



NATIONAL MARINE
SANCTUARIES™

CRUISE SHIP DISCHARGES

Action Plan Summary

MONTEREY BAY NATIONAL MARINE SANCTUARY

THE ISSUE:

In 2002, large cruise ships began visiting Monterey, with visits from three cruise ships. Since then cruise ship visits have increased within the Monterey Bay National Marine Sanctuary (MBNMS), and this trend will likely continue in the future. Cruise ships can provide local businesses with economic benefits, particularly if they introduce the region to tourists who may return for later visits. However, both the public and local businesses have raised concerns about environmental issues associated with the enormous size and capacity of cruise ships to generate massive volumes of waste.

BACKGROUND INFORMATION

Worldwide, cruise ships constitute a large and rapidly growing industry. Between 1992 and 2002, the industry grew at a rate of eight percent per year. By the end of 2001, the worldwide fleet of cruise ships totaled 167 vessels. By the end of 2005, an additional 38 vessels will be added, an increase of forty-five percent in a five-year period.

Passenger numbers in North America are expected to increase from 6.8 million in 2001 to 11.9 million in 2010. Currently 643,000 cruise ship passengers embark annually from California ports in San Francisco Bay, Los Angeles, and San Diego. Although partly constrained by the lack of local docking facilities, cruise ship visits to Monterey are likely to continue to grow as the fleet shifts from international to more domestic cruises, and

when a cruise ship docking facility in San Francisco Bay is completed.

The sheer size of cruise ships, and their capacity to generate huge volumes of waste, presents the potential for them to cause serious impacts to the marine environment. Currently the largest vessel in the global cruise line fleet, Royal Caribbean's Voyager of the Seas, is larger than an aircraft carrier at 1,017 feet (308 meters) in length and holds more than 5,000 passengers and crew. In Monterey, the average ship was 784 feet long with a tonnage of 61,288, with capacity for 1,561 passengers and 587 crew. The largest vessel visiting the Monterey Bay to date was 951 feet long, weighing 109,000 tons, with capacity for 2590 passengers and 1150 crew.

OUR GOAL

The sanctuary's goal is to prevent impacts to the Monterey Bay National Marine Sanctuary resources from cruise ship discharges.



The main pollutants generated by a cruise ship include sewage, gray water, bilge water, hazardous waste, and solid waste. Each of these pollutants is detailed below:

Sewage: Sewage includes vessel sewage and wastewater from medical facilities. Sewage discharge can contain bacteria or viruses that cause disease in humans and other wildlife. It can present a public health concern, if discharged in the vicinity of marine life harvested for human consumption, or in or near waters used for recreational activities such as swimming, diving, or boating. Nutrients in the sewage can cause **eutrophication**, whereby excessive growth of algae depletes oxygen and can lead to the death of fish and other organisms. Additionally, chemicals and deodorants including chlorine, ammonia, or formaldehyde are often used in **Marine Sanitation Devices (MSD)**, and can present a threat to marine organisms. Sewage from ships is generally more concentrated than that from land based sources, as it is diluted with less water when flushed (three quarts versus three to five gallons). Volumes of sewage for a typical cruise ship have been estimated at between five to ten gallons per person per day, or up to 210,000 gallons per week. Sewage discharge is regulated by federal and state agencies.

Graywater: Graywater consists of wastewater from sinks, showers, laundry, and galleys. It can contain a number of pollutants including: suspended solids, oil, grease, ammonia, nitrogen, phosphates, copper, lead, mercury, nickel, silver, zinc, detergents, cleaners, oil, grease, metals, pesticides, and medical and dental wastes. A typical cruise ship produces an estimated 1,000,000 gallons of graywater per week. Graywater discharge is regulated by the state of California.

Bilge water: Bilge water consists of fuel, oil, and wastewater from engines and machinery that collects, along with fresh water and seawater in the area at the bottom of the ship's hull, as a result of spills, leaks, and routine operations. It may also contain other materials such as rags, cleaning agents, paint, and metal shavings. A typical cruise ship generates an estimated 25,000 gallons of bilge water per week. Bilge water disposal is prohibited in the MBNMS.

Hazardous wastes: Hazardous wastes produced on cruise ships include by-products of dry cleaning and photo-processing operations, paints and solvents, batteries, fluorescent light bulbs containing mercury, and wastes from print shops. A typical ship produces an estimated 110 gallons of photo-processing chemicals, five gallons of dry cleaning wastes, and ten gallons of used paints per week. These substances can be toxic or carcinogenic to marine life. Hazardous waste disposal is prohibited by state and federal regulations as well as international treaties.

Solid wastes: Solid wastes generated by cruise ships include large volumes of food waste, cans, glass, wood, cardboard, paper, and plastic. Plastic debris can be ingested or cause entanglement to marine life including marine mammals, seabirds, and sea turtles. In some cases the wastes are incinerated on the vessel and the ash is discharged at sea; other wastes are disposed of on shore or recycled. A typical cruise ship generates eight tons of solid waste per week.

Within the sanctuary, following numerous conversations and meetings with sanctuary staff, state and local government officials, and environmental organizations in 2002, all three cruise lines voluntarily signed with the City of Monterey, a no discharge agreement while within the sanctuary. While the sanctuary welcomed these voluntary agreements, one of the cruise lines subsequently broke the agreement by discharging within sanctuary boundaries upon its departure from Monterey. The cruise line was subsequently banned from returning to the city of Monterey. Some argue these voluntary industry initiatives are self regulated, not taken seriously by cruise ship operators, and non-enforceable.



While large cruise vessels are the equivalent of small cities in regard to waste production, they have not been subject to the strict environmental regulations and monitoring requirements that land-based facilities are required to comply with, such as obtaining discharge permits, meeting numerous permit conditions, and conducting monitoring of discharges. It wasn't until just recently that cruise ship discharges have been prohibited in California state waters, within three miles of the shore. This legislation, however, does not afford protection to sanctuary waters outside of state water boundaries. MBNMS regulations prohibit new land-based sewer outfalls, however 'routine vessel discharges' are currently exempt from this prohibition.

While cruise ship discharges now fall under this exemption, in reality, due to their potentially enormous volumes, they cannot be considered 'routine.' As part of the Joint Management Plan Review, the MBNMS is proposing a prohibition on discharging or depositing, from within or into the sanctuary, any material or other matter from a cruise ship other than engine cooling water, generator cooling water, and anchor wash.

THE SANCTUARY'S ACTION PLAN

The sanctuary's "Cruise Ship Discharge Action Plan" was developed jointly with a variety of stakeholders and partners and includes, but is not limited to, the following components:

- Drafting a prohibition on harmful discharges from cruise ships to sanctuary waters, including a definition of the carrying capacity of the passenger vessels to which the regulation will apply
- Reviewing and developing language in new state legislation to ensure that MBNMS regulation complements and builds on state efforts
- Developing an outreach and education program to inform cruise line industry representatives of the sanctuary's existing and revised policies
- Developing and implementing enforcement, monitoring, and reporting programs
- Developing a program to educate cruise ship passengers about the MBNMS and its resources.

GLOSSARY

Eutrophication:

Pollution by excessive nutrient enrichment.

Marine Sanitation Device:

A device that treats, discharges and/or stores sewage from vessels.

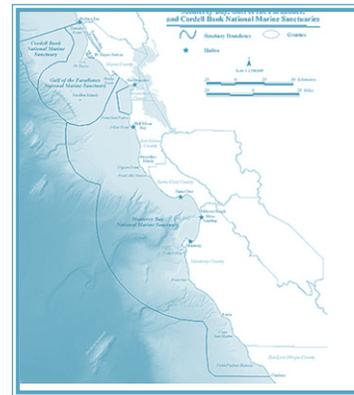
Large cruise ships can generate as much as ***11 million gallons of waste per day.***

For a complete listing of the sanctuary's "Cruise Ship Discharge Action Plan" please visit http://sanctuaries.nos.noaa.gov/jointplan/m_reptoad.html and scroll down the page.

The Joint Management Plan Review (JMPR)

"Cruise Ship Discharges" is one of the action plans in the MBNMS Draft Management Plan. The MBNMS Draft Management Plan includes twenty-eight plans that, once finalized, will guide sanctuary management for the next five years. The plan is a revision of the original management plan, adopted with sanctuary designation in 1992, and is focused on how to best understand and protect the sanctuary's resources.

The National Marine Sanctuary Program (NMSP) is updating the management plans for the Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries in what is known as the Joint Management Plan Review (JMPR).



How You Can Get Involved in the MBNMS Management Plan Process

The MBNMS welcomes your ideas about important resource management issues in the sanctuary. A Draft Management Plan and Draft Environmental Impact Statement are scheduled for release to the public in 2006. Following their release, hearings will be held in several locations throughout the region to gather public comment. Written comments will be accepted as well. To find out about public hearings, or how to submit written comments, please visit our website at <http://www.sanctuaries.nos.noaa.gov/jointplan>.

Resources

City of Monterey Harbor Office schedule of visits for 2004 - 2006 visits:

<http://www.monterey.org/harbor/cruiseships.index.html>

Monterey Bay National Marine Sanctuary

<http://montereybay.noaa.gov/resourcepro/resmanissues/cruiseships.html>

State of Alaska's Commercial Passenger Vessel Environmental Compliance (CPVEC):

Program: https://www.dec.state.ak.us/water/cruise_ships/index.htm

U.S. EPA Cruise Ship Water Discharge Website: http://www.epa.gov/owow/oceans/cruise_ships

Bluewater Network. September, 2003. **Petition to Promulgate Regulations to Prohibit**

Cruise Ship Discharges in Marine Sanctuaries:

http://bluewaternetwork.org/campaign_ss_cruises.shtml

State of California Legislature. **Assembly Bill 906.**

<http://www.legislature.ca.gov>



THE MONTEREY BAY NATIONAL MARINE SANCTUARY

Stretching from Marin to Cambria, the Monterey Bay National Marine Sanctuary encompasses 276 miles of shoreline and 5,322 square miles (4,625 nautical miles) of ocean, extending an average distance of 30 miles from shore. At its deepest point, the sanctuary reaches down 10,663 feet (more than two miles). The sanctuary was established for the purposes of resource protection, research, education, and public use. Its natural resources include one of our nation's largest kelp forests and one of North America's largest underwater canyons. It is home to one of the most diverse marine ecosystems in the world, including 33 marine mammal species, 94 seabird species, 345 fish species, and numerous invertebrates and plants. This remarkably productive marine environment is fringed by spectacular coastal scenery, including sandy beaches, rocky cliffs, rolling hills, and steep mountains.