



# Nonpoint Pointers

Understanding and managing nonpoint source pollution in your community

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No.

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## Managing Nonpoint Source Pollution from Boating and Marinas

Millions of people regularly enjoy recreational boating and more than 10,000 marinas dot the coastline and waterfront property of North America. The growing number of recreational boaters and marina managers must take special care to limit water pollution.

Individual boats and marinas usually release only small amounts of pollutants. Yet, when multiplied by thousands of boaters and marinas, they can cause distinct water quality problems in lakes, rivers, and coastal waters. The U.S. Environmental Protection Agency has identified the following potential environmental impacts from boating and marinas: high toxicity in the water; increased pollutant concentrations in aquatic organisms and sediments; higher erosion rates; more nutrients, leading to an increase in algae and a decrease in oxygen (eutrophication); and high levels of pathogens. In addition, construction at marinas can destroy sensitive ecosystems and bottom-dwelling aquatic communities.

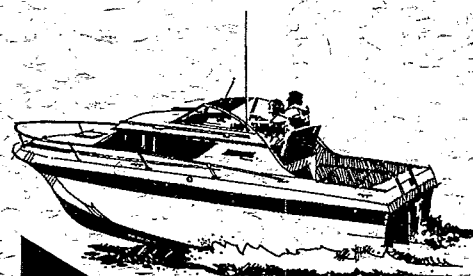
*Carefully fueling boat engines, recycling used oil, and discarding worn motor parts into proper receptacles can prevent needless petroleum spills.*

Water pollution from boating and marinas is caused by poorly flushed waterways, boat maintenance, discharge of sewage from boats, storm water runoff from marina parking lots, and the physical alteration of shoreline, wetlands, and aquatic habitat during the construction and operation of marinas.

Proper marina planning and an informed boating public will limit pollution from these sources, promote long-term economic benefits and environmental health, and help recreational boating to remain a healthy, fun-filled experience. Clean boats, clean boating habits, and clean marinas benefit the entire boating community as well as aquatic life.

### Managing Boat Operation and Maintenance

A significant amount of solvent, paint, oil, and other pollutants can seep into the ground water or be washed directly into surface water. The chemicals and metals in anti-fouling paint can limit bottom growth. Many boat cleaners contain chlorine, ammonia, and phosphates — substances that can



A series of fact sheets on nonpoint source (NPS) pollution

**Did you know that the Clean Vessel Act provides grants to build sewage pumpout facilities at marinas?**

NPS pollution occurs when water runs over land or through the ground, picks up pollutants, and deposits them in surface waters or introduces them into ground water.

## RELATED PUBLICATIONS

- Additional fact sheets in the Nonpoint Pointers series (EPA-841-F-96-004)
- Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Chapter 5 (EPA-840-B-92-002)
- The Quality of Our Nation's Water: 1994 (EPA-841-S-95-004)
- Water Watch: What Boaters Can Do To Be Environmentally Friendly, National Marine Manufacturers Association, Washington, DC

To order any of the above EPA documents call or fax the National Center for Environmental Publications and Information.

Tel (513) 489-8190

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## FOR MORE INFORMATION

The State Organization for Boating Access, Washington, DC  
Tel: (202) 944-4987

National Marine Manufacturers Association, Washington, DC  
Tel: (202) 944-4985

Sea Grant college or university in your state

U.S. Environmental Protection Agency  
Nonpoint Source Control Branch  
Washington DC 20460

### Internet Address:

<http://www.epa.gov/owow/nps/index.html>

harm plankton and fish. Small oil spills from motors and refueling activities contain petroleum hydrocarbons that attach to waterborne sediments. These persist in aquatic ecosystems and harm the bottom-dwelling organisms at the base of the marine food chain.

To reduce pollution from boats and marinas, boaters can use nontoxic cleaning products. Using a drop cloth, cleaning and maintaining boats away from the water, and vacuuming up loose paint chips and paint dust prevent paint and other chemical substances from entering waters. Carefully fueling boat engines, recycling used oil, and discarding worn motor parts into proper receptacles can prevent needless spills. Draining water out of all waterlines and tanks during winter eliminates the possibility of burst pipes. And perhaps most important, keeping boat motors well-tuned prevents fuel and lubricant leaks and boost fuel efficiency. These guidelines not only can keep water clean, but also can keep boats running smoothly.

## Managing Boat Sewage and Waste

Often underestimated or ignored by the public, the discharge of sewage and waste from boats, can degrade water quality. Improper disposal of human waste can make water unsightly and unsuitable for recreation, destroy shellfishing areas, and cause severe health problems. Sewage discharged from boats also stimulates algae growth, which can reduce the available oxygen needed by fish and other organisms. Although fish parts are biodegradable, when many fish are gutted and cleaned in the same area on the same day, water quality problems can result, including algae growth.

Boaters should attempt to achieve zero discharge of all sewage into recreational waters. While on the boat, fecal matter and other solid waste should be contained in a U.S. Coast Guard-approved marine sanitation device (MSD). Upon return to shore, portable toilets should be emptied into approved shoreside waste handling facilities, and MSDs should be discharged into approved pumpout stations.

## Managing Siting and Design for Marinas

Poorly planned marinas can disrupt natural water circulation and cause shoreline soil erosion and habitat destruction. To reduce activities that cause NPS pollution, marinas should be located and designed so that natural flushing regularly renews marina waters. In addition, predevelopment water quality and habitat assessments should be conducted to protect ecologically valuable areas. Grass and ground cover planting or, where necessary, structural stabilization measures can help prevent erosion during and after marina construction. Stormwater runoff can be controlled with pollution prevention strategies and containing hull maintenance areas. Marina fueling and sewage collection stations should be designed and maintained to make cleanup of spills easier. When completed, the final marina design should deliver the most desirable combination of marina capacity, services, and access, while minimizing environmental impacts and onsite development costs.