FACT SHEET FOR THE DRAFT IRRIGATION SYSTEM AQUATIC WEED CONTROL GENERAL PERMIT

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM AND STATE WASTE DISCHARGE GENERAL PERMIT

REISSUANCE DATE: AUGUST 23, 2023

EFFECTIVE DATE: OCTOBER 2, 2023

Purpose of the Fact Sheet

This fact sheet is a companion document to the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for irrigation systems (irrigation system aquatic weed control general permit). It explains the nature of the proposed discharges, summarizes the history of the permit, documents the Washington State Department of Ecology's (Ecology) decisions for limiting the pollutants in the wastewater discharges, provides the regulatory and technical bases for those decisions, and fulfills the requirements of Washington Administrative Code (WAC) Section 173-226-060.

On January 18, 2023, Ecology prepared and made available a draft permit for irrigation system aquatic weed control and this accompanying fact sheet for public evaluation during a minimum 30-day review period (WAC 173-226-130). Copies of the draft general permit and this fact sheet were available at Ecology regional offices and via the Internet for public review and comment from January 18, 2023, through March 6, 2023. Details about how to prepare and submit comments are in Appendix B (Public Involvement Information).

Permit Summary

The Irrigation System Aquatic Weed Control General Permit (ISAWC) regulates the use of pesticides applied to manage aquatic plants in the surface waters of the state of Washington that are irrigation systems flowing to a point of compliance (as defined in Appendix A of the permit).

This version of the permit replaces the permit issued in 2012 which expired in 2017.

PROPOSED CHANGES

Aside from clarifications and typographical changes, the Irrigation System Aquatic Weed Control General Permit contains the following changes from the current permit (effective June 15, 2012, through June 15, 2017 and extended by administrative order as an expired permit):

1. Reorganized the permit to match current standards and styles for Ecology's other aquatic pesticide permits.
2. New application supporting documents.
    a. A new requirement for an acrolein application plan to track use patterns.
    b. An education and outreach plan.
3. Permittees may avoid holding treated water for twice the time of travel past a closed side channel if they use a dye marker to track the flow of treated water in a canal.
4. Permittees must include Ecology-approved pictograms on warning signs.
5. Permittees may use WSDA approved adjuvants listed in the permit.
6. New treatment timing window guidance and map tool, including a new process for applying for a modified timing window.
7. New process for maintaining a reduced monitoring plan.
8. Permittees must make approximate treatment dates publicly available by email, web page announcement, or newspaper notice no later than 5:00 p.m. one day before the planned treatment.
9. Permittees are now able to notify Ecology of upcoming treatments up to 3:00 p.m. one day before a planned treatment.
10. Changes to deadlines for pesticide application plans to avoid conflicts with the 2023 treatment season.

ADA ACCESSIBILITY

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[1] https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility

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PUBLIC PARTICIPATION

The procedures for the formulation of a final determination of permit issuance include:

Public Comment Period

Ecology invites public comment on the proposed draft permit until 11:59 p.m. on Monday, March 6, 2023. Ecology welcomes all comments that address the permit requirements in the formal draft ISAWC General Permit. For Ecology to adequately address comments, please include the following information with each comment:

1. The specific permit language used in the requirement subject to your comment. Include the page number(s) and, where indicated, section reference (i.e., S8.E.7.a).
2. A brief, concise comment including the basis for the comment, and in particular the administrative, legal, technical, or other basis for the concern.
3. Suggested permit language or a conceptual alternative to address your concern.

Submit oral comments by attending and testifying at the public hearings.

Send written comments to Ecology by either:

1. eComments[2] (preferred)
2. Mail

Washington State Department of Ecology
Water Quality Program
Attn: Danielle Edelman
PO Box 47696
Olympia, WA 98504-7696

[2] https://wq.ecology.commentinput.com/?id=4GdZb

Public Hearings and Workshops

Ecology will host two public workshops and hearings on the proposed changes in the draft permits. The workshops provide Ecology an opportunity to explain the proposed changes and to answer questions. Each workshop will be immediately followed by a public hearing. The public hearings will provide an opportunity for the public to give formal comments on the draft permits or fact sheet.

Tuesday, February 21, 2023 – 10:00 AM
Join the Webinar[3]*
Call-in Only: +1 (253) 205-0468
Meeting ID: 882 8312 9761

Wednesday, February 22, 2023 – 5:30 PM
Join the Webinar[4]*
Call-in Only: +1 (253) 205-0468
Meeting ID: 876 2835 0186

*The workshops and hearings offered via webinar allow individuals to view the presentation and provide testimony via computer or mobile device.

[3] https://waecy-wa-gov.zoom.us/j/88283129761#success
[4] https://waecy-wa-gov.zoom.us/j/87628350186#success

INTRODUCTION

This fact sheet is a companion document to the draft revised Irrigation System Aquatic Weed Control General Permit (permit) and provides the legal and technical basis for permit reissuance required in Washington Administrative Code (WAC) 173-226-060. Since 2001, and based on *Headwaters v. Talent Irrigation District*, subsequent court rulings, and EPA actions, the Washington State Department of Ecology (Ecology) has maintained that the discharge of pesticides to surface waters of the state requires coverage under a NPDES permit.

The current permit, which expired in June 2017, has covered discharges of herbicides, algaecides and marker dyes to surface waters of the state of Washington since 2012. Ecology proposes to issue an updated permit to continue to allow the use of these products for the purpose of controlling aquatic plants and algae in irrigation systems.

Ecology determined it was appropriate to issue a general permit for controlling plant and algae growth in irrigation systems because:

1. The characteristics of discharges from weed and algae control activities within an irrigation system are similar.
2. A standard set of permit requirements can effectively provide environmental protection.
3. Dischargers in compliance with permit conditions will be in compliance with water quality standards.
4. The application requirements for coverage under a general permit are far less rigorous than individual permit application requirements and are more cost effective.

Ecology may still require individual permits where a proposed activity requires additional guidance, or when an individual Permittee requests an individual permit and Ecology agrees to develop and issue one.

This permit helps Ecology:

- Mitigate and condition the use of chemicals in water.
- Track pesticide use rates and locations.
- Ensure that public notifications and postings occur when waters are treated.

This fact sheet explains the nature of the proposed discharges, Ecology's decisions on limiting the pollutants in the receiving water, and the regulatory and technical basis for these decisions. WAC 173-226-050 specifies public notice of the draft permit, public hearings, comment periods, and public notice of issuance before Ecology can issue the general permit. This fact sheet, application for coverage, and draft permit are available for review and comment (see Appendix B - Public Involvement - for more detail on public notice procedures).

After the public comment period closes, Ecology will summarize and respond to substantive comments. These comments may cause Ecology to revise some of the permit language and requirements.

Ecology will **not** revise the original fact sheet after it publishes the public notice. Appendix E (Response to Comments) will summarize comments and the resultant changes to the permit.

Activities Covered

The Washington State Department of Ecology (Ecology), through the Irrigation System Aquatic Weed and Algae Control General Permit (permit), conditionally authorizes the use of pesticides, herbicides, algaecides, adjuvants, tracer dyes, and marker dyes (referred to throughout this document as "chemicals") to control aquatic weeds and algae in irrigation systems that flow to fresh surface waters of the State of Washington. This permit also covers the treatment of emergent vegetation on the banks of conveyances within the irrigation system, where pesticides may enter the water.

All authorized discharges and activities must be in compliance with the terms and conditions of this permit. Once coverage is obtained, the entity that applied for permit coverage is known as the "Permittee".

Geographic Area

This permit covers the activities described above that occur within Washington State. This permit does not apply to:

1. Federal lands where a federal agency provided funding, made the decision to apply chemicals, or is the entity applying chemicals.
2. "Indian Country" as defined in 18 U.S.C. §1151 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.

Activities, Discharges, and Facilities that Require this Permit

The proposed permit applies to the control of aquatic weeds in waters of the state within irrigation systems and at the point of compliance. Irrigation water suppliers whose system is capable of discharging to or intersecting with points of compliance, whether unintentionally or by design, are required to be covered under this permit or another NPDES permit. The majority of irrigation water delivery systems occur in the Yakima, Wenatchee, Okanogan, Spokane, Touchet, and Walla Walla River drainages, and the three Columbia Basin Project irrigation districts make up the majority of the acres irrigated in the state. Appendix D lists the Washington State irrigation districts.

Application Requirements

40 CFR 122.21(a)(1) requires any facility that "discharges or proposes to discharge pollutants" to surface waters to apply for permit coverage. 40 CFR 122.22 specifies the person or persons within the applicant's organization who may sign the application. WAC 173-226-200 describes the application process to obtain coverage under a general permit. The regulation explains public notice requirements, SEPA compliance, and the effective date of coverage. There are some differences in application requirements for new facilities versus existing facilities. New facilities seeking to obtain coverage under this permit must notify the public of this intent in a newspaper of general circulation within the geographical area of the draft discharge or change in discharge. Chapter 173-226 WAC defines "new operation" as one that begins activities on or after the effective date of the permit. For purposes of this permit, "new operation" and "new facility" have the same meaning. The draft permit defines existing facilities as those that were in operation prior to the permit effective date so, under the draft permit, these facilities would not be subject to public notice requirements. WAC 173-226-130 requires facilities under permit that are increasing or altering their discharge, to notify the public of this intent in a newspaper of general circulation within the geographical area of the draft discharge or change in discharge.

Typical Treatment Season and Frequency

The typical treatment season for irrigation canals runs from April through October. Permittees may schedule treatments outside of this time period to remove aquatic plants and algae that may otherwise damage or obstruct canals. Treatment frequency and volume varies greatly between irrigation districts. District size, canal length, treatment type, and environmental factors all contribute to the frequency of chemical treatments.

Economic Impact Analysis

Ecology's State Waste Discharge General Permit Program rule (WAC 173-226-120) requires an economic impact analysis (EIA) of any draft wastewater general permit intended to directly cover small businesses. The analysis is required to serve the following purposes:

- A brief description of the compliance requirements of the draft generalpermit.
- The estimated costs for complying with the permit, based on existing data for facilities to be covered under the general permit.
- A comparison, to the greatest extent possible, of the cost of compliance for small businesses with the cost of compliance for the largest ten percent of the facilities to be covered under the general permit.
- A discussion of what mitigation the permit provides to reduce the effect on small businesses (if a disproportionate impact is expected), without compromising the mandated intent of the permit.

RCW 19.85.020(4) defines a small business as any business entity, including a sole proprietorship, corporation, partnership, or other legal entity, that is owned and operated independently from all other businesses, and that has fifty or fewer employees.

In 2012, Ecology determined that the permit had no disproportionate effect on small businesses. The monitoring was flexible and meeting pesticide label requirements is already required under FIFRA. Complying with water quality standards is required by state and federal law. Most irrigation districts in the state are public entities.

In 2021, Ecology determined that the permit has a disproportionate effect on small businesses. However, the permit takes measures to mitigate the disproportionate impacts on small entities, including flexible monitoring, implementation of digital reporting, and extended deadlines in the first year of the permit cycle.

BACKGROUND

Aquatic Pesticide Legal History

Many events shaped how the application of aquatic pesticides is regulated in Washington State. Beginning with the Federal Clean Water Act of 1972 (CWA), a combination of laws, EPA rules, and legal decisions form the basis for water quality policy in Washington State. A summary of these formative events is included below.

1972+ ***Federal Clean Water Act (CWA), 33 U.S.C. §§1251 et seq. (1972, with major amendments enacted in 1977 and 1987)***; The CWA delegated authority to the EPA to administer a permit program. The EPA delegated authority to Washington State to issue federal permits in certain situations.

1979+ ***The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. §§136 et. seq. (1979)***, requires any person wishing to apply pesticides to Waters of the State to obtain an aquatic pesticide applicator license from the Washington State Department of Agriculture (WSDA) or operate under the supervision of an aquatic licensed pesticide applicator.

2001 ***Headwaters, Inc. v. Talent Irrigation District, 243 F.3d 526 (9th Cir. 2001)***; The Ninth Circuit Court determined that pesticide applications must be covered by a NPDES permit.

2002 ***League of Wilderness Defenders et al. v. Forsgren, 309 F.3d 1181 (9th Cir. 2002);*** The Ninth Circuit Court determined that aerial spraying directly to, and over, surface waters is a point source of pollution and must be covered by a NPDES permit.

2005 ***Fairhust v. Hagener, 422 F.3d 1146 (9th Cir. 2005);*** The Ninth Circuit affirmed a district court's opinion that the pesticide applied was not a "pollutant" because it left no residue and did not cause an unintended effect. Therefore, a NPDES permit was not required.

2006 ***Northwest Aquatic Ecosystems v. Ecology, PCHB 05-101 (Feb. 15, 2006);*** The Washington State Pollution Control Hearings Board concluded that coverage under a NPDES permit is required for the application of pesticides, because they are considered a pollutant because they don't meet the criteria established by *Fairhurst v. Hagener* in 2005.

2006 ***EPA Final Rule;*** The EPA issued a federal rule addressing the application of pesticides. The rule stated that pesticides applied in accordance with the FIFRA label are not pollutants and, therefore, do not require coverage under a NPDES permit.

2009 ***National Cotton Council, et al. v. EPA, 553 F.3d 927 (6th Cir. 2009);*** The Sixth Circuit Court found that residues from applications of pesticides are considered "wastes" under the CWA and must be covered by a NPDES permit. The court also found the 2006 Federal Pesticide Rule to be invalid and gave the EPA twenty-four (24) months to develop a NPDES permit to address discharges from aquatic pesticide applications.

Regulations affecting management of aquatic plants and algae in Washington

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. The Washington State Legislature defined Ecology's authority and obligations for the wastewater discharge permit program in the Washington State Water Pollution Control Act, Chapter 90.48 RCW. This statute requires that an industrial or commercial facility obtain a permit before discharging wastes to Waters of the State. They also help define the basis for limits on each discharge and for performance requirements imposed by the permit. The following regulations apply to NPDES and State Waste Discharge permits for the management of aquatic plants and algae

- Procedures Ecology follows for issuing NPDES permits (chapter 173-220 WAC)
- Water Quality Standards for Groundwaters of the State of Washington. (Chapter 173-200 WAC)

  Water Quality Standards for Surface Water of the State of Washington. (Chapter 173-201A WAC)
- Sediment Management Standards (Chapter 173-204 WAC)
- Determination and payment of permit fees. (Chapter 173-224 WAC)
- Requirements for implementing and managing the State Waste Discharge Program. (Chapter 173-226 WAC)
- Requirements for complying with the State Environmental Policy Act. (Chapter 197-11 WAC)
- Requirements for complying with sections 120 and 130 of the State Fish and Wildlife Enforcement Code. (Chapter 77-15 RCW, Sections 120 and 130)
- Requirements for complying with the federal Endangered Species Act (16 USC 1531) (50 CFR 17.11(h)

Biological Background, Aquatic Plants, and Algae

Aquatic weeds and algae decrease channel flow, block screens and intakes on pumps, and interfere with hydroelectric production and the delivery of irrigation water. In general, when irrigation canals in the west were constructed, the designers did not account for the flow resistance caused by weeds and algae.

Native Aquatic Plants

Although native aquatic plants are generally beneficial, they can become nuisance plants when they become dense enough to impede the flow of water through an irrigation canal. Native nuisance plants can also impede water access, block or damage equipment, or increase the risk of flooding or upset.

Aquatic Noxious Weeds

Noxious weed is a legal classification of plants based in RCW 17.10.080 and chapter 16-752 WAC, and are defined (WAC 17.10.010(1)) as: "*a plant that when established is highly destructive, competitive, or difficult to control by cultural or chemical practices.*" The natural habitat ranges of most noxious weeds may be other countries, continents, or locationswithin the United States. There are many pathways for noxious weed to be introduced into Washington. Some of these are the aquarium, nursery industry, internet trading, recreational boats and boat trailers, and shipping. The Washington State Noxious Weed Control Board (NWCB) designates plants to be noxious weeds. The NWCB only designates non-native plants to be noxious weeds.

Noxious weeds fall into three classes: Class A, Class B, and Class C. Class A weeds are required to be eradicated where they exist. Class B weeds are further separated into plain Class B weeds, and Class B-designate weeds which are required to be control in specific counties. Class C weeds are considered endemic (cannot be eradicated) and may be controlled wherever they exist. More information about the classes of noxious weeds, the list of designated noxious weeds, and information about the NWCB decisions, is available on the NWCB's website[5].

Because noxious weeds are often introduced without the diseases and insects that keep them in control in their new habitat, they can spread rapidly, having profound impacts on species diversity, habitat, water quality, recreation, water supply, drinking water, flood control, safety, and health. For example:

- Equipment and infrastructure may be damaged by dense weed growth or entanglement in loose plants.
- The sheer mass of noxious weeds displaces water and can cause flooding to occur by slowing water flow.
- Stagnant water produced in the mats is an excellent breeding ground for mosquitoes.

[5] https://www.nwcb.wa.gov/

Algae

There are many species of algae that are common in freshwater. Some of them are free floating in the water column (planktonic algae), other form mats and threads attached to surfaces in a waterbody like logs and rocks (filamentous algae). Most algae are beneficial and form the basis of the food web. Blooms of these beneficial algal species are short-lived, are not harmful to humans, pets, or wildlife.

Planktonic algae can cause cloudiness in water. In many lowland lakes in Washington, planktonic algae is responsible for the color and cloudiness of the water during the summer and fall. Theses algae respond to the nutrients in the water column. Large concentrations of algae are known as blooms. Planktonic algae blooms may be a nuisance, but they are not a public health risk (exception: see cyanobacteria below).

Filamentous algae are freshwater green algae that frequently form cloud-like mats attached to a substrate (like logs, rocks, or plants) in the waterbody. These algae often grow in shallow water in association with aquatic plants. Some lake residents find these filamentous mats unsightly. Algal mats may interfere with infrastructure and equipment, but they do not produce harmful toxins. They are a nuisance rather than a public health risk.

Ecology does not allow chemical *treatment* of other types of algae, with the exception of ***harmful algae species*** (algae known to harm humans or wildlife generally through the production of toxins).

Description of the Industry

There are approximately 97 irrigation districts and irrigation water companies comprising of over one million acres represented by the Washington State Water Resource Association. The irrigation districts are created and regulated under Chapter 87 RCW - Irrigation District Laws and Chapter 90 - Water Laws. Irrigation water supply companies are private non-profit water suppliers. The Ellensburg Water Company, created in 1885 before irrigation law was established is an example of a private non-profit water supplier. Each irrigation district employs its own Washington State licensed applicator(s). Each licensed applicator must have an aquatic pesticides endorsement. A licensed applicator can supervise unlicensed applicators as long as they are within calling and sight distance. Numbers of applicators (licensed and unlicensed) vary according to the size of the irrigation district.

Applications can start shortly after the irrigation season begins (typically mid-March) and end before the end of the irrigation season (late October or early November). Depending on the size of the system, needs for delivery, and environmental factors, pesticide applications can occur as often as every two weeks but usually occur once a month. Some of the smaller systems may only require one or two treatments per season.

Depending on the quality of the water, early in the season when light levels are lower and air and water temperatures are lower, moss and green algae growths may need treatments. As light levels and air and water temperatures increase (late May – early June), blue-green algae and aquatic plant growth rates dramatically increase.

Discharge Location and Point of Compliance

Irrigation districts treat canals at one or more points upstream of the location where water is discharged into waters of the state. If water is still present in the canal when it reaches the endpoint, it will pass through a monitoring point known as the point of compliance. A point of compliance is the location where water treated with pesticides enters surface water bodies that existed prior to the creation of reclamation and irrigation projects.

After this point, the water will return to the waters of the state. Typically this is a large river or a canal that leads to a large river such as the Columbia River. The discharge must meet water quality standards before it passes the point of compliance.

Wastewater Characterization

Discharges from irrigation canals do not always contain detectable levels of the active ingredients authorized in this permit. During high use or low flow periods, water may not reach the end of the canal before it is used up by customers (e.g. farms and homes) or otherwise decreases in volume to the point where water is no longer flowing. When water is discharged from a canal after a pesticide treatment, it may contain detectable levels of the pesticide used for that treatment, as well as tracking dyes and other authorized chemicals. Irrigation canals discharges may also contain chemicals that are not controlled by or related to the permitted activities, such as agricultural and urban runoff. Permittees are not required by the permit to monitor for chemicals other than those approved for use under the permit.

Regulatory Information

Pollution Reduction Requirements

Section 502(11) of the CWA defines “effluent limitation” as any restriction on the quantity, rate, and concentration of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance. Effluent limitations are among the permit conditions and limitations prescribed in NPDES permits issued under Section 402(a) of the Act, 33 U.S.C. §1342(a).

Federal and State regulations require that effluent limits in NPDES permits are either technology-based limits or water quality-based limits.

1. Technology-based limits are based on the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation (40 CFR 125.3). They are also developed by Ecology on a case-by-case basis (Chapter 173-226 WAC).

2. Water quality-based limits are calculated so that the effluent complies with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), or the Federal Water Quality Criteria Applicable to Washington (40 CFR 131.45).

Ecology must apply the most stringent of these limits to each parameter of concern. These limits are described below.

Technology-Based Limits

The CWA requires that discharges from existing facilities, at a minimum, meet technology-based effluent limitations reflecting, among other things, the technological capability of Permittees to control pollutants in their discharges which are economically achievable. State laws (RCWs 90.48.010, 90.52.040 and 90.54.020) require the use of "all known, available and reasonable methods of prevention, control and treatment" (AKART).

Water Quality-Based Limits

The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) were designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet established surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin-wide total maximum daily loading study (TMDL).

Ecology conditions NPDES and State waste discharge permits so that authorized discharges meet water quality standards. The characteristic beneficial uses of surface waters include:

- Domestic water supply.
- Industrial and agricultural water supply.
- Stock watering.
- The spawning, rearing, migration, and harvesting of fish.
- The spawning, rearing, and harvesting of shellfish.
- Wildlife habitat.
- Recreation (primary contact, sport fishing, boating, and aesthetic enjoyment of nature).
- Commerce.
- Aesthetics.
- Navigation.

To protect the designated uses of the receiving water, Ecology uses numeric and narrative criteria when establishing effluent limits as required by Chapter 173-201A WAC.

Numeric criteria for the protection of aquatic life and recreation

Numeric water quality criteria are published in the Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in receiving waters to protect aquatic life and recreation in and on the water. To derive effluent limits, Ecology uses numeric criteria in addition to the chemical and physical data for the wastewater and receiving water. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numeric criteria for the protection of human health

The EPA published numeric water quality criteria for the protection of human health that are applicable to dischargers in Washington State (40 CFR 131.45 and 40 CFR 131.36). Chapter 173-201A-240 WAC includes additional numeric human health criteria that EPA has approved previously. These criteria protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking surface waters.

Narrative criteria

Narrative criteria (e.g. WAC 173-201A-240(1); 2006) are statements that describe the desired water quality goal, such as waters being "free from" pollutants such as oil and scum, color and odor, and other substances that can harm people and fish. Narrative criteria limit the toxic, radioactive, or other harmful material concentrations that may be discharged. The goal is to reduce the concentration to levels that do **not** have the potential to:

- Adversely affect designated water uses.
- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Ecology uses these criteria to establish limits for pollutants that are difficult to use a numeric value to quantify. For example, pollutants that offend the senses (e.g., color and odor). Narrative criteria protect the specific designated uses of all freshwaters (WAC 173-201-A-200) and of all marine waters (WAC 173-201A-210) in the State of Washington.

Non-numeric effluent limits

Effluent limitations in NPDES permits may be expressed as numeric or non-numeric standards. Under EPA's regulations, non-numeric effluent limits are authorized in lieu of numeric limits, where "[n]umeric effluent limitations are infeasible." [40 CFR §122.44(k)(3).] Courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., Best Management Practices or "BMPs") designed to reduce the level of effluent discharges to acceptable levels:

Natural Res. Def. Council, Inc. v. EPA, 673 F.2d 400, 403 (D.C. Cir. 1982) (noting that "section 502(11) defines 'effluent limitation' as 'any restriction' on the amounts of pollutants discharged, not just a numerical restriction"; holding that section of CWA authorizing courts of appeals to review promulgation of "any effluent limitation or other limitation" did not confine the court's review to the EPA's establishment of numerical limitations on pollutant discharges, but instead authorized review of other limitations under the definition) (emphasis added).

In *Natural Res. Def. Council, Inc. v. Costle, 568 F.2d 1369 (D.C. Cir. 1977)*, the D.C. Circuit stressed that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels.

Evaluation of Surface Water Quality-based Effluent Limits for Numeric Criteria

The reasonable potential to cause a violation of water quality standards requires that Ecology place a limit on the discharge at the points of compliance. For fluridone and imazapyr, conditions in the permit require virtually no-discharge at the point of compliance. Ecology derived numeric limits derived for acrolein, xylene, endothall, and copper. The resultant limits are as follows:

Table 1: Numeric Limits for Pesticides

Parameter	Maximum instantaneous concentration
Copper, dissolved	25 ug/l
Acrolein	21 ug/l
Dipotassium Salt of Endothall (such as Cascade)	5.0 mg/l (acid equivalent)
Mono (N,N-Dimethyl Alkylamine) Salt of Endothall (such as Teton)	0.050 mg/l (equal to 50 ug/l) (acid equivalent) at any time and 0.2 mg/l (equal to 200 ug/l) (acid equivalent), subject to timing windows. See S5.B.9.d.
Xylene	5.1 mg/l
Sodium Carbonate Peroxyhydrate	See S5.B4
Fluridone	See S5.B4
Imazapyr	See S5.B4
The maximum daily limitation is defined as the highest allowable discharge at any time.	

Acrolein Limit

Ecology based the acrolein limit on a level established by the state of Oregon to protect freshwater organisms from adverse toxic effects due to chronic exposure (OAR Chapter 340). Washington State has not established water quality criteria for acrolein but requires that concentrations of toxic substances without specific criteria that are protective of aquatic organisms be determined from available relevant information.

The data available on acrolein shows that acute toxicity (48-h LC50) for Daphnia spp. is 57 and 80 µg/l (Macek, et al. 1976, and U.S. EPA, 1978). The LC50 for bluegill sunfish at 96-h is 100 and 90 µg/l (Louder & McCoy, 1962, and US EPA, 1978). The LC50 for largemouth bass at 96- h is 160 µg/l (Louder & McCoy, 1962).

The data shows that acute toxicity to freshwater aquatic life occur at concentrations as low as 68 µg/l, and would occur at lower concentrations among those species that are more sensitive than those tested in previous studies.

The data shows that chronic toxicity would occur at 21 µg/l, and would occur at lower concentrations among those species that are more sensitive than those tested in previous studies.

Based on this information, Ecology established an acrolein limit of 21 µg/l

Copper limit

The copper limit is based on the water quality criteria established in Washington State water quality standards, WAC 173-201A. The copper criterion is dependent on the hardness of the water. The acute cropper criterion is ≤ $(0.960)(e^{(0.9422[\ \ln(\text{hardness})] - 1.464)})$. It is a one-hour average concentration not to be exceeded more than once every three years on the average. The criteria are for the dissolved fraction of copper.

Ecology analyzed hardness data from eight irrigation districts in 2004 and 2005. That analysis found average hardness values ranging from 17 mg/L to 184 mg/L.

Table 2: Average Hardness Values (mg/L) for irrigation districts from 2004-2005

District	Minimum Value	Average Value	Maximum Value	n
Cascade	42	79	135	30
Columbia	17	102	133	84
ECBID	68	184	440	131
Kittitas	14	37	220	49
Naches Selah	22	29	40	48
Quincy	48	129	350	142
SCBID	11	150	230	252
Wenatchee	10	17	24	46
Grand Total	**10**	**122**	**440**	**782**

Using the formula for the copper criterion, these average hardness values would correspond to acute criteria ranging from 3.3 µg/L to 30.2 µg/L. The overall average based on all data would correspond to a criterion of 20 µg/L.

Table 3: Average hardness values (mg/L) and corresponding acute and chronic copper criteria (µ/L)

District	Average Hardness	Acute Criterion	Chronic Criterion
Cascade	79	13.6	9.3
Columbia	102	17.4	11.6
ECBID	184	30.2	19.1
Kittitas	37	6.6	4.8
Naches Selah	29	5.4	4.0
Quincy	129	21.6	14.1
SCBID	150	24.9	16.0
Wenatchee	17	3.3	2.5
Grand Total	**122**	**20**	**13.4**

Xylene limit

Results from recent Parametrix studies (2004) showed an EC50 of 11.5 mg/l after only two hours of exposure for rainbow trout. The 48-h LC50 is 24.3 mg/l for rainbow trout (for xylene plus the emulsifier). The 48-h LC50 for Daphnia magna was 5.1 mg/l (Parametrix, 2004).

Endothall limit

Ecology based the proposed endothall limit on a recent (2011) study by Cramer Fish Sciences and others entitled Effects of The Aquatic Herbicide Cascade® on Survival of Salmon and Steelhead Smolts during Seawater Transition.

The study reported an observed LOEC of 9 ppm for all three species (chinook, coho, and steelhead) tested in the seawater challenge. Based on these results, the authors conclude that allowing discharge of 5 ppm (acid equivalent) endothall in the spring and summer will not pose a risk to survival of salmon and steelhead smolts.

Antidegradation

Chapter 173-201A WAC requires that all surface Waters of the State are protected by numeric and narrative criteria, designated uses, and an antidegradation policy. The purpose of Washington's Antidegradation Policy (WAC 173-201A-300 to 330) is to:

1. Restore and maintain the highest possible quality of the surface waters of Washington.
2. Describe situations under which water quality may be lowered from its current condition.
3. Ensure that all human activities likely to contribute to a lowering of water quality at a minimum apply AKART.

Washington's Antidegradation Policy applies to human activities that are likely to impact the quality of surface Waters of the State. To comply with the policy, the project must apply the three tiers of protection, described below, to surface Waters of the State.

- Tier I ensures that existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions.
- Tier II ensures that dischargers do **not** degrade waters of a higher quality than the criteria assigned unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities.
- Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

All Permittees covered under the general permit must comply with the provisions of Tier 1 (WAC 173-201A-320(6)). Ecology determined that the draft permit does **not** cover discharges to Tier III waters. When Ecology issues a general permit we conduct an antidegradation Tier II analysis. Ecology must:

1. Use the information collected during the implementation of the permit, to revise the permit or program requirements.
2. Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance.
3. Include a plan that describes how Ecology will obtain and use information to ensure full compliance with water quality standards. Ecology must develop and document the plan in advance of permit or program approval.

The reissuance of the draft permit is the public's opportunity to consider the requirements in the permit and provide comment about whether the permit serves the public's interest. So that the public has the opportunity to provide comment on individual permit coverages, each entity that applies for coverage under the Irrigation General Permit must publish requests for coverage in a local paper. The public notice of request for permit coverage must include the following information.

1. A statement that the applicant is seeking coverage under the Irrigation General Permit.
2. The name, address, and phone number of the applicant.
3. The identity of the waterbody proposed for treatment.
4. A list of products planned for use.
5. The statement: "Any person desiring to present their views to the Department of Ecology regarding this application shall do so in writing within 30 days of the last date of publication of this notice. Comments must be submitted to the Department of Ecology. Any person interested in the Department's action on the application may notify the Department of interest within 30 days of the last date of publication of this notice."

This fact sheet represents Ecology's antidegradation analysis and antidegradation plan for the Irrigation General Permit.

Integrated Vegetation Management

After the National Cotton Council et al. v. EPA decision, the Sixth Circuit Court allowed EPA 24 months to develop a general NPDES permit for aquatic pesticide use and later granted an extension of a further six months to finalize the permit. In its draft permit, EPA regards IVM as meeting technology-based-effluent-limits for aquatic pesticide application. EPA anticipates having all Permittees applying for coverage under its general permit implement basic IVM practices. EPA's draft permit requires a subset of Permittees to implement Pesticide Discharge Management Plans that include comprehensive IVM practices. EPA expects dischargers to keep these written plans on site and make them available to state or federal inspectors on request. EPA requires that any state-issued aquatic pesticide NPDES permits be at least as stringent as the EPA-administered aquatic pesticide general permit. The proposed permit requires that the Permittee develop or maintain an Integrated Vegetation Management Plan. For irrigation system aquatic weed control, Ecology considers that an existing plan prepared for the permit is equivalent to a DMP. However, the Permittee must update the plan and any addendums to the plan to keep the document current.

Experimental Use Permits

Entities operating under WSDA-issued experimental use permits (WSEUP) do not need coverage under this permit. WSDA requires WSEUP for all research experiments involving pesticides that are not federally registered or for uses not allowed on the pesticide label. WSDA experimental use permits limit the amount of an experimental use pesticide that a Permittee can use for testing purposes. WSDA grants experimental use permits for gathering data in support of registration under FIFRA Section (3) or Section 24(c). In many situations, only a state WSEUP is required for the use of an experimental pesticide. When a proponent conducts a small-scale test on more than one surface acre of water per pest, it must obtain a federal experimental use permit in addition to a state experimental use permit. Any person may apply to the EPA for a federal experimental use permit for pesticides and these permits are usually valid for only one year. Applicants holding a federal experimental use permit must also apply for and obtain a state experimental use permit before initiating any shipment of the pesticide to Washington. Ecology requires coverage under the Irrigation System Aquatic Weed Control General Permit for applicants operating under a federal experimental use permit.

Meeting Sediment Standards

The aquatic sediment standards (chapter 173-204 WAC[6]) protect aquatic biota and human health. Under these standards, Ecology may require a Permittee to evaluate the potential for the discharge to cause a violation of sediment standards (WAC 173-204-400). Obtain additional information about sediments at the Aquatic Lands Cleanup Unit website[7].

[6] https://apps.leg.wa.gov/wac/default.aspx?cite=173-204
[7] http://www.ecy.wa.gov/programs/tcp/smu/sediment.html

Generally, copper is adsorbed quickly to particles in the water column that settle out to the sediments. In lake systems, these rates of adsorption can be very high and persistent. However, this may not be the case for rapidly flowing systems such as irrigation canals. When Farmers Ditch Irrigation Canal was treated continuously at rates of 0.19, 0.05 or 0.5 mg/L, 60 percent of the applied copper remained adsorbed to the ditch bottom sediments. At the end of the treatment season, sediment concentrations of copper were generally below 50 mg/l.

During treatment of the Roza Main Canal with copper sulfate, copper did not significantly settle into the bottom sediments. Even though sediment concentrations rose after a single slug treatment, they returned to background levels within about seven to eight days. This may be due to release of copper from sediments due to hydrolysis. Also, copper may also be removed from the area by scouring action of the flowing water (Nelson et al, 1969). However, daily treatments of the East 14.7 Lateral Canal for 4.5 months at a 1 lb Cu/ft3 resulted in an increase of sediment copper concentrations from 20 mg/L to approximately 120 mg/L.

There is no good evidence that the copper in the sediments re-dissolves or is simply transported downstream by the water currents. If it does re-dissolve then it may eventually be transported into receiving waters where it is available biologically to in-stream biota. If it stays adsorbed and is transported downstream, then high-copper sediments may be deposited into the downstream water systems. If it is dredged out during the off-season, then it can be effectively removed from the system. For more detailed information an analysis of potential sediment impacts under the permit, refer to the Draft Environmental Impact Statement (2023).

We do not have enough information to conclude whether or not there is reasonable potential to violate the Sediment Management Standards. When freshwater sediment criteria are established, the department will review the concentrations of copper in sediments due to copper treatments in irrigation supply systems. Ecology has determined through a review of the discharger characteristics and effluent characteristics that these discharges have no reasonable potential to violate the Sediment Management Standards.

Meeting Groundwater Quality Standards

The Ground Water Quality Standards, (chapter 173-200 WAC), protect beneficial uses of ground water. Permits issued by Ecology must not allow violations of those standards. This permit does not allow the use of pesticides expected to contaminate groundwater. In the event there are additional concerns, Ecology can issue orders requiring groundwater monitoring for different pesticides under this permit.

Endangered and Sensitive Species

EPA has implemented an Endangered Species Protection Program (ESPP) to identify all pesticides that may cause adverse impacts on threatened/endangered species and to implement measures that will mitigate these impacts. When the ESPP identifies an adverse impact, it requires use restrictions to protect these species at the county level. If a geographically-specific pesticide use limitation is necessary to protect a listed species or its designated critical habitat, the information appears as an Endangered Species Protection Bulletin and is referenced on the pesticide label. Since these pesticide labels refer to Bulletins, the Bulletins are enforceable as an extension of the label. Bulletins are enforceable under FIFRA. General Condition G9 of the Irrigation System Aquatic Weed Control permit informs the permittees that the permit does not remove any requirement to comply with all applicable federal regulations. See EPA's guidance for protecting endangered species from pesticides[8] for more information.

The U.S. Fish and Wildlife Service and National Marine Fisheries Service are involved in EPA's processes to protect listed species and designated critical habitat in several ways: by consulting with EPA on specific endangered species concerns; by issuing Biological Opinions on certain species; or other ways, as necessary. For details on how EPA evaluates the potential risks from pesticides to listed species and consults with the Services, see their risk assessment process webpage[9].

In the Irrigation System Aquatic Weed Control permit, Ecology has imposed treatment timing restrictions on chemicals expected to have sub-lethal or habitat alteration impacts to salmon species. Timing information provides windows of opportunity when applicators may add chemicals to the water without undue impact on sensitive species. Ecology defers to WDFW's expertise about the presence of fish or other sensitive species to minimize impacts to life stages of fish and other sensitive animals. WDFW develops the timing table for Ecology. Ecology determines which chemicals may impact sensitive species. Ecology bases its determinations on research that it funded through the University of Washington as well as other existing publications.

In 2010, at Ecology's request, WDFW biologists revised and broadened the species and habitats covered under timing windows for aquatic pesticide permits to include all salmon species, steelhead, bull trout, and any other sensitive species associated with aquatic habitats (e.g., waterfowl, amphibians, critical habitats). In some cases, timing windows limit optimal treatment times for aquatic plants. Sometimes the best times to avoid treatment to protect sensitive species may be the best times to treat for aquatic plants (i.e., herbicide treatment may not take place during the optimal treatment times for plant control).

[8] https://www.epa.gov/endangered-species
[9] https://www.epa.gov/endangered-species/assessing-pesticides-under-endangered-species-act

Based upon annual reporting of pesticide use and other available information, Ecology with advice from WDFW may further restrict pesticide use to protect endangered, threatened, candidate and sensitive species such as pacific salmonids. WDFW may modify treatment timing windows during the life of the permit as new scientific information about species and critical habitats becomes available.

Authorized Active Ingredients

The Irrigation General Permit authorizes the discharge of several active ingredients for Permittees to use to control aquatic weed and algae within irrigation systems. The active ingredients included for use in the draft general permit include the following.

The active ingredients conditionally approved under this permit are:

- Acrolein
- Chelated Copper
- Copper Sulfate
- Dipotassium Salt of Endothall
- Fluridone
- Imazapyr
- Mono Salt of Endothall
- Sodium Carbonate Peroxyhydrate
- Xylene

Information and environmental analysis of these active ingredients is included in the Draft Environmental Impact Statement which was issued alongside the Irrigation General Permit. The Final Environmental Impact Statement (FEIS) is available for review and comment on the Ecology webpage for the Irrigation System Aquatic Weed Control Permit[10]. Diquat dibromide, flumioxazin, glyphosate, 2-4 D, and imazamox are included in the active ingredients reviewed in the FEIS, although Ecology made the decision to not include those active ingredients in this version of the permit.

[10] https://apps.leg.wa.gov/wac/default.aspx?cite=173-204

Compliance with the State Environmental Policy Act

State law exempts the issuance, reissuance, or modification of any wastewater discharge permit from the State Environmental Policy Act (SEPA) process as long as the permit contains conditions that are no less stringent than Federal and State rules and regulations (RCW 43.21C.0383 and WAC 197-11-855). This exemption applies only to existing discharges, not to new discharges. New facilities must demonstrate compliance with SEPA as part of project authorization and approval in order to be eligible for coverage under the irrigation system aquatic weed control general permit.

In 1980, Ecology completed an Environmental Impact Statement (EIS) for statewide program guidance in the issuance of administrative orders called short-term modifications of water quality standards for herbicides and algaecides used in aquatic plant and algae control. In 1992, Ecology updated and supplemented the EIS with the Final Supplemental Environmental Impact Statement (SEIS) for the Aquatic Plant Management Program. In 2003, WSDA issued an ecological risk assessment for imazapyr to control Spartina spp. in Washington estuaries. In 2009, WSDA issued a human health and freshwater ecological risk assessment for imazapyr.

Ecology released a Draft Environmental Impact Statement (DEIS) for the Irrigation System Aquatic Weed Control General Permit in 2023. This DEIS was deemed necessary after a Determination of Significance in 2017. The DEIS was available for review and comment simultaneously with the draft permit on Ecology's Irrigation System Aquatic Weed Control General Permit webpage[11]. The Final Environmental Impact Statement is available on the permit webpage.

Compliance Schedules

Any compliance schedules proposed as part of the general permit or as a part of the application process are pursuant to WAC 173-226-180 and WAC 173-226-200. Due to the nature of the irrigation season, there are permit conditions which cannot be implemented fully at the time the final permit becomes effective. Ecology therefore gives permittees more time to complete activities such as integrated vegetation management plans. Permittees may not use a compliance schedule for a permit condition unless authorized by the permit.

Responsibility to Comply with Other Requirements

Ecology has established, and will enforce, limits and conditions in the permit for the discharge of aquatic herbicides registered for use by the EPA and the WSDA. EPA and WSDA will enforce the use, storage, and disposal requirements expressed on pesticide labels. The Permittee must comply with the pesticide label requirements (FIFRA) and all of the conditions of this general permit. The permit does not supersede or preempt federal or state label requirements or any other applicable laws and regulations.

[11] https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Irrigation-system-aquatic-weed-control

SPECIAL CONDITIONS

S1 Permit Coverage

This permit is a reissuance of the permit that expired on June 15, 2017, and continues to function under administrative extension.

Washington's water quality regulations do **not** allow the discharge of pollutants to Waters of the State without permit coverage (RCW 90.48.080, 90.48.160, 90.48.260, and WAC 173-201A WAC). Algaecides, herbicides, insecticides, molluscicides, piscicides, and any other pesticide or product appropriate to manage aquatic species are potential pollutants, and therefore require a discharge permit before application to Washington State surface waters.

A. Activities Covered Under This Permit

The proposed permit applies to the control of aquatic weeds and algae in waters of the state within irrigation systems and at the point of compliance. Irrigation water suppliers whose system is capable of discharging to or intersecting with points of compliance, whether unintentionally or by design, are required to be covered under this permit or another NPDES permit.

The majority of irrigation water delivery systems occur in the Yakima, Wenatchee, Okanogan, Spokane, Touchet, and Walla Walla River drainages, and the three Columbia Basin Project irrigation districts make up the majority of the acres irrigated in the state. Appendix D lists the Washington State irrigation districts.

Additionally, entities operating under federally-issued and state-issued experimental use permits (EUPs) must have coverage under the appropriate aquatic pesticide permit. The WSDA requires an EUP for all research experiments involving pesticides that are not federally registered or for research experiments involving pesticide uses not allowed on the FIFRA label. The EUPs are granted for the purpose of gathering data to support product registration in accordance with FIFRA Section 3 and Section 24(c).

B. Geographic Area Covered

The Irrigation System Aquatic Weed Control General Permit applies to direct and indirect discharges of conditionally authorized active ingredients to Waters of the State anywhere in Washington where Ecology has authority (RCW 90.48.020, WAC 173-200-020, and WAC 173-226-030), with some exceptions. Ecology and the EPA agree that in certain instances, Ecology will issue aquatic pesticide permits for discharges on federal land (but not Indian Country). If the discharger is **not** a federal entity and a federal entity did not make the decision that will cause the aquatic pesticides to be discharged, the appropriate Ecology permit will be used to cover the discharge on federal lands.

The draft permit does **not** apply to federal lands where the federal government is the decision maker and:

1. Provides funding.
2. Manages the land (determines what pesticides to use and when to apply them).
3. Made the decision to apply pesticides.
4. Is the entity applying pesticides.

In a letter from the EPA dated July 20, 2015, the EPA stated the following.

In Washington State, where a non-federal entity operates on federal lands as the decision-maker and applicator, they would need to obtain authorization to discharge under Washington State's aquatic pesticide permit and submit an NOI to the State and not submit an NOI to EPA. For example, a mosquito control district operates on federal lands as the decision-maker to apply pesticides, has control over when the application will occur, and has the ability to modify that decision. As a result, they are the decision-maker and would need to submit an NOI to the State for authorization under the State's aquatic pesticide permit, even though the application occurs on federal property.

Additionally, the draft permit does **not** apply to treatments that occur on "Indian Country" as defined in 18 U.S.C. §1151, except portions of the Puyallup Reservation, as noted in the draft permit.

C. Activities Excluded from Coverage Under This Permit

The following activities do not require coverage under this permit:

1. Pesticide treatments applied to dry canals, provided the canal remains dry for two weeks following the treatment.
2. Pesticide treatments applied to canals that do not flow through a Point of Compliance to waters of the state.
3. Terrestrial pesticide treatments applied outside the canal system.

S2 Applying for Permit Coverage

A. Who May Obtain Permit Coverage

A definition of "Permittee" is not provided in chapter 90.48 RCW, chapters 173-216, 173-220, or 173-226 WAC, nor is one provided in 40 CFR 122 (EPA NPDES Permit Program) or State NPDES Permit Programs. Based upon the usage of Permittee in federal and Washington State law, Ecology takes the term "Permittee" to mean the person or entity that discharges or controls the discharge of pollutants to waters of the state (surface or ground) and holds permit coverage allowing that specific discharge.

B. How to Apply For Permit Coverage

Permittees who are covered under the extended 2012 permit have already reapplied for coverage under the administrative extension, and will be covered under the 2022 permit. These permittees do not need to reapply for permit coverage for the 2022 permit.

Ecology will consider any Permittee that does not currently have coverage under the extended 2012 permit as a new applicant. ***New applicants*** must submit a complete application for permit coverage a minimum of 60 days before applying pesticides that result in discharge to waters of the state.

The new permit applicant must submit a complete application including a ***Notice of Intent*** (NOI). Beginning in the first year of the new permit cycle, new permittees will be able to apply for permit coverage online. An official who has signature authority (WAC 173-226-200) for the entity applying for permit coverage must sign all documents. Ecology must receive the complete application for permit coverage on or before the publication date of the public notice the permit applicant posted in a newspaper of general circulation (WAC 173-226-130). Ecology considers a newspaper of general circulation as the major newspaper publication for a region.

When Ecology receives the new applicant's complete application before public notice it can review the application and communicate necessary changes on application documents. Communication (prior to publishing public notice) about document changes can save the applicant money by identifying any necessary changes before the applicant publishes and sends out the public notice.

The public has the opportunity to comment on the permit application and the proposed coverage during the 30 days after publication of the second public notice (public comment period). Ecology will consider comments about the applicability of the permit to the proposed activity received during this period. If Ecology receives no substantive comments, it will issue permit coverage on the 61st day following receipt of a complete application. The public has the right to appeal any coverage decision.

C. Permit Coverage Timeline

Ecology will not issue coverage until at least 31 days following the receipt of a completed application for coverage. In the event that Ecology receives relevant comments on the Application for Coverage, Ecology may need to work with the applicant prior to issuing permit coverage. In this instance, obtaining permit coverage may require more than 60 days.

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

D. How to Modify Permit Coverage

A Permittee may need to modify their permit coverage to adjust to new or changing circumstances. For example, an irrigation district may add additional canals or a new Point of Compliance. This is a change to the description of the discharge on the Permittee's NOI, and therefore, requires the Permittee to modify their permit coverage. In order to modify their permit coverage, the Permittee must:

1. Submit an updated permit application.
2. Publish a public notice once a week, for two (2) consecutive weeks.
3. Provide a thirty (30) day comment period.

A Permittee applying to modify their permit coverage must provide a 30-day comment period because the public must have the opportunity to review and provide comments about the proposed permit modification. This requirement is the same for a new Permittee as well as an existing Permittee wanting to modify their permit coverage.

Permit modification also requires SEPA compliance. An additional SEPA review may be necessary if the proposed change falls outside of the scope of the initial SEPA evaluation.

At the time of this permit's issuance, permit coverage modifications will not be available in a digital format. When digital permit modifications become available, permittees may be able to submit those electronically.

E. How to Renew Permit Coverage

The 2012 irrigation permit expired in 2017. Before it expired, the current permittees submitted their renewal applications to Ecology. Because this duty to reapply has already been completed, current permittees only need to submit a revised application for coverage no later than ninety (90) days after the effective date of this permit.

General permits are typically revised every five (5) years. In order to continue their coverage under the revised general permit, Permittees must submit a renewal application to Ecology at least one hundred eighty (180) days before the current version of the general permit expires (WAC 173-226-220). Coverage under an expired general permit for Permittees who fail to submit a timely and sufficient application will expire on the expiration date of the general permit. Ecology will consider any Permittee that does **not** reapply for coverage as a new applicant.

F. How to Transfer Permit Coverage

Section 210 of Chapter 173-226 WAC explains the process for transferring permit coverage from one party to another party. Transfer of permit coverage may occur when the applicator or sponsor covered by the general permit is transferred to a new applicator or sponsor. The old applicator or sponsor and the new applicator or sponsor must sign and submit a Transfer of Coverage Form to Ecology. This form standardizes the agreement between two parties to transfer the responsibility for complying with permit requirements (WAC 173-226-210).

Once the signed Transfer of Coverage Form is submitted to Ecology, the new applicator or sponsor becomes the Permittee and accepts all responsibility to comply with the terms and conditions of the general permit as well as liability and permit fees. The Permittee must pay the permit fees assessed by Ecology, as established by Chapter 173-224 WAC and RCW 90.48.465(1), unless coverage is terminated or revoked.

G. How to Terminate Permit Coverage

Section 160 of Chapter 90.48 RCW requires the owner/operator of a commercial or industrial facility to have a permit if they discharge waste materials to Waters of the State. The owner/operator of a facility with coverage under the Irrigation System Aquatic Weed Control General Permit must comply with the terms and conditions of the general permit unless they terminate coverage or transfer coverage to a new Permittee. In order to terminate coverage, the Permittee must demonstrate that they **no** longer have a discharge and submit a completed Notice of Termination form to Ecology. Requiring a demonstration that there is **no** longer a discharge ensures that facilities that discharge remain covered under permit (WAC 173-226-230).

S3 Application and Discharge Standards

A. Compliance with Standards

In accordance with RCW 90.48.520, the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. This Permit does not authorize a discharge to the receiving waters which would be a violation of Washington State Surface Water Quality Standards (Chapter 173-201A WAC), Groundwater Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), or human health-based criteria in the National Toxics Rule (40 CFR 131.45). Ecology assumes that compliance with the permit conditions prevents violations of these standards in the receiving waters.

See also the section "Technology-Based Water Quality Protection Requirements" for a description of AKART requirements. Ecology also believes that implementing the Irrigation System Aquatic Weed Control General Permit will help meet AKART. Ecology based the planning requirements on:

1. A similar planning requirement in EPA's draft NPDES permit for aquatic pesticide application. In its draft permit, EPA considers Integrated Pest Management (IPM) to meet technology-based standards.
2. Integrated Pest Management Law (chapter 17.15 RCW).
3. Washington's Water Quality Standards (WAC 173-201A-110).
4. Similar planning requirements in the Irrigation System Aquatic Weed Control NPDES permit that allows treatment of in-water weeds.

B. Temporary Exceedance of Water Quality Standards

In 2006, Ecology updated the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC). The standards allow a temporary exceedance of water quality standards for up to five years (the term of a general permit) provided the Permittee has followed certain guidelines.

The permit, fact sheet, SEPA documents and NOI contribute to fulfilling the requirements of WAC 173-201A-410 for long term exceedances.

WAC 173-201A-410(2) requires that for Ecology to extend the exceedance for up to five years, and not limit it to hours or days, the Permittee must develop and implement an IPM plan. The Permittee must develop the plan following the Administrative Procedures Act for public involvement (chapter 34.05 RCW) and must complete a State Environmental Policy Act (chapter 43.21C RCW and chapter 197-11 WAC) review of the proposed activity. Permittees who do not meet these requirements must ensure that the short-term exceedance of water quality standards is limited to only hours or days.

C. Application Requirements

This general permit provides the authority to discharge the listed aquatic pesticides but does not authorize the discharge of other pollutants which may be present in the irrigation system. Impacts not directly associated with discharge of pesticides will be addressed using other regulatory tools.

D. Impaired Waterbodies

Ecology periodically reviews water quality data to determine if water bodies meet criteria. Section 303(d) of the CWA requires that waters not meeting criteria undergo an evaluation of the cause and amount of the contaminant. Ecology publishes Total Maximum Daily Load (TMDL) reports, which may establish limits on the amounts of pollutants contributors may discharge.

S4 The Application of Products and Discharge Limits

For a discussion of the numeric and non-numeric limits set in the permit, review the previous section "**Evaluation of Surface Water Quality-based Effluent Limits for Numeric Criteria".**

A. Prohibited Discharges

RCW 90.48.080 states that "it shall be unlawful for any person to throw, drain, run, or otherwise discharge into any of the waters of this state, or to cause, permit or suffer to be thrown, run, drained, allowed to seep, or otherwise discharged into such waters any organic or inorganic matter that shall cause or tend to cause pollution of such waters according to the determination of the department." Ecology prohibits treatment that causes oxygen depletion to the point of stress or lethality to aquatic biota from plant die-off, unintended impacts to water quality or biota, or the mortality of aquatic vertebrates.

Climate change may cause more frequent conditions where low dissolved oxygen is a concern in the receiving waters for irrigation districts. Permittees may considermitigation measures to prevent oxygen depletion at times of high temperatures or low flow. Mitigation measures may include delaying treatment until conditions improve, or phasing pesticide treatments to avoid killing a large number of plants or algae in a short span of time. Low dissolved oxygen conditions are expected in irrigation canals and other conveyances due to a variety of reasons, including plant die-off and changes in flow and temperature. The continued beneficial use of irrigation systems to convey water is a priority of the permit, and considerations for low dissolved oxygen conditions only apply to the receiving waters outside of the irrigation system, past the point of compliance.

B. Authorized Discharges

This permit allows the use of the chemicals identified in the permit. Ecology authorizes these discharges in accordance with WAC 173-201A-410 and chapter 90.48 RCW. EPA regulates most of these chemicals under FIFRA, but some products covered in the permit are not pesticides. FIFRA only regulates pesticides.

The Permittee must comply with pesticide label requirements (when using a FIFRA-labeled product) and all applicable permit conditions. Coverage under this general permit does not supersede or preempt federal or state label requirements or any other applicable laws and regulations. It is the responsibility of the Permittee to determine if there are other applicable requirements pertaining to this activity and to comply with these requirements. The permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.

The Permittee must comply with any specific restrictions or limitations on the use of each chemical allowed in the permit (see Table 1).

Active Ingredients

The permit allows for and conditions the use of eight (8) federally registered ***active ingredients***.

The active ingredients have undergone review by Ecology prior to approval (see Ecology's Final Supplemental Environmental Impact Statement for the State of Washington Aquatic Plant and Algae Management[12] and the Final Environmental Impact Statement for the Irrigation System Aquatic Weed Control General Permit[13]). Ecology has mitigated possible risks by conditioning the use of the active ingredients under the general permit. Ecology determined that, if used according to the EPA label and in compliance with the conditions of this general permit, these active ingredients would not violate water quality standards. By approving active ingredients rather than trademarked products, Ecology will not need to conduct additional review for each new brand released onto the market.

Acrolein

In order to better track use patterns for acrolein under this permit, Ecology will require permittees to submit a brief Acrolein Application Plan (see S8.C.6 of the permit) that gives a narrative description of the permittee's need for acrolein as a treatment option and when the permittee will decide it is necessary or desirable to use it.

Adjuvants

The permit provides for the use of specific adjuvants listed in Appendix D of the permit. Applicators use adjuvants to increase the effectiveness of a pesticide (e.g. extenders, penetrants, spreaders, stickers, surfactants) or to modify the characteristics of a tank mix (e.g. acidifiers, defoaming agents, drift control agents).

WSDA registers all adjuvants prior to distribution in Washington State. WSDA only registers adjuvants for aquatic use if the registrant can demonstrate that the proposed use will not adversely affect desirable aquatic species. WSDA requires data on aquatic acute toxicity of the adjuvant to fish and aquatic invertebrates (WAC 16-228-1400(3)(e)).

An adjuvant must meet the following criteria before WSDA will register it for aquatic use in Washington; the adjuvant or adjuvant formulation must:

1. Meet all requirements for the registration of a food/feed use spray adjuvant in Washington.
2. Be either slightly toxic or practically non-toxic to freshwater fish.
3. Be moderately toxic, slightly toxic, or practically non-toxic to aquatic invertebrates.
4. Contain less than 10 percent alkylphenol ethoxylates (including alkylphenol ethoxylate phosphate esters).
5. Not contain any alkyl amine ethoxylates (including tallow amine ethoxylates).

[12] https://apps.ecology.wa.gov/publications/SummaryPages/1710020.html
[13] https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Irrigation-system-aquatic-weed-control

WSDA may register spray adjuvants for aquatic use that do not meet one or more of the above criteria if the registrant provides data which demonstrates that the proposed use will not adversely affect desirable aquatic species, or limits aquatic use to non-fish-bearing waters only. These criteria do not apply to adjuvants permitted for use under an experimental use permit issued by WSDA.

Adjuvants are included in this version of the permit to provide permittees with additional options for best management of aquatic plants and algae in irrigation canals.

Marker and Tracer Dyes

Marker and tracer dyes are frequently used in aquatic monitoring to track the flow of water or show the location of a chemical in water. Permittees must follow all Product Label instructions for use of marker and tracker dyes in water.

C. Experimental Use

Experimental use is important for the development of new methods of waterbody management, new treatment technologies, products, or chemicals. The Irrigation permit includes this provision for experimental use in order to facilitate research and development that may lead to more effective treatment methods with less environmental impact than current chemicals and technologies. Because research involves untested chemicals, Ecology requires that the proposed discharge be put throught a public process before deciding whether to conditionally authorize an experimental use. The public process is necessary for authorizing discharges that are not explicitly called out as authorized under this Irrigation permit. It would not be possible for Ecology to include all potential experimental use chemicals in the Irrigation permit by name because new chemicals are being developed all the time. State and federal law require a public process prior to a new discharge being conditionally authorized.

D. General Application Restrictions

Compliance with Standards

See also the section "Technology-Based Water Quality Protection Requirements" for a description of AKART requirements. Ecology also believes that implementing the Irrigation System Aquatic Weed Control General Permit will help meet AKART. Ecology based the planning requirements on a similar planning requirement in EPA's NPDES permit for aquatic pesticide application. In its permit, EPA considers Integrated Pest Management (IPM) to meet technology-based standards. Integrated Pest Management Law (chapter 17.15 RCW). Washington's Water Quality Standards (WAC 173-201A-110). Similar planning requirements in the Irrigation System Aquatic Weed Control NPDES permit that allows treatment of in-water weeds.

Application Requirements

This general permit provides the authority to discharge the listed aquatic pesticides but does not authorize the discharge of other pollutants which may be present in the irrigation system. Impacts not directly associated with discharge of pesticides will be addressed using other regulatory tools.

Pesticide Application Plans

This permit is expected to be issued during the 2023 treatment season (April through October), when existing permittees will be actively treating canals and following the conditions of the previous permit. To prevent lengthy disruptions in treatment plans which may lead to overgrowth of plants and damage to canals and other infrastructure, the permit allows existing permittees to use existing acrolein, endothall, and fluridone application plans until January 31 of the second year of the permit cycle (2024). This is to give permittees adequate time to submit new application plans to Ecology and complete the 2023 treatment season without excessive administrative burden.

Treatment Timing Windows

Treatment timing windows only apply to mono salt of endothall treatments in the Irrigation System Aquatic Weed Control General Permt. At Ecology's request, WDFW developed timing windows to protect salmon, steelhead, bull trout, and other sensitive species and habitats (including amphibians and nesting waterfowl) from the effects of aquatic pesticide application. Aquatic application impacts may include disturbance of nesting areas, loss of food and habitat, or sub-lethal impacts to sensitive species from the chemicals. There are times when chemical applications have little to no impact on sensitive species or when no sensitive species are present in a water body. WDFW timing windows identify these periods for specific water bodies. In some water bodies with critical habitat or nesting areas, WDFW provided very limited treatment windows. WDFW may allow treatment outside of these times if the Permittee coordinates their treatment times and sites with the area habitat biologist as noted in the WDFW timing table for specific sites.

This version of the permit requires all permittees to check the WDFW timing windows for their permitted waterbody before planning treatments. This change was made to reduce confusion regarding which waterbodies and chemicals are subject to timing windows, and to help prevent treatments from occurring outside of waterbody-specific timing windows. Permittees may find timing windows and additional information on the new mapping tool developed by WDFW[14].

[14] https://wdfw.maps.arcgis.com/apps/MapSeries/index.html?appid=34533b2dd4f84932b5fd1a46e494bde6

Modified Timing Window Requests

Permittees may ask to apply endothall outside of the established treatment timing window through a timing window modification request. This may be requested due to the necessity of treating a specific plant early for greater efficacy, or for other reasons. When Ecology receives a modification request, we begin a consultation process with WDFW. As the State wildlife and habitat management agency, WDFW staff have the expertise to determine when a sensitive species or life-stage may be present in a waterbody. The decision to approve, conditionally approve, or deny a modified timing window will be made by Ecology in consultation with WDFW, and the approval process and any appeals will be managed by Ecology.

New to this version of the Irrigation permit, and based on repeated conversations with many WDFW staff, Ecology is asking permittees to provide a justification for why they need a modification from the established treatment timing window and to provide any information they have that supports the permittee's request. This information will be used by WDFW as they develop their advice regarding Ecology's approval of the modification to the treatment timing window.

This version of the permit also removes the requirement for permittees to send timing window modification requests to WDFW Habitat Biologists in addition to Ecology. However, the removal of this requirement does not remove WDFW from the decision-making process of approving updated timing windows. At the request of WDFW, Ecology will receive all timing window modification requests and forward them to WDFW biologists to provide advice to Ecology. WDFW will then make their recommendation based on the information available at the time of request. Similar arrangements already exist between WDFW and DNR to approve forestry practices, so this type of approval flow has been established. This approach has led to greater consistency, as agency staff can contact each other directly to seek assistance. Making Ecology the single point of contact for permittees seeking a timing window modification will streamline communications and improve Ecology's ability to control and maintain records of permit activities.

Because a treatment timing window modification is a change in permit coverage conditions and impacts public access to treated water bodies, Ecology determined that it should go through the same processes as other permit coverage modifications. This includes public notice and a comment period. The public comment process will only go forward if WDFW approves or conditionally approves a treatment timing window modification request. If public comments show that there would be reasons to deny a treatment timing window modification request, Ecology and WDFW may revoke approval.

Modified treatment timing windows are good for one calendar year. Modified treatment timing windows must go through the approval process and modification of coverage process annually, and if no new request is received and approved the treatment timing window will default back to the timing window provided by WDFW on their timing window maps.

E. Points of Compliance

The point of compliance means the location where water treated with pesticides enters surface water bodies that existed prior to the creation of reclamation and irrigation projects. Points of compliance that are not explicitly stated in the permit in Section S4.B are documented in the permit applications of each district.

The following are the points of compliance listed in the current permit. The permit states that for Amon Wasteway, Snipes Creek Wasteway, Sulphur Creek Wasteway, and Crab Creek, the point of compliance shall be at or above the following locations:

1. Amon Wasteway where it exits the golf course at Gage Road (approximately latitude
2. 46.22715, longitude -119.26024).
3. Snipes Creek Wasteway at the Benton 29.32 Lateral (near McCreadie Road) (approximately at latitude 46.25630, longitude -119.67406).
4. Crab Creek at Red Rock Coulee / DCC1 wasteway (approximately at latitude 46.84693, longitude -119.58673).

These four locations were added because there is documented salmonid presence at these locations. These four locations are the upper extent of documented salmonid presence for these waterways. For the purposes of determining presence of salmonids, Ecology required:

- Documentation of salmonid presence (either salmon or steelhead).
- More than one fish found at the site.
- Sufficient geographical information to determine the location of the data.

S5 Monitoring Requirements

A. General Monitoring Requirements

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 only specify alternative methods for parameters without limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

All samples must be analyzed by a laboratory registered or accredited under the provisions of Accreditation of Environmental Laboratories, Chapter 173-50 WAC.

RCW 90.48.260 gives Ecology the authority to establish inspection, monitoring, entry, and reporting requirements. WAC 173-220-210 gives Ecology the authority to require monitoring of the treated waters to determine the effects of discharges on surface waters of the state. Permittees with coverage under the permit must record the amount of pesticides they use at each site and report the pounds used of each active ingredient applied and the acreage treated to Ecology in an annual report.

B. Special Situations

Ecology determined that the previous version of the permit did not provide adequate details on how permittees may qualify for and maintain a reduced monitoring plan. The new permit addresses this gap by providing specific metrics for reporting and compliance that permittees must meet in order to qualify for a reduced monitoring plan. All reduced monitoring plans will be reviewed yearly to ensure that only permittees that continue to follow all permit conditions and have minimal history of non-compliance may use a reduced monitoring schedule. The goal of these additional requirements is to make the process of granting reduced monitoring more uniform for the permit manager, and to inform all parties of the steps required to maintain good standing for a reduced monitoring plan.

Condition S5.A.4 allows for no monitoring if the permittee meets the requirements of this special situation. This condition is based on travel time studies conducted by permittees. The studies were analyzed to determine how long after a peak arrives at a location it takes for no pesticide residue (or dye simulating a pesticide) to be detected. After that amount of time, plus a margin of safety, no monitoring is required for canals/spillways that are reopened (see condition S5.A.4 for details).

The analysis of twelve travel time studies showed that waiting two travel times would result in no detectable pesticides at a particular location. For example, if it takes eight hours for the peak pesticide concentration to reach location X, after an additional eight hours (16 hours total), no detectable pesticides should be present.

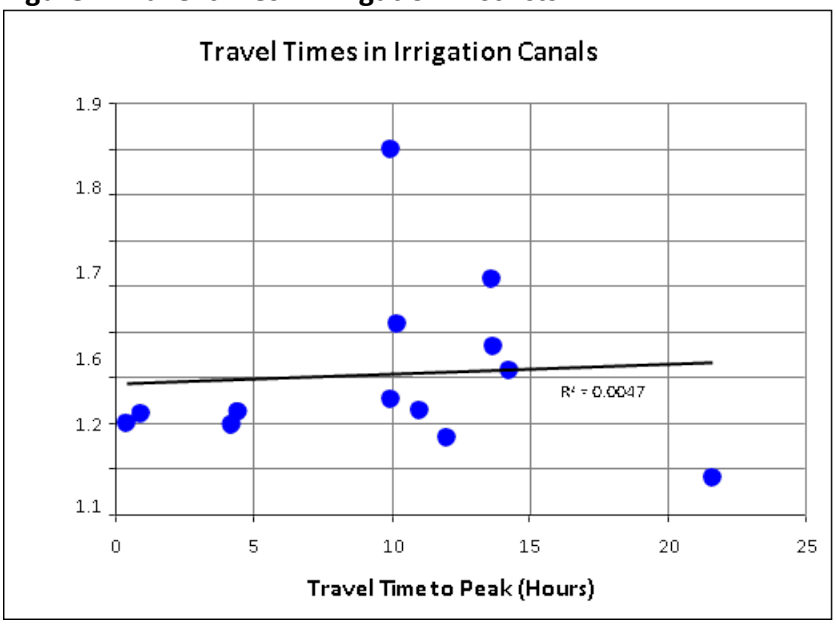
Table 4 summarizes results from the thirteen studies. As the table shows, the maximum amount of time found in the study for no detectable pesticides to be found was 1.8 times the travel time. Adding a margin of safety of 0.2 to the maximum result yields the 2 travel time standard found in condition S5.A.4.

Table 4: Travel Time Studies

District	Location	Total travel times until no pesticide or dye was detected
Roza Irrigation District	Roza Canal MP 37.2 on 06-20-06 @ 14:37	1.1
Wenatchee Reclamation District	Wenatchee RD on September 20, 2006	1.17
Sunnyside Valley Irrigation District	SVID Sunnyside Canal MP 17.70	1.20
Roza Irrigation District	WW5 @ Blockhouse Bridge below Roza Canal	1.2
Roza Irrigation District	Snipes Creek Wasteway @ Benton #2 Siphon	1.2
Sunnyside Valley Irrigation District	SVID Granger Drain Site 24	1.22
South Columbia Basin Irrigation District	Potholes East canal Mile 32 on July 17	1.23
Sunnyside Valley Irrigation District	SVID Matheson HW	1.25
South Columbia Basin Irrigation District	Potholes East canal Mile 32 on Sept 11	1.32
South Columbia Basin Irrigation District	Potholes East canal Mile 32 on Apr 22	1.37
South Columbia Basin Irrigation District	Potholes East canal Mile 32 on Aug 14	1.42
South Columbia Basin Irrigation District	Potholes East canal Mile 32 on June 19	1.51
Wenatchee Reclamation District	Wenatchee RD on September 20, 2006	1.80

As Figure 1 shows, the multiple of travel times it takes before finding no detectable levels of pesticides is independent of the length of the travel time.

Figure 1:Travel times in Irrigation Districts



Permittees may also avoid monitoring after keeping side channels closed by tracking the treated water with dye. Permittees already use tracking dyes such as rhodamine for travel time studies, which makes this method a good alternative for reliably tracking the progress of treated water through a canal. As the study discussed above mentions, dye can be used as a proxy for aquatic pesticides and other chemicals in water. After discussing dye tracking methods with irrigation districts that routinely use dye to monitor their canal treatments, Ecology determined that a chemical treatment with easily distinguished dye slugs marking the beginning and end of the treatment are a good alternative to holding water back for twice the time of travel past a closed channel. As a further precaution to account for variable conditions, instrumentation failure, or uneven mixing, permittees must keep side channels closed for one hour after the end-of-treatment dye marker has passed. Permittees who choose to use this tracking method must sample as normal at the point of compliance for the closed side channel closest to the treatment location only for the first time they use this method. This is to verify that the method is working as expected, and further monitoring is not required after the first use of this tracking method.

Ecology supports this new method of tracking treated water to reopen side channels more quickly after treatment events for several reasons. In discussion with permittees, Ecology learned that some districts face safety issues with both infrastructure and personnel when they have to hold treated water for twice the time of travel. Tracking the treated water in real-time with dye is a more accurate method of detecting safe chemical levels in the canal than estimating with twice the time of travel. According to the data in Figure 1, most canals should be clear for reopening earlier than twice the calculated travel time, and in situations where low flow or obstructions increase travel time, the dye will show that the treated water is moving more slowly than expected.

C. Sampling Requirements

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

S6 Best Management Practices

The permit requires industry to continue examining alternatives to reduce the need for aquatic pesticides. The following practices have been used in similar activities:

1. All errors in application and spills are reported to the proper authority.
2. Informing the public of planned spray activities.
3. Applying a decision matrix concept to the choice of the most appropriate formulation.
4. Staff training in the proper application of pesticides and handling of spills.
5. The applicators must follow the pesticide label requirements and be knowledgeable about human health risks and mitigation processes as outlined in the MSDS.
6. The irrigation district must develop and follow an IVPM plan accepted by Ecology (see S6.E of the permit).
7. The irrigation districts will be required to monitor treated waters during the season. Monitoring can result in a better management of pesticide applications, avoidance of excessive applications, and also reduced amounts of the pesticides.

A. Operation and Maintenance

WAC 220-660-250 requires the use of fish screens to exclude fish from irrigation canals and other water intakes or diversions. This protects the health and safety of fish, including salmon and steelhead, and prevents the incursion of fish species to the extent that an irrigation canal might be considered fish habitat. The second consideration, while unlikely given the frequent use of chemicals in irrigation canals, may lead to legal issues for permittees and result in further pesticide use restrictions in the permit.

B. Spill Prevention and Control

WAC 173-226-080(1)(d) states that a discharge of any pollutant more frequently or at a level in excess of that authorized is a permit violation. Ecology requires that if a Permittee violates permit conditions, it must take steps to stop the activity, minimize any violations, and report those violations to Ecology. For pesticide applications authorized in the Permit, applicators must report violations to the Aquatic Pesticide Permit Manager and the Regional Spills Hotline (ERTS Hotline) within 24 hours. This allows Ecology to determine if more action is necessary to mitigate the permit violation.

WAC 173-226-070 allows Ecology to place permit conditions to prevent or control pollutant discharges from run off, spillage or leaks, sludge or waste disposal, or materials handling or storage. It also allows Ecology to require the use of BMPs that includes schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of the waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The Permittee must be prepared to mitigate for any potential spills and, in the event of a spill, perform the necessary cleanup, and notify the appropriate Ecology regional office (see RCW 90.48.080, and WAC 173-226-070).

D. Public Notice and Posting Procedures

Ecology will require permittees to notify the public of planned pesticide treatments. Permittees may use either a newspaper, physical newsletter, or electronic distribution (such as their website, social media, or an email list) of this notice. This is a similar notice that Ecology requires prior to pesticide treatments, and it is already provided to clients of the permittee that draw water. By providing this information to the pubic, permittees will help keep the community informed of public health risks in the area.

This version of the permit requires an approved “no trespassing” pictogram to appear on posted signs in areas where the public may have reasonable access to the irrigation canal. One documented disparity in environmental health is language access. Using pictograms along with signs in English and Spanish will allow for the hazard information on warning signs to be communicated to more individuals, including children and those who cannot read English or Spanish, without the burden of increased translations of sign text.

E. Plans and Studies

Up-to-date travel time data is integral to the function of the permit. Being able to predict when the peak concentration of a pesticide treatment will reach or pass a specific point in the irrigation system allows permittees to sample at the correct time and prevent illegal discharges. Permittees are required to submit a new travel time study report to Ecology every five years. Some permittees conduct additional travel time studies before a new report is due. In this version of the permit, the permittee may need to conduct a new full study and submit a new report if the travel time varies more than 10% from the previously reported trave time. Many

conditions impact travel time, including flow rate, water use, and plant growth. Permittees may provide data and a narrative explanation to Ecology explaining how these types of temporary changes in conditions caused the change in travel time, as opposed to a permanent change in canal structure that would impact all travel times.

Travel time data is typically collected using dye tracking. At the time of permit issuance, this is the only standard method Ecology is aware of to conduct these studies. Ecology may consider accepting new methods of determining travel time in irrigation conveyance systems if a new validated methodology becomes available.

S7 Recordkeeping

Section S7 of the permit contains specific conditions based on Ecology's authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-226-090).

Records Retention

Ecology based this permit condition on its authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-226-090). Applicators must keep all records and documents required by this permit for five years. If there is any unresolved litigation regarding the discharge of pollutants by the Permittee, they must extend the period of record retention through the course of the litigation (WAC 173-226-090).

S8 Reporting

WAC 173-226-090 provides Ecology the authority to specify any appropriate reporting and recordkeeping requirements to control discharges to waters of the state.

Electronic Reporting

Permittees who do not have reliable internet access may submit an Electronic Waiver Request form (ECY 070-381) to Ecology in accordance with Special Condition S7.E (How to Submit Documents to Ecology). Electronic reporting of some required documents will be available to permittees with this version of the permit.

General Conditions

Ecology bases the General Conditions on state and federal law and regulations.

Bibliography

Sources of information to support this action are identified as references. Documents prepared after June 12, 2014 also identify information sources by the 11 categories below. Each reference is followed by a bracketed number which indicates the source category.

1. Peer review is overseen by an independent third party.
2. Review is by staff internal to Department of Ecology.
3. Review is by persons that are external to and selected by the Department of Ecology.
4. Documented open public review process that is not limited to invited organizations or individuals.
5. Federal and state statutes.
6. Court and hearings board decisions.
7. Federal and state administrative rules and regulations
8. Policy and regulatory documents adopted by local governments.
9. Data from primary research, monitoring activities, or other sources, but that has not been incorporated as part of documents reviewed under other processes.
10. Records of best professional judgment of Department of Ecology employees or other individuals.
11. Sources of information that do not fit into one of the other categories listed.

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APPENDIX A: DEFINITIONS

"**Administrator**" means the administrator of the EPA.

"**Antidegradation Policy**" is as stated in WAC 173-201A-070.

"**Authorized representative**" means:

1. If the entity is a corporation, the president, secretary, treasurer, or a 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 the manager of one or more manufacturing, production, or operation facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
2. If the entity is a partnership or sole proprietorship, a general partner or proprietor, respectively. and
3. If the entity is a federal, state or local governmental facility, a director or the highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or his/her designee.

The individuals described in paragraphs 1 through 3, above, may designate another authorized representative if the authorization is in writing, the authorization specifies the individual or position responsible, and the written authorization is submitted to the Department.

"**Best management practices (BMPs)**" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State and their sediments. BMPs also include, but are not limited to, treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"**Certified applicator**" means any individual who is licensed as a commercial pesticide applicator, commercial pesticide operator, public operator, private-commercial applicator, demonstration and research applicator, or certified private applicator, or any other individual who is certified by the director to use or supervise the use of any pesticide which is classified by the EPA or the director as a restricted use pesticide.

"**Code of Federal Regulations (CFR)**" means a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. Environmental regulations are in Title 40.

"**Composite sample**" means the combined mixture of not less than four (4) "discrete samples" taken at selected intervals based on an increment of either flow or time. Volatile pollutant discrete samples must be combined in the laboratory immediately prior to analysis. Each discrete sample shall be of not less than 200 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for Examination of Water and Wastewater.

"**Conveyance**" means a mechanism for transporting water or wastewater from one location to another location including, but not limited to, pipes, ditches, and channels.

"**Department**" means the Washington State Department of Ecology.

"**Detention**" means the collection of water into a temporary storage device with the subsequent release of water either at a rate slower than the collection rate, or after a specified time period has passed since the time of collection.

"**Director**" means the director of the Washington State Department of Ecology or his/her authorized representative.

"**Discharger**" means an owner or operator of any "facility", "operation", or activity subject to regulation under Chapter 90.48 RCW.

"**Discrete sample**" means an individual sample which is collected from a waste stream on a onetime basis without consideration to flow or time, except that aliquot collection time should not exceed fifteen (15) minutes in duration.

"**Effluent limitation**" means any restriction established by the local government, the Department, and EPA on quantities, rates, and concentrations of chemical, physical, biological, and/or other effluent constituents which are discharged from point sources to any site including, but not limited to, waters of the state.

"**Environmental Protection Agency (EPA)**" means the U.S. Environmental Protection Agency or, where appropriate, the term may also be used as a designation for a duly authorized official of said agency.

"**Erosion**" means the wearing away of the land surface by movements of water, wind, ice, or other agents including, but not limited to, such geological processes as gravitational creep.

"**Existing operation**" means an operation which commenced activities resulting in a discharge, or potential discharge, to waters of the state prior to the effective date of the general permit for which a request for coverage is made.

"**Facility**" means the actual individual premises owned or operated by a "discharger" where process or industrial wastewater is discharged.

"**FWPCA**" means the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), as now or as it may be amended.

"**General permit**" means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

"**Gpd**" means gallons per day.

"**Grab sample**" is synonymous with "discrete sample".

"**Ground water**" means any natural occurring water in a saturated zone or stratum beneath the surface or land or a surface water body.

“**Hazardous waste**" means those wastes designated by 40 CFR Part 261, and regulated by the EPA.

"**Individual permit**" means a discharge permit for a single point source or a single facility.

"**Industrial wastewater**" means water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feedlots, poultry house, or dairies. The term includes contaminated storm water and also, leachate from solid waste facilities.

“**Irrigation System**” means a controlled system consisting primarily of manmade canals, ditches, and ponds designed and operated for the delivery or management of water for irrigation purposes.

"**mg/L**" means milligrams per liter and is equivalent to parts per million (ppm).

"New operation" means an operation which commenced activities which result in a discharge, or a potential discharge, to waters of the state on or after the effective date of an applicable general permit.

"**NPDES**" means the National Pollutant Discharge Elimination System under section 402 of FWPCA.

"**Operation**" is synonymous with "facility".

"**Party**" means an individual, firm, corporation, association, partnership, copartnership, consortium, company, joint venture, commercial entity, industry, private corporation, port district, special purpose district, irrigation district, trust, estate, unit of local government, state government agency, federal government agency, Indian tribe, or any other legal entity whatsoever, or their legal representatives, agents, or assignee.

"**Permit**" means an authorization, license, or equivalent control document issued by the Department to implement Chapter 173-200 WAC, Chapter 173-216 WAC and/or Chapter 173-226 WAC.

"**Person**" is synonymous with "party".

"**pH**" means the logarithm of the reciprocal of the mass of hydrogen ions in grams per liter of solution. Neutral water, for example, has a pH value of 7 and a hydrogen-ion concentration of 10-7. pH is a measure of a substance's corrosivity (acidity or alkalinity).

“**Point of Compliance**” means the location where water treated with pesticides enters surface water bodies that existed prior to the creation of reclamation and irrigation projects.

"**Point source**" means any discernible, confined and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"**Pollutant**" means any substance discharged, if discharged directly, would alter the chemical, physical, thermal, biological, or radiological integrity of the waters of the state, or would be likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare, or to any legitimate beneficial use, or to any animal life, either terrestrial or aquatic. Pollutants include, but are not limited to, the following: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, pH, temperature, TSS, turbidity, color, BOD5, TDS, toxicity, odor and industrial, municipal, and agricultural waste.

"**Priority pollutant**" means those substances listed in the federal 40 CFR Part 423, Appendix A, or as may be amended.

"**Process wastewater**" means water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product.

"**Reasonable times**" means any time during normal business hours; hours during which production, treatment, or discharge occurs; or times when the Department suspects occurrence of a violation.

"**Regional administrator**" means the regional administrator of Region X of the EPA or his/her authorized representative.

"**Retention**" means the collection of water into a permanent storage device, with no subsequent release of water.

"**Severe property damage**" means substantial physical damage to property, damage to the pretreatment facilities or treatment/disposal facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays or losses in production.

"**Shall**" is mandatory.

"**Significant**" is synonymous with "substantial".

"**Significant process change**" means any change in a facility's processing nature which will result in new or substantially increased discharges of pollutants or a change in the nature of the discharge of pollutants, or violate the terms and conditions of this general permit, including but not limited to, facility expansions, production increases, or process modifications.

"**Site**" means the land or water area where any "facility", "operation", or "activity" is physically located or conducted, including any adjacent land used in connection with such facility, operation, or activity. "Site" also means the land or water area receiving any effluent discharged from any facility, operation, or activity.

"**Small business**" has the meaning given in RCW 43.31.025(4).

"**Standard Industrial Classification (SIC) Code**" means a classification pursuant to the Standard Industrial Classification Manual issued by the U.S. Office of Management and Budget.

"**State**" means the State of Washington.

"**Substantial**" means any difference in any parameter including, but not limited to, the following: monitoring result, process characteristic, permit term or condition; which the Department considers to be of significant importance, value, degree, amount, or extent.

"**Surface waters of the state**" includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands, and all other surface waters and water courses within the jurisdiction of the state of Washington.

"**Total suspended solids (TSS)**" means total suspended matter that either floats on the surface of, or is in suspension in water or wastewater, expressed in mg/L.

"**Toxic amounts**" means any amount, i.e., concentration or volume, of a pollutant which causes, or could potentially cause, the death of, or injury to, fish, animals, vegetation or other desirable resources of the state, or otherwise causes, or could potentially cause, a reduction in the quality of the state's waters below the standards set by the Department or, if no standards have been set, causes significant degradation of water quality, thereby damaging the same.

"**Toxics**" means those substances listed in the federal priority pollutant list and any other pollutant or combination of pollutants listed as toxic in regulations promulgated by the EPA under section 307 of the FWPCA (33 U.S.C. 1317 et seq.), or the Department under Chapter 173-200 WAC, Chapter 173-201A WAC, or Chapter 173-204 WAC.

"**µg/L**" means micograms per liter and is equivalent to parts per billion (ppb).

"**Unirrigated**" means any lands having not been irrigated within 10 days prior to, or within 60 days after the application of any waste stream.

"**Upset**" means an exceptional incident in which a discharger unintentionally and temporarily is in a state of noncompliance with permit effluent limitations due to factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation thereof.

"**Wastewater**" means liquid-carried human wastes or a combination of liquid-carried waste from residences, business buildings, or industrial establishments.

"**Waters of the state**" means all waters defined as "surface waters of the state" and all waters defined as "waters of the state" in RCW 90.40.020.

"**Water quality**" means the chemical, physical, biological characteristics of water, usually in respect to its suitability for a particular purpose.

"**Water Quality Preservation Area (WQPA)**" means waters which have been designated as high quality waters based upon one or more of the following criteria:

1. Waters in designated federal and state parks, monuments, preserves, wildlife refuges, wilderness areas, marine sanctuaries, estuarine research reserves, and wild and scenic rivers;
2. Aquatic habitat having exceptional importance to one or more life stage of a candidate of listed priority species, established by the state Department of Fish & Wildlife, or a federally proposed or listed threatened or endangered species;
3. Rare aquatic habitat, ecological reference sites, or other waters having unique and exceptional ecological or recreational significance.

"**Water quality standards**" means the state of Washington's water quality standards for ground waters of the state (Chapter 173-200 WAC) and the state of Washington's water quality standards for surface waters of the state (Chapter 173-201A WAC).

In the absence of other definitions as set forth herein, the definitions as set forth in 40 CFR Part 403.3 shall be used for circumstances concerning the discharge of wastes.

APPENDIX B: PUBLIC INVOLVEMENT INFORMATION

Ecology invites public comment on the proposed draft permit until 11:59 p.m. on Monday, March 6, 2023. Ecology welcomes all comments that address the permit requirements in the formal draft ISAWC General Permit. For Ecology to adequately address comments, please include the following information with each comment:

1. The specific permit language used in the requirement subject to your comment. Include the page number(s) and, where indicated, section reference (i.e., S8.E.7.a).
2. A brief, concise comment including the basis for the comment, and in particular the administrative, legal, technical, or other basis for the concern.
3. Suggested permit language or a conceptual alternative to address your concern.

Submit oral comments by attending and testifying at the public hearings.

Send written comments to Ecology by either:

1. eComments[15] (preferred)
2. Mail

Washington State Department of Ecology
Water Quality Program
Attn: Danielle Edelman
PO Box 47696
Olympia, WA 98504-7696

Public Hearings and Workshops

Ecology will host two public workshops and hearings on the proposed changes in the draft permits. The workshops provide Ecology an opportunity to explain the proposed changes and to answer questions. Each workshop will be immediately followed by a public hearing. The public hearings will provide an opportunity for the public to give formal comments on the draft permits or fact sheet.

Tuesday, February 21, 2023 – 10:00 AM
Join the Webinar[16]*
Call-in Only: +1 (253) 205-0468
Meeting ID: 882 8312 9761

Wednesday, February 22, 2023 – 5:30 PM
Join the Webinar[17]*
Call-in Only: +1 (253) 205-0468
Meeting ID: 876 2835 0186

*The workshops and hearings offered via webinar allow individuals to view the presentation and provide testimony via computer or mobile device.

[15] https://wq.ecology.commentinput.com/?id=4GdZb
[16] https://waecy-wa-gov.zoom.us/j/88283129761#success
[17] https://waecy-wa-gov.zoom.us/j/87628350186#success

Right to Appeal

Permittees and the public have a right to appeal this permit to the Pollution Control Hearings Board (PCHB) within 30 days of the date of issuance of the final permit. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC.

To appeal you must do the following within 30 days of the date of issuance of this permit:

- File your appeal and a copy of this permit with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form by mail or in person (see addresses below). Email is not accepted.

Appealing parties must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Pollution Control Hearings Board
1111 Israel Road SW
Suite 301
Tumwater, WA 98501

Mailing Addresses

Department of Ecology
Attn: Appeals Processing Desk
P.O. Box 47608
Olympia, WA 98504-7608

Pollution Control Hearings Board
P.O. Box 40903
Olympia, WA 98504-0903

APPENDIX C: ACRONYMS

Table 5: Acronyms

Acronym	Meaning
AKART	All known, available, and reasonable methods of prevention, control, and treatment
BAT	Best available technology economically achievable
BMP	Best management practice
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
DMR	Discharge Monitoring Report
Ecology	Washington State Department of Ecology
EIA	Economic Impact Analysis
EPA	Environmental Protection Agency
ISAWC	Irrigation System Aquatic Weed Control General Permit
NPDES	National Polutant Discharge Elimination System
PCHB	Pollution Control Hearings Board
RCW	Revised Code of Washington State
SEPA	State Environmental Policy Act, RCW 43.21C
TMDL	Total maximum daily load
TSS	Total suspended solids
WAC	Washington Administrative Code

APPENDIX D: LIST OF PERMITTEES

The following entities have applied for coverage under this general permit (the corresponding city is in parentheses):

1. Cascade Irrigation District (Ellensburg)
2. Columbia Irrigation District (Kennewick)
3. East Columbia Basin Irrigation District (Othello)
4. Ellensburg Water Company (Ellensburg)
5. Icicle & Peshastin Irrigation District
6. Kennewick Irrigation District (Kennewick)
7. Kittitas Reclamation District (Ellensburg)
8. Naches-Selah Irrigation District (Selah)
9. Okanogan Irrigation District (Okanogan)
10. Quincy-Columbia Basin Irrigation District (Quincy)
11. Roza Irrigation District (Sunnyside)
12. Selah-Moxee Irrigation District (Moxee)
13. South Columbia Basin Irrigation District (Pasco)
14. Sunnyside Valley Irrigation District (Sunnyside)
15. Union Gap Irrigation District (Wapato)
16. Wenatchee Reclamation District (Wenatchee)
17. Westside Irrigating Company (Ellensburg)
18. Yakima Valley Canal Company (Yakima)
19. Yakima-Tieton Irrigation District (Yakima)

In addition to these 19 entities, other irrigation districts in the state that may apply for coverage under the permit include:

- Aeneas Lake Irrigation District (Tonasket)
- Agnew Irrigation District (Carlsborg)
- Ahtanum Irrigation District (Yakima)
- Alta Vista Irrigation District (Okanogan)
- Artesian Irrigation District (Walla Walla)
- Badger Mountain Irrigation District (Kennewick)
- Beehive Irrigation District (Wenatchee)
- Benton Irrigation District (Benton City)
- Black Sands Irrigation District (Moses Lake)
- Blalock Irrigation District #3 (Walla Walla)
- Blalock Orchard District #12 (Walla Walla)
- Brewster Flat Irrigation District (Brewster)

- Bridgeport Bar Irrigation District (Brewster)
- Bridgeport Irrigation District #1 (Bridgeport)
- Buena Irrigation District (Zillah)
- Burbank Irrigation District #4 (Pasco)
- Carnhope Irrigation District (Spokane)
- Chelan Falls Irrigation District (Chelan)
- Chelan River Irrigation District (Chelan)
- Cline Irrigation District (Sequim)
- Columbia Water & Power District (Paterson)
- Consolidated Irrigation District #14 (College Place)
- Consolidated Irrigation District #19 (Greenacres)
- Eastside Irrigation District #6 (Touchet)
- Entiat Irrigation District (Entiat)
- Franklin County Irrigation District #1 (Pasco)
- Gardena Farms Irrigation District #13 (Touchet)
- Grandview Irrigation District (Grandview)
- Greater Wenatchee Irrigation District (East Wenatchee)
- Green Tank Irrigation District #11 (Walla Walla)
- Hearn Irrigation District (Dayton)
- Helensdale Reclamation District (Malott)
- Highland Irrigation District (Sequim)
- Hutchinson Irrigation District (Spokane)
- Hydro Irrigation District (Walla Walla)
- Icicle Irrigation District (Cashmere)
- Isenhart Irrigation District (Chelan)
- Kiona Irrigation District (Benton City)
- Lake Chelan Reclamation District (Manson)
- Lowden Irrigation District #2 (Lowden)
- Lower Squilchuck Irrigation District (Wenatchee)
- Lower Stemilt Irrigation District (Wenatchee)
- Methow Valley Irrigation District (Twisp)
- Millerdale Irrigation District (Wenatchee)
- Moab Irrigation District #20 (Newman Lake)
- Model Irrigation District (Spokane)
- Moses Lake Irrigation & Rehabilitation District (Moses Lake)
- Mud Creek Irrigation District #7 (Lowden)
- Naches-Union Irrigation District (Yakima)

- North Dales Irrigation District (Dallesport)
- North Spokane Irrigation District #8 (Spokane)
- Orchard Avenue Irrigation District #6 (Spokane)
- Orchard Irrigation District #10 (Walla Walla)
- Oroville-Tonasket Irrigation District (Oroville)
- Palisades Irrigation District (East Wenatchee)
- Pasadena Park Irrigation District #17 (Spokane)
- Peshastin Irrigation District (Cashmere)
- Sequim Dungeness Valley Water Users (Sequim)
- Sequim Prairie Tri Irrigation Company (Sequim)
- South Naches Irrigation District (Nahes)
- Stemilt Irrigation District (Wenatchee)
- Terrace Heights Irrigation District (Yakima)
- Touchet Valley Irrigation District #16 (Waitsburg)
- Trentwood Irrigation District #3 (Spokane)
- Vera Water and Power (Veradale)
- Walla Walla Water & Power District #18 (Walla Walla)
- Wenatchee Heights Reclamation District (Wenatchee)
- Wenatchee-Chiwawa Irrigation District (Leavenworth)
- West End Irrigation District (Dayton)
- White Salmon Irrigation District (White Salmon)
- Whitestone Reclamation District (Loomis)
- Wolf Creek Reclamation District (Winthrop)
- Yakima Reservation Irrigation District (Yakima)
- Zillah Irrigation District (Zillah)

APPENDIX E: RESPONSE TO COMMENTS

See Appendix E: Response to Comments in the separate appendix. The document is available on the permit website.