

FACT SHEET FOR AQUATIC PLANT AND ALGAE MANAGEMENT GENERAL PERMIT

SUMMARY

The State of Washington Department of Ecology (Ecology) is issuing a state waste discharge general permit for the management of aquatic plants and algae in water bodies. This permit combines and replaces portions of the Aquatic Noxious Weed Control General National Pollution Discharge Elimination System (NPDES) Permit and the Aquatic Nuisance Weed and Algae Control General NPDES Permit. This permit only covers chemical control of plants and algae. The use of products not regulated under FIFRA is allowed under this permit, if the product or active ingredient has been reviewed and approved by Ecology. Other permits may be necessary if the plant or algae control activities are conducted using manual, mechanical, or biological methods.

The use of herbicides and algaecides is also regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) by the United States Environmental Protection Agency (EPA). On March 12, 2001, the U.S. Ninth Circuit Court of Appeals ruled that the application of an herbicide in compliance with the labeling requirements of FIFRA did not exempt an irrigation district from needing to obtain an NPDES permit (*Headwaters, Inc. v. Talent Irrigation District*). Ecology has issued coverage under general NPDES permits since 2002 for the application of pesticides to control aquatic plants and algae.

On September 8, 2005, the U.S. Ninth Circuit Court of Appeals ruled that a pesticide applied according to the label that left no residue and that did not have any unintended impacts was not a waste and therefore did not require an NPDES permit (*Fairhurst v. Hager*). The EPA is completing federal rulemaking. As drafted, the rule states that a pesticide applied according to the FIFRA label is not a “chemical waste” as defined by the Clean Water Act and therefore does not require an NPDES permit.

Under 90.48.465 RCW, the legislature directed Ecology to either modify or rescind aquatic NPDES permits if one of four things occurs: (1) the *Talent* decision was modified or overturned by another court ruling, (2) EPA rulemaking, (3) a clarification of scope by the EPA, or (4) the legislature took action.

Ecology’s new Aquatic Plant and Algae Management permit is not an NPDES permit, it is a state-issued waste discharge general permit, issued under the authority of RCW 90.48. Such issuance complies with state law and maintains the state’s ability to regulate the use of pesticides in aquatic settings. Ecology has decided to issue a permit that is based solely on state authority to regulate the discharge of waste materials into waters of the state.

This permit revokes and replaces the Aquatic Nuisance Plant and Algae Control general permit (effective date: July 5, 2002) for activities associated with aquatic nuisance plant

and algae control as specified in S1.A of this permit. The permit also revokes and replaces the Aquatic Noxious Weed Control general permit (effective date: June 14, 2002) for any activities associated with in-lake or shoreline emergent aquatic noxious weed control as specified in S1.A of this permit.

This permit addresses three different aquatic plant and algae management scenarios. One portion of the permit establishes conditions for the eradication, or 100 percent removal of aquatic noxious weeds. The second section establishes conditions for the control, or limited removal of aquatic nuisance weeds, noxious weeds, and algae. The final section establishes conditions for nutrient inactivation projects in water bodies.

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INTRODUCTION

This fact sheet, a companion document to the draft State Waste Discharge Draft General Permit for Aquatic Plant and Algae Management, provides the legal and technical basis for permit issuance. The Washington State Department of Ecology (Ecology) proposes to issue this permit to allow the use of herbicides, algacides, nutrient reduction products, marker dyes, shading products, adjuvants, and water clarification products to surface waters of the state of Washington for the purposes of controlling aquatic plants and algae and eradicating noxious weeds. This fact sheet explains the nature of the proposed discharges, Ecology's decisions on limiting the pollutants in the receiving water, and the regulatory and technical basis for these decisions.

This waste discharge permit is issued under the authority of Chapter 90.48 Revised Code of Washington (RCW). This state statute defines Ecology's authority and obligations in administering the wastewater discharge permit program.

Regulations adopted by the state include procedures for issuing general permits (Chapter 173-226 Washington Administrative Code (WAC)), water quality criteria for surface waters (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of pollutants to waters of the state is allowed. The regulations also establish requirements which are to be included in the permit. One of the requirements for issuing a general permit (WAC 173-226-110) is the preparation of a permit and an accompanying fact sheet. Public notice of the draft permit, public hearings, comment periods, and public notice of issuance are all required before the general permit is issued (WAC 173-226-130).

In drafting this permit, Ecology sought input from an External Advisory Committee composed of representatives from local and state government agencies, pesticide application companies, lake groups, and environmental organizations. Changes identified in their review have been made before going to public notice.

After the public comment period has closed, Ecology will summarize the substantive comments and respond to each comment. Comments may cause Ecology to change some of the permit requirements. The summary and response to comments will become part of the file on the permit. Parties submitting comments will receive a copy of Ecology's response. The original fact sheet may or may not be revised after the public notice is published. Comments and the resultant changes to the permit will be summarized in Appendix B--Response to Comments.

BACKGROUND INFORMATION

LEGAL BACKGROUND

Headwaters, Inc. and Oregon Natural Resources Council filed a Clean Water Act (CWA) citizen suit against the Talent Irrigation District (TID) for applying aquatic herbicide into a system of irrigation canals. Reversing a district court's opinion, the Ninth Circuit held that application of the herbicide in compliance with the labeling requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) did not exempt TID from the requirement to obtain an NPDES permit. The court further ruled that the irrigation ditches were "waters of the United States" under the Clean Water Act.

The March 12, 2001, *Talent* decision was a precedent setting case. It was the first time the courts made a distinction between the process used to approve pesticides and the way in which the Clean Water Act is enforced. It has caused the EPA to further explore the differences between the Office of Pesticide Programs (OPP) and the Office of Water.

An effort is underway at the EPA to further interpret the *Headwaters Inc. v. Talent Irrigation District* decision as it relates to requirements of the Clean Water Act. The EPA opened a public comment period in January 2005 on a proposed rule. The proposed rule would allow the application of pesticides in aquatic environments to be exempted from CWA NPDES permitting requirements. The proposed rule states that NPDES permits are intended to protect water from potential waste. The EPA made the argument that when a pesticide is applied according to the FIFRA label, the pesticide is not a waste. This proposed rule is scheduled to be promulgated by EPA in early 2006. EPA's proposed rule, along with a recent Ninth Circuit decision (*Fairhurst v. Hager*), led Ecology to decide to issue the new permit for the use of aquatic herbicides under state authority.

Under RCW 90.48.080, Ecology has the authority to regulate the discharge of any material into waters of the state that has either the potential to pollute or to alter the biological or chemical characteristics of that water body. Ecology is further directed in Chapter 173-201A WAC to require any discharger to waters of the state to comply with the state's surface water quality standards. Chapter 173-201A WAC provides specific language that allows for the use of herbicides in aquatic settings, so long as a short-term modification of the state's surface water quality standards is obtained prior to treatment. This permit include the conditions of the short-term water quality modification.

Ecology incorporates technology-based limitations, water quality-based limitations, and standard regulatory requirements into the permit. The permit also incorporates monitoring and reporting requirements to assure compliance with the conditions of the permit. These requirements are included in all general permits (90.48 RCW, Chapter 173-216 WAC, and Chapter 173-226 WAC).

BIOLOGICAL BACKGROUND

The following is a brief description of the problems caused by aquatic plants and algae in addition to a brief description of the current control methods. For more detailed information, Ecology refers the reader to the references cited in the back of this fact sheet, Washington State Department of Ecology Environmental Impact Statements (EIS) 1980, 1992, 2001, and at this link:

<http://www.ecy.wa.gov/programs/wq/plants/management/index.html>.

Native aquatic plants and algae provide habitat and food for aquatic life. When nutrients such as phosphorus and nitrogen enter watersheds, they cause an increase in the population of plants and algae. When plant and algae populations become very dense, they have the ability to interfere with some uses of a water body (such as swimming, boating, fishing, water skiing, and aesthetics). When phosphorus and nitrogen inputs increase within a water body, macrophytes and phytoplankton growth increases, which can negatively affect habitat, recreation, and human health.

Cyanobacteria (also known as blue-green algae) can also increase in growth with excess phosphorus and nitrogen inputs. Cyanobacteria produce toxins and ingestion of toxic algae has resulted in animal deaths in Washington State. Cyanobacteria also produce extremely unhealthy conditions for fish and wildlife.

Noxious freshwater weeds are plants that are not native to Washington State. Noxious weed growth is also enhanced by excess nutrients. These species have a tendency to be invasive and may pose a serious threat to Washington State waters. Nonnative plants have few natural population controls in their new habitat. They often invade rapidly, destroy native plant and animal habitat, damage recreational opportunities, clog waterways, and reduce property values.

Ecology has examined various options (mechanical, manual, biological, and chemical) for aquatic plant and algae control (Ecology 1980, 1992, 2001). One solution to excessive aquatic plant and algae growth is to prevent nutrients from entering the water body. While Ecology believes nutrient control is the best long-term solution to controlling native vegetation, this option may not produce immediate effects. Nutrient reduction requires behavioral changes and can be complex. Therefore, Ecology has determined that chemical control methods may be acceptable in some instances to maintain beneficial uses of the water body; however, chemical control methods must be conducted under controlled conditions. This state waste discharge general permit applies only to chemical control methods. Mechanical/manual methods of aquatic plant control do not require coverage under this permit but may require a Hydraulic Project Approval (HPA) from Washington State Department of Fish and Wildlife (WDFW). Likewise the use of grass carp does not require this permit but does require a permit from WDFW. Additionally, some projects may require consultation with local, state, or federal government(s).

BACKGROUND INFORMATION

REGULATORY POLLUTION REDUCTION REQUIREMENTS

State regulations require that effluent limitations set forth in a state waste discharge permit must be either technology- or water quality-based. Technology-based limitations are set by regulation or developed on a case-by-case basis (Chapter 173-216 WAC). Water quality-based limitations are established to ensure compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits, either technology-based or water quality-based must be established for each parameter of concern.

TECHNOLOGY-BASED REQUIREMENTS

The state has technology-based requirements for pollutant control described as: "all known, available, and reasonable methods of prevention, control, and treatment" (AKART). AKART is referenced in state statute under RCW 90.48.010, RCW 90.48.520, RCW 90.52.040, and RCW 90.54.020.

AKART may be the use of Best Management Practices (BMPs). This permit requires the use of BMPs to limit the number of acres of littoral zone treated at any given time, and limit the number of treatments allowed per season in a given water body. Compliance with the FIFRA label further limits the overuse of products and the non-target impacts.

The pesticide application industry has been regulated by EPA under the terms of FIFRA via label use requirements developed by EPA. In developing label use requirements, EPA requires that the pesticide manufacturer register each pesticide and provide evidence that the pesticide will perform as specified while minimizing environmental harm.

Monitoring of the pollutants addressed in this permit is difficult due to the diffuse nature and low concentrations that exist after pesticides have been applied ("become pollutant"). Washington state law allows Ecology to require permitting and monitoring for any discharge that has the potential to pollute waters of the state (Chapter 90.48.080 RCW).

AKART is also employed when dealing with pesticide drift. Applicator's can control pesticide drift during an application using physical barriers. Underwater curtains and other barriers can isolate the area of pesticide application when downstream water users raise concerns or sensitive native plants or fisheries share the water body.

WATER QUALITY-BASED REQUIREMENTS

RCW 90.48.035 authorizes Ecology to establish water quality standards for waters of the state. The state has implemented water quality standards in Chapter 173-201A WAC. Aquatic plant and algae control activities affect surface waters of the state. Water quality

standards establish the highest quality of state waters through the reduction or elimination of contaminant discharges to the waters of the state, consistent with: public health; public enjoyment; the propagation and protection of fish, shellfish, and wildlife; and existing and future beneficial uses. This purpose is reached, in part, by compliance with the limitations, terms, and conditions of the draft general permit.

All waste discharge permits issued pursuant to state regulations are conditioned to ensure that all authorized discharges meet state water quality standards. Standards include an "antidegradation" policy which states that beneficial uses shall be protected. Characteristically, beneficial uses of surface waters include, but are not limited to, the following: domestic, industrial, and agricultural water supply; stock watering; the spawning, rearing, migration and harvesting of fish; the spawning, rearing and harvesting of shellfish; wildlife habitat; recreation (primary contact, sport fishing, boating, and aesthetic enjoyment of nature); commerce and navigation.

Discharges from aquatic weed control and eradication activities may contain pollutants which, in excessive amounts, have a reasonable potential to cause, or contribute to, violations of state water quality standards due to the presence of toxic materials and the effects of dying vegetation. Ecology has determined through a risk assessment that, when properly applied and handled in accordance with the terms and conditions of the general permit, aquatic weed control and eradication activities will comply with state water quality standards, will maintain and protect the existing characteristic beneficial uses of the surface waters of the state, and will protect human health. New information regarding previously unknown environmental and human health risks may cause Ecology to modify this general permit.

In determining whether a discharge will be in compliance with the state's Water Quality Standards, Ecology uses the numeric and the narrative criteria of Chapter 173-201A WAC (Water Quality Standards for Surface Waters of the State of Washington), Chapter 173-204 WAC (Sediment Management Standards) and the National Toxics Rule (Federal Register, V. 57, No. 246, Tuesday, December 22, 1992). In the absence of numeric criteria, Ecology may develop a numeric criterion on a case-by-case basis to comply with the narrative criteria. There are no numeric criteria established for the products allowed under this permit. The permit imposes restrictions intended to protect aquatic life and human health, and ensure compliance with the state's Water Quality Standards.

Ecology has reviewed the ecological effects of the chemicals used for control of aquatic weeds and algae (Ecology EIS 1980, 1992, 2001, 2004). Ecology developed restrictions in this permit to assure compliance with the water quality standards. The restrictions, which vary with the chemical, implement AKART through Best Management Practices such as target application rates, application methods, and other methods.

ANTIDegradation

Washington's Antidegradation Policy states that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained in WAC 173-201A-070.

Antidegradation by definition applies to site-specific conditions. A general permit applies to sites statewide. Discussion of antidegradation for each site covered under the draft permit is impractical. The permit requires discharges to comply with water quality standards. Compliance with standards typically affords the protection necessary to prevent ongoing degradation of a waterbody from aquatic pesticide discharges.

SEPA COMPLIANCE

The use of pesticides is conditioned to mitigate potential environmental impacts of concern noted in the environmental and human health evaluations required under SEPA. Mitigations includes fish timing windows, mitigation measures to minimize harm to sensitive, threatened, or endangered plants, etc. Each coverage issued by Ecology will undergo SEPA review.

PERMIT MODIFICATIONS

Ecology may modify this permit to impose new or modified numerical limitations, if necessary to meet Water Quality Standards for Surface Waters (Chapter 173-201A WAC), Sediment Management Standards (Chapter 173-204 WAC), or Water Quality Standards for Ground Waters (Chapter 173-200 WAC) based on new information obtained from sources such as inspections, monitoring, or Ecology- approved engineering reports. Ecology may also modify this permit as a result of new or amended state or federal regulations.

RESPONSIBILITY TO COMPLY WITH OTHER REQUIREMENTS

Ecology has established, and will enforce, limits and conditions expressed in the general permit for the discharge of aquatic herbicides and algaecides registered for use by the EPA and the WSDA. Ecology has also established, and will enforce, limits and conditions expressed in the general permit for product types named in this permit but not governed by these agencies. EPA and WSDA will enforce the use, storage, and disposal requirements expressed on pesticide labels. The Permittee must comply with both the pesticide label requirements and all of the conditions of this general permit. This general permit does not supersede or preempt federal or state label requirements or any other applicable laws and regulations.

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Activities Covered Under Permit

Washington State Water Quality statutes and regulations do not allow the discharge of pollutants to waters of the state without permit coverage (Chapter 173-201A WAC, RCW 90.48.080, and RCW 90.48.160). Herbicides, algaecides, adjuvants, nutrient inactivation products, marker dyes, shading products and water clarification products are potential pollutants, and therefore require a discharge permit to be applied to waters within Washington State.

This permit encompasses three aquatic plant and algae management categories: eradication, control, and nutrient inactivation. Eradication allows for the eradication of only those state-listed noxious weed species or weeds on the Washington State Department of Agriculture's (WSDA) quarantine list. Eradication is defined in the permit as "the permanent removal of all non-native, invasive aquatic plants of one or more species within a water body or along a shoreline."

Control means "the partial removal of aquatic plants within a water body or along a shoreline to allow for the protection of beneficial uses of the water body." Control projects may include treatment of native plants, state-listed noxious weeds, and certain types of algae.

Nutrient inactivation is a method for removing a limiting nutrient, such as phosphorus or nitrogen from a water body. The goal in removing the nutrient is to keep plant and algae production at manageable levels during the peak recreation season.

Thus, Ecology integrated portions of the current noxious weed permit with the aquatic nuisance weed and algae control permit into this permit. This permit does not apply to the marine emergent species or the majority of the freshwater emergent species currently covered under the noxious weed permit issued to WSDA. As a result of a settlement agreement among the Washington Toxics Coalition, People for Puget Sound, and WSDA, Ecology agreed to resume permitting activities for portions of the previous noxious weed permit.

Eradication

Eradication of aquatic noxious weeds is required by state statute. The Washington State legislature declared in RCW 90.48.445 that:

"(1) the director shall issue or approve water quality permits for use by federal, state, or local governmental agencies and licensed applicators for the purpose of using, for aquatic noxious weed control, herbicides and surfactants registered under state or federal pesticide control laws, and for the purpose of experimental use of herbicides on aquatic sites, as defined in 40 C.F.R. Sec. 172.3. The issuance of the permits shall be

subject only to compliance with: Federal and state pesticide label requirements, the requirements of the federal insecticide, fungicide, and rodenticide act, the Washington pesticide control act, the Washington pesticide application act, and the state environmental policy act, except that...:

(b) The director shall issue water quality permits for the purpose of using herbicides or surfactants registered by the department of agriculture to control aquatic noxious weeds, other than spartina, and the permit shall state that aerial and ground broadcast applications may not be made when the wind speed exceeds ten miles per hour.

And later,

“(4) As used in this section, "aquatic noxious weed" means an aquatic weed on the state noxious weed list adopted under RCW 17.10.080.”

Section S.1.A.1. of the permit provides conditions for noxious weed and quarantine weed eradication as defined in Chapter 17.10 RCW and Chapter 90.48 RCW. This section also provides conditions for the eradication of newly discovered non-native and potentially invasive species. Thus, this permit enables permitting that does not currently exist to allow for the rapid response to newly discovered invasive species.

Early infestation and established infestation

The focus of a lake group attempting to eradicate an established infestation is slightly different than that of an early infestation. During an early infestation, most lake groups focus on learning about the type of plant that they are going to target, the scope of the infestation, and monetary resources that may be available to them. This is a learning phase.

For an established infestation eradication project occurring over many years, the lake group is more experienced with the plant as well as the statewide availability of funding. The lake association or government entity likely has developed and are implementing an Integrated Aquatic Plant Management Plan with lake-wide eradication of the species the final goal.

Control

Aquatic Plant Control Projects

Control refers to the partial removal of native plants or noxious weeds for the protection of beneficial uses (primarily recreation or aesthetics) within a water body. Control projects aim primarily at eliminating native species that interfere with specific beneficial uses. This category also includes the control of algae and cyanobacteria within a water body for the protection of beneficial uses and human health.

Percent of Littoral Zone Treated

To balance the protection of some beneficial uses such as habitat with others such as recreation, the permit limits the amount of vegetation that can be removed from the

littoral areas of a water body during control projects. Plant control in the littoral areas of water bodies will be limited to 40% of the shoreline and littoral zone. Public swim beaches and public boat launches will be allowed to remove 100% of the vegetation in the littoral zone or the defined swim beach area. These restrictions conform to Ecology's best professional judgment and information in the following references (Washington Department of Fish and Wildlife Pub No. APF-11-97; and *The Water's Edge*, Wisconsin DNR).

Noxious weeds as identified in Chapter 16-750 of WAC

Noxious weed management efforts can occur in either the control or eradication category. Eradication projects aim to eliminate the species from the entire water body. Eradication requires parties with an interest in the water body to work together to evaluate the best long-term management strategy.

Control of noxious weed species, on the other hand, recognizes that elimination of the species from the entire water body is not feasible. Control projects for noxious weeds aims to eliminate the plant's presence in specific areas. Control projects do not require group participation.

Noxious weed control projects can occur in water bodies where eradication is not an achievable goal or where no consensus of the lake group can be achieved to eradicate the plant throughout the water body. For example, eradication is not achievable in the Columbia River's Eurasian watermilfoil infestation. Although eradication is not occurring throughout the water body, individuals can obtain permit coverage to control this noxious weed in their immediate area.

Algae Control Projects

Many different types of algae exist in freshwater systems. Most phytoplankton play an important role in the food web and have negligible impact on recreational uses of a water body. However, filamentous algae and cyanobacteria have the potential to interfere with beneficial uses in a water body. High populations of filamentous algae impact beneficial uses and can be a nuisance. High populations of cyanobacteria in a water body can adversely affect human health through their toxins. Thus, filamentous algae and cyanobacteria control project are permissible under the conditions of this permit.

Nutrient Inactivation Projects

High concentrations of nutrients runoff that enters water bodies can create ideal situations for the uncontrolled growth of harmful algal species. Projects focused on nutrient inactivation usually involve the inactivation of phosphorus, which is a limiting nutrient in most freshwater systems. A number of different mechanisms exist to inactivate phosphorus in water body which use a variety of substances. The compound most commonly used is called alum (aluminum sulfate or sodium aluminate). Alum is applied as slurry to the water, where it creates a flocculent that attracts and binds to the phosphorus molecules and then settles to the bottom of the water body, trapping the phosphorus.

B. Activities Excluded From Coverage Under This Permit

The permit does not apply to activities occurring in a number of different water body types. Stormwater and wastewater detention and retention ponds are constructed (man-made) systems and are usually regulated under other permits (such as industrial or municipal stormwater permits). For ponds regulated under other permits that condition chemical use for plant and algae control or eradication, permit coverage under this permit is not required.

Retention and detention ponds not regulated under other permits may also be treated without applying for coverage under this permit if the pond is either (1) dry or, (2) if it contains water, and will not discharge to surface waters within two weeks of treatment. Ecology believes that both dry conditions and the two week holding time will be sufficient to allow the dissipation of the product prior to possible discharge to surface waters.

This permit exempts any enclosed constructed water body that is five acres or less in surface area, which will not discharge to surface waters within two weeks of treatment. Ecology believes the two week holding time will be sufficient to allow the dissipation of the product prior to possible discharge to surface waters.

This permit also exempts aquatic plant control in seasonally dry wetlands if the herbicides applications comply with the FIFRA label and if the herbicides will not be biologically available when the area is inundated with water. Ecology believes that if these conditions are met, the treatment poses no potential to violate the state's surface water quality standards.

C. Geographic Area Covered

This permit applies to the application of products to surface waters throughout the state. Surface waters of the state are defined as "lakes, rivers, ponds, streams, inland waters, salt waters, wetlands, and all other surface waters and water courses within the jurisdiction of the state of Washington." (Chapter 173-201A WAC)

Aquatic weeds have the potential to occur in or near virtually any freshwater or semi-aquatic site in Washington State. These sites include but are not limited to riparian areas, wetlands, marshes, rivers, year round and seasonal streams, lakes, ponds, wet pastures, and brackish estuaries.

D. Additional Requirements for Discharges to Water Bodies Where Sensitive, Threatened, or Endangered Plants are Present

Due to potential impacts on non-target species when herbicides are used in a water body, Ecology requires that a plant survey be completed and mitigation measures be implemented to reduce unintended impacts. The permit requires a detailed survey that describes all the places in the water body where a plant should be protected to be

prepared and submitted to Ecology. Ecology's identification of a sensitive, threatened, or endangered plant species in a water body requires that one or more mitigation measure(s) be employed in the water body during treatment to protect the sensitive, threatened, or endangered plant. The Permittee must keep records for the life of the permit detailing which mitigation(s) were chosen prior to treatment.

Currently, no state law protects rare (sensitive, threatened, or endangered) plant species in Washington. However, many federal and state land management agencies have policies that provide protection for rare species. In 1982, the state legislature recognized the need for a systematic and objective approach to protect those features of natural ecosystems most at risk. RCW 79.70.060 created the Natural Heritage Program within the Department of Natural Resources to assume this task. In addition, local jurisdictions may provide protection for rare species and high-quality ecosystems through ordinances, regulations, and permitting requirements. Once a species is lost, it cannot be replaced. Only if they are given special attention will these species survive in Washington State.

In the case of *Trotland et al. v. Ecology and Tahuyeh Lake Community Club* (1997), the Pollution Control Hearings Board (PCHB) found in favor of Ecology's issuance of an administrative order. The order provided a 100-foot buffer as recommended by the Ecology wetland biologist to protect rare peat bogs. The PCHB decision stated that "within this additional condition the proposed treatment is designed to achieve and maintain the water quality of the lake with respect to recreational opportunities without posing any significant adverse impact on the environment."

S2. PERMIT APPLICATION REQUIREMENTS

A. Who Applies for Coverage

According to state regulations, the entity intending to discharge the material into waters of the state must apply for coverage (RCW 90.48, Chapter 173-216-070 WAC, and Chapter 173-226-210 WAC). In most cases, the applicator most closely fits the definition of owner/operator of the discharging entity and will be the permittee. Ecology has established the pesticide applicator as the permittee in the permit.

This permit also allows the permittee to be a government entity (such as city, county, county weed board, lake management district) if the entity uses an applicator on staff. In some cases, the permittee may be a government entity **and** the applicator who won the bid process for a specific treatment. In this case the government entity may apply for the permit in advance of hiring the applicator. However, Ecology will not issue the permit until the applicator has been hired and has signed the application.

Special conditions exist in the case of children's summer camps. The permit requires joint application by the applicator and the camp owner because the permit requires special notifications if treatments occur 2 weeks prior to or during camp. This requirement is supported by a 2001 PCHB decision (PCHB No.01-102) that found in

favor of Ecology in requiring both a summer camp and the pesticide applicator to apply for the ability to apply herbicides to Elbow Lake, Washington.

B. How to Apply for Coverage

For a timely and accurate application review to occur, the permit requires that all of the items listed in Condition S2.B be completed prior to Ecology action. Additional information may be requested from Ecology (such as maps, lake information, plant surveys). The processing of the application will not begin until all information required by condition S2.B has been accurately completed.

C. Public Notice Requirements

Ecology derived the requirements for public notice when applying for coverage under the general permit from state regulation, WAC 173-226-130.

D. Permit Coverage Timeline

This section of the permit explains the length of time needed to obtain permit coverage once a complete application has been filed, the reasons for permit coverage denial, and the length of coverage awarded once an application is approved. Many of these requirements were adopted from previous language in short-term modifications and using language from other general permits.

Per WAC 173-226-200 (2), Ecology will respond in writing to any application for coverage. If Ecology does not respond in writing and does not obtain significant written public comment, coverage under this general permit will commence on the later of the following:

- The thirty-first (31st) day following receipt by Ecology of a completed and approved Application for Coverage;
- The thirty-first (31st) day following the end of a thirty (30) day public comment period; or
- The effective date of the general permit.

If Ecology responds in writing to an application for coverage or obtains significant written public comment, Ecology will not issue coverage under this general permit until Ecology is satisfied with the results obtained from written correspondence with the individual applicant and/or the public commenter.

E. Denial and /or Revocation of Coverage

Chapters 173-226-230 WAC, 173-216-130 WAC, and 173-226-240 WAC give Ecology the authority to deny or revoke coverage under the general permit for a number of reasons. If Ecology chooses to deny or revoke coverage, the Permittee shall be notified in writing of this decision.

F. Length of Coverage

Chapter 173-216-110(2) WAC states that Ecology may issue permits for no longer than five years. This permit is a five year permit, with expiration in 2011.

S3. COMPLIANCE WITH STANDARDS

WAC 173-201A-240 states that “toxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses, cause acute or chronic toxicity to the most sensitive biota dependent upon those waters, or adversely affect public health, as determined by the department.”

Ecology periodically reviews surface water quality data to determine if water bodies meet criteria. Section 303(d) of the Clean Water Act requires that waters not meeting criteria undergo an evaluation of the cause and amount of the contaminant. Subsequent limits are placed on the amounts of pollutants allowed to be discharged and published in Total Maximum Daily Load (TMDL) reports.

Ecology has the authority and responsibility to periodically update the water quality standards, 90.48.035 RCW. In accordance with WAC 173-226-230(1)(b), a general permit may be modified when the state water quality standards have been modified through formal process. No “grandfather” clause is available that would allow a permittee to continue under the old standards.

The latest updates of the State's water quality standards were approved by the EPA in 2005. This permit is written to comply with the new surface water quality standards. If a new list is approved by EPA during the life of this permit, any changes to the permit will result in formal notification of all permittees in accordance with Chapter 90.48 RCW.

Pesticide applications subject to the permit to 303(d) water bodies may have additional limits and conditions imposed upon them. The two parameters of concern identified in the permit are dissolved oxygen and phosphorus. Water bodies listed on the 303(d) list as impaired for dissolved oxygen are either year-round problems, or seasonally low dissolved oxygen levels. Low dissolved oxygen levels in a water body can adversely affect fish populations. Contact herbicides, which primarily cause a burning back of the plants treated, have the greatest potential to adversely affect dissolved oxygen concentrations within a water body. The goal of a contact herbicide treatment is usually to remove all of the plants from a specific area for the purposes of recreation. As a result of the treatment, a massive die-back of plant life can occur in a specific area, creating a rapid expansion in the bacteria population (feeding on dying plants). The bacteria can use the dissolved oxygen normally available in the system for other organisms.

The 303(d) water bodies listed for phosphorus are a concern because when plants die after an herbicide treatment, they release sequestered phosphorus into the water column.

The rapid release of phosphorus can trigger algae blooms, which can adversely impact human and environmental health.

S4. WETLANDS

The Ecology Wetland Program uses WAC 173-22-030(19) to define wetlands and WAC 197-11-768 to define mitigation as guidance for any projects that impact wetlands (RCW 90.58). The Chapter 197-11 WAC has six elements that are used to protect wetlands. These elements require a person to: avoid the impact, minimize the impact, rectify the impact, reduce the impact over time, compensate for the impact, and monitor the impact.

S5. RESTRICTIONS ON THE APPLICATION OF PRODUCTS

A. Short-Term Modification of Water Quality Standards

WAC 173-201A-110 allows short-term modification of the surface water quality standards if certain conditions are met. Activities requiring short-term modification must be conditioned, timed, and restricted in a manner that will minimize water quality degradation to existing and characteristic uses. (Chapters 90.48 RCW and 90.54 RCW)

B. Authorized Discharges

This permit allows the use of products regulated under FIFRA, as well as any product category identified in the permit that could potentially require modification of the state water quality standards if the conditions of this permit are met. These discharges are allowed in accordance with the terms of WAC 173-201A-110 and Chapter 90.48 RCW.

C. Prohibited Discharges

RCW 90.48.080 states that “it shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep or otherwise discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters according to the determination of the department.”

D. Products Allowed for Use Under This Permit

The permit conditions the use of eight federally registered active ingredients. These eight active ingredients have undergone extensive risk assessment and review by Ecology prior to approval. Ecology has mitigated for possible risks by conditioning the use of these products under the general permit. Ecology determined that, if used according to the label and in compliance with the conditions of this general permit, these active ingredients will not violate water quality standards. By approving active ingredients rather than brands, Ecology will not conduct a new risk assessment for each new brand that is released onto the market.

The permit provides a process for new active ingredients to be approved for use under the permit. The new ingredients must undergo review by both the Washington State Department of Agriculture (WSDA) and Ecology (Special Condition S11), and upon Ecology's approval, the permit will be modified to allow their use.

This permit also provides for the use of specific adjuvants that have received environmental review, Ecology approval, and a SEPA review. The adjuvants identified in the permit have been reviewed by WSDA for toxicity and potential environmental impacts. In the future, adjuvants may be added to the permit after obtaining approval from both WSDA and Ecology, and completing SEPA review. Ecology would modify the permit to allow the use of a newly approved adjuvant.

The permit allows the use of marker dyes, nutrient inactivation products, shading products and water clarification products. This permit does not require a licensed pesticide applicator for the application of these products, as they are not identified as pesticides and are not regulated under FIFRA. However, the permittee must follow all restrictions in this general permit during the use of these products.

E. Experimental Use Permits

Experimental Use Permits (EUPs) are regulated by section 5(f) of FIFRA by EPA and Chapter 15.58.405(3) RCW by WSDA.

F. Specific Restrictions on the Application of Products

Table 1. Adjuvants

This table lists the adjuvants allowed for use under this permit and states the type of adjuvant (surfactant, spreader, sticker, sinker, etc.). These adjuvants have all been approved by WSDA and Ecology.

Table 2. Specific Restrictions on the Application of Herbicides and Algaecides

This table details restrictions on herbicide and algaecide active ingredients that are imposed by Ecology (over and above the federal labeling restrictions). These decisions were made on consultation with experts in the field of toxicology and fisheries. Many of the restrictions are derived from the risk assessments and Environmental Impact Statements prepared for each chemical.

The second column of the table refers to fish timing window restrictions. Ecology provided WDFW with information about specific active ingredients that risk assessments indicated could adversely affect juvenile salmon, steelhead, and bull trout populations in Washington waters. If the column states "yes," WDFW has provided Ecology with certain specific windows of time when these active ingredients can be applied in individual water bodies.

Ecology obtained the recreational and/or swimming restrictions/advisories listed in the third column by consulting a toxicologist at the Department of Health. Some of these may mirror label requirements, but most are more stringent requirements. An advisory requires that the public at least be notified via posting for those substances that may impact people swimming in the treated area for a time period following treatment.

The limitations noted in the fourth column of Table 1 are imposed by Ecology in addition to any federal label restrictions based on the mitigations recommended while the risk assessments were being prepared on each active ingredient. These are based on the best scientific information available at the time of chemical approval and Ecology's best professional judgment.

Other specific restrictions detailed in column 4 are general restrictions imposed either by Ecology based on best professional judgment, or in the case of 2, 4-D, by a federal court decision affecting product use.

Table 3. Specific Restrictions on the Application of Products for Inactivation of Phosphorus

All of the restrictions and requirements detailed in Table 3 have been determined by Ecology's review of available scientific information and consultation with a limnologist that specializes in nutrient inactivation techniques.

Chapter 173-201A WAC has specific restrictions on the range of pH acceptable in different types of Washington water bodies. Nutrient inactivation products have the potential to adversely affect the pH of a water body, causing either low or high pH scenarios. These restrictions are intended to limit treatment impacts to pH as much as possible.

Table 4. Barley Straw Restrictions

Ecology included the application of barley straw in this permit because Chapter 90.48 RCW prohibits discharges of anything that could potentially alter the biological or chemical characteristics of a water body without obtaining a permit from Ecology. Application of barley straw alters both the biological and chemical characteristics at the time of application and for a period of time after application. Therefore, barley straw application would be prohibited without a permit; based on Ecology's best professional judgment, this permit best applies to barley straw applications.

Table 4 provides the information needed to correctly apply barley straw to a pond or small lake. The table includes information on the length of time the product should remain in the water to avoid water quality degradation, application rates and methods, and potential changes in water clarity or color requiring observation. Table 4 also lists other permits that may be needed prior to application. All of the information provided in Table 4 is based on best available science and Ecology's best professional judgment.

Table 5. Restrictions on Application of Shading Products, Biological Water Clarifiers, etc.

Most shading products and biological water clarifiers are not federally labeled as pesticides under FIFRA. The restrictions in Table 5 are based on Ecology’s best professional judgment on normal product use in Washington waters and potential downstream impacts. In the event that the product is federally labeled to have some plant or algae control properties, the permit restrictions apply in addition to those imposed on the label.

Table 6. Treatment Restrictions for Aquatic Plant Eradication Projects

The permit imposes the restrictions in Table 6 in addition to any specific federal restrictions on the pesticide label. These restrictions limit the impact to non-target plants in a water body during an eradication project. The restrictions are based on best available science and the best professional judgment of Ecology experts on aquatic pesticides and aquatic plants.

S6. NOTIFICATION AND POSTING REQUIREMENTS

Ecology adopted the requirements for public notice, posting, and legal notice of pesticide applications from previous public notification requirements in Ecology-issued orders and short-term modifications. In some cases, the public notification requirements were based on EPA FIFRA label requirements. In all other cases, the requirements are based on Ecology’s best professional judgment and the public’s right to know.

S7. MONITORING REQUIREMENTS

RCW 90.48.260 gives Ecology the authority to establish inspection, monitoring, entry, and reporting requirements. WAC 173-220-210 gives Ecology the authority to require monitoring of the treated waters to determine the effects of discharges on surface waters of the state.

A. Application of Herbicides and Algaecides

S7.A.1. Eradication projects

The draft general permit requires that the permittee monitor in accordance with Ecology’s monitoring plan. Eradication project permittees must obtain representative water samples from waters to which herbicides have been applied for eradication over the life of the permit. The permittee must submit the sample results to Ecology. Ecology maintains an eradication project database funded through the Aquatic Weeds Grant Program. Those projects completing monitoring are not specifically regulated under this permit; Eradication project monitoring requirements are imposed by the Aquatic Weeds Grant Program. Eradication projects required to sample must submit their data to Ecology no later than November 30th of the year the treatment occurred.

S7.A.2. Control projects

The permit requires monitoring on any projects occurring in water bodies 303(d)-listed for low dissolved oxygen where contact herbicides are planned for use. This requirement is designed to provide Ecology with more information on the impacts of using a contact herbicide in a water body that is dissolved oxygen-impaired.

B. Application of Phosphorus Inactivation Products

The permit requires monitoring on any projects when phosphorus inactivation products are applied to waters of the state. Studies have shown that the addition of alum products has the ability to lower pH, and the addition of calcium hydroxide has the ability to raise pH in a waterbody. Therefore, it is Ecology's best professional judgment that pH should be monitored prior to and while the treatment takes place.

S8. SAMPLING AND ANALYTICAL PROCEDURES

With the exception of certain parameters used for process control the general permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, Accreditation of Environmental Laboratories.

S9. REPORTS AND RECORDKEEPING REQUIREMENTS

Ecology established the conditions of S9 based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control wastewater discharges (WAC 173-226-090).

S10. SPILL PREVENTION AND CONTROL

WAC 173-216-110 requires that any site covered under a state waste discharge permit shall maintain materials available on site for the control of overflow or spills, and requires upkeep and maintenance associated with prevention of spills and contaminating situations. Spills can occur at sites receiving coverage under this permit.

The permittee must be prepared to mitigate for any potential spills and, in the event of a spill onsite, perform the necessary cleanup, and notify the appropriate Ecology regional office (see RCW 90.48.080, and WAC 173-216-110).

S11. CONDITIONAL APPROVAL FOR THE USE OF PRODUCTS NOT SPECIFIED IN THE CURRENT PERMIT

Given potential adverse impacts to threatened and endangered species associated with the application of pesticides to Washington waters, Ecology has outlined a detailed process for the review and potential approval of new products for use under this permit. The permit allows use of other pesticides after approval through EPA FIFRA, a risk

assessment submittal and Ecology approval, and completion of a multi-agency State Environmental Policy Act (SEPA).

Based on Ecology's best professional judgment, the process outlined Section S11 will provide for a thorough investigation of each chemical prior to its use in Washington waters, and allow the public to comment on the new chemical prior to approval.

S12. CRITERIA FOR SENSITIVE, THREATENED, OR ENDANGERED PLANT PROTECTION PLANS FOR CONTROL PROJECTS

Due to potential impacts on non-target species when herbicides are used in a water body, Ecology requires that a plant survey be completed and mitigation measures be implemented to reduce unintended impacts. The permit requires a detailed survey that describes all the places in the water body where a plant should be protected to be prepared and submitted to Ecology. Ecology's identification of a sensitive, threatened, or endangered plant species in a water body requires that one or more mitigation measure(s) be employed in the water body during treatment to protect the sensitive, threatened, or endangered plant. The Permittee must keep records for the life of the permit detailing which mitigation(s) were chosen prior to treatment.

The permit requires a professional aquatic botanist or wetland specialist conduct the plant survey because of the complexity of aquatic macrophyte identification.

Currently, no state law protects rare (sensitive, threatened, or endangered) plant species in Washington. However, many federal and state land management agencies have policies that provide protection for rare species. In 1982, the state legislature recognized the need for a systematic and objective approach to protect those features of our natural ecosystem most at risk. RCW 79.70.060 created the Natural Heritage Program within the Department of Natural Resources to assume this task. In addition, local jurisdictions may provide protection for rare species and high-quality ecosystems through ordinances, regulations, and permitting requirements. Once a species is lost, it cannot be replaced. Only if they are given special attention will these species survive in Washington State.

GENERAL CONDITIONS

General Conditions are based directly on state law and regulation; these conditions are required to be included in all general permits. Some of these have supplemental text that clarifies how they apply for this permit. Many of these regulations are not applicable to the application of herbicides.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

Ecology may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water

Quality Standards for Ground Waters based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies. Ecology may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. Ecology proposes that this proposed permit be issued for five (5) years.

APPENDIX A - REFERENCES

Washington State Dept. of Fish and Wildlife. 1998. Aquatic Plants and Fish. Publication # APF-1-98.

Washington State Dept. of Ecology. 1980. Environmental Impact Statement: Aquatic Plant Management.

Washington State Dept. of Ecology. 1991. Summary of Criteria and Guidelines for Contaminated Freshwater Sediment. Appendix to Ecology 1993 Sediment Source Control Users Manual.

Washington State Dept. of Ecology. 1992. Final Supplemental Impact Statement and Responsiveness Summary (FIES): Aquatic Plants Management Program for Washington State.

Washington State Dept. of Ecology. 2001. Final Supplemental Impact Statement for Freshwater Aquatic Plant Management. Ecology Publication No. 00-10-040.

Wisconsin Department of Natural Resources. 2000. *The Water's Edge: Helping Fish and Wildlife on your Waterfront Property*. Publication No. FH-428 00.