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Effective Date: July 28, 2023  
Expiration Date: July 27, 2028

# AQUATIC & INVASIVE SPECIES CONTROL GENERAL PERMIT

National Pollutant Discharge Elimination System and  
State Waste Discharge General Permit

**State of Washington**  
**Department of Ecology**  
Olympia, Washington 98504

In compliance with the provisions of  
Chapter 90.48 Revised Code of Washington  
(State of Washington Water Pollution Control Act)  
and  
Title 33 United States Code, Section 1251 et seq.  
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.



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Vincent McGowan, P.E.  
Water Quality Program Manager  
Washington State Department of Ecology

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## ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request ADA Accommodation, contact Water Quality Reception at 360-407-6600. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit [Ecology's ADA Accessibility web page](#)<sup>1</sup> for more information.

For document translation services, call Water Quality Reception at 360-407-6600. Por publicaciones en español, por favor llame Water Quality Reception al 360-407-6600.

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<sup>1</sup> <https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility>

## Summary of Permit Reports and Submittals

**Table 1: REQUIRED PERMIT REPORTS AND SUBMITTALS**

Refer to the Special and General Conditions of this permit for submittal requirements.

Permit Section	Submittal	Frequency	Submittal Date
<a href="#"><u>S2.B.2</u></a>	Application for Coverage	Once	At least 60 days prior to the start of discharge
<a href="#"><u>S4.D.5</u></a>	Written results of the WDFW timing window consultation	As necessary	As necessary
<a href="#"><u>S4.D.6</u></a>	Request modifications to existing treatment timing windows	As necessary	As necessary
<a href="#"><u>S5.A</u></a>	Notification for Adverse Incidents or Chemical Spills – Telephone Notification	As necessary	Immediately upon awareness
<a href="#"><u>S5.B.3.i</u></a>	Copy of Residential and Business Notifications	As necessary	No later than one business day following public distribution
<a href="#"><u>S6.D</u></a>	Monitoring Plan	Annually	February 1
<a href="#"><u>S7.A.1</u></a>	Treatment Report	Annually	February 1
<a href="#"><u>S7.A.1</u></a>	Monitoring Report	Annually	February 1
<a href="#"><u>S7.E</u></a>	Reporting Permit Violations	As necessary	As necessary
<a href="#"><u>S8.B.2</u></a>	Adaptive Management Plan – for Aquatic Invasive Species activities	As necessary	No later than six months after initial treatment
<a href="#"><u>S8.B.2</u></a>	Notification of first treatment for each organism or category of organisms	As necessary	As necessary
<a href="#"><u>S8.C</u></a>	Treatment Report - for Aquatic Invasive Species activities	Annually	February 1

Permit Section	Submittal	Frequency	Submittal Date
<a href="#">S8.C</a>	Monitoring Report- for Aquatic Invasive Species activities	Annually	February 1
<a href="#">S9.A.2</a>	Discharge Management Plan– for Fisheries Resource Management activities	30 days prior to the first discharge conducted under this permit	As necessary
<a href="#">S9.F.1</a>	Sampling plan for Monitoring Lake Chains	One month prior to treatment	As necessary
<a href="#">S9.G.1.a</a>	Post-Treatment Discharge Monitoring Report for Fisheries Resource Management activities	Annually	February 1
<a href="#">S9.G.1.b</a>	Pre-treatment Plan for Fisheries Resource Management activities	Annually	April 1
<a href="#">S10.B.3.c</a>	Invasive Insect Emergency Request	As necessary	As necessary
<a href="#">S10.E.1</a>	Annual Monitoring Plan for Insect Control activities	As necessary	February 1
<a href="#">S10.F.1</a>	Pre-treatment report for Insect Control activities	30 days in advance treatment	As necessary
<a href="#">S10.F.2</a>	Annual report for Insect Control activities	Annually	February 1
<a href="#">S11.B</a>	Spill Prevention and Response Plan	30 days prior to the first treatment conducted under this permit	As necessary
<a href="#">G3</a>	Permit Actions	As necessary	As necessary
<a href="#">G4</a>	Reporting Planned Changes	As necessary	As necessary

<b>Permit Section</b>	<b>Submittal</b>	<b>Frequency</b>	<b>Submittal Date</b>
<a href="#"><u>G7</u></a>	Transfer of Permit Coverage	As necessary	As necessary
<a href="#"><u>G18</u></a>	Reporting Anticipated Non-compliance	As necessary	As necessary
<a href="#"><u>G18</u></a>	Application for permit coverage renewal	Once per permit cycle	No later than January 28, 2028

# Special Conditions

## S1. Permit Coverage

### A. Activities Covered Under this Permit

This general permit covers management activities conducted for aquatic animals, invasive insects, and non-native invasive marine *algae* that result in the direct or indirect *discharge* of *pesticides* or *control* products into *surface waters of the state of Washington*. Surface waters include fresh, brackish, marine, and estuarine waters. Pesticides and control products regulated under this permit include *algaecides*, *herbicides*, *insecticides*, *molluscicides*, *piscicides*, *adjuvants* and any other chemical or product appropriate for use in managing these *organisms*.

The Permittee may cooperate with federal, tribal, state, county and municipal governments, and with private citizens to conduct activities under coverage of this permit. The Permittee must be the *applicator* and *decision maker* for all treatments conducted under this permit. Only WDFW may be authorized to be an applicator and decision maker for rotenone applications.

Management activities are organized into three categories: Aquatic Invasive Species Control, Fisheries Resource Management, and Invasive Insect Control. The permit may have different requirements for each category and for the different chemicals or products allowed for use.

### 1. Marine Projects

Marine projects may occur in marine or estuarine waters and target non-native invasive animals and non-native invasive algal species.

- a. This permit only authorizes marine projects for:
  - i. Animal species as identified in Washington Administrative Code (WAC) 220-12-090.
  - ii. Animals or marine algae listed on the Washington Aquatic Nuisance Species Committee (ANS) “watch list” of invasive species or on the Washington Invasive Species Council (WISC) management priority list.
  - iii. Animals listed by the United States Fish and Wildlife Service (USFWS) as injurious wildlife under the Lacey Act (18 U.S.C. 42; 50 CFR 16).
  - iv. Insects identified in Chapter 16-470 WAC: Quarantine-Agricultural Pests.
  - v. Non-native *potentially invasive* marine animals and algae not listed on the above lists, as determined by Ecology in consultation with the Washington Department of Fish and Wildlife (WDFW), or the Washington Department of Natural Resources (WDNR), or the Washington Department of Agriculture (WSDA), or the WISC, or the ANS Committee, or applicable federal agencies such as the USFWS.

## 2. Freshwater Projects

Freshwater projects may occur in all still and flowing freshwater surface waters of the State and target aquatic and non-native invasive freshwater animals. Ecology regulates chemicals and products allowed for freshwater plant and algae management under the Aquatic Plant and Algae Management National Pollutant Discharge Elimination System (NPDES) permit (WAG-994000) and any subsequent permits issued for this activity.

- a. Ecology only authorizes freshwater projects for:
  - i. Prohibited or unlisted freshwater animals as identified in WAC 220-640-030, 220-640-040, and 220-640-050.
  - ii. Freshwater animals listed on the Washington Aquatic Nuisance Species Committee “watch list” of invasive species or on the WISC management priority list.
  - iii. Freshwater animals listed by the USFWS as injurious wildlife under the Lacey Act (18 U.S.C. 42; 50 CFR 16).
  - iv. Insects identified in Chapter 16-470 WAC: Quarantine-Agricultural Pests.
  - v. Non-native potentially invasive freshwater animals not listed on the above lists, as determined by Ecology in consultation with WDFW, or WDNR, or WSDA, or WISC, or the ANS Committee, or applicable federal agencies such as the USFWS.
  - vi. Fish species managed by WDFW.

### B. Activities That May Not Need Coverage Under This Permit

Permit coverage is not required for control of terrestrial invasive species if there is no direct application of pesticides or products to surface waters or indirect discharge to surface waters via overspray, drift, or runoff.

The use of pesticides on the following sites may not require coverage under this permit:

1. Constructed detention or retention ponds designed specifically for wastewater or stormwater treatment that do not have an outlet to surface waters of the state, or ponds that do not discharge to other water bodies during treatment and for two weeks after treatment.
2. Constructed detention and retention ponds where Ecology regulates the discharge under another permit and the permit allows chemical treatment.
3. Any **constructed water body** five acres or less in surface area with no discharge to other surface waters of the state during treatment and for two weeks after treatment.
4. **Upland farm ponds** with no discharge to other surface waters of the state during treatment and for two weeks after treatment.

5. Treatment conducted on **seasonally dry land surfaces** (including seasonally dry wetlands) as long as treatment occurs when the area is dry and the active ingredient is not biologically available when the water returns.
6. Research activities when applying pesticides, including spray adjuvants, to water bodies under a State **Experimental Use permit** (see S4.A.5 and S4.C).

### **C. Geographic Area Covered**

This general permit covers the activities listed in S1.A throughout surface waters of the state of Washington and in marine waters up to twelve miles offshore or to the international border when applicable.

This permit does not apply to:

1. Activities operated by any department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal Government of the United States, or another entity, such as a private contractor, performing activity for any such department, agency, or instrumentality.
2. **Indian Country** and trust or restricted lands except portions of the Puyallup Reservation as noted below.
3. Puyallup Exception: Following the Puyallup Tribe of Indians Land Claims Settlement Act of 1989, 25 U.S.C. §1773; this permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.

## **S2. Permit Administration**

### **A. Who May Apply for Coverage**

Only WDFW may apply for coverage to conduct rotenone applications for Fisheries Resource Management. For other treatment applications, any Washington state government agency may apply for permit coverage to conduct the activities outlined in Condition S1.A of this permit. Washington State government agencies holding coverage may, in turn, contract with other state or local government entities, non-governmental organizations, or other licensed applicators. Contractors must agree to carry out treatments in a manner that complies with the permit. Either the Permittee or contractor (per individual agreement) may carry out notification, monitoring, reporting, documentation, planning, and other administrative permit tasks.

### **B. How to Obtain Coverage**

Any state government agency seeking to obtain coverage for activities covered under this permit must:

1. Submit an electronic Notice of Intent (NOI) application form available through Ecology's Water Quality Permitting Portal (WQWebPortal).

- a. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request an Electronic Reporting Waiver form and obtain instructions on how to obtain a paper NOI.

Department of Ecology

Water Quality Program

Attn: Aquatic and Invasive Species Control Permit Manager

P.O. Box 47696

Olympia, WA 98504-7696

- b. To access the WQWebPortal, you must first register for Secure Access Washington (SAW). For additional information about SAW, visit: <https://support.secureaccess.wa.gov/>.
2. Submit an application for coverage no later than 60 days prior to the planned discharge date. A complete application must include a completed and signed Notice of Intent (**NOI**).
  3. Publish twice, one week apart, a public notice in a local newspaper of general circulation that an application for permit coverage has been made pursuant to WAC 173-226-130(5).
  4. Publish the public notice only after Ecology has received the complete application for coverage.
  5. Use the Public Notice Template provided in the NOI. The applicant may add additional information to the template provided that the required information remains as stated on the template.
  6. Submit either:
    - a. An original copy of the portion of the newspaper publication containing the Public Notice and newspaper date to Ecology for each week the Public Notice is published, or
    - b. Submit a signed, notarized affidavit of publication indicating what is included in the Public Notice and the scheduled Public Notice publication dates.
  7. A 30-day public comment period begins on the publication date of the second newspaper public notice. At the end of the 30-day comment period, Ecology will consider any comments about the applicability of this permit to the proposed discharge activity before deciding to issue permit coverage.

**C. Permit Coverage Timeline**

1. If the applicant does not receive notification from Ecology, permit coverage automatically commences on whichever of the following dates occurs last:

- The 31st day following receipt by Ecology of a completed application for coverage.
  - The 31st day following the end of a 30-day public comment period.
  - The effective date of the general permit.
2. Ecology may need additional time to review the application:
- If the application is incomplete.
  - If it requires additional site-specific information.
  - If the public requests a public hearing.
  - If members of the public file comments.
  - When more information is necessary to determine whether coverage under the general permit is appropriate.
3. When Ecology needs additional time:
- Ecology will notify the applicant in writing before the 31<sup>st</sup> day following the end of the 30-day public comment period and identify the issues that the applicant must resolve before a decision can be reached.
  - Ecology will submit the final decision to the applicant in writing. If Ecology approves the application for coverage, coverage begins the 31<sup>st</sup> day following approval, or the date the approval letter is issued.

#### **D. How to Modify Permit Coverage**

Permittees that propose significant changes to the aquatic and invasive species control activities authorized by their original permit coverage, such as expanding the area covered by the permit, must revise and re-submit permit application materials in accordance with Special Condition S2.B.

#### **E. How to Transfer Permit Coverage**

A Permittee may transfer coverage to a new Permittee, in accordance with General Condition G6 of this permit, using the Transfer of Coverage Form.

Both the original Permittee and the new Permittee must sign the form and provide the date that the new Permittee will take responsibility for permit coverage. Once both parties have signed the form, the new Permittee becomes responsible for permit compliance and permit fees on the date indicated on the form. The original Permittee remains responsible for, and subject to, all permit conditions and permit fees until the transfer is effective.

#### **F. How to Terminate Permit Coverage**

A Permittee may request termination of permit coverage by submitting a written request to Ecology. When a Notice of Termination Form (NOT) is available electronically, the Permittee must submit a NOT electronically using Ecology's Water Quality Permitting Portal, unless the permittee requests and receives an Electronic Reporting

Waiver from Ecology. The request for permit coverage termination must include the date that termination becomes effective and must be signed by an agency representative according to General Condition [G1.D](#). The termination is effective on the date specified on the NOT unless Ecology notifies the Permittee within 30 days that the termination request is denied.

The Permittee will continue to incur an annual permit fee until permit coverage is terminated. Once permit coverage is terminated, the Permittee may no longer discharge any of the pesticides and other products authorized for use by this permit to waters of the state until it gains coverage under this permit again.

### **S3. Discharge Limits**

#### **A. Compliance with Standards**

The application of pesticides or other products under this permit must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards.

When applying pesticides, the Permittee must use all known, available, and reasonable methods of prevention, control, and treatment (**AKART**). Compliance with the following constitutes AKART:

1. This permit.
2. The Washington Pesticide Control Act and rules adopted thereunder (RCW 15.58).
3. The Washington Pesticide Application Act and rules adopted thereunder (RCW 17.21).
4. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
5. The pesticide, adjuvant, and other product labels (referred to collectively as Product Labels in this permit) currently registered and approved for use in Washington State, which may or may not be identical to the FIFRA label for registered pesticides.
6. All applicable federal, state, and local laws.
7. WDFW Treatment Timing Windows and SOPs.

## B. Temporary Exceedance of Water Quality Standards

WAC 173-201A-410 allows short-term exceedance of the criteria and classifications established by this regulation when certain conditions are met. Such activities must be conditioned, timed, and restricted in a manner that will minimize water quality degradation to existing and characteristic uses.

Activities covered under this permit are allocated a temporary zone of impact on beneficial uses, but the impact must be transient (hours or days) and must allow for full restoration of water quality and protection of beneficial uses upon project completion. The conditions of this permit constitute the requirements of a short-term water quality modification (WAC 173-201A-410).

## C. Impaired Water Bodies

1. The Permittee must not cause further impairment of any **303(d)-listed water body** for any parameter. See [Ecology's Water quality assessment and 303\(d\) list webpage](#)<sup>2</sup> for listed water bodies.
2. The Permittee must consider and apply one or more of the following mitigation measures to prevent further impairment (outside of the confines of the short-term modification of water quality standards allowed under this permit) when treating a 303(d)-listed water body if the treatment has the potential to impact phosphorus, dissolved oxygen, temperature, or pH:
  - **Limiting** the area treated at any one time.
  - Timing treatment (early treatment versus late season treatment).
  - Pesticide choice.
  - Manual removal of dead organisms (e.g., fish, tunicates).
  - Aeration.

## D. Pesticide Applicator Requirements

The Permittee and its pesticide **applicators** must comply with the Product Label when using pesticides. Permit requirements do not reduce the requirements on the Product Label.

The Permittee must ensure that:

1. A licensed applicator has direct supervision responsibilities for the use of pesticides during treatment.
2. All applicators, including those under the direct supervision of an applicator, have current training in the use of the equipment used for treatment and that they use approved treatment techniques.

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<sup>2</sup> <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d>

3. Appropriately trained personnel calibrate and/or maintain the equipment used for treatment.
4. If the treatment will result in a direct discharge to surface water, the pesticide applicator also has an aquatic endorsement, in addition to the appropriate WSDA license.

#### **E. Sensitive, Threatened and Endangered Species**

For treatments that must occur in areas where state and/or federal *sensitive, threatened or endangered species* are present that may be impacted by treatment, the Permittee must consult with state or federal fish and wildlife agencies as appropriate prior to treatment. The list of state protected wildlife species is presented in WAC 220-200-100.

### **S4. Restrictions on the Applications of Products**

#### **A. Authorized Discharges**

1. Beginning on the effective date of this permit and until Ecology replaces or revokes this permit; the permit authorizes the Permittee to discharge the pesticides or products listed in this permit into surface waters of the state in accordance with the special and general conditions described herein.
2. The Permittee may apply pesticides or products under this permit only for the management of aquatic or invasive animals, invasive insects, or invasive marine algae that meet the criteria outlined in S1.A. Temporary and limited impacts on non-target organisms are acceptable only to the extent needed to control the targeted organisms.
3. This permit does not cover activities that Ecology regulates under other NPDES permits.
4. All discharges must comply with all applicable local, state, and federal laws, rules, and ordinances (see G6), and any additional requirements as specified in this permit.
5. The Permittee must check with WSDA Registration Services to ensure pesticide registration and label approval prior to beginning any discharge activities. Any chemical or product used to control, repel, or mitigate a pest species is considered a pesticide and must be properly registered and labeled for use in Washington, or used under an Experimental Use Permit (see S4.C). It is prohibited to use a pesticide at a location or use site that is not listed on the label, unless a Special Local Needs registration or Emergency Use Exemption is obtained from WSDA. Authorization of pesticide discharge under this permit does not indicate registration approval under the Federal Insecticide Fungicide Rodenticide Act (FIFRA).
6. The Permittee must ensure the treatment as described in the permit application complies with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et

seq.), and does not cause a take, as set out in Section 9 of the Act to an individual of a species listed as **threatened** or **endangered** unless that take is exempted under section 10 of the Act by the U.S. Fish and Wildlife Service or the National Oceanic and Atmospheric Administration. The list of endangered or threatened species is presented in 50 CFR 17.11(h).

7. The Permittee must ensure the treatment as described in the permit application complies with RCW 77.15.120 and 77.15.130 and does not cause a take of a state endangered or protected fish or wildlife unless take has been authorized by a rule of the Washington Fish and Wildlife commission, a permit issued by WDFW, or a permit issued pursuant to the federal endangered species act. The list of state endangered wildlife species is presented in WAC 232-12-014. The list of protected (“threatened” and “sensitive”) species is presented in WAC 232-12-011.

#### **B. Pesticides and Products Authorized for Use under this Permit**

1. Ecology identifies specific restrictions on the use of each pesticide or product in Tables 2 and 3 below. The term “chemicals” refers to both pesticides and other products authorized for use in this permit. Not all pesticides or products can be used in both marine and freshwaters. Certain pesticides are authorized only for specific treatments, as described in the following Special Conditions:
  - Aquatic Invasive Species Control, Special Condition S8.A
  - Fisheries Resource Management, Special Condition S9.B
  - Invasive Insect Eradication, Special Condition S10.B
2. Ecology allows application of specific pesticides or products under this permit so long as the Permittee makes the application in compliance with all the terms and conditions of this permit.

#### **C. Experimental Use Permits**

1. Permittees may apply other pesticides not listed in this permit on a limited basis in the context of a research and development effort under the jurisdictions of the Environmental Protection Agency (EPA) and WSDA through the issuance of a federal Experimental Use Permit (federal EUP) (40 CFR 172) and/or a [Washington State Experimental Use Permit \(state EUP\)](#)<sup>3</sup>. Permittees may be required to obtain a federal EUP prior to obtaining a state EUP. Permittees may apply pesticides either not registered in Washington State or registered but in a manner currently not allowed by the Product Label for experiment purposes with an approved federal and/or state EUP.
2. Permittees must also obtain coverage under this general permit for any aquatic invasive species control project conducted under a federal EUP.

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<sup>3</sup> <https://agr.wa.gov/departments/pesticides-and-fertilizers/pesticides/pesticide-registration/product-registration/special-registrations/experimental-use-permit>

3. Ecology does not require coverage under this permit for research and development projects of one acre or less in size where the applicator and decision maker operate under a state EUP. (Special Condition S1.B.6)

#### **D. Specific Restrictions on the Application of Products**

1. Except for emergencies, the Permittee must make every effort to avoid pesticide applications that restrict public water use during weekends, the opening week of fishing season (freshwater treatments only), Memorial Day weekend, Independence Day weekend, and Labor Day weekend. (173-201A-410(4)(c) WAC).
2. Permittees must comply with the specific application restrictions for each product as identified in Tables 2 and 3 and all Product Label requirements. Requirements in this permit do not reduce the requirements on the Product Label.
3. The Permittee must comply with WDFW timing windows referenced in Tables 2 and 3 to protect Salmon, Steelhead, and Bull Trout populations and WDFW priority habitats and species, unless a temporary modification has been approved as described in S4.D.6 below. WDFW may periodically update timing windows as new information becomes available or on request from Ecology. The timing windows are available at [WDFW's Fish and Wildlife Timing Windows webpage](#)<sup>4</sup>.
4. Where Permittees are directed to consult with WDFW in the timing window information for a water body on the web page linked above, they must provide Ecology with written results of the WDFW consultation.
5. Permittees may request modifications to existing treatment timing windows, so long as the new treatment windows do not adversely impact priority species and habitats. Contact the current Aquatic and Invasive Species Control Permit Manager to request timing window modifications. Permittees requesting treatment timing window modifications must provide the information specified on the AISC permit web page. Modification requests will be evaluated on a case-by-case basis. Modified treatment timing windows may be approved by Ecology or WDFW on an annual basis, and temporarily apply in place of the information on the WDFW web page linked in S4.D.4 above.
6. Restrictions/Advisories identified in Tables 2 and 3: **Recreational restrictions** apply to swimming, boating, water skiing, etc. Swimming restrictions apply to primary contact activities such as swimming, wading, and water skiing.
7. Application of certain pesticides in Tables 2 and 3 require the use of tarpaulins or impermeable covers. Installation of tarpaulins or impermeable covers may require the Permittee to obtain a Hydraulic Project Approval Permit from WDFW.

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<sup>4</sup> <https://wdfw.maps.arcgis.com/apps/MapSeries/index.html?appid=34533b2dd4f84932b5fd1a46e494bde6>

**Table 2: Product Restrictions - Marine Applications**

Specific Restrictions on the Application of Chemicals for Managing Non-native Invasive Marine Animals and Algae.

**Note:** Pesticides and products authorized for Invasive Insect Eradication are discussed in Special Condition S1

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Sodium chloride &amp; Potassium chloride</b>	No, but check with WDFW before treatment to determine critical habitat areas.	None	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration or amount of these salts necessary to kill the targeted organism.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas.</li> <li>• Spray or apply directly on target organisms when they are out of water (apply at low tide).</li> <li>• The Permittee may treat defined areas, such as marinas or coves, if the Permittee can limit water exchange behind impermeable barriers.</li> </ul>
<b>Chlorine</b>	No, but check with WDFW before treatment to determine critical habitat areas.	If treating in an area accessible by the public, post buoys around the <b>treatment area</b> .	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration or amount to kill the targeted organism.</li> <li>• Where practicable, use chlorine dioxide/sodium chlorite instead of sodium hypochlorite or calcium hypochlorite.</li> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms. Seal edges to the substrate as thoroughly as possible.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• Leave tarpaulins on for at least one day before removing. If this is not possible, test for chlorine using a swimming pool test kit and neutralize any residual chlorine using ascorbic acid (vitamin C) before removing the cover.</li> </ul>
<b>Tracer and Marker Dyes</b>	No	None	<ul style="list-style-type: none"> <li>• Follow the product label and notify Ecology and local residents prior to discharge into surface waters as required in <a href="#">S5.B.8</a>.</li> </ul>

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Acetic Acid</b>	No, but check with WDFW before treatment to determine critical habitat areas.	<ul style="list-style-type: none"> <li>• If treating in an area accessible by the public, post buoys around the treatment area.</li> <li>• Restrict swimming for 12 hours in the treatment area if spraying directly on organisms.</li> <li>• Restrict <b>public access</b> to area when diluting concentrated acid.</li> </ul>	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration to kill the targeted organism (vinegar concentrations – 5-10% are reported to be effective for soft-bodied marine organisms).</li> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms. Seal the edges to the substrate as thoroughly as possible.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• Remove covers as soon as the target organisms are dead.</li> <li>• Spray directly on target organisms if they are out of water (tidal).</li> <li>• The Permittee may treat defined areas, such as marinas, if the Permittee can limit water exchange behind impermeable barriers.</li> </ul>
<b>Calcium hydroxide /oxide (lime)</b>	No, but check with WDFW before treatment to determine critical habitat areas.	If in an area accessible by the public, post buoys around the treatment area.	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration or amount necessary to kill the targeted organism.</li> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms and limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• Remove covers as soon as the target organism is dead.</li> <li>• For direct applications, apply only to target organisms (e.g., invasive echinoderms). Do not treat uninfested areas.</li> </ul>
<b>Heat/Freezing</b>	No, but check with WDFW before treatment to determine critical habitat areas.	None.	<ul style="list-style-type: none"> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas.</li> <li>• May use in conjunction with pressure washing to remove invasive organisms from docks and infrastructure.</li> </ul>

**Table 3: Product Restrictions - Freshwater Applications**

Specific Restrictions on the Application of Chemicals for Managing Freshwater Animals

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Sodium chloride &amp; Potassium chloride</b>	No, but check with WDFW before treatment to determine critical habitat areas.	None.	<ul style="list-style-type: none"> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• The Permittee may treat defined areas, such as coves or marinas, if the Permittee can limit water exchange behind impermeable barriers.</li> </ul> <p><b>Whole Lake</b></p> <ul style="list-style-type: none"> <li>• The Permittee may treat <b>small water bodies</b> with potassium chloride where the threat of the invasive species outweighs other environmental damage and where water can be contained.</li> <li>• For nonnative mussel eradication projects with potassium chloride, the Permittee must take steps to restore native mussel populations in the treated water body, when practicable.</li> </ul>
<b>Chlorine</b>	Yes, also check with WDFW before treatment to determine critical habitat areas.	Advise no swimming in area when placing chemicals under covers and removing covers.	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration or amount necessary to kill the targeted organism.</li> <li>• Where practicable, use chlorine dioxide/sodium chlorite instead of sodium hypochlorite or calcium hypochlorite.</li> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms. Seal edges to the substrate as thoroughly as possible.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• Leave tarpaulins on for at least one day before removing. If this is not possible, test for chlorine using a swimming pool test kit and neutralize any residual chlorine using ascorbic acid (vitamin C) before removing the cover.</li> </ul>
<b>Acetic Acid</b>	No, but check with WDFW before treatment to determine critical habitat areas.	Advise no swimming in area when placing chemicals under covers and removing covers.	<ul style="list-style-type: none"> <li>• Limit treatments to the lowest effective concentration to kill the targeted organism (vinegar concentrations – 5-10% are reported to be effective for soft-bodied organisms).</li> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms. Seal the edges to the substrate as thoroughly as possible.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• Remove covers as soon as the target organisms are dead.</li> </ul>

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Calcium hydroxide/ oxide (lime)</b>	No	No	<ul style="list-style-type: none"> <li>• Whole water body applications permitted.</li> <li>• The pH of the receiving water must remain between 6 and 9. Stop treatment if pH goes above 9.0.</li> </ul>
<b>Rotenone</b>	Yes, also check with WDFW before treatment to determine critical habitat areas.	Follow the product label restrictions and <a href="#">2018 AFS Rotenone SOP Manual</a>	<ul style="list-style-type: none"> <li>• Whole water body applications permitted.</li> <li>• The Permittee must comply with all the requirements on the Product Label. Permit requirements do not reduce the requirements on the Product Label.</li> <li>• Treatments must be performed by or under the supervision of a <b>licensed applicator</b>. All pesticide applicators must have current training in the use of equipment necessary to apply rotenone formulations correctly.</li> <li>• Endangered Species Act (ESA) listed fish species must not be present at the time of treatment and for three months following treatment, unless the state and federal fish agencies approve a treatment.</li> <li>• Except for emergencies or when in situations where invasive species may move out of water body if treatment is delayed, limit treatments in still waters to periods of low water unless the water body has a closed basin.</li> <li>• Unless the outlet is being treated for invasive species, in water bodies with flowing outlets, rotenone must be deactivated to eliminate downstream impacts except where outflow can be diluted to &lt; 2 ppb by the receiving water. Below the deactivation zone (distance the water travels in 30 minutes), the rotenone must be totally neutralized using potassium permanganate. Residual potassium permanganate must not exceed 1 mg/L(ppm) outside the deactivation zone.</li> <li>• Follow monitoring requirements in Tables 4, 5, 6, 7, 8 and 9.</li> </ul>
<b>Potassium permanganate</b>	Yes, also check with WDFW before treatment to determine critical habitat areas.		<ul style="list-style-type: none"> <li>• Use under tarpaulins or impermeable covers secured over the invasive organisms.</li> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas where the Permittee can secure impermeable covers.</li> <li>• The Permittee may treat defined areas, such as marinas, if the Permittee can limit water exchange behind impermeable barriers.</li> <li>• The Permittee may treat enclosed, small water bodies where the threat of the invasive species outweighs other environmental damage.</li> <li>• Use only to deactivate rotenone treated waters.</li> <li>• Use calibrated equipment to achieve the minimum effective concentration of potassium permanganate necessary to oxidize the rotenone within the deactivation zone.</li> </ul>

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Endothall (Hydrothol 191™)</b>	Yes	Contact recreational restriction during and 24-hours after treatment (in the entire water body)	<ul style="list-style-type: none"> <li>• Treatment shall occur from the <b>shoreline</b> outward into the waterbody.</li> <li>• Juvenile salmon species and ESA-listed species must not be present at the time of treatment.</li> </ul>
<b>Sodium carbonate peroxyhydrate</b>	No	Swimming advisory during treatment, and 2-hour post-treatment (in the treatment area)	None
<b>Methoprene</b>	No	None	Do not apply in state-listed Areas of Restricted Larvicide and Adulticide Use identified in Ecology's mosquito NPDES permit without consulting with WDFW habitat biologists. <a href="https://wdfw.maps.arcgis.com/apps/MapSeries/index.html?appid=34533b2dd4f84932b5fd1a46e494bde6">https://wdfw.maps.arcgis.com/apps/MapSeries/index.html?appid=34533b2dd4f84932b5fd1a46e494bde6</a>
<b>Chelated Copper</b>	Yes	None	<ul style="list-style-type: none"> <li>• Use lowest effective concentration to kill targeted organism.</li> <li>• Sediment copper concentrations in the treatment area must be less than 110 mg/kg (emergency exception for zebra or quagga mussel treatment if there are no other suitable controls available).</li> <li>• Do not apply copper if the water hardness is less than 50 mg/L (ppm) expressed as calcium carbonate (emergency exception for zebra or quagga mussel treatment).</li> <li>• Do not apply copper if the pH is less than 6.0 (emergency exception for zebra or quagga mussel treatment).</li> <li>• Juvenile salmon species and Endangered Species Act listed species must not be present at the time of treatment, unless the state and federal fish agencies approve the treatment.</li> </ul>
<b><i>Pseudomonas fluorescens</i> strain CL 145A</b>	No	None	None

Product or Control Method	Subject to Timing Windows	Restrictions/ Advisories	Treatment Limitations
<b>Tracer and Marker Dyes</b>	No	None	Follow the product label and notify Ecology and local residents prior to discharge into surface waters as required in <a href="#">S5.B.8</a> .
<b>Heating/ cooling</b>	No, but check with WDFW before treatment to determine critical habitat areas.	None	<ul style="list-style-type: none"> <li>• Limit treatment to docks, boat hulls, and fixed objects or defined areas.</li> <li>• Direct heat or cold only at target organisms.</li> <li>• May use in conjunction with pressure washing to remove invasive organisms from docks and infrastructure.</li> </ul>

## **S5. Notification and Posting Requirements**

The general notification and signage posting requirements for all activities under this permit are described below. See condition [S7.E](#) for reporting permit violations, and [S11](#) for more details on Spill Prevention and Control.

For invasive insect treatments, see additional notification requirements in Condition [S10.D](#).

### **A. Ecology Notification Requirements for *Adverse Incidents* or Chemical Spills**

The Permittee must immediately call Ecology at 1-800-645-7911 when they are aware of any of the following conditions occurring during or after treatment. Additional contact information is provided in [S7.E.2](#).

1. Any person(s) exhibiting or indicating any toxic and/or allergic response due to treatment.
2. Any non-targeted organisms exhibiting stress or dying within or outside of a treatment or deactivation zone.
3. Any spill of chemicals covered under the permit that occurs into the water or onto land with a potential for entry into waters of the state.

### **B. Public Notification and Posting Requirements**

#### **1. Internet Notification**

Each treatment season, the Permittee must post information on its website about the locations of any planned treatments, timing of treatments, chemicals or products proposed for use, and information about the organism(s) to be treated. Continuing throughout the treatment season, the Permittee must update their web site with changes or additions to the information about their activities under this permit.

#### **2. Newspaper Notification**

The permittee must publish a notice in the legal notices section of a local newspaper of general circulation within the county where treatment will occur (or nearest regional paper if a local paper does not exist) 14-45 days prior to the initial treatment. This notice must include the information listed in Condition S5.B.3.e below.

#### **3. Residential and Business Notification**

Using the template on Ecology's permit webpage, the Permittee must provide Residential and Business Notice (notice) to all waterfront residences and businesses, other than the Permittee's own agency, within one-quarter mile in each direction

along the shoreline or across the water from the proposed **treatment areas** and **deactivation zones**.

- a. In the treatment notification, the area of treatment must be defined either by a polygon area clearly labeled on a map of the treatment site, or by the latitude and longitude points of the corners of that polygon area, reported in decimal degrees.
- b. The Permittee may provide the notice by mail, newsletter, or handbills delivered directly to the residences or businesses. If the Permittee uses handbills, it must secure the notices to the residences or businesses in a fashion that will hold them in place but will not damage property. If the residence or business is gated or guarded by watchdogs, the Permittee may secure the notice in clear view on the outside of the gateway or may attach the notice to the outside of the residence in a fashion that will hold it in place but will not damage property.
- c. This permit does not authorize trespass or damage to property as a result of providing business and residential notices.
- d. The Permittee must provide the notice to residences and businesses 14 to 45 days prior to initial treatment each year, except for emergencies. During an emergency or imminent danger of an infestation as defined by [Chapter 17.24.171 RCW](#)<sup>5</sup>, the Permittee may provide same day notice to residences and businesses. Even during emergencies, the Permittee must strive to provide as much advance notice as possible to the affected residents and businesses.
- e. Notification information must include:
  - i. The name and location of the waterbody to be treated;  
The name of product(s) to be used, the active ingredient(s); and the EPA or Washington registration number for each product, if any,
  - ii. The purpose of the treatment;
  - iii. Any public use or water use restrictions and precautions, and their duration;
  - iv. The date(s) of treatment;
  - v. The names, phone numbers and email addresses of designated contact people for the Permittee and Ecology so that interested parties can obtain additional information.
- f. For freshwater projects only: When the chemical or product's label or the permit has restrictions and/or precautions for potable or domestic water use, irrigation use, or livestock watering, the Permittee must notify those who withdraw surface waters for such uses. This notification must identify who the water user

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<sup>5</sup> <https://app.leg.wa.gov/rcw/default.aspx?cite=17.24.171>

can contact to obtain an alternate water supply during treatment. The Permittee must not treat an area until it has notified people who withdraw water, and it has provided an alternative water supply, if requested by the affected water user(s). See Condition [S9.F](#) for additional requirements for rotenone treatments.

- g. If the product label has potable water use restrictions and the treatment occurs in waters with drinking water intakes or with hydraulic connections to wells, the Permittee must provide written notification to the party responsible for the **public water system** or to individual private well users advising against the consumption of treated water at least 14 days prior to treatment.
- h. If the notice explains the **application schedule** for the entire annual treatment season and there is no deviation from that schedule, Ecology requires no further notice for the rest of the season (unless a resident or business specifically requests further notification about project treatment dates).
- i. The Permittee must provide a copy of the notice including the date of distribution, to Ecology headquarters and appropriate regional office contacts no later than one business day following public distribution.
- j. The Permittee must maintain a copy of the notice and a list of locations or addresses to which they were delivered for the previous five (5) years. Upon request, the Permittee must provide a copy of the notice and list of recipients to Ecology within five business days.

#### **4. Shoreline Posting Requirements**

##### General Requirements for Posting Shoreline Treatment Notification Signs

The Permittee Must:

- a. Use the sign templates provided on Ecology's permit website. The Permittee must include all use restrictions for the chemical or product to be used. The Permittee may provide additional information about the project on the sign, including a treatment map. In the event that the Permittee applies more than one chemical or product, the Permittee may include information about all chemicals/products on one notification sign.
- b. Post shoreline treatment notification signs as specified below no more than 1 week prior to the application of any chemical or product covered under this permit.
- c. Post warning signs in English, and if the majority of the affected community speaks a language other than English the Permittee may use online translation websites, or other translation services to make signs for public areas in languages prevalent in that community.

- d. Post signs so that they are secure from the normal effects of weather and water currents and cause no damage to property.
- e. Make best efforts to ensure that the signs remain in place until the end of the period of any water use restrictions.
- f. Remove all old signs after the end of any water use restrictions, or bioassays and/or toxicity testing has determined that the chemical applied and its breakdown products are no longer present at toxic levels (Special Condition [S6](#) and [S9.F4](#)). All posted signs must explicitly state restriction(s) or precaution(s) when the EPA label restricts human consumption of fish, swimming, irrigation, livestock watering, or any other precaution(s) relevant to public or private water use.

Signs must include the appropriate Toxicity Class signal word from the product label in bold black type (such as Caution, Warning, or Danger).

Signs that are that are a minimum of two (2) feet by three (3) feet in size must use letters at least two inches high for the signal word and at least a half (½) inch high for all other words.

This permit does not authorize trespass or damage to property from posting of shoreline signs or notices.

## 5. Posting Publicly-Owned Property and Private Resorts

Includes public access areas (public or community-provided swimming beaches, picnic areas, docks, marinas, at state or local parks and private resorts) and points of normal public access to publicly owned land (e.g., trails on State or Federally owned properties).

The Permittee must:

- a. Post two foot by three-foot signs at **public entrances** to public access areas or pathways that allow reasonable direct access to the water body and that are within 400 feet of the treatment area. These signs must be constructed of durable weather-resistant material. The Permittee must attach a weather resistant map detailing the treatment sites for each chemical or product used. The map must identify the location(s) of the treatment site(s), identify addresses or parcels that represent the start and end points of the treatment area, or provide GPS coordinates that represent the corners of the treatment area or identify a whole waterbody treatment and mark the reader's location. In the event that the Permittee uses more than one chemical or product, each treatment area and the chemical/product used must be marked on the map.

- b. Post two by three-foot signs so that at least one is clearly readable from all points of normal public access to the shoreline or stream bank within 400 feet of the treatment area.
- c. Make signs posted along public shorelines a minimum of eight and one-half (8 ½) by eleven (11) inches in size, and post them every two hundred fifty (250) feet of shoreline and within 400 feet of the treatment area.
- d. Post shoreline signs within 25 feet of the ordinary high-water mark, and face both the water and the shore.

#### **6. Posting Public and Private Boat Access Areas**

The Permittee must:

- a. Post signs at all open **boat launches** on the treated waterbody within one mile of the treatment area. Boat launches also include sites commonly used as put-ins and take-outs for small, non-trailerred watercraft.
- b. Post signs at these locations that are a minimum of two (2) feet by three (3) feet in size and constructed of a durable weather-resistant material.
- c. Post signs within twenty-five (25) feet of the ordinary high- w a t e r mark, facing the entrance to the boat launch.

#### **7. Posting Private Property and Businesses**

- a. The Permittee must post signs or deliver handbills to each private residence or business property within 400 feet of the affected area that are a minimum of eight and one-half (8 ½) by eleven (11) inches in size.
- b. If the Permittee uses handbills, it must secure them to the residences or businesses in a fashion that will hold them in place but will not damage property.
- c. If a residence or business property is only accessible by entering through a gate, the Permittee must post a sign at each gate that allows access to the treated area or is within 400 feet of a treated area. In these situations, the Permittee does not need to deliver additional handbills or post additional signs along the shoreline or at individual docks or moorages.
- d. If the Permittee posts signs, they must position them so that they face the shore and are most visible to residents. For undeveloped properties, the Permittee must post one sign every two hundred fifty (250) feet of shoreline.

## 8. Notification Requirements for Use of Tracer Dyes

- a. Prior to discharge of dye, the Permittee must provide written notice to all waterfront residences and businesses within one-quarter mile in each direction along the shoreline or across the water from the anticipated area where dye may be visible. This notice must include the information in S5.B.3.e.
- b. The Permittee must notify local county and city government of the project taking place at least 24 hours prior to discharge of the dye so they are prepared to answer questions if contacted by concerned individuals. In addition, notify Ecology headquarters and applicable regional staff listed in S7.E2. This notice must include the information in S5.B.3.e.

## S6. Monitoring

The general monitoring requirements for all activities under this permit are described below. See additional monitoring requirements for specific activities in these sections:

- a. Fisheries Resource Management, including Rotenone, Special Condition [S9.F.](#)
- b. Invasive Insects, Special Condition [S10.E.](#)

### A. Sampling and Analytical Procedures

The Permittee must take **representative** samples and measurements to meet the requirements of this permit.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit. Ecology may specify alternative methods only for parameters without limits and for those parameters without an EPA-approved test method in 40 CFR Part 136.

### B. Field Measurement Devices

The Permittee must:

1. Select and use appropriate field measurement devices and methods consistent with accepted scientific practices.
2. Use, calibrate, and maintain the devices to ensure the accuracy of the measurements is consistent with the accepted industry standard and the manufacturer's recommendations.
3. Use field measurement devices as directed by the manufacturer.
4. Not use reagents beyond their expiration dates.
5. Maintain calibration records for at least five years.

### **C. Laboratory Accreditation**

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of *Accreditation of Environmental Laboratories*, WAC 173-50. Field measurements and internal process control parameters are exempt from this requirement. The laboratory must obtain accreditation for Conductivity and pH if it must receive accreditation or registration for other parameters.

### **D. Monitoring Plans**

1. The Permittee must submit an annual monitoring plan to Ecology by **February 1** of each year. If two or more Permittees are working together on the same management activity, they may coordinate their monitoring efforts, but each must still submit an annual monitoring plan to Ecology. See Special Condition [S7.C](#) for electronic reporting requirements. Monitoring plans for a Permittee responding to an invasive species emergency, not able to meet the February 1 deadline, consists of conducting the minimum monitoring requirements given in tables 4, 5, 6, 7, 8 and 9.
2. The Permittee must monitor a subset of treated locations each year of treatment. The monitoring plan must provide specific monitoring locations, information on the parameters to be measured, and the rationale for their selection. At a minimum, the Permittee(s) must conduct treatment effectiveness monitoring for the target organism and any monitoring required in Tables 4, 5, 6, 7, 8 and 9 below.
3. The Permittee must post all monitoring plans on its website after approval by Ecology.

### **E. Monitoring for Specific Chemicals**

The Permittee must also monitor for specific chemicals/products as identified in Table 4 below. Additional requirements are described in Special Condition [S9.F](#) for rotenone treatments, and Special Condition [10.E](#) for invasive insect control.

**Table 4: Monitoring requirements**

Chemical or Control Measures	Specific Monitoring Requirements
<b>Sodium Chloride &amp; Potassium Chloride</b>	<ul style="list-style-type: none"> <li>➤ For whole lake treatments or treatments of areas sequestered behind barriers within a larger freshwater body, the Permittee must at a minimum measure potassium or sodium chloride concentrations at one or more representative sampling locations pre-treatment, and one and five days post-treatment to determine actual water body concentrations.</li> </ul>
<b>Chlorine</b>	<ul style="list-style-type: none"> <li>• The Permittee must monitor for total residual chlorine concentrations under impermeable covers on a representative number of sites before removing the covers. Permittee may use swimming pool test kits using the colorimetric method for this purpose.</li> <li>• If monitoring demonstrates that undercover chlorine concentrations are always under 0.5 mg/L (ppm) before removal (at a representative number of sites and for the same chlorine formulation), the Permittee may suspend monitoring upon Ecology approval.</li> </ul>
<b>Acetic Acid</b>	<ul style="list-style-type: none"> <li>• When removing impermeable covers, monitor pH levels in the receiving water before and immediately after cover removal.</li> <li>• When directly spraying the organisms, monitor the pH of receiving waters directly adjacent to the organisms immediately before and after treatment.</li> </ul>
<b>Calcium Hydroxide /Oxide (lime)</b>	<p><b>For Freshwater Treatments Only</b></p> <ul style="list-style-type: none"> <li>• Measure pH once a day before treatment; once in the morning and once in the afternoon during treatment; and for ten days following treatment at a representative site within the water body.</li> <li>• For applications using continuous injection systems, measure pH once in the morning and once in the afternoon</li> </ul>
<b>Rotenone</b>	<p>See Special Condition <a href="#">S9.F</a> for specific monitoring requirements for rotenone monitoring.</p>
<b>Chelated Copper</b>	<ul style="list-style-type: none"> <li>• For more details about chelated copper compounds, see the 2011 Environmental Impact Statement linked on the AISC web page.</li> <li>• Before applying copper, measure sediment copper concentrations in a composite sample of sediment from a representative treatment area (composite sample from 5 areas with sediment taken from the top 5 cm of sediment and homogenized).</li> <li>• Two weeks after completion of copper treatment, resample the treated area for copper using the sampling protocol above.</li> <li>• Measure pH and hardness prior to treatment.</li> </ul>
<b>Heat/Freezing</b>	<ul style="list-style-type: none"> <li>• If used in conjunction with pressure washing to remove invasive organisms from docks and infrastructure, measure the temperature of the receiving water immediately before and immediately after the activity.</li> </ul>

## S7. Reporting and Recordkeeping Requirements

The general reporting and recordkeeping requirements for all activities under this permit are described below. See additional requirements for specific activities in these sections:

- a. Aquatic Invasive Species, Special Condition S8.C.
- b. Fisheries Resource Management, Special Condition S9.G.
- c. Invasive Insects, Special Condition S10.F.

The falsification of information submitted to Ecology constitutes a violation of the terms and conditions of this permit. The Permittee must submit chemical application information in accordance with the following conditions:

### A. Annual Reports

1. The annual treatment report and annual monitoring report must be submitted electronically as separate documents as described in [S7.C](#) below.
  - a) The Permittee must submit its annual treatment and monitoring reports by **February 1** of the year following treatment.
  - b) The Permittee must submit an annual treatment report whether or not treatment occurred in the previous year. If no treatments were done, report the permit number, permittee name, and no products applied.
  - c) When treatments have been done, the annual report must include:
    - i. Permit number
    - ii. Permittee name
    - iii. Treatment dates
    - iv. Maps or descriptions of location(s) treated (including the county, water bodies treated and the treatment location within the water body)
    - v. Active ingredient(s) applied
    - vi. Pounds of product applied to each location
    - vii. Acreage treated
    - viii. Species targeted

### B. Recording of Results

Requirements for field measurements are described in Special Condition [S6.B](#).

For each measurement or sample taken, the Permittee must record the following information:

1. The date of sample collection, the name of the water body, the sampling location(s) within the water body, and the sampling methodology.

2. The name of the individual who performed the sampling or measurement.
3. The dates the laboratory or individual performed the analyses.
4. The laboratory or the name of the individual who performed the analyses.
5. The parameter name and registration number, if applicable.
6. The analytical techniques or methods used.
7. The method detection limit (MDL) and practical quantitation limit (PQL).
2. The results of all analyses, including concentration detected and appropriate unit of measure (e.g., ppb, mg/l, etc.).
3. Submit a copy of the laboratory report as an attachment, when applicable.

**C. Electronic Reporting Requirements**

Unless otherwise specified in this permit, the Permittee must submit all NOIs, Annual Reports, and other reporting information as required electronically through Ecology's Water Quality Permitting Portal. More information is located at Ecology's [WQWebPortal guidance webpage](#)<sup>6</sup>.

The Permittee may contact Ecology to request an Electronic Reporting Waiver form.

Department of Ecology  
Water Quality Program  
Attn: Aquatic and Invasive Species Control Permit Manager  
P.O. Box 47696  
Olympia, WA 98504-7696

Where another condition of this permit requires submission of hardcopy paper documentation, the Permittee must ensure that the submission is postmarked or received by Ecology no later than the specified due date. The Permittee must submit hardcopy paper documentation to the water quality permit manager at the address above.

**D. Records Retention**

1. The Permittee must retain all permit records and monitoring information for a minimum of five (5) years. The monitoring information must include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit.

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<sup>6</sup> <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>

2. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee, or when requested by Ecology.
3. The Permittee must make the records, reports, surveys, plans, public notices (including a list of locations or addresses to which they were delivered), and other information required by this permit available to Ecology upon request.

#### **E. Reporting Permit Violations**

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. Within 24 hours the Permittee must report any noncompliance they have become aware of that may endanger health or the environment by telephone to Ecology at the appropriate regional spills hotline, *and* the aquatic pesticides permit manager.
  - **Southwest Regional Office:** 1-360-407-6300  
(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties).
  - **Northwest Regional Office:** 1-425-649-7000  
(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties).
  - **Central Regional Office:** 1-509-575-2490  
(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties).
  - **Eastern Regional Office:** 1-509-329-3400  
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties).
  - Aquatic Invasive Species Management Permit Manager: 1-360-407-6600
3. The Permittee must also provide a written submission within **five days** of the time that the Permittee becomes aware of any noncompliance event that requires reporting as described in S7.E. See Special Condition [S7.C](#) for electronic reporting requirements. The written submission must contain:
  - A description of the noncompliance and its cause.
  - The period of noncompliance, including exact dates and times.
  - The estimated time noncompliance is expected to continue if it has not been corrected.
  - Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

- Updates that will be included in the Permittee’s Management Plan (Appendix B) to address the issue and prevent future noncompliance.
4. Ecology may waive the written report required above, on a case-by-case basis upon written request if it has received a timely oral report.
    - Compliance with the requirements of this section does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

## **S8. Aquatic Invasive Species Control**

The Special Conditions in this section apply to Aquatic Invasive Species Control permitted activities. See other sections for [Fisheries Resource Management](#) (Condition [S9](#)) and [Invasive Insect Control](#) permitted activities (Condition [S10](#)).

### **A. Chemicals and Products Authorized For Aquatic Invasive Species Control**

1. Ecology identifies specific restrictions on the use of each chemical or product in Tables 2 and 3. Not all chemicals or products can be used in both marine and freshwaters. See Condition S4 for general restrictions.
2. Ecology allows application of the following listed chemicals or products for aquatic invasive species control so long as the Permittee makes the application in compliance with all the terms and conditions of this permit.
3. Marine and Freshwater Applications:
  - Sodium chloride
  - Potassium chloride
  - Chlorine compounds including chlorine dioxide, sodium chlorite, sodium hypochlorite, and calcium hypochlorite
  - Acetic acid
  - Calcium hydroxide/oxide (lime) and carbon dioxide
  - Heating/cooling (temperature alteration)
4. Freshwater Applications Only:
  - Rotenone
  - Potassium permanganate (KMnO<sub>4</sub>)
  - Endothall (e.g., Hydrothol 191™): mono(N,N-dimethylalkylamine) salt of 7-oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
  - Sodium carbonate peroxyhydrate
  - Methoprene

- Chelated copper compounds
- Pseudomonas fluorescens strain CL 145A

## **B. Planning Requirements**

1. For Aquatic Invasive Species Control activities, the Permittee must develop or **adopt** an Ecology-approved adaptive management plan (plan) that incorporates integrated pest management principles for **organisms** managed under this permit, as required by Chapter 17.15.020 RCW. Plans may be written to cover specific species such as the marine alga *Caulerpa taxifolia* or categories of organisms such as non-native invasive marine tunicates. Two or more Permittees may collaborate to develop a single plan that covers the activities of more than one Permittee or their contractors. Each Permittee must submit a copy of the plan electronically as described in [S7.C](#). See [Appendix B](#) for management plan requirements.
2. The Permittee must submit a copy of the plan(s) to Ecology no later than six months after starting initial treatment for each organism or category of organisms. Permittees must notify Ecology in writing prior to starting the first treatment for each organism or category of organisms.
3. The Permittee must consult with Ecology before finalizing the plan, consider and incorporate Ecology comments to the plan, and resubmit the plan according to the direction of Ecology no later than six months after written notification of a need for revision from Ecology. The Permittee and any contractors must implement the approved plan in all appropriate aquatic pest control activities.
4. If any discrete treatment will exceed the Water Quality Standards criteria for longer than **hours or days**, then the plan covering the management activity must also comply with the AKART requirements described in [S3.A](#).

## **C. Reporting and Recordkeeping Requirements**

The Permittee must submit reporting and chemical application information for the Aquatic Invasive Species Control activities as required in Special Condition [S7](#). The Permittee must submit its annual treatment report and annual monitoring report by **February 1** of each year. The Permittee must submit an annual report whether or not treatment occurred in the previous year. See Special Condition [S7.C](#) for electronic reporting requirements. The falsification of information submitted to Ecology constitutes a violation of the terms and conditions of this permit.

## **S9. Fisheries Resource Management**

The Special Conditions in this section apply to [Fisheries Resource Management](#) permitted activities. See other sections for Aquatic Invasive Species Control (Condition S8) and [Invasive Insect Control](#) permitted activities (Condition S10).

## A. Discharge Limits

### 1. Compliance With Standards

Other than through the temporary exceedance of water quality criteria allowed under Special Condition [S3](#), application of liquid or powdered rotenone formulations, and potassium permanganate must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A), Ground Water Quality Standards (WAC 173-200), Sediment Management Standards (WAC 173-204) and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards.

### 2. Discharge Management Plan (DMP)

For Fisheries Resource Management activities, the Permittee must develop or adopt an Ecology-approved discharge management plan (plan) that incorporates integrated pest management principles for water bodies managed for sport fisheries and water bodies managed for native fish and/or habitat restoration under this permit, as required by Chapter 17.15.020 RCW. Required elements of the DMP are listed in [Appendix B](#).

The Permittee must submit the DMP to Ecology 30 days prior to the first discharge conducted under this permit. See Special Condition [S7.C](#) for electronic reporting requirements.

The Permittee must follow its DMP. Significant deviation from the DMP during **treatment** projects must be documented and submitted to Ecology along with the Permittee's annual report, with a statement that the DMP has been updated to account for the deviation in the future.

After the effective date of this permit, the Permittee must keep the DMP updated. The Permittee should update the DMP when significant project changes occur. The Permittee must keep an updated copy of the plan and make it available to Ecology or the public upon request (website posting is acceptable).

### 3. Impaired Water Bodies

The Permittee must not cause further impairment of any **303(d)-listed water body** as a result of the application of any piscicide. Permittees must get Ecology approval for piscicide treatments to water bodies on the 303(d) list for dissolved oxygen, phosphorous and/or nitrogen.

## B. Application of Pesticide Products

### 1. Authorized Discharges

- a. Piscicide products must be labeled for use as a fish toxicant in the State of Washington at the time of purchase and/or treatment.
- b. This permit allows the use of the active ingredient rotenone as a piscicide.
- c. Liquid rotenone should be used for treatments in areas where the application of powdered rotenone in slurry form is not practical by pumper boat equipped with outboard motor. Waters typically treated with liquid formulations of rotenone include flowing water (e.g., rivers, streams, creeks), areas inundated with emergent vegetation, thick submerged vegetation, shallow areas, and areas where boats cannot be transported or launched. WDFW should treat open water areas that are accessible by boat with powdered rotenone that is mixed with water and applied as slurry, as described in Special Condition S9.D.
- d. This permit authorizes the use of potassium permanganate to deactivate rotenone-treated waters when necessary to prevent damage to **non-targeted organisms** and to maintain water quality outside of the treatment area and **deactivation zone**. Other uses of potassium permanganate are not authorized.
- e. Use of potassium permanganate to deactivate rotenone-treated waters is required for the following situations.
  - i. When a treated lake has an outlet to an untreated waterbody, the outflow water must be deactivated, unless a) where non-treated waters within the Treatment Area can serve to dilute treated water to a calculated concentration of <2 ppb rotenone, or b) where the treatment area ends in a location where the stream goes dry.
  - ii. When treating rivers and streams, the water downstream of the intended treatment area must be deactivated, unless a) where non-treated waters within the Treatment Area can serve to dilute treated water to a calculated concentration of <2 ppb rotenone, or b) where the treatment area ends in a location where the stream goes dry.

Treatments with rotenone formulations may be applied by pumper boat, airboat, helicopter, canoe, truck, ATV, backpack sprayer, **drip can, gelatin/sand mixture**, or other methods consistent with the [2018 AFS Rotenone SOP Manual](https://apps.ecology.wa.gov/publications/documents/2210026.pdf)<sup>7</sup>.

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<sup>7</sup> <https://apps.ecology.wa.gov/publications/documents/2210026.pdf>

## **2. General Application Restrictions**

Except for emergencies, the Permittee must make every effort to avoid pesticide applications that restrict public water use during weekends, the opening week of fishing season or during tribal fisheries, Memorial Day weekend, Independence Day weekend, and Labor Day weekend and must minimize treatments that restrict public water use during weekends. (173-201A-410(4)(c) WAC

## **C. Annual SEPA Process**

All waters proposed for rotenone treatment must be included in an **addendum** to the WDFW Final Supplemental Environmental Impact Statement (FSEIS). The FSEIS is subject to a public comment period. WDFW must complete an annual State Environmental Policy Act (SEPA) process prior to conducting surface water treatment activities.

## **D. Best Management Practices**

The Permittee must follow the best management practices defined below for piscicide application.

### **1. The Permittee must comply with the Product Label.**

- a. When application requirements specified in this permit differ from those on the Product Label, the Permittee must comply with the more restrictive of the two requirements.
- b. The Permittee is responsible for ensuring that it follows applicable federal, state and local laws and ordinances.

### **2. The Permittee must apply powdered rotenone formulations using the best available and practical technology.**

The Permittee must use the best available and practical rotenone application technology that minimizes airborne dust, such as the method outlined in the [2018 AFS Rotenone SOP Manual](#)<sup>6</sup> 9.1 "Semi-Closed Aspirator Systems for Application of Powdered Rotenone" (pp 107-109).

### **3. The Permittee must prevent a discharge to downstream waters that results in an exceedance of water quality criteria by:**

- a. Installing adequate temporary water control measures.
- b. Conducting pre-treatment water quality and biological monitoring, as specified in the permit monitoring section (Special Condition 9.F).
- c. Effectively deactivating treated waters using potassium permanganate so that water quality criteria are not exceeded outside of the deactivation zone.

- d. Ensuring that rotenone is totally deactivated, and a residual potassium permanganate concentration of  $\leq 1$  mg/L (ppm) is maintained at the end of the deactivation zone.
- e. During deactivation, use dispensing equipment with a metering device to manually adjust potassium permanganate concentration as conditions change (e.g., stream discharge rates, rotenone concentration, biological demand, etc.). The Permittee must closely monitor potassium permanganate concentrations using methods provided in the [2018 AFS Rotenone SOP Manual](#)<sup>6</sup> to keep residual permanganate at a concentration that effectively deactivates rotenone while minimizing damage to aquatic life downstream of the treatment area and deactivation zone.

#### **E. Providing Replacement Water**

For treatments using rotenone:

1. For potable surface water rights: provide an alternative potable water supply for human consumption from the time of rotenone application until the treated water body is shown to be below 40 ug/L (ppb) rotenone (Special Condition [S9.F.4](#)).
  - a. For treatments using liquid rotenone formulations that contain volatile organic compounds (VOCs), as identified by the product Safety Data Sheet (SDS): provide an alternative potable water supply for human consumption from the time of rotenone application until the treated water body is tested and attains pre-treatment levels for VOCs or VOC concentrations are below the appropriate MCL (Special Condition [S9.F.4](#)).
2. For irrigation and livestock watering rights: Provide an alternative water supply for irrigation and livestock use from the time of rotenone application until the treated water body is shown to meet the standards applicable to crop irrigation and livestock watering required by the Product Label (Special Condition [S9.F.4.d](#)).

#### **F. Monitoring**

The following monitoring requirements apply only to rotenone treatments. See [S6](#) for general monitoring requirements, and [S4.D](#) for authorized chemicals other than rotenone.

The Permittee must conduct monitoring on each contiguous site (this includes but is not limited to lakes, chains of lakes, reservoirs, rivers, streams or ponds) treated with piscicides to determine the extent and duration of the treatment. The Permittee must:

- Use the actual rotenone concentration, as provided by the vendor for each batch, to ensure accuracy in application rates.
- Conduct monitoring as specified below, and in Special Condition [S6](#).

## **1. Monitoring a Chain of Lakes**

When monitoring a chain of lakes, each individual water body need not be monitored. The Permittee must include the lake chain monitoring design in the Pre-Treatment Plan (S9.G.1.b) submitted to Ecology each year. Results from lake chain monitoring must be included in the annual Monitoring Plan (S6.D.) due to Ecology on February 1 of the following year. Monitoring on a chain of lakes does not reduce the Permittees responsibility to complete required monitoring for water bodies with surface potable, irrigation, and/or livestock water rights (Special Condition [S9.F.4](#)).

## 2. Rotenone Monitoring Schedule for Still Water

**Table 5: Rotenone – PRE-TREATMENT MONITORING**

Monitoring to occur within 48 hours prior to Rotenone treatment.

Parameters	Units	Minimum Sampling Frequency	Type	Sampling Point
pH	Standard	Once pre-treatment	Measured	Representative
Temperature	°C or °F	Once pre-treatment	Measured	Representative
Alkalinity	mg/LCaCO3	Once pre-treatment	Grab	Representative
Organic demand <sup>1</sup>	Standard <sup>2</sup>	Once pre-treatment <sup>1</sup>	Grab	Representative
Dissolved Oxygen	mg/L	Once pre-treatment	Measured	Representative

<sup>1</sup> Monitoring organic demand is only required when potassium permanganate is used for deactivation.

<sup>2</sup> WDFW must use appropriate analytical techniques to determine organic demand in still waters.

**Table 6: Rotenone – POST-TREATMENT MONITORING**

Monitoring to occur immediately after treatment event but must not exceed 24 hours post-treatment event unless specified otherwise in the table.

Parameters	Units	Minimum Sampling Frequency	Type	Sampling Point
pH	Standard	Once post-treatment	Measured	Representative
Temperature	°C or °F	Once post-treatment	Measured	Representative
Dissolved Oxygen	mg/L	Once post-treatment	Measured	Representative
Trout Toxicity Bioassay: 48-hr live box test (5 trout); 100% trout survival <sup>1</sup>	% trout survival	7 days, and weekly after treatment until 100% trout survival	Observation (No lab accreditation required)	<b><i>Worst-case scenario</i></b>

<sup>1</sup> WDFW may use the analytical method given in the [2018 AFS Rotenone SOP Manual](#)<sup>6</sup> (Finlayson et al. 2018) in place of the trout toxicity bioassay. WDFW, when using this analytical method, must demonstrate that rotenone concentrations are at or below 3.75 µg/L.

**Table 7: Rotenone – Monitoring of Downstream and Deactivated Waters**

Pre-treatment sampling to occur within 48 hours prior to treatment event unless specifically stated. Post-treatment monitoring to occur immediately after treatment but not to exceed 24 hours after the treatment event unless specified otherwise in the table.

Parameters	Units	Minimum Sampling Frequency	Type	Sampling Point
pH	Standard	Twice: once pre-treatment and once post-treatment	Measured	Representative
Temperature	°C or °F	Twice: once pre-treatment and once post-treatment	Measured	Representative
Dissolved Oxygen	mg/L	Twice: once pre-treatment and once post-treatment	Measured	Representative
Alkalinity	mg/L CaCO <sub>3</sub>	Once pre-treatment	Grab	Representative
Organic demand <sup>1</sup>	Standard <sup>2</sup>	Once pre-treatment <sup>1</sup>	Grab	Worst-case scenario
Potassium Permanganate <sup>3</sup>	mg/L	Hourly during the period of deactivation	Grab	Downstream of Deactivation Zone
Trout Toxicity Bioassay: 24-hr live box test (5 trout) 100% trout survival	% trout survival	Every 2-4 hours until 100% of trout survive	Observation (No lab accreditation required)	Upstream and Downstream of Deactivation Zone

<sup>1</sup> Only required when potassium permanganate is used to deactivate the treatment.

<sup>2</sup> Must use appropriate analytical techniques to determine organic demand.

<sup>3</sup> Must measure KmnO<sub>4</sub> in waters downstream of the deactivation zone using either a spectrophotometer or a colorimeter.

\* Finlayson, B., D. Skaar, J. Anderson, J. Carter, D. Duffield, M. Flammang, C. Jackson, J. Overlock, J. Steinkjer, and R. Wilson. 2018. Planning and standard operating procedures for the use of rotenone in fish management—rotenone SOP manual, 2nd edition. American Fisheries Society, Bethesda, Maryland

### 3. Rotenone Monitoring Schedule for Treated Flowing Water

**Table 8: Rotenone – Pre-Treatment Monitoring of Treated Water**

Pre-treatment sampling to occur within 48 hours prior to treatment event unless specified otherwise in the table.

Parameters	Units	Minimum Sampling Frequency	Type	Sampling Point
pH	Standard	Once pre-treatment	Measured	Representative
Temperature	°C or °F	Once pre-treatment	Measured	Representative
Dissolved Oxygen	mg/L	Once pre-treatment	Measured	Representative
Alkalinity	mg/L CaCO <sub>3</sub>	Once pre-treatment	Grab	Representative
Organic demand <sup>1,2</sup>	Standard <sup>2</sup>	Once pre-treatment <sup>1</sup>	Grab	Representative

<sup>1</sup> Monitor only when potassium permanganate is used to deactivate the treatment.

<sup>2</sup> Must use appropriate analytical techniques to determine organic demand.

**Table 9: Rotenone – Post Treatment Monitoring of Treated and Deactivated Waters**

Post-treatment monitoring to occur immediately after treatment but not to exceed 24 hours post- treatment event unless specified otherwise in the table.

Parameters	Units	Minimum Sampling Frequency	Type	Sampling Point
pH	Standard	Once post-treatment	Measured	Representative
Temperature	°C or °F	Once post-treatment	Measured	Representative
Dissolved Oxygen	mg/L	Once post-treatment	Measured	Representative
Potassium Permanganate <sup>1</sup>	mg/L	Hourly during the period of deactivation	Grab	Downstream of Deactivation Zone
Trout Toxicity Bioassay: 24-hr live box test (5 trout) 100% trout survival	% trout survival	Every 2-4 hours until 100% of trout survive	Observation (No lab accreditation required)	Upstream and Downstream of Deactivation Zone

<sup>1</sup> Must measure KmnO<sub>4</sub> in waters downstream of the deactivation zone using either a spectrophotometer or a colorimeter.

\* Finlayson, B., D. Skaar, J. Anderson, J. Carter, D. Duffield, M. Flammang, C. Jackson, J. Overlock, J. Steinkjer, and R. Wilson. 2018. Planning and standard operating procedures for the use of rotenone in fish management— rotenone SOP manual, 2nd edition. American Fisheries Society, Bethesda, Maryland Rotenone Monitoring For Water Bodies with Potable Water Users or With Surface Water Rights

#### 4. Rotenone Monitoring For Water Bodies with Potable Water Users or With Surface Water Rights

When the chemical or product's label has a restriction and/or precautions for potable or domestic water use, irrigation use, or livestock watering the following monitoring must be completed prior to the Permittee notifying people who withdraw surface water that they may resume withdrawal. For more information on providing replacement water, see condition [S9.E](#).

For rotenone treatments in areas with potable water rights:

- Permittees must test the treated water body until it is shown to be below the EPA estimated drinking water level of concern of 40 ppb for rotenone. Permittees must use one of the methods given in the [2018 AFS Rotenone SOP Manual](#)<sup>6</sup>. If WDFW uses the 24-hour fish bioassay method, they must also use an analytical chemistry test to demonstrate rotenone concentrations are below 40 ppb before declaring that the water is safe to drink.
- The Permittee must test either three locations or test a number of locations equivalent to 20% of the potable water intakes on the water body, whichever is greater. Testing must occur in locations that are representative of the potable water intakes located on the water body.
- For treatments using liquid rotenone formulations that contain **volatile organic compounds** (VOCs) permittees must conduct pre-treatment VOC testing to determine what concentration of VOCs are present in the water body prior to treatment (background concentrations of VOCs). Permittees are responsible for ensuring VOCs discharged to the water body from treatments have dissipated and are lower than or equal to background concentrations before surface water withdrawal can resume. The permittee shall complete this assessment using the VOC concentrations set forth in [WAC 246-290-310](#)<sup>8</sup>:(7), [40 C.F.R. 141.61\(c\)](#)<sup>9</sup> or an alternate analytical method approved by Ecology through a modification of permit coverage per Special Condition S2.D.
- For irrigation and livestock watering rights: Permittees must demonstrate that the treated water body meets the standards applicable to crop irrigation and livestock watering required by the Product Label for the rotenone product used.

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<sup>8</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=246-290-310>

<sup>9</sup> <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-141/subpart-G/section-141.61>

## **G. REPORTING AND RECORDKEEPING REQUIREMENTS**

See Condition [S7](#) for general reporting and record keeping requirements. The falsification of information submitted to Ecology constitutes a violation of the terms and conditions of this permit. The Permittee must submit reporting and chemical application information for Fisheries Resource Management activities in accordance with the following conditions.

### **1. Report Submittal**

- a. The Permittee must submit the Post-Treatment Discharge Monitoring Report to Ecology no later than **February 1** of the year following treatment. The Permittee must submit the Post-Treatment Discharge Monitoring Report whether or not treatment occurred in the previous year. See Special Condition [S7.C](#) for electronic reporting requirements.
- b. The Permittee must submit the Pre-treatment Plan to Ecology no later than **April 1** of each year prior to treatment. The Pre-treatment Plan must contain the following information for each surface water proposed for treatment:
  - i. Name of surface waterbody. If the treatment area is a chain of lakes, indicate which lakes will not be monitored;
  - ii. County;
  - iii. Section, township, range and the decimal latitude and longitude of the approximate center of the lake for still water;
  - iv. Section(s), township, range of the watershed and the decimal latitude and longitude of the furthest upstream and downstream points of the treatment area and deactivation zone for flowing water;
  - v. If the water body to be treated is a still water, a surface water description: surface acreage, number of acre-feet, and estimated average depth;
  - vi. If the water body to be treated is flowing water, a stream description:, length, discharge of stream/outlet (cubic feet per second);
  - vii. Description of any surface water withdrawal for potable, irrigation or livestock watering uses;
  - viii. Identify any analytical methods to be used in the monitoring for the proposed treatments.
- c. If not included in the amendment to the Final Supplemental Environmental Impact Statement for the lakes/streams treated during the reporting period, the following information must be provided in the Pre-treatment Plan:
  - i. Purpose of treatment;
  - ii. Description of fish species to be eradicated and how the action threshold defined in the DMP was met;

- iii. Description of the intended outcome and measures of success;
  - iv. Description of resource impacts;
  - v. Mitigation for adverse impacts;
  - vi. Description of recreational impacts;
  - vii. Description of economic impacts;
  - viii. Related management actions; such as fish stocking and methods to control re-introduction of undesirable fish species.
- d. Post-Treatment Discharge Monitoring Reports must contain the following information:
- i. Name of surface water;
  - ii. County;
  - iii. Section, Township and Range and the decimal latitude and longitude of the approximate center of the lake;
  - iv. Date(s) treatment occurred;
  - v. Purpose of treatment;
  - vi. Name of licensed applicator(s);
  - vii. Surface water description: Surface acreage, number of acre-feet, and average depth;
  - viii. Stream description: , length, discharge of stream/outlet (cubic feet per second);
  - ix. Name of fish toxicant product used;
  - x. Quantity of fish toxicant active ingredient applied (pounds);
  - xi. Concentration of active ingredient in formulated product (percentage (%));
  - xii. Maximum concentration of the active ingredient in the water (ppb);
  - xiii. Description of treatment method(s);
  - xiv. Water conditions/quality (pH, temperature, dissolved oxygen – and any other additional data collected);
  - xv. Deactivation of piscicide treated water (if required): Description of deactivation methods/equipment; potassium permanganate application rate (pounds per hour); flow rate of stream/outlet (cu. Ft. per sec.); measurement of average concentration downstream of the deactivation zone;
  - xvi. Description of lake inlet(s)/outlet(s) and any temporary water control measures (if required);
  - xvii. Period of toxicity (duration of water quality reduction);
  - xviii. Eradicated fish species;

- xix. Results of pre- and post-treatment monitoring;
- xx. Summary of impact on non-targeted organisms;
- xxi. A copy of the amendment to the Final Supplemental Environmental Impact Statement for the lakes/streams treated during the reporting period including all **State Environmental Policy Act (SEPA)** comments, results and decisions.

e. Additional Monitoring by the Permittee

If the Permittee monitors any parameter not specified by this permit or monitors a parameter more frequently than required by this permit using test procedures specified in Special Condition [S6](#), it must include the results of this monitoring in the calculation and reporting of the data submitted in its Post Treatment Discharge Monitoring Report.

## **S10. Invasive Insect Control**

The Special Conditions in this section apply to [Invasive Insect Control](#) permitted activities See other sections for Aquatic Invasive Species Control (Condition S8) and [Fisheries Resource Management](#) permitted activities. (Condition S9).

This section of the permit covers only invasive insect control and eradication activities that may result in the indirect discharge of pesticides and/or adjuvants to surface waters of the state of Washington. Insects species as identified in Washington Administrative Code (WAC) Chapter 16-470 WAC: Quarantine-Agricultural Pests, or otherwise identified as described in [S10.B.3](#).

Permittees must use control measures that follow the Best Management Practices provided in S10.A.7 to minimize impacts to non-target organisms to the extent possible without compromising control objectives.

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit.

### **A. Discharge Limits**

See Special Condition S3 for details on the following requirements:

- Compliance with Standards [S3.A](#)
- Temporary Exceedance of Water Quality Standards [S3.B](#)
- Impaired Water Bodies [S3.C](#)
- Pesticide Applicator Requirements [S3.D](#)
- Rare, Threatened and Endangered Animals [S3.E](#)

## 1. Integrated Pest Management (IPM) Plan

For Invasive Insect Control activities that may result in the indirect discharge of pesticides and/or adjuvants to surface waters of the state of Washington, the Permittee must develop or adopt an Ecology-approved plan that incorporates the *integrated pest management* based strategy that it follows for detection and response to invasive insects, as required by Chapter 17.15.020 RCW. Required elements of the IPM plan are listed in [Appendix B](#).

The Permittee must submit the IPM plan to Ecology 30 days prior to the first discharge conducted under this permit. See Special Condition [S7.C](#) for electronic reporting requirements.

The Permittee must follow its IPM plan. Significant deviation from the IPM plan during treatment projects must be documented and submitted to Ecology along with the Permittee's annual report, with a statement that the IPM plan has been updated to account for the deviation in the future.

After the effective date of this permit, the Permittee must keep the IPM plan updated. The Permittee must update the IPM plan when significant project changes occur. The Permittee must keep an updated copy of the plan and make it available to Ecology or the public upon request (website posting is acceptable).

## 2. Best Management Practices

The applicator shall comply with all Product Label instructions. When application conditions in this permit issued by Ecology differ from those on Product Labels, the more stringent of the two requirements must be complied with. However, no condition in this permit or any amended Order shall reduce the requirements on the pesticide label. All applicable federal, state, and local laws and ordinances shall be followed. All applications to waters within forested areas of the state of Washington shall be made in accordance with provisions in RCW 76.09.060(8), as amended.

Treatment Requirements:

- a. Mixing and application of insecticides will be done only by an appropriately licensed applicator and will be done only under the supervision of a WSDA treatment site monitor. Have spill control kits on site and readily available during all applications.
- b. Follow label instructions for repeat applications and re-treatment timing. If a shorter treatment interval is desired, a Special Local Needs label may be required. If the product label does not specify a re-treatment interval, consult with WSU Extension personnel or other experts to determine an appropriate interval. If no appropriate interval can be determined, wait at least three days prior to re-treating a previously treated area.

- c. Apply the insecticide according to label directions and commence the project at the appropriate life development stage.
- d. WSDA will consult with WA State Department of Fish and Wildlife and WA State Department of Natural Resources with regard to threatened, endangered, and candidate species on a site-specific basis. When such species are found within a proposed treatment area, WSDA will further consult with responsible agencies.
- e. Avoid application over surface waters not associated with vegetation. Limit hydraulic apparatus pressures to that necessary to obtain thorough coverage to the tops of the tallest trees within the treatment area.
- f. Applicators must follow the most restrictive instructions for the application when the pesticide label specifies wind speed, buffer zone, drift management, or other applicable requirements or restrictions. Periodically monitor and record wind speed during the application of insecticide. Use a wind meter capable of detecting winds in excess of ten miles an hour.
- g. Notify residents in the affected eradication area about the proposed treatments and given them the opportunity to be placed on a notification list. Include recommendations concerning health and welfare issues in public outreach efforts.
- h. Unless necessary, the applicator shall not cause recreational water use restrictions (i.e., restrictions on swimming or fish consumption) to occur during Memorial Day weekend, July 4 holiday, or Labor Day weekend. See also S10.B.4 below.

## **B. Application of Pesticide Products**

### **1. Authorized Discharges**

Beginning on the effective date of this permit and until Ecology modifies, reissues, or revokes this permit; this permit authorizes indirect discharge of the **pesticide products** with the **active ingredients** and **adjuvants** listed in this section into surface waters of the State.

Active Ingredients:

- Spongy moth pheromone: (+) and (-) Disparlure enantiomers (cis-7,8-epoxy-2-methyloctadecane)
- Bacillus thuringiensis var. kurstaki (Btk)
- Chlorantraniliprole: 3-Bromo-N-[4-chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide

- Cyfluthrin: cyano(4-fluoro-3-phenoxyphenyl)methyl 3(2,2dichloroethenyl)-2, 2-dimethylcyclopropane-carboxylate
- Leafroller/fruitworm pheromone: E-11-Tetradecen-1-ol Acetate
- European grape vine moth pheromone: (E,Z)-7,9-Dodecadien-1-yl acetate
- Gypchek spongy moth virus
- Imidacloprid: 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine
- Japanese beetle nematode

Adjuvants:

- Contact WSDA Registration Services to ensure any adjuvants intended for use are registered in Washington and approved for aquatic sites.

## 2. Prohibited Discharges

This permit does not authorize discharge of pesticides listed in Condition S10.B.1 directly into surface water. Ecology covers *in-water treatment* of invasive animal species under Condition [S8](#) of this permit.

## 3. Invasive Insect Emergencies

Where pest monitoring by the Permittee or its affiliates determines the presence of a newly introduced invasive insect before it has become established within the state or WSDA or the governor declares an *emergency* for the invasive insect or WSDA determines that an imminent danger of an infestation exists as defined by [Chapter 17.24.171 RCW](#)<sup>10</sup> and none of the products available under this permit are effective for eradicating the invasive insect population, the Permittee may apply products not listed in Condition S10.B.1 in order to eradicate the invasive species.

To request the use of products not included under this permit the Permittee must:

- Determine the products necessary for eradication of the invasive insect.
- Make a SEPA determination for the use of the product through adoption or development of an appropriate SEPA checklist, Environmental Impact Statement, or other document that reviews environmental risks.
- Send the SEPA determination and a letter, which includes a brief description of the invasive insect and the reason why products available under the permit will not work to eradicate it, to Ecology's Aquatic Pesticide Permit Manager requesting the use of active ingredients or product(s) not already authorized under this permit.

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<sup>10</sup> <https://app.leg.wa.gov/rcw/default.aspx?cite=17.24.171>

Ecology, after consultation with WSDA Pest Program staff, will make a determination for the use of the product under this permit, and will respond to the Permittee's request in writing.

All permit requirements apply to products requested for use under this permit section.

#### **4. General Application Restrictions**

When a treatment occurs in an urban or residential area the Permittee must not apply pesticides that would cause use restrictions on weekends, Memorial Day, the 4th of July, and Labor Day without prior consent by the property owner(s) or manager(s) unless application on these dates must occur due to operational conditions or is done under a declared emergency.

#### **C. Annual SEPA Process**

WSDA must complete an annual State Environmental Policy Act (SEPA) process prior to conducting surface water treatment activities.

#### **D. Notification and Posting Requirements**

##### **1. Public Notification**

The general notification and signage posting requirements for all activities under this permit are described in Condition [S5](#). The specific requirements below apply to insect control projects only.

The Permittee must issue a media release announcing invasive insect treatment season(s) and planned activities. Continuing throughout the treatment season, the Permittee must post on its website changes or additions to the information included in the media release.

##### **2. Posting**

When the Permittee will be treating an area that is **publicly accessible** it must post signs prior to treatment, but no more than one week before treatment. See Condition [S5.B](#) for general posting requirements. Signs must:

- Use the sign templates provided on the permit web page.
- Be a minimum of 8.5 x 11 inches.
- Be posted so they are secure from the normal effects of weather but cause minimal damage to private or public property.
- Be posted in English and the language, if other than English, commonly spoken by the community that uses the area.
- Be removed at the end of the treatment season.

Permittees must post signs at treatment area boundaries and locations as follows. The Permittee need not post signs along the boundary of the treatment area unless it is reasonable to expect that the public uses the area.

- Treatment area boundaries: Signs must be placed within the approximate location of the boundary of the treated area, placed so that they are facing the public access, and there is a minimum of one sign every 100 feet.
- Water bodies: Where the treatment boundaries include a water body, signs must be placed so that they may be read from the water and land, and there is a minimum of one sign every 100 feet.
- Known or obvious **public access**: Signs must be posted at the entrance of the access point so that they are readily visible to users.
- Known publicly accessible areas: Signs must be placed so that they are facing the trail or other area and at a minimum of one sign every 100 feet.

Ecology does not require posting on private or public (e.g., government) properties that do not have legal public access areas so long as the Permittee has notified the property owner prior to treatment and if necessary, gotten their permission to enter.

#### **E. Monitoring Requirements**

The following monitoring requirements apply only to invasive insect control treatments. See [S6](#) for general monitoring requirements.

1. The Permittee must submit an annual monitoring plan to Ecology by **February 1** of each year, unless no changes have been made to the previous annual monitoring plan.
  - The annual monitoring plan must provide proposed monitoring locations and list the active ingredients proposed for monitoring. If the Permittee adds additional monitoring locations or active ingredients later in the treatment season, the Permittee must amend the plan to include the new information.
  - The Permittee must collect representative samples from still surface waters adjacent to treatment areas and have them analyzed for the active ingredients or products used during the treatment.
  - If monitoring shows little to no pesticide or residues entering the water adjacent to treated areas, Ecology may suspend further monitoring for pesticide treatments under this permit.
  - The Permittee must post the monitoring plan, any amendments to the plan, and the final annual monitoring data on its website.
2. Invasive Insect Emergency Monitoring

When an approved analytical method is available for the active ingredient being used under Condition S10.B.3 (invasive insect emergencies), and treatment will take place next to still waters, the Permittee must take samples and have them analyzed to quantify the amount of active ingredient in the water after treatment. This information must be submitted to Ecology as part of the Annual Treatment Report (Condition S10.F.2)

### 3. Analytical Requirements

- The Permittee must use either an EPA method or one of the methods specified in S10.E.3.b or S10.E.3.c below to fulfill the analytical requirements of this permit.
- The Permittee must ensure that a laboratory registered or accredited for the active ingredient(s) prepares all monitoring data submitted for the permit under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories.
- In the event that no laboratory is accredited to perform the analysis, the Permittee may use an unaccredited laboratory provided they follow standard industry practices for analysis, chain of custody, and quality assurance.

### F. Recordkeeping and Reporting Requirements

See Special Condition [S7](#) for general reporting and record keeping requirements, and [S7.C](#) for electronic reporting. The falsification of information submitted to Ecology constitutes a violation of the terms and conditions of this permit. The Permittee must submit reporting and chemical application information for Invasive Insect Control activities in accordance with the following conditions.

#### 1. Pre-Treatment Reports

- a. The Permittee must submit a report to Ecology at least **30 days** in advance of treatment. The report must contain:
  - i. Invasive insect(s) targeted for treatment.
  - ii. Planned treatment area map(s).
  - iii. EPA or state registration numbers of the products planned for use.
  - iv. Estimated dates of application.
- b. If an emergency is declared for an invasive insect (S10.B.3) the Permittee is not required to submit a pre-season treatment report for the invasive insect prior to treating.
- c. In addition to planned treatments (those included in the annual pre-treatment report), unplanned treatments must be reported to Ecology by the Permittee in the annual report required in special condition S10.F.2 of this permit.

## **2. Annual Reports**

The Permittee must submit an annual report to Ecology by **February 1** each year for any insect control activities conducted under this permit. The Permittee must submit an annual report whether or not treatment occurred in the previous year. The annual report must include:

- a. A list of the invasive insects treated for (if different from Pre-season Treatment Report).
- b. Treatment area maps (if actual treatment areas are different from Pre-season Treatment Report).
- c. Total amount of active ingredient(s) applied and total amount of each product used, including adjuvants.
- d. Actual dates of application.
- e. Results from annual monitoring (if applicable).
- f. Results from invasive insect emergency monitoring (if applicable).

## **S11. Spill Prevention and Control**

### **A. Spill Prevention**

The Permittee must:

1. Handle, store, and use all oil, fuel, chemicals, and products authorized under this permit in a manner that prevents spills.
2. Ensure that they maintain all mobile equipment to prevent leaks or spills of petroleum products.
3. Report significant spills into waters of the state, spills on land with a potential to enter into waters of the state, and other significant water quality impacts to the appropriate Ecology regional office as soon as possible after the spill takes place.
4. Implement the Spill Plan developed under Special Condition S11.B, below.

### **B. Spill Plan**

At least 30 days prior to the first treatment conducted under this permit, the Permittee must submit a Spill Prevention and Response Plan to Ecology, or when necessary, update an existing plan, that addresses all types of treatments to be done by the Permittee.

1. The plan must address the following:
  - Prevention, containment, and control of spills or unplanned discharges from the application, storage and transportation of the piscicide and potassium permanganate.

- Spills and drips of oils, gasoline and other petroleum products from application equipment including boats. Based on the severity of the spill, the plan must describe when to report certain magnitudes of spills along with a list of names and telephone numbers of spill respondent teams for both the Permittee and Ecology.

**C. Notification Requirements for Adverse Incidents or Chemical Spills**

Report spills immediately to the following appropriate state and federal contacts: National Response Center (Federal): 800-424-8802, and Emergency Management Division (State): 800-258-5990, and the appropriate Ecology regional office:

- Northwest Office, Shoreline: 206-594-0000
- Southwest Office, Olympia: 360-407-6300
- Central Office, Union Gap: 509-575-2490
- Eastern Office, Spokane: 509-329-3400

See [Ecology's Report a Spill webpage](#)<sup>11</sup> for guidance on environmental reporting.

**D. Spill Cleanup Requirements**

1. In the event of a spill, the Permittee must begin immediate containment and cleanup using appropriate materials. Spill cleanup takes precedence over normal work.
2. Cleanup includes proper disposal of any spilled material or used cleanup materials.

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<sup>11</sup> <https://ecology.wa.gov/Footer/Report-an-environmental-issue/Report-a-spill>

# General Conditions

## G1. Signatory Requirements

All applications, reports, or information submitted to Ecology must be signed and certified:

- A. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
  - 1. A *president*, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
  - 2. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- B. In the case of a partnership, by a general partner.
- C. In the case of sole proprietorship, by the proprietor.
- D. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.
- E. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - 1. The authorization is made in writing by the person described above and is submitted to Ecology at the time of authorization, and
  - 2. The authorization specifies either a named individual or any individual occupying a named position.

- F. Changes to authorization. If an authorization under paragraph E above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.
- G. Any person signing a document under this section must make the following certification:

“I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

## **G2. Right of Entry and Inspection**

Representatives of Ecology must have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state.

Reasonable times include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects a violation requiring immediate inspection.

Representatives of Ecology must be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample any discharge, waste treatment processes, or internal waste streams.

## **G3. Permit Actions**

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the Permittee) or upon Ecology’s initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating permit coverage during its term, or for denying a permit renewal application:
1. Violation of any permit term or condition.
  2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
  3. A material change in quantity or type of waste disposal.
  4. A determination that the permitted activity endangers human health or the environment or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination [40 CFR part 122.64(3)].
  5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit [40 CFR part 122.64(4)].
  6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
  7. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.
- B. The following are causes for modification but not revocation and reissuance except when the Permittee requests or agrees:
1. A material change in the condition of the waters of the state.
  2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
  3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
  4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions or requiring permit revision.
  5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR Part 122.62.
  6. Ecology has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
  7. Incorporation of an approved local pre-treatment program into a municipality's permit.

- C. The following are causes for modification or alternatively revocation and reissuance:
  - 1. Cause exists for termination for reasons listed in A1 through A7, of this section, and Ecology determines that modification or revocation and reissuance is appropriate.
  - 2. Ecology has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer but will not be revoked and reissued after the effective date of the transfer except upon the request of the new Permittee.

#### **G4. Reporting Planned Changes, Cause for Modification**

The Permittee must, as soon as possible, but no later than sixty (60) days prior to the proposed changes, give notice to Ecology of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

- A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).
- B. A significant change in the nature or an increase in quantity of pollutants discharged.
- C. A significant change in the Permittee's sludge use or disposal practices.

Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

#### **G5. Compliance with Other Laws and Statutes**

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

## **G6. Transfer of this Permit**

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the Permittee must notify the succeeding owner or controller of the existence of this permit by letter, a copy of which must be forwarded to Ecology. This permit is automatically transferred to a new owner or operator if:

- A. A Transfer of Coverage form, or other written agreement between the old and new owner or operator, containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to Ecology;
- B. A copy of the permit is provided to the new owner and;
- C. Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to Condition A. above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by Ecology.

## **G7. Duty to Provide Information**

The Permittee must submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

## **G8. Other Requirements of 40 CFR**

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

## **G9. Additional Monitoring**

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

## **G10. Payment of Fees**

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under WAC 173-224 are not paid.

## **G11. Penalties for Violating Permit Conditions**

Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof will be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs is a separate and additional violation. Any person who violates the terms and conditions of a waste discharge permit incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

## **G12. Upset**

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met. A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S7.E; and 4) the Permittee complied with any remedial measures required under S7.E of this permit. In any enforcement proceedings the Permittee seeking to establish the occurrence of an upset has the burden of proof.

## **G13. Property Rights**

This permit does not convey any property rights of any sort, or any exclusive privilege.

## **G14. Duty To Comply**

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

## **G15. Toxic Pollutants**

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

## **G16. Penalties For Tampering**

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit will, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment will be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

## **G17. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen (14) days following each schedule date.

## **G18. Reporting Anticipated Non-Compliance**

The Permittee shall give advance notice to Ecology by submission of a new application, or supplement to the existing application, at least 45 days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

## **G19. Duty To Reapply**

All Permittees covered by this general permit who wish to continue their permitted activities and discharges beyond the expiration date of this general permit must submit a new application for coverage under this general permit, or an application for an individual permit, at least one hundred and eighty (180) days prior to the expiration date of this general permit. When a Permittee has submitted a timely and sufficient application for the renewal of coverage under this general permit, the expiring general permit remains in effect and enforceable until Ecology:

- a. Denies the application;
- b. Issues a replacement permit; or
- c. Cancels the expired general permit.

Permittees who fail to submit a timely and sufficient application will not have permit coverage after the expiration date of the general permit.

## Appendix A - Definitions

All definitions listed below are for use in the context of this permit only.

**303(d)-listed water body:** A waterbody listed as impaired through its assignment to Category 5, 4A, 4B, or 4C in the current Washington State Water Quality Assessment. Section 303(d) of the federal CWA requires states to develop a list of polluted water bodies every two years. For each of those water bodies, the law requires states to develop Total Maximum Daily Loads (TMDLs). A TMDL is the amount of pollutant loading that can occur in a given water body (river, marine water, wetland, stream, or lake) and still meet water quality standards.

**Active ingredient:** means any ingredient which will prevent, destroy, repel, control, or mitigate pests, or which will act as a plant regulator, defoliant, desiccant, or spray adjuvant.

**Addendum:** See also the definition for the State Environmental Policy Act (SEPA). "Addendum" means an environmental document used to provide additional information or analysis that does not substantially change the analysis of significant impacts and alternatives in the existing environmental document. The term does not include supplemental EISs. An addendum may be used at any time during the SEPA process (WAC 197-11-706)." A SEPA addendum provides additional site-specific information about a project.

**Adjuvant:** An additive, such as a surfactant, that enhances the effectiveness of the primary chemical (active ingredient). These are regulated and registered as pesticides in Washington State under RCW15.58.030(31). Many pesticides registered under FIFRA specifically recommend or require the addition of spray adjuvants to attain efficacy.

**Adopt:** Permittees may choose to use an existing adaptive management plan for organisms treated under this permit as long as Ecology has approved and accepted the plan. For example, if WDFW has an Ecology-approved adaptive management plan for tunicate treatment, WDNR may choose to follow this plan rather than developing a new plan. The adopted plan must include the treatment proposed by WDNR.

**Adverse incident:** An unusual or unexpected incident in which:

1. There is evidence that a person or non-target organism has likely been exposed to a pesticide residue, and
2. The person or non-target organism suffered a toxic or adverse effect. Toxic or adverse effects include effects that occur within waters of the State on non-target plants, fish, or wildlife that are unusual or unexpected (e.g., effects are to organisms not otherwise described on the product label or otherwise expected to be present) because of exposure to a pesticide residue, and may include:

- a. Distressed or dead fish.
- b. Unexpected stunting, wilting, or desiccation of non-target submersed or emergent aquatic plants.
- c. Other dead or visibly distressed non-target aquatic organisms (amphibians, turtles, invertebrates, etc.).

The phrase, "toxic or adverse effects", also includes any adverse effects to humans (e.g., skin rashes) or domesticated animals that occur either from direct contact with, or as a secondary effect from a discharge (e.g., sickness from consumption of plants or animals containing pesticides) to waters of the State that are temporally and spatially related to exposure to a pesticide residue (e.g., vomiting, lethargy

**AKART:** An acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge.

**Algae:** Primitive, chiefly aquatic, one-celled or multicellular plant-like organisms that lack true stems, roots, and leaves but usually contain chlorophyll.

**Algaecide:** A pesticide that kills or reduces the growth of algae.

**Application schedule:** The proposed treatment date(s) for a specific water body during one treatment season.

**Applicator:** An individual licensed to apply aquatic pesticides by the Washington Department of Agriculture under Chapter 17.21 RCW and Chapter 16-228 WAC.

**Boat launches:** Publicly designated and/or privately owned community access launches for boats.

**Chain of lakes:** Lakes that are physically connected by a channel of surface water but have different names or are un-named.

**Constructed water body:** An artificial water body excavated in an area that is not part of a previously existing watercourse (such as a pond, stream, or wetland, etc.).

**Control:** Any type of pesticide treatment intended to remove non-native, introduced, or invasive organisms from a water body or area of a water body.

**Discharge:** The addition of any pollutant to a water of the state.

**Deactivation zone:** The downstream waters where potassium permanganate has been applied but has not yet fully deactivated the rotenone, due to the lag time normally associated with deactivation. The distance that water can be expected to travel in 30 minutes below the most downstream point of potassium permanganate application. Some treatments may require multiple deactivation stations (booster stations – see page 94 in 2018 AFS Rotenone SOP). Since the deactivation zone may contain toxic levels of rotenone and potassium permanganate, some fish mortalities may occur in this zone.

**Decision Maker:** The entity with control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to waters of the state.

**Drip Cans:** A container filled with diluted rotenone solution, equipped with a nozzle that meters out the solution to deliver a known amount of rotenone over a given time period.

**Emergencies:** A situation where an immediate response (i.e., same day response) is needed to prevent reproduction or the rapid spread of an invasive species (example: zebra mussels). Incidents where rapid and early intervention is crucial to a successful management effort constitute an emergency. Examples include, but are not limited to, an invasive species detection that seriously endangers or threatens the environment, economy, human health, or well-being of the state of Washington ([Chapter 77.135.090 RCW](#)<sup>12</sup>) or imminent danger of an infestation ([Chapter 17.24.171 RCW](#)<sup>13</sup>). Timing is critical in these situations.

**Emergent vegetation:** Plants that are rooted within sediment covered or saturated by water but whose upper parts (e.g., leaves) are above the surface of the water (e.g., sedges, rushes, and grasses). Emergent vegetation does not include submersed aquatic plants that have only flowering or reproductive structures above the water surface.

**Endangered Species:** Means, as defined in 16 USC 1532(6): Any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man.

**Experimental Use Permit:** Federal and state permits that allow the use of unregistered pesticides in the context of research and development for registration of the pesticide under FIFRA Section 3, or in the context of research and development for registration of a new use of a currently registered pesticide under FIFRA Section 3. See 40 CFR 172, 15.58.405 RCW, and WAC 16-228-1460.

**Flowing Water:** Rivers, streams, creeks and other water bodies where water is moving down an elevation gradient.

**Gelatin/sand mixtures:** Rotenone powder/gelatin/ sand mixture for treating sources of upwelling groundwater in springs, streams and lakes and other areas with limited water

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<sup>12</sup> <https://app.leg.wa.gov/rcw/default.aspx?cite=77.135.090>

<sup>13</sup> <https://app.leg.wa.gov/rcw/default.aspx?cite=17.24.171>

circulation (e.g., dense weed beds). See SOP 13.1 in the [2018 AFS Rotenone SOP Manual](#)<sup>6</sup>, (Finlayson et. al. 2018).

**Herbicide:** A pesticide designed to control or kill plants.

**Hours or days:** As related to the short-term modification section of Washington’s Water Quality Standards for Surface Waters of the State of Washington. Hours or days means up to 13.9 days (see also WAC 173-201A-410).

**Hydraulic connections to wells:** Wells with an open interval < 50 ft. deep and within 200 feet of a treated water body are assumed to have a hydraulic connection to surface water and groundwater under the influence (GWI), unless an investigation specifically shows they are not. The open interval is the distance between the top of the well casing and the perforated section. The horizontal distance in this assumption may need to be extended in highly porous soil such as fractured basalt. For more information see [DOH Pub 331-230](#)<sup>14</sup>.

**Indian Country:** Means as defined in 18 USC 1151: “Except as otherwise provided in sections 1154 and 1156 of this title, the term “Indian country”, as used in this chapter, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.”

**Indirect discharge:** The purposeful application of a pesticide or other product to an area where incidental overspray, drift, or dripping of the pesticide or product into waters of the State may occur but is not intentional.

**Insecticide:** A pesticide used to prevent, repel, control, or kill insects.

**Limiting:** Restricting - treating only what is necessary to remove an invasive species or restricting treatment to times when the public is least impacted (e.g., weekdays).

**Licensed applicator:** a Certified Applicator as defined in Chapter 17.21.020 RCW with the appropriate Washington State Department of Agriculture (WSDA) pesticide license, certification, and endorsement that has direct supervision responsibilities for the use of pesticides during application.

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<sup>14</sup> <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/331-230.pdf>

**Marker Dyes:** Colorants that are sprayed onto the targeted area along with the pesticide. Marker dyes allow better targeting of pesticide sprays since treated and untreated areas are more clearly seen by the applicator. Marker and tracer dyes are generally considered nontoxic, and make no pesticidal or pest control claims, therefore such dyes are not registered as pesticides by EPA or by WSDA.

**Molluscicides:** Pesticides used to kill mollusks (such as snails).

**NOI:** Notice of Intent (to apply for coverage). This is a term used to describe the completed application form.

**Non-governmental organizations:** Entities such as the Nature Conservancy that may have a role in managing non-native invasive species. Many non-governmental organizations are non-profit.

**Non-native invasive:** An organism outside of its natural or historical range of distribution that tends to spread and dominate new areas. Organisms considered to be non-native were not present in Washington prior to European settlement. Many non-native organisms are not invasive or problematic.

**Non-targeted organism:** Organisms other than that which the pesticide is intended to kill.

**Ordinary high-water mark:** The point that represents the maximum rise of a body of water over land. More information is available on Ecology's [web page](#)<sup>15</sup>.

**Organisms:** Any life form considered as an entity; an animal, plant, fungus, protistan, or moneran.

**Permittee:** Any state government entity that applies for and gains coverage under this permit and has control of, or causes a discharge under coverage of this permit.

**Pesticide:** "Pesticide" as defined in [RCW 15.58.030](#)<sup>16</sup> (31) means, but is not limited to: (a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, snail, slug, fungus, weed, and any other form of plant or animal life or virus, except virus on or in a living person or other animal which is normally considered to be a pest or which the director (of Agriculture) may declare to be a pest (RCW 17.21.020);(b) Any substance or mixture of substances intended to be used as a plant regulator, defoliant or desiccant; and(c) Any spray adjuvant.

**Piscicides:** Pesticides used to kill fish.

**Potentially invasive:** A non-native organism that has a possibility of spreading and dominating new areas, displacing native species.

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<sup>15</sup> <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-Management-Act-SMA/Shoreline-Management-Act-jurisdiction/Ordinary-high-water-mark>

<sup>16</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=15.58.030>

**Privately or publicly-owned shorelines:** Any shoreline area without public access, owned by either an individual or a public entity.

**Product label:** The label for pesticides, herbicides, algaecides, adjuvants and other products authorized for use under this permit. All pesticides must be registered by WSDA prior to use in Washington state.

**Public access:** Identified legal passage to any of the public waters of the state, assuring that members of the public have access to and use of public waters.

**Publicly accessible:** A location that all members of the community may use. There may be limited restrictions such as required passes or fees, or use may be limited to certain hours (e.g., daylight hours).

**Public Entrances:** Areas such as public parking lots where numerous people can access public pathways. Although the public may be able to access public pathways at multiple locations, the Permittee must post two feet by three feet signs only in the areas where many people routinely access the pathway.

**Public pathways:** Identified legal passage along the shoreline of a water body. Public pathways may include walkways along the shorelines of lakes or rivers.

**Public water system:** Is defined and referenced in [WAC 246-290-020](#)<sup>17</sup> (1)

**Recreational restriction:** A recreational restriction limits direct water contact (e.g., swimming, water skiing, wading, etc.) for a specified time period in the treated area or for the entire lake, depending on the chemical or product used.

**Representative:** Representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including spills, upsets, and maintenance-related conditions affecting water quality.

**Rotenone:** 2R,6aS,12aS)-1,2,6,6a,12,12a-hexahydro-2-isopropenyl-8,9-dimethoxychromeno[3,4-b]furo[2,3-h]chromen-6-one

**Safety data sheet (SDS):** Information sheet that contains details of the hazards associated with a chemical and gives information on its safe use.

**Seasonally dry land surfaces:** An area that may be wet or contain standing water in the rainy season but is dry during other times of the year. When dry, there must be no standing water present in the treatment area and the soils must not be saturated. Tidal lands do not meet the definition of seasonally dry land surfaces.

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<sup>17</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=246-290-020>

**Sensitive, threatened, or endangered species** – Washington State-Species of Concern:

**Sensitive:** Any taxon that is vulnerable or declining and could become endangered or threatened in the state without active management or removal of threats.

**Threatened:** Any taxon likely to become endangered in Washington within the foreseeable future if factors contributing to its population decline or habitat degradation or loss continue.

**Endangered:** Any taxon in danger of becoming extinct or extirpated from Washington within the foreseeable future if factors contributing to its decline continue. Populations of these taxa are at critically low levels, or their habitats have been degraded or depleted to a significant degree.

**Shoreline:** The area where water and land meet.

**State Environmental Policy Act (SEPA):** A state policy that requires state and local agencies to consider the likely environmental consequences of a proposal before approving or denying the proposal (See RCW 43.21C and WAC 197 -11).

**Still water:** A water body where the water is not moving down an elevation gradient.

**Submerged vegetation:** Submerged plants generally always remain under water, although many submersed species produce above-water flowers (e.g., pondweed, milfoil).

**Surface waters of the state of Washington:** Freshwaters (lakes, rivers, ponds, streams, inland waters), brackish waters, marine waters, estuarine waters, and all other above ground waters and water courses within the jurisdiction of the state of Washington.

**Take:** Per Section 3 of the Endangered Species Act means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

**Threatened Species:** Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**Tracer Dyes:** Liquid or powdered dyes, usually fluorescent, added to another liquid or water to analyze the flow. Marker and tracer dyes are generally considered nontoxic, and make no pesticidal or pest control claims, therefore such dyes are not registered as pesticides by EPA or by WSDA.

**Treatment:** The application of a pesticide product to waters of the state for the purpose of removing non-desirable fish, insect, or aquatic species.

**Treatment area:** The area where the chemical is applied, and the concentration of the chemical is adequate to cause the intended effect on targeted organisms.

**Trust or Restricted Lands:** Means as defined in 25 USC 2201(4): *“(i) “trust or restricted lands” means lands, title to which is held by the United States in trust for an Indian tribe or individual, or which is held by an Indian tribe or individual subject to a restriction by the United States against alienation; and (ii) “trust or restricted interest in land” or “trust or restricted interest in a parcel of land” means an interest in land, the title to which interest is held in trust by the United States for an Indian tribe or individual, or which is held by an Indian tribe or individual subject to a restriction by the United States against alienation.”*

**Upland farm pond:** Private farm ponds created from upland sites that did not incorporate natural water bodies (WAC 173-201A-260(3)(f)).

**Upset:** An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

**Volatile Organic Compound (VOC):** EPA defines any volatile compound of carbon as a VOC for regulatory purposes, unless it appears on a list of compounds that have been specifically exempted. EPA periodically exempts compounds. See 40 CFR 51.100 (s).

**Washington State government agencies:** Washington state government agencies such as Washington Departments of Fish and Wildlife, Natural Resources, Agriculture, etc. Does not include local governments.

**Wetland:** Any area inundated with water sometime during the growing season and identified as a wetland by a local, state, or federal agency.

**Worst-case scenario:** This refers to sampling points. Permittees must monitor at the point where, based on wind and application, the rotenone concentration should be the highest. This location is based upon the best professional judgment of the Permittee.

In the absence of other definitions set forth herein, the definition as set forth in 40 CFR Part 403.3 or in chapter 90.48 RCW shall be used for circumstances concerning discharges.

## **Appendix B - Management Plan Requirements**

Ecology believes that management plans which incorporate integrated pest management (IPM) principles meet AKART. Ecology based the requirement for management plans that incorporate IPM principles on:

- Integrated Pest Management Law (chapter 17.15 RCW)
- Water Quality Standards (173-201A-110 WAC)
- The draft Environmental Impact Statement for Aquatic Invasive Species
- Similar planning requirements in the Noxious Weed NPDES permit
- Proposed federal IPM requirements in aquatic pesticide NPDES permits. In the federal NPDES permit for aquatic pesticide application, EPA considers IPM to meet technology-based standards.

The following elements are minimum requirements for an Adaptive Management Plan (AMP) required in S8.B, Discharge Management Plan (DMP) required in S9.A.2, and the Integrated Pest Management (IPM) plan required in S10.A.4. The applicant must prepare a plan and submit it to Ecology 30 days prior to the first treatment conducted under this permit. The Permittee must revise the plan whenever there is a significant change in the quantity or type of chemicals discharged or if it adds additional management activities. Changes to the plan must be made prior to the discharge or as soon as possible thereafter. The Permittee must follow its approved plan.

For sections B., C., and D. the Permittee must provide information that addresses projects managed as recreational fisheries as well as projects managed for habitat and native fish restoration.

### **A. Management Plan Team**

The plan must identify the people (by name and contact information) that compose the team as well as each person's individual responsibilities, including the person(s) responsible for:

1. Managing the project.
2. Developing and revising the plan.
3. Developing, revising, and implementing corrective actions and other permit requirements.
4. Applying the product or pesticide (licensed applicators with license numbers and license expiration dates).

When changes to the plan team occur, the Permittee must provide updated contact information to Ecology.

## **B. Resource Management**

The plan must:

1. Discuss the problems, or potential problems, caused by the target species in Washington.
2. Include a general location map or maps that identify the geographic boundaries of the area to which the plan applies. For example: If management goals or options change by eco-region.
3. Establish action thresholds that trigger the need to control or remove the target species. Include the data (or list the sources of the data) used in developing the action thresholds and the methods to determine when the action threshold has been met.
4. Consider the timing of pesticide treatments, such as to avoid treatments of lakes that will freeze-over prior to the monitoring requirements being completed.

## **C. Management Options**

The plan must provide an evaluation of the following management options, including a combination of these management options, considering impacts to water quality, impacts to non-target organisms, feasibility of implementation, and cost effectiveness:

1. No action
2. Prevention
3. Alternate control methods, if applicable (mechanical or physical, cultural, biological)
4. Pesticides

## **D. Surveillance**

The plan must detail the surveillance procedures that the Permittee will use to determine when an action threshold is met and treatment efficacy.

## **E. Pesticide Use**

Identify standard operating procedures to be followed before, during and after pesticide application.

The plan must detail the surveillance procedures that the Permittee will use to determine:

1. When the action threshold is met.
2. Treatment efficacy.
3. Non-target impacts.

## **F. Response Procedures**

The plan must detail procedures that the Permittee will use to determine:

1. Compliance with labeled rates (equipment calibration and maintenance).
2. The procedures for preventing spills and leaks of chemicals or petroleum products (oil, gasoline, and hydraulic fluid) associated with the chemical application.

## **G. Signature Requirements**

The plan must include a signature statement and the signature of Permittee as required in Condition G1. Signatory Requirements.