

LAKE TAPPS INTEGRATED AQUATIC PLANT MANAGEMENT PLAN: RESPONSE TO ECOLOGY COMMENTS

AQUATIC PLANT MAP [THIS INFORMATION NOW INCLUDED IN THE SECTION: "AQUATIC PLANT CHARACTERISTICS"]

Comment [Regarding: *[Figure 5]* illustrates the 15 ft. contour at Lake Tapps and was used to estimate the area for potential plant growth.]: At what lake level? Summer? You should probably state this.

Response: This figure was removed and replaced to reflect all surveys conducted (e.g. early recon and an aerial). Additional information on the lake levels during each survey was added.

AQUATIC PLANT CHARACTERISTICS

Comment: Effect of annual drawdown on native plant communities?

Response: The following paragraph is now included in the Plan: "Lake Tapps is somewhat unique because the water is drawn down during the fall and refilled during the spring. The result is that, unlike natural lakes where spring plant growth is readily observed along the shoreline, vegetation in Lake Tapps is observed in deeper areas early in the growing season and in more shallow water as the growing season continues. A detailed evaluation has not been conducted on how drawdowns in Lake Tapps affect the *native* aquatic plants that rely more heavily on seeds to disperse and become. Ironically, drawdowns likely limit native plant diversity and density, particularly along the shorelines."

Comment [Regarding: Other invasive aquatic plants within the project vicinity that threaten Lake Tapps, include hydrilla (*Hydrilla verticillata*), Brazilian egeria (*Egeria densa*), fanwort (*Cabomba caroliniana*), grass-leaved arrowhead (*Sagittaria graminea*), and variable-leaf milfoil (*Myriophyllum heterophyllum*)]: You may want to say that none of these are currently found in Lake Tapps.

Response: Change was made

AQUATIC PLANT CONTROL ALTERNATIVES

Comment [Regarding: The use of water level control in cooperation with other control methods, however, may decrease the cost and time associated controlling invasive aquatic plants]. Add discussion on impact of this technique on native plant populations.

Response: The following was added: " As previously mentioned, a detailed assessment has not been conducted at Lake Tapps to determine the affects of water level drawdown on native aquatic plants. In general, however, water level drawdown impacts plants that spread vegetatively rather than those that spread by seed. In fact, water level drawdown can actually increase the biomass of plants that spread by tubers (carbohydrate-filled reproductive structures). "

Comment: Add appropriateness sections:

Bottom Barrier Application

Hand-pulling

Hand-cutting

Raking

Rotovation

Diver-assisted Suction

Hydraulic (Suction Dredging)

Responses: Added to Plan

Comment [Regarding disadvantages to diver-assisted suction: Some disadvantages of the diver dredging method include its expensive cost and permitting may take years to acquire. Also this method stirs up

sediment, which can lead to the release of nutrients or toxins in the sediment to enter the water column]: According to Kathy Hamel, diver dredging should require only local permits, unlike hydraulic dredging.
Response: Changed to: “Diver dredging requires HPA from WDFW”

Comment [Regarding permits for suction dredging: Use of suction dredging does require hydraulic approval from the Washington State Department of Fish and Wildlife. Its use also requires a temporary modification of water quality standards from Ecology for increased turbidity. A local shoreline management permit may be needed. In addition, it will be necessary to obtain a letter of approval from the Washington State Department of Natural Resources.]: See comment under diver dredging—the permitting process for this type of dredging may well take the ‘years’ mentioned (erroneously) in that section.

Response: Changed to: “Use of suction dredging does require HPA from WDFW and a local shoreline management permit may be needed. In addition, it will be necessary to obtain a letter of approval from the Washington State Department of Natural Resources, a Section 404 permit from the U.S. Army Corps of Engineers, and a National Pollutant Discharge Elimination System (NPDES) permit from Ecology.”

TREATMENT/CONTROL INTENSITY

Whole Lake Approach

Comment [Regarding: A whole lake treatment approach is not recommended for Lake Tapps.]: Explain why.
Response: Based on the definition of a “whole lake” treatment provided in the Lake Tapps IAVMP – e.g. “...a whole lake approach involves aggressively treating the entire volume of the lake, typically with an aquatic herbicide. This approach is practical for waterbodies with nearly complete coverage by invasive plants and where the water depth averages about 25 ft. or less.” It would not be prudent to treat the entire volume of Lake Tapps.

LAKE TAPPS INTEGRATED TREATMENT SCENARIOS

Scenario 2: Partial Lake + Targeted Areas (Five-year Program)

Comment [Regarding: More specifically, Scenario 2 also involves application of diquat to quickly open up high priority areas (e.g., boat launches and boat lanes).]: When? Spring or summer?

Response: Added: “ Applications would be made after July 1 due to the presence of largemouth bass.”

MONITORING, RESPONSE, AND PREVENTION

Comment: [Regarding: Eradication will be considered attained when for three consecutive three only new pioneer colonies of EWM are observed and those are removed with hand methods during annual surveys.]: Doesn’t make sense

Comment [Regarding: Recommendations to CWA: public outreach, (e.g., boat launch signage, public meetings, presentations to landowner associations), inspections at boat launches (including a designated boat washing station), survey adjacent lakes (Leaky, Bonney and Debra Jane Lakes to the west and Bowman and Hille Lakes to the east).]: I would like to see this section expanded to more specifically state what actions CWA or community groups will take to prevent the reintroduction of aquatic weeds.

Responses: Changed paragraphs in this section to: “Successful eradication of milfoil from Lake Tapps will require diligent (twice annual) monitoring for new milfoil populations (and other invasive plant and animal species), removal of targeted species with minimal impacts to non-target species, and committed outreach and prevention measures. It is anticipated that at least 90% control will be achieved in Year 1. Following treatment in Year 1, divers will hand-pull remaining plant beds less than about 5 acres and surveys will guide management in Year 2. The purpose of using such aggressive treatment approaches in Year 1 is to minimize

carry-over of milfoil into Year 2. With that said, it is anticipated that milfoil density will be substantially reduced by Year 2 and beyond, such that treatment emphasis should shift from chemical control to manual (i.e. diver-assisted hand-pulling, benthic barriers) and environmental controls (i.e. water level drawdown).

Within its authority, Cascade is committed to preventing the re-introduction of milfoil as well as other noxious weeds through public education (websites, mailings, and public meetings) and by working closely with existing community groups such as the Lake Tapps Community Council and regional parks/boat launch operators. Cascade will advocate for the formation of a community-led group that would assume the long-term responsibility of coordinating prevention and control activities, raising funds to support future management efforts, and to coordinate local and regional stakeholders.”

Response to comments (•) provided by Ecology to Cascade via email July 2, 2010

- Add land use activities occurring within the watershed, nonpoint nutrient locations (dairies, hobby farms, etc.).
 - Information on designated land uses added under “Watershed and Waterbody Characteristics”
- Are there any water bodies in the drainage that are on the 303(d) list?
 - Map added that indicates all 303(d) listed waterbodies within the drainage
- Are there other water rights or withdrawals (in addition to the major water right)?
 - No (and this is indicated in the Plan)
- How many residences?
 - There are approximately 1,500 residences immediately adjacent to the lake; however, Cascade currently uses a mailing list that includes 3,754 residences and businesses. According to Pierce County tax records, there are about 5,050 parcels within ¼ mile of the lake. Both numbers are now included in the Plan.
- What are the sediment types?
 - Added to the Plan
- Wetlands?
 - A map is now included that indicates wetlands identified by Pierce County and NWI
- Add a list of birds, mammals, frogs, reptiles.
 - A Priority Habitats and Species (PHS) information was obtained from WDFW and is now included
- Please do a better job overall of explaining why you didn’t select a particular option. When people realize that you plan to use chemicals in the lake, people will look for alternatives. The plan needs to do a good job of explaining why these alternatives were not selected.
 - The community is aware that chemicals will be added to the lake; however, additional information was added to further clarify why some alternatives are (or are not) appropriate for Lake Tapps.
- Grass Carp – need to provide more detail about why grass carp will not be a good option. Another good reason (not mentioned) is that grass carp do not prefer milfoil. Also the WDFW stocking permit still reads to require a Phase I Lake Restoration Study (not an IAVMP) – while Ecology has suggested the change, it has not been made.
 - Changed to text to: “Stocking grass carp in a public waterbody also requires a Phase I Lake Restoration Study” and remove reference to an IAVMP.

- Grass carp avoidance of milfoil was mentioned under *Disadvantages*; however, this was moved to the section *Control Effectiveness and Duration* and reiterated under *Appropriateness to Lake Tapps*.
- While true dredging projects can take years to acquire permits, diver dredging the way that we define it should only need local permits.
 - Changed to: “Diver dredging requires HPA from WDFW”.
- Weevils – your permitting information may be incorrect. Weevils may be an option to help put additional pressure on the milfoil populations. It is a large lake and you can use all the tools.
 - Based on a conversation with Greg Haubrich at WDFW, whether or not a permit is needed is based on many factors, including the source of the weevils and stocking density. He also indicated that a permit may be required from USDA. Based on this, we believe it is best to simply say “Again, the milfoil weevil is native to Washington lakes and rivers, but they are also commercially available. Importation of weevils into Washington may require a permit from the Washington Department of Agriculture (WDFW) and/or the U.S. Department of Agriculture (USDA). Contact WDFW for current permitting requirements. As of December 2009 no permits have been issued for Washington.”
 - Regarding weevil pressure on milfoil populations, this information was stated in the *Advantages* section; however, the nature of this comment is probably more about why weevils are not being recommended. We have inserted the following in the *Appropriate to Lake Tapps* section to address this concern: “The use of milfoil weevils is unlikely a viable control method for Lake Tapps due to permitting issues for importing weevils from out-of-state commercial suppliers and because their use will not meet the eradication goal. Additionally, there is not suitable overwintering habitat for the weevils (e.g. leave litter along the shoreline and consistent water levels) such that stocking would have to occur yearly which could result in substantial costs.”
- Hand pulling, cutting raking: An HPA is required for these activities in Washington.
 - Now indicated in the Plan
- Dredging – Ecology no longer issues short term modifications for turbidity. It does require a permit from the US Army Corps of Engineers. You need to remove short term modification provision from the table. They can only be issued (legally) through the mechanism of a permit (NPDES or state waste permit). They left out NPDES permits – need to put that in place of short-term mod.
 - Now indicated in the Plan
- 2,4-D is also suitable for whole lake treatments (amine formulation).
 - This information was added to Table 3
- You might want to talk with Dave Klutz in Idaho or Tom McNabb. They have had some success in removing milfoil from large waterbodies. Triclopyr or 2,4-D would be better options than fluridone.
 - Anecdotal evidence from Idaho indicates that fluridone has longer carryover control compared to 2,4-D. Triclopyr is proposed for use in Year 2 and (as needed) beyond.
- We would like to see at least a Q and A about the herbicides. People will have concerns about swimming, dogs, drinking the water, etc. You haven’t addressed any of that.
 - We intended for Table 3 to address these concerns; however, a Q and A section has been added to the Appendix in addition to Ecology’s factsheets on fluridone and triclopyr.