

**AQUATIC PLANT AND ALGAE MANAGEMENT  
GENERAL PERMIT**

**Addendum to the Fact Sheet  
Appendix C: Response to Comments**

**March 17, 2021**

## SUMMARY OF MAJOR PERMIT CHANGES

In finalizing this permit, the Washington State Department of Ecology (Ecology) considered all of the public comments received during the public comment period. Ecology received only written comments, as no comments were received during oral testimony at the webinars and held on December 2 and 3, 2020.

This is a summary of the changes made to the Aquatic Plant and Algae Management General Permit (permit) in response to the public comments received between October 21, 2020 and December 7, 2020.

Additional minor changes to permit wording and punctuation have been made to correct formatting, grammar and improve clarity.

In **Table 2**, references to “timing table” have been changed to “timing window map”, and a link to the new WDFW timing window mapping tool has been added to footnote 2.

**S2.D** has been updated to add, “Treatment timing window modifications may trigger permit coverage modifications. See Special Condition S4.D.4 for more information on the treatment timing window modification process.” This is meant as a point of clarification.

**S4.D.4** has been updated to add, “Treatment timing window modifications may trigger permit coverage modifications. Ecology will notify the permittee if this occurs.” This is meant as a point of clarification.

**S6.B.1** has been updated to clarify the standards for continuous pH monitoring during alum treatments. Permittees must measure pH at intervals no greater than fifteen minutes during alum treatments.

The following adjuvants have been approved by WSDA since October 21, 2020, and have been added to **Appendix E – Listed Adjuvants**:

- AgriSolutions Inergy / 1381-13001
- CHS Deppex / 48013-21004
- Enerplex / 48013-21005
- Guidance-EA / 2935-20002
- Optify L27 /1381-21001

## COMMENTS AND RESPONSES

Ecology published a draft Aquatic Plant and Algae Management General Permit on October 21, 2020 for public comment. The public comment period ended December 1, 2020 at 5PM. During the comment period, Ecology conducted two public hearing and workshop webinars. Ecology also accepted public comments via comment form on the permit website and email.

Ecology considered all comments in preparing the final permit. The response to comments documents Ecology's response to each commenter and any changes to the permit that resulted from the comment. Ecology received 30 comments during the public comment period. Each comment is numbered. The comment number that corresponds to each commenter is given in Table 1. These numbers allow the commenter to find Ecology's response to their comments. Comments may be summarized; full text of all comments received by Ecology can be found at: [http://www.ecy.wa.gov/programs/wq/pesticides/final\\_pesticide\\_permits/aquatic\\_plants/historical.html](http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/aquatic_plants/historical.html).

The response to comments is broken into two sections:

[Section 1](#) Table of Commenters

[Section 2](#) Comments on the Permit and Related Documents

## SECTION 1: TABLE OF COMMENTERS AND COMMENT NUMBERS

**Table 1: Commenters**

<b>Commenter Name</b>	<b>Affiliation</b>	<b>Comment Number(s)</b>
Patrick M. Pockat	Interested Party	1
Dianne Girard	Interested Party	2, 3
Anonymous	Interested Party	2, 3, 4, 5
Don Russell	Interested Party	6, 12, 27, 28
Arthur West	Interested Party	7, 29
David Egan	Interested Party	8
Esther Kronenberg	Citizens for a Clean Black Lake	3, 4, 7, 12, 29
Suzanne Kline	Citizens for a Clean Black Lake	7, 29
Jerry Dierker	Citizens for a Clean Black Lake	7, 29
Northwest Aquatic Ecosystems	Northwest Aquatic Ecosystems	6, 9, 10
Jamey Stoddard	U.S. Environmental Protection Agency	12
Susan Poulson	U.S. Environmental Protection Agency	12
King County Noxious Weed Program	King County Noxious Weed Program	13, 14
Washington Department of Fish and Wildlife	Washington Department of Fish and Wildlife	13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
Kyle Steelhammer	NW Aquatic Management	30

## SECTION 2: COMMENTS ON THE PERMIT

- 1) Is it okay to manage toxic algae and sludge through aeration? If so do we need to submit a plan? This seems like the least invasive at to maintain a manmade lake.**

### Response:

The Aquatic Plant and Algae Management General Permit does not regulate non-chemical algae management treatments. You can contact the Washington Department of Fish and Wildlife to inquire about whether you need a Hydraulic Project Approval (HPA) for this project. You can find more information at <https://wdfw.wa.gov/licenses/environmental/hpa>.

- 2) Ecology should inspect permitted waterbodies to confirm that chemical treatment is necessary and appropriate. Ecology should hold applicators accountable and ensure that they are treating according to permit requirements.**

### Response:

Unfortunately, Ecology does not have the capacity to inspect permitted waterbodies without first receiving an Environmental Report Tracking System (ERTS) complaint. We encourage waterfront property owners and members of the public to report improper spraying or notice of treatments, but we cannot preemptively send inspectors to confirm that the requested treatments are appropriate and necessary. In general, Ecology does not make value judgements on what treatments are most appropriate for a permittee and their situation, and if a treatment is legal under the permit then Ecology will provide permit coverage. If a property owner witnesses a treatment on their property that has not been permitted, or sees a treatment notice for the same, we encourage them to contact Ecology as soon as possible to file a complaint. You can find your regional ERTS contact on the Ecology website at <https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue>. Due to the nature of aquatic plant and algae treatments, Ecology generally cannot send an inspector before the treatment is complete. Ecology can provide technical assistance in these types of disputes, but does not have the authority or capacity to monitor and inspect to ensure compliance.

- 3) The Permit should require permittees to prove that they have the authority to obtain and use the permit in the treatment area.**

### Response:

It is the responsibility of the permittee to communicate with waterfront businesses and property owners before applying for permit coverage, especially if there are known disagreements regarding aquatic pesticide or algae treatments. Permittees are required to provide public notice of new permit coverages and renewed permit coverages, and impacted members of the public may comment if they believe the permittee does not have the authority to conduct treatments in the planned treatment areas. Ecology can provide technical assistance in these types of disputes, but does not have the authority or capacity to monitor and inspect to ensure compliance.

The attestation that sponsors make when they sign their NOI is copied below, and it provides more information about the authority they are responsible for and the consequences of misrepresentation.

***Notice of Intent (NOI) Application for Private Project Permit Coverage Form, Aquatic Plant and Algae Management General Permit***

**6(c):** *“I/We acknowledge that in order to hold permit coverage, and while I/we hold permit coverage, I/we have the authority to manage the waterbody, or area of waterbody, that I am/we are proposing to manage. I am aware that misrepresentation of my/our authority can result in enforcement actions and/or revocation of permit coverage.”*

- 4) If a treatment is proposed in an identified or emergent wetland, Ecology should require a survey by an independent botanist to determine appropriate treatments.**

**Response:**

Ecology recognizes that aquatic pesticide and algae management treatments are sometimes necessary in or near wetlands to protect beneficial uses of the waterbody, but that wetlands must not be degraded by treatments. We believe that the language in the permit is sufficient to prevent these treatments from harming wetlands, as section S3.F (*Additional requirements for Discharges to Waterbodies where Sensitive, Threatened, or Endangered Plants are Present*), applies to wetlands. This section gives Ecology the authority to require a plant survey by an independent botanist and mitigation measures if we determine that sensitive, threatened, or endangered (rare) plants are present in the proposed treatment area.

- 5) Permit coverage should be restricted to single property owners. Community organizations should not be able to apply for coverage on behalf of multiple property owners.**

**Response:**

Ecology allows community organizations to sponsor permit coverage applications because it is often the most efficient way for large sections of a waterbody or entire waterbodies to be treated, including community resources such as docks and boat ramps. Additionally, aquatic plant and algae treatments are often expensive, and require the community to share the cost in order to maintain the beneficial uses of the lake. Homeowners associations may also have agreements that require community support of lake maintenance. If an individual property owner does not want their plot included in lake treatments, they may communicate with the community organization during the permit application process. Ecology cannot guarantee that an individual plot may be excluded from permit coverage, as some HOAs and other lake management organizations may require property owners to participate in lake treatments. The NOI requires permittees to submit maps of the proposed treatment area, and this will ensure that a record is made that excludes individual properties if necessary.

- 6) The phrase “powdered iron must be applied to the water surface as a slurry” should be eliminated. Granulated iron can be an effective phosphorus sequestration treatment, and some iron sizes will not disperse well as a slurry. Additionally,**

**elemental and granulated iron is a relatively inexpensive and highly effective product for phosphorus sequestration.**

**Response:**

Ecology has reviewed state water quality standards, and we have decided to accept this change to the permit. Granulated iron treatments will be allowed under this permit under the condition that neither the product nor treatment activities degrade water quality.

The application of pesticides and other chemicals must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Aquatic Plant and Algae Management General Permit Page 8 Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards. Permittees must use All Known, Available, and Reasonable methods of pollution control, prevention, and Treatment (AKART) when applying pesticides. Compliance with this permit, the Washington Pesticide Control Act and the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label, as well as with WDFW Treatment Timing Windows and SOPs, constitute AKART.

**Change:**

**Table 3: Specific Restrictions on Application of Products for Sequestration of Phosphorus  
Row 4**

<b>Phosphorus Sequestration Products</b>	<b>Subject to Timing</b>	<b>Restrictions/ Advisories</b>	<b>Treatment Limitations</b>	<b>Other Specific Restrictions</b>
<b>Powdered or Granulated Iron</b>	No for fish – check timing table for other priority species	None	<ul style="list-style-type: none"> <li>➤ <del><b>Powdered iron must be applied to the water surface as a slurry</b></del></li> <li>➤ Do not apply where anoxic conditions (zero percent dissolved oxygen) may occur, including anoxic conditions created by applications of herbicide or algaecide.</li> </ul>	A jar test must be completed prior to treatment to identify proper dosing levels.

- 7) **There is no permit on the PARIS website for Black Lake Flood Control District, and I did not find the WAG number for the permit the district currently holds. The most recent report from the Thurston County Water Quality program finds that there is no algae present in Black Lake since the alum treatment done in 2016, so no further treatments are necessary at this time. Therefore, I believe this permit coverage is**

**illegal and they do not have the authority to request treatments and their coverage should be terminated.**

**Response:**

The Aquatic Plant and Algae Management General Permit is in the process of being digitized, and not all coverages have been uploaded to the public Permitting and Reporting Information System (PARIS) website. We apologize if there is any confusion surrounding the PARIS system database. It is Ecology's goal to have all general permits and associated permit coverages on PARIS as soon as staff resources permit.

Even if a permit coverage is not currently available on the public PARIS database, the permit coverage is still legal and valid. You must submit a public records request to obtain a copy of any permit document that is not currently on PARIS. You can visit [https://ecologywa.govqa.us/WEBAPP/rs/\(S\(ahadgktxyhwmk5dyx3qxeaxj\)\)/supporthome.aspx](https://ecologywa.govqa.us/WEBAPP/rs/(S(ahadgktxyhwmk5dyx3qxeaxj))/supporthome.aspx) to submit a public records request and get more information about the process.

- 8) Property owners within one-quarter mile of the shoreline should be notified in writing when an application for permit coverage is submitted. Property owners should be notified of scheduled treatments two weeks in advance, and notices should include details of who, what, and where.**

**Response:**

The permit already requires property owners within one-quarter mile of the treatment site to be notified in writing of treatments at least ten days in advance, and at most forty two days in advance, before the first treatment of each year. If additional treatments are necessary, the permittee must provide additional notifications to any resident or business that specifically requests further notification of treatment dates (Permit S5.C.5). Ecology believes 10 days is adequate time for treatment notification. The Business and Residential Notice Template is available on the permit website (<https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Aquatic-plant-algae-management>) and includes the products planned for use, active ingredients, plants and/or algae targeted, and the location of treatments. The notice also identifies the permittee, so the public may contact them or Ecology with any questions about planned treatments.

- 9) We have found very little data that supports the percentages Ecology mandates within the permit. NWAE does support the need for littoral zone plant coverage. Perhaps Ecology can provide us with the data relied upon that resulted in the percentages identified in your permit. We suggest using a modification request process for littoral zone coverage similar to the one used for timing window modifications.**

**Response:**

The littoral zone limitations in the permit exist to protect native plant habitats, and do not apply to noxious weeds. Permittees may treat 100% of listed noxious weeds (Class A, Class B and B-

designate, and Class C). Permittees may also treat 100% of any quarantine-listed submersed weeds as long as a permitted selective herbicide is used. We believe this is an appropriate balance between habitat protection and the necessary treatment of invasive species in and around waterbodies. We came to this decision through internal discussions with water quality technical staff and the littoral zone limitations for native nuisance plant removal is based upon best professional judgement. Ecology will not be providing exemptions or modifications to this limitation at this time.

**10) Ecology needs to address the ability to control sensitive weed species in and around community swimming areas or community fishing docks. If a waterbody has sufficient sensitive weed coverage lake-wide then removing such from public areas that create safety hazards should be made available to the applicant. The draft permit does not consider safety within these high use areas and believes that public safety is secondary to weed growth. The current permit allows for no control within these areas if a sensitive weed is present. Once again some type of review of these high use areas on a lake by lake basis should be included within the permit.**

**Response:**

The permit allows for treatment in areas where sensitive and rare plant species are found if a survey is conducted by an independent botanist and a mitigation plan is provided to ecology with the survey data. Ecology reviews the survey results and mitigation plan, and makes a determination whether treatment can continue as planned (Permit S3.F). We are able to provide technical assistance in cases where sensitive plant coverage is preventing other beneficial uses of the waterbody in high-use areas.

**11) In reference to the dissolved oxygen monitoring requirement for total lake toxic algae treatment and the proposed standard that would disallow such treatment. Science strongly supports the need to treat toxic blooms in a timely fashion. Science has also shown that non treatment of toxic blooms exposes the public to serious acute and chronic health hazards. Human health must be taken into consideration before establishing criteria that would increase such unnecessary exposure.**

**Science also has shown that changes in dissolved oxygen lake levels are not solely related to biomass decomposition as Ecology suggests. This is a complex parameter that is influenced by many factors. The broad stroke that Ecology has implied upon oxygen and treatment needs to be reconsidered.**

**Response:**

Ecology made the change to dissolved oxygen monitoring requirements associated with algae treatments in response to multiple reports of fish kills associated with large-scale algaecide treatments. We acknowledge that there are many factors that lead to fish kills. The repeated reports of fish kills that occur shortly after a large algaecide treatment have led us to take action to explicitly state existing state dissolved oxygen requirements and develop options for permittees to follow those requirements. After discussions with Ecology water quality specialists

and using best professional judgement, Ecology chose these changes to monitoring and treatment options as a compromise between the need to treat harmful algal blooms and the need to prevent large algae treatments from violating state water quality standards. Previous versions of the permit included narrative criteria that stated permittees may not take any action that would cause lethal or sublethal drops in dissolved oxygen, and the numeric criteria included in this version of the permit is the definition of a measurable decrease in dissolved oxygen by anthropogenic activities (WAC 173-201A-320). If immediate treatment is needed, permittees may treat smaller portions of the waterbody over an extended period of time, or use phosphorus sequestration products.

**12) The U.S. Environmental Protection Agency has numeric criteria for aluminum available for Washington State to Adopt.**

**Response:**

Washington State will not be adopting the U.S. EPA 2018 Aluminum Criteria at this time, but will be considering updates to our aquatic life criteria in the future. However, in the interest of better monitoring the water quality impacts of alum treatments, Ecology has added monitoring requirements for permittees using alum to sequester phosphorus.

Permittees will be required to test not only aluminum levels before and after treatments, but also dissolved organic carbon (DOC), pH, and hardness. These are all factors which the EPA criteria uses to determine the maximum allowable total aluminum concentration for waterbodies. Ecology is asking permittees to take water samples at multiple time points to collect data on the fate of aluminum following alum treatments. The timing of each water sample event will provide information about the short and long term duration of aluminum in the waterbody. As in previous versions of the permit, permittees will be asked to monitor pH continuously throughout alum treatments, as pH outside of the range of 6.5 and 8.5 is associated with higher aluminum toxicity and would exceed water quality standards. Refer to Table 2 and section S6.B of the permit for full alum treatment requirements.

Although Washington State does not have numeric aluminum criteria for aquatic life at this time, the application of pesticides and other chemicals must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Aquatic Plant and Algae Management General Permit Page 8 Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards. Permittees must use All Known, Available, and Reasonable methods of pollution control, prevention, and Treatment (AKART) when applying pesticides and other chemicals. Compliance with this permit, the Washington Pesticide Control Act and the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) label, as well as with WDFW Treatment Timing Windows and SOPs, constitute AKART.

Ecology developed this new set of monitoring requirements through discussions with water quality technical staff, limnologists, and best professional judgement. These new requirements are report-only, and do not include new numeric water quality criteria. The data collected from

aluminum, pH, DOC, and hardness monitoring before and after alum treatments will help inform decision-making if and when Ecology develops state-level numeric criteria for aluminum in freshwaters of the state, and may serve as a basis for the development of future studies at Ecology. The following changes will be made to the permit:

**Change:**

**S6.B.1.c:** When performing any treatment using alum, the permittee must monitor for aluminum in the waterbody according to the following procedures:

- Before the alum treatment, permittees must take water samples to establish a baseline for the following metrics:
  - o pH
  - o Dissolved organic carbon (DOC)
  - o Total hardness (as CaCO<sub>3</sub>)
- Water samples must be representative of the treatment area, with at least one shoreline sample and one open water sample.
- The latitude and longitude coordinates of water sample locations must be recorded in decimal degrees. Pre- and post-treatment water samples must be taken from the same locations.
- During the alum treatment, pH must be monitored continuously. Refer to S6.B.1(a,b).
- Immediately after the alum treatment, the permittee must take water samples and test them for aluminum concentration, pH, DOC, and hardness. This measurement must include both total recoverable aluminum and dissolved aluminum.
- The permittee must take water samples to test for total recoverable aluminum, pH, DOC, and hardness **two weeks after** the treatment.
- The permittee must take water samples to test for total recoverable aluminum, pH, DOC, and hardness **once per month for the two months** following the alum treatment.
- The permittee must take water samples to test for total recoverable aluminum, pH, DOC, and hardness **quarterly until one year** after the alum treatment date.

**Reporting Aluminum Monitoring Data**

The permittee will send all aluminum monitoring data to the Department of Ecology at [aquaticpesticideperm@ecy.wa.gov](mailto:aquaticpesticideperm@ecy.wa.gov). Permittees do not need to take any further action after measuring and reporting the results of these water samples.

**13) We routinely request lists of water right holders from Ecology, and we have contact information for waterfront property owners. However, there might be people on the water right list that don't match up with the waterfront property owner list. How can a permittee or applicator get the current contact information for an individual with a water right? Are they assumed to be one of the waterfront property owners?**

**Response:**

The holder of a water right may not be the same as the property owner. The current contact information for a water right should be associated with that water right's file. You can contact

the county Water Conservancy Board (the list of contact information for those boards can be found at <https://apps.wr.ecology.wa.gov/docs/WaterRights/wrwebpdf/pcf.pdf>), or the Department of Ecology water rights help desk for your region (<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-Resources-Explorer>).

**14) The pictograms for the new Treatment Notice Templates are generally a good idea. I think it would be helpful to also include the word that the pictogram is associated with. For example, the one with the sprinkler could also say "irrigation restrictions". Also, there is one of a person carrying a bucket which isn't clear what that is meant to represent. Also, aren't there always water use restrictions with herbicides such as 2,4-D and Triclopyr related to irrigation. I think those templates should have, by default the pictogram representing that on them. How will permit users be able to add or take away pictograms?**

**Response:**

Thank you for your comment. We will add a key to the available pictograms so that it is clear which use restrictions they are associated with. We will update the use restrictions on the templates available for permittees to use so they match the FIFRA label. The templates will be available as word documents, so permittees can copy and paste the appropriate pictograms for the pesticides they are using.

**15) There is no definition of a flood control structure in the appendix. Would a string of interconnected ponds designed specifically for flood control, or a dam reservoir be considered a flood control structure?**

**Response:**

Ecology does not define flood control structures to allow for all types of flood control structures to be used under the permit conditions. By definition flood control includes many techniques and actions, and the broad language in the permit recognizes this. The examples you listed may be considered flood control structures for the purposes of the permit, if that is their intended function. For any application of coverage for a flood control structure, Ecology would review the NOI to determine the appropriateness of proposed permit coverage and treatment.

**16) Some of the language in the permit is awkward. I have made suggestions to improve flow and clarity.**

**Response:**

Thank you for your comment. Minor changes to word choice that do not impact the meaning of the permit can be made without a formal response from Ecology. We will take your suggestions into consideration.

**17) In S3.D1,(2,3), striking the word "permanent" changes the meaning to any impairment in relation to 303(d) waters. Will that wording change result in an inability to treat any waterbodies in the state, because treating an aquatic noxious**

**weed will result in a "temporary" change? Can Ecology cross-check their database to see if there were waterbodies treated in past years that would not be eligible for future treatment with the proposed language.**

**Response:**

Waterbodies not listed on the 303(d) list are able to be treated under the permit based on allowable temporary exceedance of water quality standards (chapter 173-201A WAC), which is described in S3.B of the fact sheet. Waterbodies on the 303(d) list may not be further impaired for their listed impairments.

**18) S3.E (Identified Wetlands) seems to contradict S1.A1(c) which allows the treatment of "100 percent of any emergent or floating-leaved noxious weeds and quarantine listed weeds."**

S3.E refers more generally to treatments that enhance recreational uses of identified and/or emergent wetlands. A permittee could treat 100% of the noxious weeds only in the high use area of a wetland to provide for safe recreation and boating.

If a wetland has an infestation of invasive aquatic plants, a treatment plan may be developed that will effectively target the invasive species while protecting native wetland species. Refer to permit section S3.F for more information on treatments in areas with sensitive or rare species.

**19) In S4.D5(a), the addition of the word "claim" sounds like it could be problematic. I recall being told that a claim doesn't really mean much until it is adjudicated. If that's the case, this may create a lot of extra work.**

**Response:**

Determining the validity of a water right or claim is beyond the scope of this permit. It is the responsibility of the permittee or applicator to ensure that all water rights holders are notified prior to treatments. See Comment 13 above for more information on finding information on current water rights holders.

**20) The Treatment Limitation for diquat should be amended, because the diquat label specifically allows for the treatment emergent vegetation, including cattail. In talking to Ecology, they don't remember why this limitation was put in originally.**

**Response:**

At this time we cannot remove this particular treatment limitation. Diquat is specifically not recommended for emergent vegetation due to its long-term persistence in soil, and there are other effective herbicides that are less toxic and less persistent (2002 FSEIS – Diquat <https://apps.ecology.wa.gov/publications/documents/0210052.pdf>). These include flumioxazin, carfentrazone-ethyl, and endothall (dipotassium salt).

**21) In Table 3, "Do not apply where anoxic conditions (zero percent dissolved oxygen) may occur, including anoxic conditions created by application of herbicide and**

**algaecide." should be eliminated since any treatment covered under provisions of Ecology's APAM/NPDES General Permit must not lower dissolved oxygen below the limits specified in Ecology's water quality standards as set forth in Chapters 173-200 and 201A. Furthermore, S4.B.3. states "algae treatments are subject to additional requirements to prevent dissolved oxygen depletion." so the statement: "...condition including anoxic conditions created by application of herbicide and algaecide." is an oxymoron and should be eliminated.**

**Response:**

This version of the permit more explicitly states the existing requirement for algae treatments to not cause lethal or sub-lethal drops in dissolved oxygen, and has new monitoring requirements for dissolved oxygen monitoring surrounding algae treatments (permit S4.D.6). The language you refer to is kept in the permit even though it repeats regulations in the WAC to make that information more explicit and accessible to permittees.

**22) Thank you for working with WDFW to find ways to effectively and efficiently conserve Washington’s fish and wildlife resources through the reissuance of this general permit. We look forward to continuing our discussions so that this process works well for all Permittees, Ecology, and WDFW. WDFW has the following comments:**

**Page 4: USFWS has a new link for a map of Oregon Spotted Frog critical habitat:  
<https://ecos.fws.gov/ecp0/profile/speciesProfile?scode=D02A#crithab>**

**Response:**

Thank you for your comments. We will update the link in the permit.

**23) Page 13: WDFW suggests some changes to the language in S4.D.3 that clarify WDFW’s role in the treatment timing window modification process, the rationale for treatment timing windows and how they must be followed, and how WDFW will notify Ecology of modified treatment timing windows.**

**Response:**

The rationale for treatment timing windows can be found in S4.A of the Fact Sheet. Ecology is asking all permittees to consult the WDFW timing window map regardless of planned treatment so that they are aware of any and all restrictions on their waterbody. Ecology will continue to work with WDFW to develop a process to review modified timing window requests, but this process is outside the scope of the permit and will not be included in the document.

**24) The language in Table 2 has not been updated to address the new timing window mapping tool. We request you make the following changes to the table:**

- **Replace the term “timing table” with “timing window map” in the second column.**
- **Modify Footnote 2: Timing window restrictions and consultation requirements for priority fish species apply in addition to timing window restrictions and consultation requirements identified for other priority non-fish species, see WDFW timing window map for more information**

**Response:**

Ecology will change the references from “timing table” to “timing window map” for clarity.

**25) Page 50: WDFW recommends additional questions on the Fluridone Vegetation Management Plan that ensure permittees note any priority species present in the waterbody.**

**Response:**

Permittees must abide by the WDFW timing windows regarding all priority species, and must check the WDFW timing window map before planning any treatments. Ecology believes the present format of the Fluridone Vegetation Management Plan appropriately captures the presence and risks to threatened, endangered, and sensitive species, and combined with the mapping tool it adequately accounts for WDFW priority species. Ecology reviews these plans and may consult with WDFW if necessary to ensure priority species are protected.

**26) The sequencing and time intervals between various chemical applications (algaecide, herbicide, phosphorus sequestration, et al) in any specific waterbody to be treated should be determined by the water quality conditions that exist prior to the application of any particular chemical, not by some arbitrary sequencing or time interval prescribed by provisions of the APAM/NPDES General Permit.**

**Response:**

The permit conditions on the timing and sequencing of treatments were determined through a combination of scientific recommendations, discussions with stakeholders and co-managers, and best professional judgement. As a general permit the APAM GP must be protective of waterbodies across the state. General permits are not designed to look at the water quality conditions of a specific waterbody during the permit development process. Use of water quality conditions of a specific waterbody for permit development are more appropriate for individual permits.

**27) I have concerns regarding Ecology’s lack of numeric criteria for some of the phosphorus sequestration chemicals included in the permit. Aluminum compounds are less toxic than aluminum ions, but Ecology does not have numeric criteria for aluminum. Waughop Lake has had alum applications that caused the dissolved aluminum concentration to rise about the U.S. EPA maximum, which has caused adverse impacts on the lake’s plants and wildlife. Sulfate concentrations also rose as a result of this treatment, which can cause hydrogen sulfide to form in lake sediments and inactivate calcium and iron, which naturally sequester phosphorus. Ecology does not have criteria for sulfide or hydrogen sulfide that are protective of aquatic life. Because calcium products are safer and less expensive than alum, I recommend that Ecology include this information in the permit to highlight these products as an effective and lower cost alternative to alum.**

**Response:**

Thank you for your comment. It is not in the scope of the permit to recommend specific phosphorus sequestration products to permittees. Permittees may consult with Ecology and/or a licensed applicator to determine the best treatment methods for their waterbodies based on priorities such as effectiveness, environmental impact, and cost.

However, Ecology does recognize the concern regarding aluminum concentrations following alum treatments, and we have included new language in the final permit that directs permittees to monitor a number of water quality criteria before and after alum treatments. While we are not adopting the EPA numeric criteria at this time, we will collect this monitoring data and may use it to inform decisions in the future regarding numeric criteria for aluminum or other chemicals, or to help scope further studies. Please refer to Comment 12 regarding the U.S. EPA's comment on their 2018 aluminum criteria for more information about the changes to the permit.

**28) Lanthanum enriched bentonite clay is a proprietary product offered by one supplier rather than being available to all applicators as an open and competitive market item. The result has been more limited use and according to Herrera Environmental Consultants more costly than and not as effective as alum.**

**Response:**

Ecology does not recommend or direct use of any particular chemical available in the permit. The product you are referring to, Phoslock®, is one of several options permittees may choose for phosphorus sequestration based on their resources and priorities.

**29) The Citizens for a Clean Black Lake have the following comments on the draft permit:**

- a) Evidence shows the Black Lake Flood Control District was formed under RCW 85.38 as a Flood Control District and is not recognized by DOE in its definition of "Permittee" as an entity that may obtain permit coverage. There is no flooding, no flood control activities or flood control infrastructure on Black Lake, and the BLFCD states in its own documents it never intended to do flood control. We strongly suggest that DOE thoroughly investigate the legal authority of permit applicants before issuing any permit coverage, and make this a part of the process used to administer this federal Clean Water Act program.**
- b) The permit coverage for Black Lake should have been reviewed in a site specific project level SEPA determination. The non-project SEPA determination used for this permit relies on documents that are outdated in scientific circles and under the law. They cannot be adopted as the environmental review for a site specific project level action which requires a more detailed review as per WAC 197-11-960.**
- c) The general permit issued by DOE to the Black Lake Flood Control District fails to address the environmental problems in the ecosystem, such as adverse effects to sensitive wetland areas, shallow groundwater aquifers, habitat and the endangered**

species present there. A report of a fish kill following the alum treatment done in 2016 to the Black Lake Board by residents was not, to our knowledge, relayed to DOE for investigation as required by the terms of the permit.

- d) The general permit takes no recognition of the fact that Black Lake is itself on the 303(d) list for PCB's in rainbow trout tissue samples. Further, it drains north via Black Lake Ditch, which violates dissolved oxygen and fecal coliform standards, into Capitol Lake and Budd Inlet, also 303(d) impaired waters. No environmental review has been done to determine the contribution of these herbicide and alum treatments on the low levels of dissolved oxygen in these waterbodies.
- e) The general permit also does not acknowledge the effects of these treatments on the 16 Critical Aquifer Recharge areas that are in the Black Lake Basin or on the strategic groundwater reserve established by WAC 197-591 which stipulates that "local governments with land use authority...exercise their authorities in such a manner as to protect the quality of the public groundwaters reserved for future water supply by this chapter." Black Lake is in hydraulic continuity with this groundwater reserve, the drinking water supply for Olympia, Tumwater and Lacey, yet no environmental review was done to consider the possible contamination of this vital irreplaceable resource that our children drink.
- f) Ecology should only allow pesticides to be used as a last resort. The Integrated Vegetation Management Plan upon which the DOE based its 2013 Determination of Significance called for 2 years of herbicide use followed by mechanical harvesting of weeds. This plan has not been followed as the Flood Control District has used herbicides annually, even though herbicide use was not authorized in its plan after 2014. DOE should have required a new project level site specific environmental review for any project after 2014 that required the use of herbicides or chemicals in the water for treatment options other than mechanical harvesting. DOE has been lax in allowing the routine use of these chemicals when mechanical harvesting would be equally efficacious without the deleterious environmental and health effects.
- g) There is another alum treatment planned for this year, even though Thurston County's water quality report for 2019 noted that no algae blooms had been detected in the lake since the 2016 alum treatment.
- h) According to the 2015 study on the Black Lake Basin, "Guiding Growth - Healthy Watersheds" conducted by Thurston Regional Planning Council in conjunction with the EPA and Thurston County, most of the nitrate and phosphorus pollution in Black Lake originates from stormwater runoff and on-site septic systems around the lake. Why is Ecology permitting the use of chemicals to sequester phosphorus when a watershed-based management approach is needed to address non-point pollution?
- i) Glyphosate has been found to be a carcinogen, and there was a recent settlement against Bayer/Monsanto for damages caused by Roundup. Even though it is less toxic to the environment than other similar herbicides, we think Ecology should err on the side of caution and remove it from the permit. Thurston County bans glyphosate, imazapyr, dipotassium salt of Endothall, and diquat dibromide in

recognition of their dangers. Why is glyphosate still allowed under the permit despite these concerns?

- j) **There are ongoing studies on the safety of alum treatments, and recent research suggests long-term alum treatments may contribute to an increase in toxic algae, change the lake's macroinvertebrate community, and generally harm lake ecosystems.**
- k) **Climate change is adding stressors to lakes and watersheds, putting water resources and aquatic life in danger. RCW 90.54 states water resources shall be protected for the natural environment, and the recent Foster decision require that DOE "shall" protect the quantity and quality of the surface and groundwaters of the state of Washington to maintain fish, wildlife and the natural environment, and "may" protect other uses. Ecology should be cautious in permitting activities such as aquatic plant and algae treatments that may damage the ecosystem.**
- l) **Based on these concerns, the Citizens for a Clean Black Lake request that Ecology modifies the new permit to address these problems and prevent any new APAM permit coverages or renewals from moving forward until site specific project level SEPA reviews can be done. We request a new permit program be developed based upon a new NEPA/SEPA environmental review of the state's administration of this federal program so that site specific project level reviews are part of the permitting process.**

**Response:**

Thank you for your comment. We will respond to each of the points addressed in your comment letter.

- a) Please refer to Comment 3 with regard to the permittee and impacted community's role in determining permit coverage authority. Under 173-226-050 of the WAC, general permits may be issued to special purpose districts. As documented in Resolution 14-09 and 17-04, the Black Lake Special Use District was formed under 85.38 RCW and operates as a Flood Control District under chapter 86.09 RCW. The powers identified for Flood Control Districts identified in RCW 86.09.151(2) state: *In addition to the powers conferred in this chapter and those in chapter 85.38 RCW, flood control districts may engage in activities authorized under RCW 36.61.020 for lake or beach management districts using procedures granted in this chapter and in chapter 85.38 RCW.* Ecology considers flood control districts to be appropriate entities to hold coverage under this permit.
- b) Because this is a state-wide general permit, the permit itself must be reviewed under a non-project SEPA review. Ecology can issue site-specific SEPA determinations for individual permit coverages. This process for this permit issuance will involve a review of the narrative information included in the NOI that describes the waterbody and proposed treatments. Additionally, the non-project SEPA reviews would support the chemical use allowed for the project as it evaluates potential environmental impacts to waterbodies throughout the state. The permit, fact sheet, and SEPA determination

reference all of the relevant Environmental Impact Statements and risk assessments that review the chemicals included in the permit. It is true that some of these documents are old, but subsequent environmental reviews and risk assessments have updated much of the scientific basis for the permit conditions. As has been standard in the permit, Ecology reviews permit applications and post-treatment reports to be sure that planned treatments do not degrade water quality.

- c) S3.E and S3.F of the permit include conditions for treatments in emergent or identified wetlands and areas where sensitive and rare plant species are present. Please refer to Comment 4 on this topic. This version of the permit includes new oxygen monitoring requirements and alternative options for algae treatments which are aimed at reducing the risk of fish kills following large algaecide treatments. The application of pesticides and other chemicals must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Aquatic Plant and Algae Management General Permit Page 8 Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards. None of the pesticide allowed for discharge under this permit are anticipated to impact groundwater (see Groundwater Quality Limitations on page 14 of the Fact Sheet for more information). Please refer to the timing window requirements in the permit and Comment 30 for more information.
- d) The permit requires permittees to identify outflows from the treated waterbody. For more toxic or persistent chemicals, such as 2,4-D (amine) and endothall, further restrictions are in place that prevent permittees from treating near outflows. The FIFRA label for a chemical also indicates whether it is appropriate to use in flowing water or near outflows. S3.D of the permit lists the restrictions and mitigations measures permittees must follow when treating 303(d) listed impaired waterbodies. Waterbodies on the 303(d) list may not be further impaired for the criteria that caused them to be listed. None of the chemicals in the permit contain PCBs, and would not contribute to further impairment of that parameter. In S4.A of the permit, treatments that causes oxygen depletion to the point of stress or lethality to aquatic biota from plant or algae die-off, the mortality of aquatic vertebrates, or unintended impacts to water quality or biota are prohibited. See Special Conditions S4.D.6 and S6.A for additional information on preventing depleted oxygen levels during algae treatments.
- e) The permit at S3.A states, “The application of pesticides must not cause or contribute to a violation of the Water Quality Standards for Surface Waters of the State of Washington (chapter 173-201A WAC), Aquatic Plant and Algae Management General Permit Page 8 Ground Water Quality Standards (chapter 173-200 WAC), Sediment Management Standards (chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Ecology prohibits discharges that do not comply with these standards.” 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 (see Groundwater Quality Limitations on page 14 of the Fact Sheet for more information). In the event there are additional concerns, Ecology may issue orders requiring groundwater monitoring for different pesticides under this permit.

- f) The scope of this permit does not enforce Integrated Vegetation Management Plans. If you feel the lake management authority has not been following this plan, we recommend you contact the sponsor for the plan to discuss why the plan has not been followed. NPDES and State Waste Discharge general permits only regulate the discharge of pollutants. It is outside the scope of this permit to require permittees to use non-chemical management methods.
- g) Ecology does not direct permittees to perform treatments, and the decision to perform another alum treatment comes from the lake management authority, the applicator, and the impacted community. There are phosphorus sequestration alternatives to alum in the permit, which are available to all permittees. If you feel that alum is not an appropriate treatment for Black Lake, we encourage you to contact those responsible parties to discuss alternatives to alum treatments.
- h) It is not in the scope of the permit to determine whether a lake is internally or externally loaded for nutrients before permitting treatment. Ecology can provide technical assistance to help permittees make decisions about which treatments are appropriate for their waterbodies if data is available, but the decision is ultimately up to the permittee and the applicator.
- i) All of the chemicals conditionally approved in the permit have undergone environmental review, and at this time the best available science indicates that the most supported action is to keep them in the permit. At this time, the US EPA and WSDA label (FIFRA) and approve glyphosate for aquatic use. Ecology understands that there is heightened concern around the use of glyphosate based on the World Health Organization (WHO) International Agency for Research on Cancer (IARC) listing of glyphosate as a probable carcinogen and the recent litigation. The US EPA and a number of international agencies have completed their own risk assessments of glyphosate. EPA finalized its regulatory review of glyphosate in 2020, and has written an interim decision, available at <https://www.epa.gov/ingredients-used-pesticide-products/interim-registration-review-decision-and-responses-public>. At this time, the EPA has concluded that glyphosate is not likely to be a human carcinogen under current use patterns when following the FIFRA product label. The EPA reviewed available research on glyphosate exposure, and came to this decision in part due to much of the available research being based on high exposure rates, which are not seen in the general use of glyphosate. Health Canada evaluated glyphosate in 2017, and also found that glyphosate is not likely to be a human carcinogen (<https://www.canada.ca/en/health-canada/services/consumer-product-safety/reports-publications/pesticides-pest-management/decisions-updates/registration-decision/2017/glyphosate-rvd-2017-01.html>). The formulations of glyphosate that are banned in Thurston County are for terrestrial applications, which are different from the aquatic formulation. Thurston County's bans only apply to work done on lands managed by the county, and do not extend to private use of these chemicals. The aquatic

formulation of glyphosate does not have the same adjuvants as terrestrial formulations, and is generally considered less toxic.

- j) Ecology incorporates the best available science into permit decisions, and at this time the evidence supports keeping alum in the permit. We have reviewed the studies you included in your comment, and Ecology may take those into consideration when reviewing alum and aluminum standards in the future. Ecology has added new aluminum monitoring language to the final permit, and may use this monitoring data to inform future criteria for aluminum or further studies. Please refer to Comments 12 and 27 regarding aluminum. Ecology will continue to monitor emerging science on this topic and will make changes to future iterations of this permit based upon the best available science.
- k) Ecology considers many factors when developing aquatic pesticide permits, and acknowledges our mandate to protect the Waters of the State. The scope of the permit is limited to conditionally allowing aquatic plant and algae treatments in Washington, and does not permit treatments that would permanently degrade water quality. Refer to the Short-Term Water Quality Modification Provisions section on page 13 of the Fact Sheet for more information on allowable temporary exceedance of water quality standards. If new information becomes available that suggests some treatments should not be allowed under certain conditions, Ecology may incorporate that information into the next version of the permit.
- l) At this time Ecology will continue to administer the permit under the federal aquatic pesticide permit program. Ecology has made a SEPA determination of significance and adopted the Environmental Impact Statements and risk assessments that informed the previous version of the permit. Coverage level SEPA determinations are not a condition of the general permit that was included in the comment period. Comments on site-specific SEPA determinations may be made during the comment and appeal period for the application of coverage. Please see response 29.b regarding Ecology's process for site-specific SEPA reviews under this permit.

**30) First, we feel if the resources (money paid by the citizen/customer) and time (contractor sending out notices and communicating with WDFW officials) are put in then why doesn't the timing change stay in effect for the full 5 years the permit is active? There could easily be a clause that says some permits need to be looked at annually. We already have to deal with this at Spanaway Lake. We discussed this with Nate Lubliner and he mentioned this was all proposed because of legal reasons. The citizens and surrounding residents need to know of the change. We can use the modification process as an example. To modify a permit and make the treatment area bigger then we need to follow the procedures and notify the public but when the treatment area is reduced no such notification is needed. Why can't the timing windows be the same? If we adjust the timing windows to be outside normal bounds, usually July 15th to October 31st, then the notification process is required but it would stay in effect for the 5 years with a potential annual review. If WDFW determines that the window needs to go back to "normal", we wouldn't need to**

**notify then public because it would be reducing the treatment time not extending or expanding anything.**

**Second, if contractors are required to wait the timeframe for public notification then that could affect treatments that may be delayed by weather, other scheduling, etc. In the past, during the scenarios we have had very good luck discussing our options with WDFW officials and coming to an agreement that works with all parties involved. This new proposal seems to make timing window changes almost impossible when unforeseen issues come into play.**

**Third, over the past three years we have had very good luck permanently changing timing windows because we do our research and discuss our options with WDFW officials. Some of the timing windows were badly outdated with certain species that haven't resided in areas for over 30 years. We have changed multiple timing windows to benefit our customers. Please let me know how these changes that we have brought forward will be imposed in the new map system. We feel we have already done the leg work to get these changed, we really hope we don't have to do it again to keep them changed.**

**Response:**

We recommend all permittees check the timing window map tool (<https://wdfw.maps.arcgis.com/apps/MapSeries/index.html?appid=34533b2dd4f84932b5fd1a46e494bde6>) to find the current timing window for their permitted waterbody. The map tool was developed in part to respond more quickly to changes in species distribution and abundance, and the timing windows you developed with WDFW may now be standard for your waterbodies.

Ecology made the treatment timing window modification process more similar to the permit modification process due to the need to make these types of environmental decisions more transparent and available to the public. The public may look up the treatment timing window for any waterbody, but in the previous version of the permit they may not be aware that the permittee has requested a modified timing window that could impact their use of a waterbody. Under this version of the permit, the timing window will revert back to the current window listed on the WDFW mapping tool unless the permittee requests and is granted a modified timing window. This is meant to allow WDFW to respond to the most current data available for a waterbody. Permittees may provide additional supporting data to WDFW when requesting modified timing windows if they believe WDFW does not have that information available.

The new timing window modification process does not preclude further discussions with WDFW if treatments may be delayed due to weather or other scheduling concerns. We ask that you contact Ecology at [aquaticpesticideperm@ecy.wa.gov](mailto:aquaticpesticideperm@ecy.wa.gov) to start these discussions to help us maintain a record of timing window decisions.