Focus on **Aquatic Weeds, Algae, and NPDES Permitting**

WASHINGTON STATE DEPARTMENT OF ECOLOGY

from Ecology's Water Quality Program

What is an aquatic weed?

An aquatic weed is a plant growing in a freshwater or marine/estuarine setting that is interfering with the beneficial uses of the water body or has the potential to interfere with these uses. Both native and non-native plants can interfere with beneficial uses. Under Ecology's permitting process for aquatic herbicide use, these plants are classified as either nuisance or noxious weeds.

What are the differences between nuisance weeds, noxious weeds, and algae?

Nuisance aquatic weeds are native plants whose growth negatively affects one or more uses of a water body (i.e., boating, swimming, aesthetics, habitat, etc.). When these plants have grown to nuisance proportions, lake groups and others can apply for coverage under Ecology's Nuisance Weed and Algae Control General Permit to chemically treat these weeds. Native plants are also considered to be beneficial to a water body by providing food, habitat, and sediment stabilization. A weed viewed as a nuisance weed by one user group may be considered a beneficial native plant by other waterbody users. It is often difficult to balance the needs of everybody when controlling nuisance weeds.

Noxious weeds are non-native aquatic plants that are invasive and problematic in a new environment. It is generally agreed that any benefits provided by noxious weeds are far outweighed by the negative impacts that these weeds have on the water body. Noxious weeds are listed on Washington's Noxious Weed List. The Washington State Department of Agriculture also maintains a Quarantine List of non-native aquatic plants whose sale is prohibited in Washington Quarantine List plants may or may not be listed as noxious weeds. Both state-listed noxious aquatic weeds and Quarantine List plants have been known to take over whole lakes and become the dominant plant in those systems. Under RCW 17.10, Washington may require landowner control or eradication of these plants. Groups wanting to control noxious and Quarantine List weeds in a water body with herbicides can apply for coverage under Ecology's Noxious Weed Control General Permit through the Washington Department of Agriculture.

Algae are now considered by many scientists to be neither plant nor animal. Most algae are considered to be native and when they grow profusely, the resulting mass is called an algal bloom. Problem algal blooms generally occur in water bodies that are nutrient enriched. Algae problems are typically dealt with by reducing nutrient sources to the water body, particularly phosphorus inputs. Nutrient inputs are affected by changes in water quality throughout the watershed, and reducing nutrients to a water body requires more coordination with government entities and citizen groups than a weed problem would. Nutrient inputs can be from external sources such as agriculture, forestry, stormwater inlets, landscaping practices, etc. Nutrient inputs may also be from internal sources where the waterbody sediment releases nutrients into the water. Management practices to control internal nutrient inputs can include alum (aluminum sulfate) treatment. Any group wanting to control a widespread algae problem with alum may apply for coverage under Ecology's Nuisance Weed and Algae Control General Permit.

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Programs to control aquatic weeds

Nuisance weed and algae control

Since 2002, Ecology has been issuing coverage under a general National Pullutant DischargeElimination System (NPDES) permit for the control of nuisance weeds and algae. This coverage is obtained through Ecology's regional offices. There are between 30 and 50 groups and individuals covered under the Nuisance Weed and Algae Control General Permit each year.

After two years of coverage under this permit, the group applying for coverage is required to develop an Integrated Aquatic Vegetation Management Plan (IAVMP) for the water body. During IAVMP development, the group surveys the plants growing in the water body, determines waterbody and watershed characteristics, assesses possible nutrient inputs, and looks for other factors that could impact plant or algae growth. Ecology also requires that all manual, mechanical, biological, and chemical control options are considered and the best option or an integrated mix of options is selected for action.

Noxious weed control

Since 2002, Ecology has been issuing coverage under a general NPDES permit for the control of state-listed noxious weeds and aquatic weeds listed on Agriculture's Quarantine List. To streamline the permitting process for these weeds, the Washington State Department of Agriculture issues coverage to cooperators under their permit. There are between 50 and 75 individuals, lake groups, and government entities covered under the Noxious Weed General Permit every year. An IAVMP is required after two years of treatment under this permit.

The Aquatic Weeds Management Fund is an Ecology grant program that provides financial assistance to local and state governments to help with the control or eradication of aquatic weeds in water bodies with publicly-provided boat launching facilities. Funding priority goes to applicants dealing with noxious submersed plants, such as Eurasian watermilfoil. However, projects dealing with emergent noxious weeds, such as purple loosestrife, are also eligible for funding. Although governments controlling nuisance weeds can also apply for funding, noxious weed projects receive funding priority. Algae control is not considered under this program.

Guidance for developing integrated aquatic vegetation management plans

Ecology, along with stakeholder groups, developed minimum criteria for an IAVMP in the Aquatic Weed Grant Guidelines in 1993. To further assist lake groups with developing IAVMP plans, Ecology contracted with a private consultant to produce a guidance manual called, *A Citizen's Guide to Developing Integrated Aquatic Vegetation Management Plans - 1994*. This is the guidance that is used to develop IAVMPs for noxious weed management.

In July 2004, Ecology issued additional guidance to help lake groups and others develop IAVMPs to comply with the Nuisance Weed and Algae Control Permit. The objective of this guidance is to walk people step by step through the required components of an IAVMP. It is designed like a checklist, providing space for the writer to insert information. Once the entire guidance document has been filled out, it should provide all the necessary information for a person to write an acceptable plan. This guidance is available by request or on our Web site at: http://www.ecy.wa.gov/programs/wq/pesticides/index.html

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