Nonpoint Source Management Program :: Marinas and Recreational Boating

Boating and marinas are becoming increasingly widespread along North Carolina's coastline as more people move to the state and to the coast, both of which may be sources of nonpoint source pollution. Marinas, if not sited and constructed properly can destroy wetlands and aquatic habitat such as shellfishing beds and submerged aquatic vegetation, and can also restrict or alter water flows. Improper siting and construction can also lead to decreased dissolved oxygen levels and increases in pollutant concentrations.

Activities that occur at marinas are also potential sources of nonpoint pollution. Pollutants include petroleum hydrocarbons such as fuel and oil. These substances can enter surface water directly from spills during refueling, may be present in bilge discharge, or can be transported in storm water runoff from paved areas. Other potential pollutants include copper and tin which are used as biocides in antifoulants, and iron and chrome which are contained in boats themselves. These substances may enter the water during boat cleaning. Pollutants enter the water directly if cleaning occurs in the water indirectly in runoff if washing occurs on-shore and washwater is not directed to a sewer or grassy area. Arsenic, which is used in pesticides, paint pigments, and wood preservatives, is a also a potential pollutant at marinas.

Sewage releases, either accidental or intentional, are a significant nonpoint source pollution concern from recreational boating. Sewer can lower dissolved oxygen (DO) levels and impact aquatic life. Dissolved oxygen levels are especially vulnerable to alterations during warm weather when water can hold less oxygen. In addition to impacting DO levels, discharges of sewage can elevate fecal coliform bacteria to levels that are unsafe for swimming and shellfishing.

Recreational boating can also degrade water quality and destroy aquatic habitat. When a boater creates large wakes, the energy from the water movement can resuspend bottom sediment, cause shoaling, and increase shoreline erosion. Increased turbidity inhibits sunlight penetration through water, negatively impacting photosynthetic activity and health of algae and shallow water or submerged aquatic vegetation (SAV). Increased wave energy can also result in bottom conditions that are too unstable for SAV. Alterations in water currents resulting from marina construction can also contribute to shoreline erosion and shoaling. Similar impacts can result from dredging for marina construction and navigation.

Regulations

Although North Carolina does not have a comprehensive marina policy, depending on their location and size, marinas may need to obtain a permit. The North Carolina Division of Coastal Management takes the primary responsibility for permitting marinas at the coast. To learn more about their permitting program, visit http://dcm2.enr.state.nc.us/Permits/permits.htm.

The North Carolina Division of Water Quality's 401 Wetlands Unit is the state agency which regulates impacts from marinas to wetlands and water quality, in particular during construction and maintenance. This is accomplished primarily through review of the permits and Environmental Assessments prepared for new or expanding marinas. The federal regulatory counterpart for wetland impacts is the United States Army Corps of Engineers.

Potential nonpoint source related pollution from recreational boating is also regulated through a combination of state and federal agencies. The North Carolina Wildlife Resources Commission has authority to establish and enforce no-wake zones, and may be petitioned by local governments to make such designations. The United States Coast Guard is responsible for regulating boating for safety and environmental protection, oil spill response.

The North Carolina Division of Environmental Health's Onsite Wastewater Section and the U.S. Coast Guard jointly regulate onboard sewage. Responsibilities of each agency depend on the type of boat or vessel. Contact the Division of Environmental Health in yourRegional Office if you have any questions on these regulations.

Marinas which have repair facilities on site are also required to have an NPDES General Stormwater Permit from the NC Division of Water Quality. To find out more about these permits visit theStormwater Unit and click on the marina permit information.

Assistance

Within the state, there are at least two non-regulatory programs that can assist marinas with reducing nonpoint source pollution. First, there is the Clean Marina Program. This program is coordinated by the North Carolina Marine Trades Services and the NC Division of Coastal Management. In addition to water quality benefits, participation in the program provides businesses benefits to the marina. The second source of assistance is through the Marina Pumpout Program. Administered by the North Carolina Division of Coastal Management, this program offers funding from the U.S. Fish and Wildlife Service to marinas for establishing sewage pumpouts on-site.

For general clean marina information, visit the North Carolina Division of Coastal Management or the U.S. Environmental Protection Agency's webpage on marinas and recreational boating.

*This information adapted in part from the 1993 United State's Environmental Protection Agency's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.

Marinas and Recreational Boating Links

Regulatory Agencies

- North Carolina Division of Water Quality's 401 Wetlands Unit
- United States Army Corps of Engineers
- The United States Coast Guard
- Regional Office of the Department of Environment and Natural Resources
- NC DWQ Stormwater Unit
- North Carolina Division of Coastal Management
- Environmental Protection Agency
- Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters

Assistance

- Clean Marina Program
- Marina Pumpout Program