau Channel, AK, from one of the ship's tenders when equipment malfunctioned. 7/6/94	$250	Seawise Foundations, Inc. (No information available)	3rd party
Starship Atlantic Liberia	One 5-gallon can of red paint fell into Port Canaveral Harbor, FL, during loading and broke open when it hit the water. 7/14/94	$1,000	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	Self
Fair Princess Liberia	Approximately 42 gallons of bunker fuel oil was spilled into San Francisco Bay, CA, during transfer operations because of overfilling. 7/21/94	$3,000	Princess Cruises, Inc. Los Angeles, CA	Self
Westerdam Bahamas	Failure of the oily water separator caused a discharge of oil into Stephens Passage, AK, while the ship was under way. 7/26/94	Warning	Holland America Line Seattle, WA	3rd party
Regent Sea Bahamas	Lube oil spilled in the Gulf of Alaska when the lube oil cooler failed, creating a 26-mile sheen. 7/27/94	$5,000	Regency Cruises (Not operating)	3rd party
Nieuw Amsterdam Netherlands Antilles	260 gallons of hydraulic oil from the propeller leaked when the ship was grounded off Gravina Point, AK. 8/9/94	$1,500	Holland America Line Seattle, WA	Self
Saint Lucie Bahamas	A spill of about 150 gallons of oil into Port Everglades, FL, was linked by chemical analysis to the *Saint Lucie*. 8/15/94	$4,500	Jubilee of the Bahamas, Inc. (Tropicana Cruises) Greenville, SC	USCG
Rotterdam Netherlands Antilles	The ship discharged oily waste 13 times in 10 days into Alaskan waters without first processing it through an oily water separator. The ship also had fixed, permanent piping that allowed oily waste to be discharged directly overboard. 9/2/94	Prosecuted by Justice	Holland America Line Seattle, WA	3rd party
Starship Majestic Bahamas	Approximately 1 gallon of hydraulic oil accumulated on the deck and spilled into the water of East Bay, Tampa, FL. 9/9/94	$1,000	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	3rd party
Emerald Princess Panama	Oil-based paint dripped into the Amelia River, FL, while the crew was painting the side of the ship. 9/12/94	$500	Fernandina Cruise Lines, Ltd. Brunswick, GA	USCG

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Golden Princess Bahamas	The failure of a heat exchanger caused a discharge of approximately 10 gallons of lubricating oil into Gastineau Channel, AK. 9/13/94	$1,200	Birka Lines A.B. (Not operating in U.S.)	3rd party
Nordic Prince Norway	An unknown quantity of oil was discharged into Gastineau Channel, AK. 9/22/94	$5,600 Also prosecuted by Justice	Royal Caribbean Cruises, Ltd. Miami, FL	3rd party
Sovereign of the Seas Norway	The ship discharged oily bilge waste approximately 8-12 miles from San Juan Harbor, PR. 10/25/94	$4,000 Also prosecuted by Justice	Royal Caribbean Cruises, Ltd. Miami, FL	USCG overflight
Starship Majestic Bahamas	Approximately 2 gallons of oil-based paint dripped into Tampa Bay Harbor, FL, during painting of the ship's hull. 11/17/94	$750	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	USCG
Fair Princess Liberia	A crew member dripped oil-based paint into the Port of Los Angeles/Long Beach, CA, while painting the ship's hull. 12/28/94	$250	Princess Cruises, Inc. Los Angeles, CA	USCG
Nieuw Amsterdam Netherlands Antilles	Approximately 25 gallons of marine gas oil spilled into East Bay, FL, because a tank was overfilled during a transfer operation. 2/4/95	$2,500	Holland America Line Seattle, WA	Self
Star Odyssey Bahamas	Approximately 10 barrels of waste oil and sewage spilled into Southwest Pass, LA, during bilge pumping. 2/14/95	$6,000	Norwegian Cruise Line Miami, Florida	USCG overflight
Emerald Princess Panama	About 20 gallons of waste oil leaked from a hole in the ship's hull onto the dock and into the St. John's River, FL. 2/28/95	$500	Fernandina Cruise Lines, Ltd. Brunswick, GA	Unknown
Star Odyssey Bahamas	Approximately 126 gallons of heavy fuel oil spilled into the Mississippi River because a tank was overfilled. 3/1/95	$2,500	Norwegian Cruise Line Miami, Florida	Self
Seabourn Pride Norway	While the ship was pumping ballast water, a residue from the bilge was flushed out into the Intracoastal Waterway in Port Everglades, FL. 3/21/95	$500	Seabourn Cruise Line Miami, FL	USCG
Rotterdam Netherlands Antilles	The ship's bowthruster leaked about ½ gallon of hydraulic oil. 5/27/95	$250	Holland America Line Seattle, WA	Self
Seabreeze I Panama	A discharge of approximately 60 gallons of fuel oil on the surface of San Juan Harbor, PR, was linked by chemical analysis to the *Seabreeze I*. 6/7/95	$1,200	Compania de Vapores (Owner); Dolphin Cruise Lines, Inc. (Now operated by International Shipping Partners) Miami, FL	3rd party
Star Princess Liberia	The ship ran aground in Lynn Canal, AK, rupturing some tanks and spilling 50-75 gallons of fuel oil. 6/23/95	$800	Princess Cruises, Inc. Los Angeles, CA	Unknown

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Majesty of the Seas Norway	An open valve caused bilge oil to be pumped into a bilgewater tank, and approximately 1 gallon was discharged into the Intracoastal Waterway, FL. 6/25/95	$250	Royal Caribbean Cruises, Ltd. Miami, FL	Unknown
Jubilee Liberia	A crew member dripped oil-based paint into the Port of Los Angeles/Long Beach, CA, as the crew painted the ship's hull. 7/2/95	$250	Carnival Cruise Lines Miami, FL	USCG
Legend of the Seas Liberia	10 gallons of oily bilgewater was discharged into Gastineau Channel, AK, when a bilge tank was overfilled. 7/20/95	$1,000	Royal Caribbean Cruises, Ltd. Miami, FL	3rd party
Regent Star Bahamas	A hole in the lube oil cooler caused a discharge of approximately 10 gallons of lube oil into Whittier Harbor, AK. 7/23/95	$250	World Pioneer S. A. Panama (No information available)	Self
Regent Star Bahamas	While the decks of the ship were being washed down, about 5 gallons of lube oil washed into Whittier Harbor, AK. 7/27/95	$500	World Pioneer S. A. Panama (No information available)	Self
Tropicale Liberia	Approximately 1 gallon of diesel fuel leaked into Tampa Bay, FL, through a hole in the fuel tank of a lifeboat. 8/6/95	$250	Carnival Cruise Lines Miami, FL	Self
Scandinavian Dawn Bahamas	Approximately 20 gallons of hydraulic oil was discharged into the Intracoastal Waterway, Port Everglades, FL , through a leak in the seals of the propeller hub. 8/11/95	$1,000	MSJ Shipping Limited (Now Discovery Cruises; operated by International Shipping Partners) Miami, FL	USCG overflight
Discovery Sun Panama	Crew members dripped oil-based paint into the Port of Miami, FL, as they painted the ship's hull. 8/30/95	$250	DFDS Seaways (Bahamas), Ltd. (No longer operating)	3rd party
Holiday Panama	While in dry dock, the ship discharged approximately 5 gallons of waste oil through the overboard discharge because a valve was in the wrong position. 12/9/95	$250	Carnival Cruise Lines Miami, FL	Unknown
Dolphin IV Panama	The ship spilled approximately 50 gallons of fuel oil into Port Canaveral, FL. 2/4/96	$625	Canaveral Cruise Lines Miami, FL	Self
Cunard Countess Bahamas	Garbage, including plastic, washed ashore on St. Croix, VI, and identifying information linked it to the *Cunard Countess*. 2/6/96	Warning	Cunard Line, Ltd. Miami, FL	3rd party
Starship Oceanic Bahamas	A spill of approximately 200 gallons of oil in Port Canaveral, FL, was linked through chemical analysis to the *Starship Oceanic*. 2/7/96	$2,500	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	3rd party
Meridian Bahamas	Food waste mixed with garbage was illegally discharged into Crown Bay, St. Thomas, VI. 3/24/96	Warning	Celebrity Cruises Miami, FL	USCG

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Queen Odyssey Bahamas	The ship spilled approximately 1 gallon of fuel oil into the Caribbean Sea, St. Croix, VI. 3/30/96	$250	Seabourn Cruise Line Miami, FL	3rd party
Tropicana Bahamas	A spill of about 80 gallons of oil into the Port of Miami, FL, was linked by chemical analysis to the *Tropicana*. 4/17/96	$5,000	Jubilee of the Bahamas, Inc. (Tropicana Cruises) Greenville, SC	3rd party
Oceanbreeze Liberia	Approximately 150 gallons of oil was discharged into Biscayne Bay, FL, during deballasting operations. 4/29/96	$17,500	Dolphin Cruise Lines, Inc. (Now operated by International Shipping Partners) Miami, FL	Self
Leeward Panama	A spill of approximately 70 gallons of oil in the Port of Miami, FL, was linked to the *Leeward* by chemical analysis. 5/6/96	$4,000	Kloster Cruise, Ltd. (Now Norwegian Cruise Line) Miami, FL	Self
Leeward Panama	About 1 gallon of fuel was discharged into the Port of Miami, FL, when a hose was being disconnected during a fuel transfer process. 7/5/96	$250	Kloster Cruise, Ltd. (Now Norwegian Cruise Line) Miami, FL	Self
La Cruise Panama	About 15 gallons of oil leaked into the St. John's River, FL, over 11 days while the ship was in port. 8/9/96	$1,500	Louisiana Cruise, Ltd. Atlantic Beach, FL	USCG
Song of Norway Norway	A crew member spilled approximately 1/2 pint of oil-based paint into the Port of Los Angeles/Long Beach, CA. 9/22/96	$250	Royal Caribbean Cruises, Ltd. Miami, FL	USCG
Viking Serenade Liberia	A leak in a hydraulic line caused a discharge of approximately 5 gallons of hydraulic fluid into San Pedro Bay, CA. 9/30/96	$250	Royal Caribbean Cruises, Ltd. Miami, FL	Self
Ukraina Ukraine	Overfilling a waste oil tank caused a spill of approximately 40 gallons of waste oil into the Intracoastal Waterway at Port Everglades, FL. 10/30/96	$10,000	Prime Express Cruise Company Ft. Lauderdale, FL	USCG
Sundream Bahamas	Lube oil tanks overflowed during filling, causing a spill of approximately 65 gallons into the Patapsco River, MD. 2/28/97	$1,000	Royal Caribbean Cruises, Ltd. Miami, FL	3rd party
Radisson Diamond Finland	A faulty valve in a ballast line containing oil residue caused a discharge of approximately 10 gallons of oil into San Juan Bay, PR. 3/3/97	$1,000	Barber Ship Management Kuala Lumpur, Malaysia	Self
Radisson Diamond Finland	Approximately 10 gallons of waste oil spilled into San Juan Bay, PR, because a valve connecting the bilge and ballast systems was left open. 3/6/97	$3,000	Barber Ship Management Kuala Lumpur, Malaysia	Self
Club Med 1 Bahamas	Approximately 76-100 gallons of diesel spilled into San Juan Harbor, PR, during a routine transfer of bulk oil. 3/12/97	$3,000	Services Et Transports Cruises Harfleur, France	Self

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Sea Breeze I Panama	Approximately 80 gallons of black diesel oil was discharged into St. Thomas Harbor, VI, from the ship's sewage tank vent. 6/5/97	$1,000	Dolphin Cruise Lines, Inc. (Now operated by International Shipping Partners) Miami, FL	Unknown
Holiday Panama	While painting the side of the ship, a crew member spilled approximately 1/2 gallon of oil-based paint into Los Angeles Harbor, CA. 7/14/97	$250	Carnival Cruise Lines Miami, FL	USCG
Regal Voyager Bahamas	A spill of 30 gallons of oil in Port of Miami, FL. was linked to the *Regal Voyager* by chemical analysis. 9/24/97	$1,000	International Shipping Partners Miami, FL	3rd party
Nordic Empress Liberia	During a transfer of waste oil, approximately 1 gallon of oil spilled into San Juan Harbor, PR. 12/8/97	$625	Royal Caribbean Cruises, Ltd. Miami, FL	USCG
Liberty II St. Vincent	Approximately 1 gallon of lube oil spilled into Sheepshead Bay, NY, because a lube oil cooler was broken. 2/23/98	Warning	Sea Co, Ltd. (No information available)	3rd party
Acqua Azzurra St. Vincent	About 2 gallons of diesel fuel entered the New River, FL, from the ship's generator exhaust. 2/21/98	$250	Acqua Azzurra Maritima Ltd. (No information available)	USCG
Statendam Netherlands	210 gallons of oil spilled into the Los Angeles Main Channel, CA, when contaminated ballast water was released. 3/29/98	$800	Holland America Line Seattle, WA	Self
Stella Solaris Greece	Leaking rivets caused the ship to discharge 5 gallons of diesel fuel into the Galveston Ship Channel, TX. 3/27/98	$250	Royal Olympic Cruises Piraeus, Greece	Unknown
Island Dawn Bahamas	During a fuel transfer, approximately 26-30 gallons of fuel discharged into the Intracoastal Waterway, Port Everglades, FL. 4/9/98	$2,125	International Shipping Partners Miami, FL	Self
Tropicale Liberia	Approximately 1/2 gallon of hydraulic fluid was discharged into the waters of East Bay, Tampa Bay, FL, during testing of the ship's hydraulic winches. 5/4/98	$250	Carnival Cruise Lines Miami, FL	Self
Statendam Netherlands	A hydraulic line ruptured, discharging 1 gallon of oil into the Tongas Narrows, AK. 6/30/98	$250	Holland America Line Miami, FL	Self
Norwegian Star Bahamas	Approximately 30 gallons of lube oil was discharged into Barbours Cut Channel, TX, when a tank was overfilled. 8/2/98	$625	Kloster Cruise Ltd. (Now Norwegian Cruise Lines) Miami, FL	Self
Island Adventure Bahamas	About 200 gallons of fuel oil was spilled into the Intracoastal Waterway, Port Everglades, FL, during transfer operations. 9/23/98	$5,000	Meridian Ship Managers Ft. Lauderdale, FL	Self

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Alleged Pollution Discharge Incidents by Cruise Ships Referred to Flag States, 1993-98

Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator and headquarters location	Detection source
Nordic Empress Liberia	A Coast Guard aircraft observed a ship trailing a 7-nautical-mile slick and videotaped the incident. The ship was located midway between Bimini, Bahamas and the South Florida coast. 2/1/93	Reasonable doubt/ no action taken	Royal Caribbean Cruises, Ltd. Miami, FL	USCG overflight
Statendam Bahamas	A passenger videotaped garbage, including plastics, being illegally discharged into the water between the Panama Canal and Golfo Dulce. 2/1/93	Acknowledgement only	Holland America Line Seattle, WA	3rd party report
Ecstasy Liberia	Using Forward Looking InfraRed equipment, a Coast Guard aircraft observed and videotaped a ship trailing a several-mile-long slick. 4/11/93	Reasonable doubt/ no action taken	Carnival Cruise Lines Miami, FL	USCG overflight
Seaward Bahamas	A Coast Guard aircraft observed and videotaped a ship trailing a 3-nautical mile-slick as the ship traveled approximately 11 nautical miles off Key Biscayne, FL. 4/11/93	Acknowledgement only	Norwegian Cruise Line Miami, FL	USCG overflight
Seabreeze Panama	A passenger reported that the ship's crew had illegally discharged garbage, including plastics, into the water while the ship was en route to San Juan, PR. 5/5/93	No flag state response	Dolphin Cruise Lines (Now operated by International Shipping Partners) Miami, FL	3rd party report
Starship Atlantic Liberia	A Coast Guard aircraft observed a ship trailing a ½-mile sheen as the ship traveled 4 miles off the Bahamas. 5/6/93	Reasonable doubt/will have operators do ship survey	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	USCG overflight
Starship Oceanic Bahamas	A Coast Guard aircraft observed a ship trailing a 6-8-nautical-mile sheen in New Providence Channel. 6/8/93	Acknowledgement only	Premier Cruise Lines, Ltd. (Now operated by International Shipping Partners) Miami, FL	USCG overflight
Britanis Panama	Passengers reported that the ship's crew had illegally discharged garbage, including plastics, into the Gulf of Mexico outside U.S. jurisdiction. 6/10/93	Fine (amount unknown)	Celebrity Cruises Miami, FL	3rd party report
Crown Jewel Panama	A Coast Guard aircraft observed a ship trailing an 8-nautical-mile sheen 35 miles west of Freeport, Bahamas. 6/21/93	No flag state response	Cunard Line, Ltd. Miami, FL	USCG overflight
Oceanbreeze Liberia	Passengers reported that the ship's crew had illegally discharged garbage, including plastics, into the water. 1/5/94	No flag state response	Dolphin Cruise Lines (Now operated by International Shipping Partners) Miami, FL	3rd party report

Continued

Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator and headquarters location	Detection source
Discovery I Panama	A Coast Guard aircraft observed and videotaped a ship trailing a 2-nautical-mile slick. The ship was en route to the Bahamas. 5/9/94	No flag state response	Discovery Cruise Line (Now operated by International Shipping Partners) Miami, FL	USCG overflight
Seabreeze I Panama	Passengers reported that the ship's crew had illegally discharged garbage, including plastics, into the water. 7/26/94	No flag state response	Dolphin Cruise Lines (Now operated by International Shipping Partners) Miami, FL	3rd party report
Britanis Panama	Passengers reported that the ship's crew had illegally discharged garbage, including plastics, into the water. 11/10/94	Insufficient evidence/no action taken	Celebrity Cruises Miami, FL	3rd party report
Star of Texas Greece	A Coast Guard aircraft observed and videotaped a ship trailing a 1.8-nautical-mile sheen-as the ship traveled in the North Atlantic. 3/28/95	No flag state response	Ulysses Cruise, Inc. (Not operating)	USCG overflight
Royal Majesty Panama	A Coast Guard aircraft observed and videotaped a ship trailing a 3-nautical-mile sheen. 4/7/95	No flag state response	Norwegian Cruise Line Miami, FL	USCG overflight
Seabreeze I Panama	A passenger reported that the ship's crew had illegally discharged garbage, including plastics, into the water. 4/8/95	No flag state response	Dolphin Cruise Lines (Now operated by International Shipping Partners) Miami, FL	3rd party report
Scandinavian Dawn Bahamas	A Coast Guard aircraft observed and videotaped a ship trailing a 3-nautical-mile sheen. 4/21/95	Violation not proven	SeaEscape Cruises, Ltd. (Now New SeaEscape Cruises, Ltd.) Ft. Lauderdale, FL	USCG overflight

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Violations Involving Pollution Incidents by Cruise Ships Prosecuted by the Department of Justice, 1993-98

Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Regent Rainbow Bahamas	The ship's crew knowingly discharged plastic bags of garbage within the U.S. exclusive economic zone off the coast of Florida. 1-2/93	1995 criminal plea agreement. The company was fined $250,000 and placed on probation for 1 year with the following conditions. The company was to: (1) spend $250,000 on equipment to reduce the volume of garbage on its fleet, (2) implement an environmental compliance plan (ECP), and (3) publish a letter of public apology. (The plea agreement included the illegal disposal of plastics from the *Regent Sea*–see below.)	Regency Cruises, Inc. (Not operating)	3rd party
Regent Sea Bahamas	The ship's crew knowingly discharged plastic bags of garbage within the U.S. exclusive economic zone off the coast of Florida. 1-2/1993	See the disposition of this case under the *Regent Rainbow* case.	Regency Cruises, Inc. (Not operating)	3rd party
Pacific Star Greece	500-1,000 gallons of oil was negligently discharged into San Diego Bay, CA, and linked by chemical analysis to the bilge tank of the *Pacific Star*. 8/8/93	1994 criminal plea agreement. The company was fined $10,000 and required to repay the Coast Guard $56,000 for its costs to clean up the spill. The company was also required to purchase a new oil skimmer (valued at $40,000) for the Coast Guard's Marine Safety Office in San Diego, CA.	Cross Med Maritime, Inc. Starlite Cruises, Inc. (Not operating)	3rd party

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Sovereign of the Seas Norway And four other Royal Caribbean Cruises, Ltd. (RCCL) ships: *Monarch of the Seas* Norway *Song of America* Norway *Nordic Prince* Norway *Nordic Empress* Liberia	On Oct. 25, 1994, the *Sovereign of the Seas* was identified discharging oily bilge waste approximately 8-12 miles from San Juan Harbor, PR. Records also show that the ship's engineers routinely discharged oily bilge waste overboard instead of processing it through the ship's oily water separator. In addition, employees on this and four other RCCL ships falsified oil record books and made false statements to the Coast Guard to conceal illegal discharge practices by these ships.	1998 criminal plea agreement. The company was fined $8 million ($1 million of which was designated to the National Fish and Wildlife Foundation.) In addition, the company was placed under a 5-year probation during which it was required to implement an ECP. The company was also required to (1) hire a senior vice president to oversee the ECP, (2) hire an outside independent environmental consultant to conduct environmental audits, (3) file quarterly reports with the courts and various federal agencies regarding these audits, and (4) appoint a committee of the board of directors to monitor RCCL's environmental policies. (A $4,000 civil penalty, noted in app. I, was assessed for the *Sovereign of the Seas* discharge only.)	Royal Caribbean Cruises, Ltd. Miami, FL	USCG overflight

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Nine RCCL ships: *Majesty of the Seas* Norway *Nordic Empress* Liberia *Nordic Prince* Norway *Song of America* Norway *Song of Norway* Norway *Sovereign of the Seas* Norway *Sun Viking* Norway *Monarch of the Seas* Norway *Grandeur of the Seas* Liberia	In six federal jurisdictions, the company pled guilty to charges of fleetwide practices of discharging oil-contaminated bilge waste, regularly and routinely discharging without a permit wastewater contaminated by pollutants through its ships' gray water systems, and making false material statements to the Coast Guard. These practices occurred fleetwide into 1995 and occurred on one ship as late as 1998. Among the violations supporting this guilty plea were repeated oil discharges from the *Nordic Prince* into the waters of Alaska's Inside Passage during 1994.	1999 criminal plea agreement for six federal jurisdictions. In total, the company was fined $18 million ($3.5 million designated to the National Fish and Wildlife Foundation and $.2.5 million to the National Park Foundation), placed on probation for a new 5-year period, and required to submit a revised ECP under the same terms and requirements as provided under the 1998 plea agreement. (See above.) (A $5,600 civil penalty, noted in app. I, was assessed for the *Nordic Prince* discharge only.)	Royal Caribbean Cruises, Ltd. Miami, FL	3rd party and USCG overflight
Nordic Empress Liberia	Coast Guard aircraft personnel observed and filmed the ship discharging oil while en route to Miami, FL. The company pled guilty to the willful presentation of a false oil record book for the ship during a U.S. Coast Guard pollution investigation. In addition, investigations revealed that the ship had been fitted with a bypass pipe, allowing employees to discharge bilge waste from the ship without first processing it through an oily water separator. 2/1/93	1998 criminal plea agreement. The company was fined $1 million. (The terms of the 1998 plea agreement are identical to those listed above for the *Sovereign of the Seas*.)	Royal Caribbean Cruises, Ltd. Miami, FL	USCG overflight

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Ship's name and flag state	Description and date of incident	Disposition of case	Owner/operator/ headquarters location	Detection source
Viking Princess Panama	The ship's crew knowingly discharged an undetermined quantity of oil, creating a 2.5-mile-long oil slick less than 4 miles from shore. The ship's crew also failed to report the discharge. 2/21/93	1994 criminal plea agreement. The company was fined $500,000 and sentenced to a term of probation, during which it was required to establish and maintain an effective ECP. The company was also required to submit to annual audits and provide quarterly reports to the court and the U.S. Coast Guard describing the status of its ECP.	Palm Beach Cruises Riviera Beach, FL	USCG overflight
Rotterdam Netherlands Antilles	The ship repeatedly and continuously discharged oily waste into Alaskan waters without first processing it through an oily water separator. The ship also had fixed, permanent piping that allowed oily waste to be discharged directly overboard. The company also pled guilty to failing to keep records of oily mixture discharges. 9/2/94	1998 criminal plea agreement. The company was sentenced to 5 years' probation, fined $1 million, required to pay $1 million in restitution to the National Park Foundation, and required to develop an ECP.	Holland America Line Seattle, WA	3rd party (Crew member report.)
Seabreeze I Panama	The ship's crew knowingly discharged plastic bags 2 and 25 miles from the U.S. shore. In addition, the ship negligently discharged oil into the North Atlantic 1 mile from the U.S. coast. 4/8/95	1994 criminal plea agreement. The company was fined $75,000 for the oil discharge and $75,000 for the garbage discharge and was required to pay $275,000 in restitution to the National Oceanic and Atmospheric Administration (NOAA).	Ulysses Cruises (Not operating.)	3rrd party
Star of Texas Greece	Coast Guard aircraft personnel observed and videotaped the ship emitting an oil sheen approximately 2 miles long and 150 feet wide in the North Atlantic Ocean near Miami, FL. 3/28/95	1994 criminal plea agreement. The company was fined $75,000 for the oil discharge.	Seaway Maritime (Not operating.)	USCG overflight

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Studies and Articles With Recommendations for Strengthening U.S. Enforcement Efforts or Discouraging Illegal Discharges

1. Ardia, David S. "A Symposium on Implementation, Compliance and Effectiveness: Does the Emperor Have No Clothes? Enforcement of International Laws Protecting the Marine Environment." *Michigan Journal of International Law*, Vol. 19, No. 2 (Winter 1998), pp. 497-567.

2. Baur, Donald C. and Suzanne Iudicello. "Stemming the Tide of Marine Debris Pollution: Putting Domestic and International Control Authorities to Work." *Ecology Law Quarterly*, Vol. 17, No. 1 (1990), pp. 71-142.

3. Becker, Rebecca. "MARPOL 73/78: An Overview in International Environmental Enforcement." *Georgetown International Environmental Law Review*, Vol. 10 (Winter 1998), pp. 625-642.

4. *Coast Guard: Enforcement Under MARPOL V Convention on Pollution Expanded, Although Problems Remain* (GAO/RCED-95-143, May 30, 1995).

5. *Clean Ships, Clean Ports, Clean Oceans—Controlling Garbage and Plastic Wastes at Sea*. National Research Council. Washington, D.C.: National Academy Press, 1995.

6. *Creating a Sea Change: The WWF/IUCN Marine Policy*. Worldwide Fund for Nature and the World Conservation Union, 1998, pp. 59-60.

7. Dehner, Jeffrey S. "Vessel-source Pollution and Public Vessels: Sovereign Immunity vs. Compliance, Implications for International Law." *Emory International Law Review*, Vol. 9, No. 2 (Fall 1995), pp. 507-552.

8. *Report on the Adequacy of Existing Waste Management Systems to Handle MARPOL 73/78 Waste*. Wider Caribbean Initiative for Ship-Generated Waste, Report No. 5. International Maritime Organization, 1995/96.

9. Sahatjian, Laurie Crick. "MARPOL—An Adequate Regime? A Questioning Look at Port and Coastal State Enforcement." *Proceedings of the 1998 International Oil Spill Conference*, 1998.

Status of Recommendations, Cited in Studies and Articles, to Strengthen U.S. Enforcement Efforts or Discourage Illegal Discharges

The following recommendations were taken from the studies and articles listed in appendix IV and from interviews with agency officials. The source is referenced after each recommendation.

Recommended action/source	Type of action	Status of action reported by the agency
U.S. Coast Guard		
Require vessels lacking comprehensive onboard garbage management systems to off-load garbage at each U.S. port of call. (Source: App. IV – 5)	Clarifying requirements	Partially implemented. 33 C.F.R. 151 requires U.S.-flagged commercial vessels over 40 feet, and Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL) requires foreign-flagged vessels of 400 gross tons or carrying 15 passengers or more, to have an onboard garbage management plan and discharge records. The Coast Guard (Captain of the Port) can compel any noncompliant vessel to off-load in port and/or detain the vessel until a satisfactory garbage plan is implemented.
Examine garbage logs and onboard garbage handling and treatment technologies during routine inspections. (Source: App. IV – 2,5)	Clarifying requirements	Implemented. Routine Coast Guard port state control examinations include checks of documents, certificates, manuals, and pollution prevention systems (including garbage logs). The Coast Guard's marine safety manual and instructions specify that the scope of these exams can be expanded if there are clear grounds for suspecting MARPOL noncompliance. An examination book was published with checklists on MARPOL inspection items.
Require vessel operators to report inadequate port reception facilities (using IMO forms) and follow up to ensure that changes are made. (Source: App. IV – 5)	Clarifying requirements	Partially implemented. The United States "encourages" U.S.-flagged vessels—as specified by IMO—to report inadequate port reception facilities, and the Coast Guard is changing its regulations to require that port reception facilities post signs providing instructions and local Coast Guard phone numbers to call for reporting inadequate facilities. The United States also played an active role in an IMO working group that redesigned IMO's form for reporting inadequate reception facilities.
Match port receipts for garbage discharged to vessel garbage logs for inconsistencies. (Source: App. IV – 5)	Clarifying requirements	Partially implemented. The Coast Guard does not perform a detailed inspection of a vessel's garbage log during port state control examinations. However, if there are clear grounds to believe that a vessel does not comply with MARPOL Annex V during a port state control examination, the Coast Guard boarding officer may expand the scope and depth of the examination to verify garbage logs.
Require ports to have the necessary state permits as a condition of granting a certification of adequacy and require port reception facilities to meet the Environmental Protection Agency's (EPA) standards. (Source: App. IV – 5)	Clarifying requirements	Not implemented. The Coast Guard does not enforce state requirements. Its current regulations require consultation with EPA before a certification of adequacy is issued. If EPA notifies the Coast Guard that an applicant is not in compliance, a certification will not be granted.

Continued

Recommended action/source	Type of action	Status of action reported by the agency
Determine how much waste-handling capacity is adequate at particular ports and mandate waste-handling capacity sufficient to meet the needs of all vessels expected to call. (Source: App. IV – 2)	Clarifying requirements	Partially implemented. The Coast Guard's regulations specify which ports must provide reception facilities and which must have certifications of adequacy. The application for the certification includes calculations for determining waste-handling capacity, and Coast Guard personnel inspect reception facilities for compliance. The Coast Guard is also active in an IMO working group that is developing international guidelines for determining capacity, as well as related port reception parameters.
Require garbage logs for foreign-flagged vessels home ported in the United States. (Source: App. IV – 5)	Clarifying requirements	Implemented. MARPOL V requires garbage logs on foreign-flagged vessels of at least 400 gross tons or carrying 15 or more persons.
Adopt a policy of issuing tickets in civil cases if pilot projects show this streamlined enforcement approach is successful. (Source: App. IV – 5)	Clarifying requirements	Implemented. The Notice of Violation (ticket) program is no longer a pilot project. Regulations have been published, and the program is currently being used to process small oil pollution and certain oil and sewage pollution prevention civil penalty cases.
Enlist the assistance of the National Marine Fisheries Service, the Mineral Mining Service, and state marine police in reporting MARPOL marine discharge violations, and encourage reports of violations by the public. (Source: App. IV – 5)	Improving reporting	Implemented. The Coast Guard coordinates port enforcement and response activities with other federal, state, and local authorities. The Sea Partners Campaign has been established to develop community awareness of maritime pollution and to improve compliance with marine environmental protection regulations.
Work with the Departments of State and Justice to enforce MARPOL aggressively against foreign-flag violators and pursue international resolution of any ambiguities concerning the rights of port states to control pollution from vessels. (Source: App. IV – 5)	Coordinating enforcement	Partially implemented. The Coast Guard has two manuals that provide field guidance on the enforcement of environmental statutes and describe the agency's relationships with the Departments of State and Justice. All civil case referrals of MARPOL violations outside U.S. jurisdiction are promptly forwarded to the flag states (through the Department of State) for investigation and resolution. IMO is developing a new edition of the MARPOL compliance and enforcement manual to assist other port states with their responsibility to control pollution from users.
Delegate Marine Plastic Pollution Research and Control Act's inspection authority to state marine patrols and other federal agencies, such as the Department of Agriculture's Animal Plant Health Inspection Service (APHIS). (Source: App. IV - 2)	Coordinating enforcement	Not applicable. The Coast Guard does not have the authority to delegate MARPOL enforcement authority to another federal or state agency. The Coast Guard has worked with APHIS inspectors to include a section on MARPOL V garbage handling in APHIS inspections, and inspections indicating noncompliance with garbage-handling procedures are turned over to the Coast Guard for enforcement.

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Recommended action/source	Type of action	Status of action reported by the agency
Collaborate with APHIS to develop, maintain, and use for enforcement purposes, a record-keeping system incorporating records from vessel boardings, garbage logs, enforcement reports, and port receipts. (Source: App. IV – 5)	Sharing information	Partially implemented. The Coast Guard and APHIS share information as necessary. Coast Guard officials do not believe that developing a shared database would help reduce illegal marine discharges by cruise line companies, and they report that resources are not available to accomplish this task.
Review companies' internal audit reports as part of vessel examinations. (Source: Interviews)	Clarifying requirements	Not implemented. The Coast Guard has determined that companies' internal audit reports should not be reviewed as a detection tool. Coast Guard officials believe the internal audits are to promote self-discovery and correction of noncompliance, and companies would be less inclined to report nonconformance if they knew internal audit reports would be used to discover violations.
Issue periodic reports listing enforcement actions, assistance provided by other agencies, and analysis of data. (Source: App. IV – 5)	Sharing information	Partially implemented. The Coast Guard collects and analyzes MARPOL data to gauge its success in meeting the agency's business plan goal to reduce the amount of vessel-generated plastics and garbage. Coast Guard officials do not believe that publishing reports on enforcement actions or assistance would help reduce illegal marine discharges by cruise line companies; and they report that resources are not available to accomplish this task.
Standardize MARPOL inspection checklist. (Source: App. IV – 4)	Clarifying requirements	Implemented. A standardized examination book (CG-840) to assist Coast Guard boarding officers was published with helpful checklists on MARPOL inspection items.
Ensure hearing exam case feedback is provided to districts and local units. (Source: App. IV – 4)	Sharing information	Implemented. Actions taken by the Coast Guard's civil penalty hearing officers are documented in the Coast Guard's centralized Marine Safety Information System (MSIS), providing immediate feedback to local units on the status of cases entered into the system. Cases that are forwarded with insufficient evidence are immediately returned to the district/unit that referred them, and all cases are returned after penalties have been addressed and collected.
U.S. Department of Agriculture/ Animal and Plant Health Inspection Service		
Integrate APHIS' regime as fully as possible with the Coast Guard's MARPOL Annex V implementation program and the system for managing land-generated waste. (Source: App. IV – 4, 5)	Coordinating enforcement	Implemented. APHIS' ship-boarding report form was amended to include MARPOL V garbage-/waste-handling procedures. Instances of identified noncompliance are referred to the Coast Guard for enforcement. Feedback from the Coast Guard to APHIS on actions taken is poor.
Require cruise ships without incinerators rated to burn food waste to off-load APHIS-regulated waste at U.S. ports of call. (Source: App. IV – 5)	Clarifying requirements	Not implemented. APHIS' regulations do not require garbage to be off-loaded. APHIS' legal authorities are to prevent the introduction of plant and animal diseases. If waste is handled properly onboard a vessel, there is no risk of introducing a plant or animal disease. There are specific requirements for handling and disposing of contaminated waste (if off-loaded), namely incineration or sterilization with burial.

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Recommended action/source	Type of action	Status of action reported by the agency
Develop standards for compacted waste. (Source: App. IV – 5)	Clarifying requirements	Implemented. APHIS has requirements for compacted waste. Clean waste (i.e., waste that is not contaminated by plant or animal matter) may be off-loaded without restriction. Contaminated materials may be off-loaded if they have been sterilized or incinerated.
Department of Justice		
Take action under U.S. law to prosecute MARPOL including violations that occur outside U.S. territorial waters if there is clear evidence of a discharge. (Source: Interviews)	Clarifying requirements	Implemented. Justice has jurisdiction for illegal discharges and prosecutes to the maximum extent permitted by law. Its jurisdiction for oil and hazardous waste reaches no farther than the exclusive economic zone for foreign-flagged ships departing U.S. ports. Its jurisdiction for discharges caused by U.S. ships is worldwide.
Seek penalties for non-compliance that remove the economic advantage gained from non-compliance. (Source: App. IV – 3 and interviews)	Clarifying requirements	Implemented. Justice has sought the imposition of appropriate penalties in all vessel cases and, where warranted, has requested the imposition of criminal fines calculated pursuant to the loss- or gain-doubling provisions of the Alternative Fines Act. Where appropriate, Justice will continue to request criminal fines that seek to remove the economic advantage achieved through unlawful conduct.
Develop linkages with U.S. agencies responsible for marine discharge enforcement to facilitate a coordinated approach to detection, investigation, and prosecution. (Source: Interviews)	Coordinating enforcement	Implemented. Through extensive training and coordination, Justice has developed linkages with the Coast Guard, the Federal Bureau of Investigation, and EPA.
Department of Commerce/National Oceanic and Atmospheric Administration		
Establish a statistically valid, long-term monitoring program to gather and disseminate data on marine debris, including its transport and fate, the accumulation of plastic on beaches, and wildlife interactions. (Source: App. IV – 5)	Improving data on marine debris	Implemented. NOAA and EPA, from 1988 to 1996, coordinated the effort to develop and initiate an interagency public/private marine debris pilot study program. The efforts of this program contributed to the creation in 1996 of the National Marine Debris Monitoring Program, a statistically valid marine debris-monitoring program. The program is in the initial stages of implementation and is funded by EPA, coordinated by the Center for Marine Conservation, and based on the use of data collected by dedicated volunteers. This program will collect information over a 5-year period on the types and amounts of debris found at 180 sites in the coastal United States, including Alaska and Hawaii, Puerto Rico, and the U.S. Virgin Islands. NOAA has no current role in monitoring marine debris.
Environmental Protection Agency		

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Recommended action/source	Type of action	Status of action reported by the agency
Incorporate the vessel garbage management system into the system for managing land-generated waste. (Source: App. IV – 5)	Coordinating enforcement	Partially implemented. Under the Resource Conservation and Recovery Act (RCRA), EPA established regulations in 1979 (updated in 1991) to ensure the safe disposal of solid waste. These regulations apply to the disposal of garbage that is off-loaded from vessels in U.S. ports. The regulations are self-implementing (i.e., implemented by states that can demonstrate to EPA that they have permit programs to ensure disposal facilities' compliance with the regulations). As of June 1999, 48 states and territories had EPA-approved permit programs. RCRA authorizes the states, regional solid waste authorities, and local governments to regulate other aspects of solid waste management (e.g., collection and storage). While RCRA provides that EPA could develop nonbinding technical guidance for vessel garbage management, this is not a priority, and EPA has no plans to prepare such guidance.
Require states to include in their solid waste management plans the disposal of garbage from vessels docked at their ports. (Source: App. IV – 5)	Clarifying requirements	Partially implemented. EPA issued regulations in 1979 that provide guidelines to assist states in the development of solid waste management plans. States that submitted their plans to EPA for approval or received approval from EPA would be eligible for financial assistance to prepare or implement their plans. Funds for financial assistance have not been appropriated since fiscal year 1981, and there is no incentive for states to submit their plans for review.
Establish technical standards for reception facilities appropriate to each type of port. (Source: App. IV – 5)	Clarifying requirements	Not implemented. Other than for the disposal of solid waste, EPA does not have the authority to establish regulations that would require ports to manage solid waste in a particular manner. RCRA gives that authority to the states and regional/local authorities. While EPA could issue nonbinding guidance that might or might not be followed, it currently has no plans to issue such guidance.
Require commercial ports to issue receipts for garbage discharged at their facilities and follow up on reports of inadequate port reception facilities. (Source: App. IV – 5)	Improving reporting	Not implemented. EPA does not have the authority to issue regulations that would require commercial ports to have such receipts.
U.S. Department of Transportation/Maritime Administration		
Develop and execute a research and development program that addresses needs for efficient and affordable onboard garbage treatment equipment; technology demonstration and information exchange; and operational, maintenance, and cost issues. (Source: App. IV – 5)	Improving technology	Not implemented. Shortly after this action was recommended in the 1995 Clean Ships report, budget reductions resulted in the discontinuation of the Maritime Administration's (MARAD) technology assessment/research and development program. In September 1999, the Department of Transportation published *An Assessment of the U.S. Marine Transportation System*, which recommends strategic action for the maritime transportation system. The Department plans to develop a research and development plan for issues related to this system.

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Recommended action/source	Type of action	Status of action reported by the agency
Obtain technical support and be responsive to the needs of fleets operated by the Navy, NOAA, and the Coast Guard; as well as the private sector. (Source: App. IV – 5)	Improving technology	Partially implemented. In meetings of interagency working groups and the U.S. delegation at IMO, MARAD has participated actively in support of internationally enforceable standards for minimizing the generation of shipboard waste, furthering treatment and technologies, and reducing illegal discharges. MARAD supported/coordinated research and development efforts with NOAA, the Navy, and the Coast Guard in waste minimization and reduction technology.
Review and compare the extent to which the Navy, the Coast Guard, NOAA, and commercial fleets have implemented waste management practices to facilitate the exchange of technical information, avoid duplication of effort, and maximize the return on research and development. (Source: App. IV – 5)	Improving technology	Not implemented. MARAD believes a review and comparison could be helpful; however, MARAD does not currently have the funding or personnel available to do such an analysis.
Department of State		
Resolve, through IMO or other avenues, the procedural obstacles that block garbage off-loading at some foreign ports. (Source: App. IV – 5)	Clarifying requirements	Partially implemented. IMO's Marine Environmental Protection Committee, Reception Facilities Work Group, is tasked with developing methods to ensure the adequacy of port waste reception facilities worldwide. In addition, IMO's Technical Cooperation Division is coordinating efforts to improve reception facilities in the wider Caribbean region. The wider Caribbean has been designated as a special area under MARPOL V, but the designation is not in effect because the region does not have enough reception facilities. When more such facilities become available, the designation will take effect, and it will be unlawful to discharge any ship-generated garbage into the Caribbean Sea and the Gulf of Mexico. U.S. officials have worked closely with the World Bank to ensure the availability of loans/grants to construct such facilities. However, some cruise lines oppose the fees necessary to keep the reception facilities operational.
Draw attention to the need for an international data collection and reporting effort—through IMO—of MARPOL violations and the responsiveness of individual flag state's to violations referred by port states. (Source: App. IV – 5)	Improving reporting	Partially implemented. IMO collects such reports, as required by MARPOL, and includes them in its annual report. However, not all flag states have been submitting their reports to IMO. This issue has been placed on the agenda for the next meeting of the Flag State Implementation Subcommittee (scheduled for Jan. 2000).
International Maritime Organization[a]		
Encourage regional cooperation in establishing adequate port facilities to handle waste and garbage. (Source: App. IV – 2, 8)	Coordinating enforcement	Partially implemented. IMO's Marine Environmental Protection Committee has this task on its agenda as part of the work for the Reception Facilities Work Group, and IMO's Technical Cooperation Division is coordinating work on reception facilities in the greater Caribbean region.

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Recommended action/source	Type of action	Status of action reported by the agency
Prepare more detailed guidelines and provide assistance to port and terminal operators in establishing efficient and cost-effective reception facilities. (Source: App. IV – 2)	Clarifying requirements	Partially implemented. The Reception Facilities Work Group has been tasked with developing these types of guidelines during the next several sessions of IMO's Marine Environmental Protection Committee. Draft guidelines were recently completed.
Create a system for reporting inadequate port facilities. (Source: App. IV – 2)	Improving reporting	Implemented. IMO has established a system for reporting inadequate reception facilities, and the forms used to report inadequate reception facilities were recently upgraded to make them more "user friendly." Additional work to improve reporting continues within the Reception Facilities Work Group.
Improve the monitoring of MARPOL compliance by requiring the full reporting of (1) data and information on MARPOL violations and (2) the penalties and enforcement actions taken by port and flag states. (Source: App. IV – 9)	Improving reporting	Partially implemented. The Marine Environmental Protection Committee's Reception Facilities Working Group is developing guidelines to streamline and improve this flag state/port state reporting process.
Use information-gathering and information-disseminating capabilities to create a centralized system for recording and tracking enforcement actions and distribute the information to the widest possible audience. (Source: App. IV – 7, 1)	Sharing information	No response.
Facilitate measures to prevent marine discharges by providing clearer guidelines for prosecuting and assessing penalties for MARPOL violations. (Source: App. IV – 7)	Clarifying requirements	No response.
Encourage the worldwide ratification of MARPOL and continue the development of improved environmental protection procedures. (Source: App. IV – 6)	Coordinating enforcement	Partially implemented. This is one of the main missions of IMO's Marine Environmental Protection Committee, and this work continues.
Promote the continued identification and special protection of sensitive marine areas that are particularly at risk from marine pollution. (Source: App. IV – 2, 6)	Improving data on marine debris	Partially implemented. At sessions of the Marine Environmental Protection Committee, working and drafting groups recently finished drafting improved and streamlined guidelines for identifying and protecting Particularly Sensitive Sea Areas. The designation of a new Particularly Sensitive Sea Area off the north coast of Cuba was approved at the last session. This effort is on the committee's agenda for the next several sessions.

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Recommended action/source	Type of action	Status of action reported by the agency
Create an organization to gather information and assess compliance. (Source: App. IV – 9)	Sharing information	No response.
Establish a clearinghouse for data on the sources and effects of marine debris. (Source: App. IV – 2)	Improving data on marine debris	No response.

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[a]IMO acknowledged receipt of our request for comment but did not comment on the status of recommended actions in this table that would fall under its jurisdiction. The acknowledgement stated that under IMO's present practice, the IMO Secretariat is not in a position to provide any opinion, views on, or interpretation of the activities of IMO, the Marine Environment Protection Committee, or a member government, unless so requested by the member government. In its capacity as the lead U.S. agency in IMO matters, the Coast Guard commented on the status of recommended actions under IMO's jurisdiction.

Cruise Ship Companies Included in GAO's Review

Company name	Number of ships	Passenger capacity
Carnival Cruises	14	1,022-2,758
Celebrity Cruises[a]	5	1,660-2,262
Cunard[b]	5	116-1,750
Holland America Line[c]	8	1,214-1,494
International Shipping Partners[d]	16	490-2,044
Norwegian Cruise Line	11	800-2,032
Princess Cruises	10	640-2,600
Royal Caribbean International	11	1,961-2,772
Europa Cruises Corporation[e]	1	350
Tropicana Cruises[f]	1	500
La Cruise	1	450
Palm Beach Casino Line	1	800

[a]This company, while operating under the name of Celebrity Cruises, is owned by Royal Caribbean Cruises, Ltd.

[b]This company, while operating under the name of Cunard, is owned by Carnival Corporation.

[c]This company, while operating under the name of Holland America Line, is owned by Carnival Corporation.

[d]International Shipping Partners (ISP) provides the day-to-day technical management and vessel operation for 16 cruise ships owned by 10 companies. Two of the companies ISP manages and operates ships for owned vessels that had illegal discharge violations cited by the Coast Guard between 1993-1998: Discovery Cruises and Premier Cruises. Premier Cruises merged with Dolphin Cruises, another company cited for illegal discharges, in 1993. ISP did not begin managing most of Premier's ships until 1997.

[e]Europa has four ships but currently operates only one; another is currently not operating, and the company has a contract with a third party to operate the other two ships.

[f]Tropicana is owned by Collins Companies, Greenville, SC. This ship is currently out of service.

Objectives, Scope and Methodology

The Ranking Minority Members of the House Committee on Commerce and the House Committee on Government Reform asked us to review information on illegal marine discharges from cruise ships calling at U.S. ports.

To identify the nature and scope of reported illegal discharge cases for foreign-flagged cruise ships, we obtained data from the Coast Guard's Marine Safety Information System (MSIS) and from records at the Departments of State and Justice on illegal marine discharge cases identified from 1993 through 1998. We eliminated all MSIS cases that did not involve a cruise ship, were not proven, or were closed for lack of evidence or for administrative purposes (i.e., duplicate cases). We reviewed the State Department's records to exclude cases that were not linked to passenger/cruise ships, and we compared the records from MSIS, State, and Justice to account for overlap among the records. We obtained additional details on the cases from MSIS to ensure that we had sufficient information to describe the nature of each incident. We obtained additional information about the ships and companies involved in the incidents from various sources, including interviews with company officials, Internet sources, and cruise industry publications. We also contacted the Coast Guard's hearing office for information on how the MSIS cases were resolved through the agency's civil penalty process.

To determine what actions the Coast Guard and other agencies have taken to prevent, detect, investigate, and prosecute illegal discharges from foreign-flagged cruise ships, we contacted officials from the Coast Guard, Justice (including the Federal Bureau of Investigation and the U.S. Attorney's Office in Miami), the State Department, the Animal Plant Health Inspection Service, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the Military Sealift Command, and the U.S. Public Health Service. We asked agency officials about the role their agency might play in the detection, prevention, investigation and prosecution of illegal marine discharge cases. From these discussions, we summarized the character of and efforts expended by the agencies to address illegal marine discharge issues. To find published recommendations that could strengthen U.S. enforcement efforts over illegal marine discharges and /or discourage such activities in the future, we conducted a literature search to identify reports, studies, and journal articles written in the last 9 years. We then identified relevant recommendations from these studies and had experts from the Center for Marine Conservation review the recommendations for relevance and comprehensiveness. We distributed a list of recommendations to federal

and other officials who would be responsible for implementing such recommendations and sought their comments on the status of the recommendations. We did not intend the list to be a set of actions that GAO recommends, but rather a list of actions that others have proposed as meriting consideration.

To determine what actions cruise ship companies have taken to prevent future illegal discharges, we first reviewed records and case files from the Coast Guard and records from Justice to identify all of the cruise ship companies that owned or operated cruise ships responsible for U.S. discharge incidents that occurred from 1993 through 1998. We then analyzed each illegal discharge incident by these ships to determine whether it appeared to be accidental or intentional.[1] Initially, we identified 18 companies with incidents that we judged to be intentional or of indeterminate cause. However, we did not contact 7 of these 18 companies because 4 are no longer operating and 3 were acquired by or merged with another company already identified on our list. We eliminated two other companies because they no longer operate vessels themselves but instead contract with another company (already on our list) for the management of their vessel operations. Finally, we added three companies to our follow-up list. While they did not meet the criteria for our original list of 18, they were large companies that had experienced accidental discharges and represented a significant segment of the cruise ship industry. In total, we identified 12 cruise ship companies, both large and small.

After identifying these 12 companies, we interviewed officials from them in person or by telephone. We visited the corporate offices of four cruise ship companies and observed environmental compliance practices and procedures aboard three cruise ships operated by three of these companies. We also observed environmental compliance practices and procedures aboard two cruise ships operated by two other companies. In addition, we met with and interviewed officials from the International Council of Cruise Lines, the trade association that represents the interests of 17 of the largest cruise lines in the North American market. Finally, we discussed the steps being taken by the companies with officials from the

[1]Our analysis of intentional and accidental cases was made solely to establish a basis for determining which cruise ship companies we should contact for follow up about the actions they have taken to reduce illegal discharges. The analysis was not intended to be an evaluation of the appropriateness of these cases for prosecution.

Coast Guard, Justice, and the Center for Marine Conservation to obtain their views on these measures.

Comments From the Department of Commerce

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
CHIEF FINANCIAL OFFICER/CHIEF ADMINISTRATIVE OFFICER

JAN 19 2000

Mr. Gerald Dillingham
General Accounting Office
441 G Street, NW
Room 2T23
Washington, DC 20548

Dear Mr. Dillingham:

Thank you for the opportunity to review and comment on the draft General Accounting Office (GAO) report entitled "Marine Pollution: Fewer Incidents by Cruise Ships Reported But Important Issues Remain, (GAO/RCED-00-48)". The National Oceanic and Atmospheric Administration has reviewed the draft report and has no additional comments, other than those which we provided to GAO in a transmittal dated January 4, 2000, and which were in response to a request to comment on the Statement of Facts for the subject draft report.

Sincerely,

Paul F. Roberts

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Comments From the Department of Justice

U.S. Department of Justice

Environment and Natural Resources Division

Assistant Attorney General
950 Pennsylvania Avenue, N.W.
Washington, DC 20530-0001

Telephone (202) 514-2701
Facsimile (202) 514-0557

January 31, 2000

Gerald Dillingham, Ph.D.
Associate Director
Transportation Issues
U.S. General Accounting Office
Washington, DC 20548

Re: GAO Audit Report on Marine Pollution by Cruise Lines

Dear Dr. Dillingham:

We appreciate the opportunity to provide input on this very important matter. Representatives of our Environmental Crimes Section and Executive Office have had extensive conversations with your staff, both telephonically and in person, to provide information for the referenced report. My staff have reviewed the final report and consider the findings to be both thorough and factually accurate. They concur with the report's recommendations.

If you need any additional information, please feel free to contact Frits Geurtsen of my staff at 202/616-3351.

Sincerely

Lois J. Schiffer
Assistant Attorney General

Comments From the Center for Marine Conservation

CENTER FOR MARINE CONSERVATION

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Roger Rufe, Jr.
Vice Admiral, US Coast Guard (Retired)
President/CEO

January 27, 2000

Gerald Dillingham, Ph.D.
Associate Director, Transportation Issues
United States General Accounting Office
RCED—Transportation
Room #2T23
441 "G" Street NW
Washington, DC 20545

Dear Dr. Dillingham:

On behalf of the Center for Marine Conservation (CMC), we thank you for the opportunity to review the draft report entitled *Marine Pollution.* Your report was reviewed by key program staff who have experience in working with the cruise industry (as well as other maritime entities) and who have extensive expertise in marine pollution prevention. Based on this review, CMC is in general agreement with the presentation of the facts related to this report and supports the conclusions and recommendations presented by the GAO. In addition to the areas addressed in the draft report, CMC recommends that the final report address additional issues and concerns related to water quality and habitat protection; MARPOL policies of U.S. government vessels; and compliance and enforcement strategies.

Water Quality and Habitat Protection of the Marine Environment

- Attention must be given to ensure that there is a consistent, national standard for gray water discharges and those discharges are effectively monitored for compliance. Monitoring efforts need to include documented standard assessments with third party evaluations being conducted on randomly collected discharge samples. The cruise industry must engage in a collaborative process to validate compliance issues where monitoring activities are not all pre-scheduled inspections.

- Sedimentation pollution from the drafts of larger ships need to be addressed as re-suspended sediments are chronically harmful to sensitive sea grass beds, coral reef areas and other ecosystem components. In addition, these sediments can carry toxic materials which are reintroduced into the environment posing additional stresses on bottom dwelling species and habitats.

MARPOL Policies of U.S. Government Vessels

- The United States celebrated the 10th anniversary of the ratification of MARPOL on December 31, 1998. Unfortunately, the implementation of MARPOL standards in the U.S. is not unilaterally applied to government vessels. The MARPOL exemptions afforded select U.S. ships need to be removed so that we can ensure that no pollution from our ships will impact the marine environment. The United States needs to lead by example. A zero tolerance for pollution from ships is a necessity.

Compliance and Enforcement Strategies of MARPOL and the Clean Water Act

- The U.S. Coast Guard has the responsibility for enforcing compliance with the standards for MARPOL and the Clean Water Act. It is essential that the Coast Guard have adequate resources to properly manage this oversight. During the period of review for this report, Congress significantly reduced resources used to monitor compliance. Concurrently, the reporting of violations and incidents decreased dramatically. Thus, based on the data and relevant history, it cannot be determined that there really were fewer violations. Even though the cruise industry has made significant improvements in how it handles ship-generated wastes, monitoring capabilities for compliance are inadequate, leaving detection of violations, in large part, to chance.

- The use of monetary penalties for violations does not appear to be as effective as it could be if larger fines were levied. A review of the strategies employed for imposing these fines needs to be reviewed. Many of the fines levied are so low that it might well be more cost effective for ship owners to take their chances on being caught rather than making necessary changes in equipment.

- In cases where violations from other flag states were identified, the follow up on these cases has been inadequate. The United States should work to make the IMO more effective so that violations can be properly addressed.

Thank you for the opportunity to comment on this report. The Center for Marine Conservation looks forward to working with Congress, federal and state agencies, and the maritime industry to address these issues. Please feel free to contact my office if you have any questions regarding our comments.

Sincerely,

Roger T. Rufe, Jr.

cc: Randy Williamson, GAO

GAO Contacts and Staff Acknowledgments

GAO Contacts

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Acknowledgments

In addition to those named above, Andrew Bauck, Steve Gazda, Dawn Hoff, David Hooper, Sterling Leibenguth, and Stan Stenersen made key contributions to this report.

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