

Lake Tapps Integrated Aquatic Vegetation Management Plan – Mapping Results, Final Plan/Recommendations, Outreach



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Recap of May 11th Public Meeting

- Management Goal: Eradication
- Treatment Approaches
 - Whole Lake
 - Partial Treatment
 - Targeted Areas
 - Water Level Drawdown
 - Manual Controls
 - Diver hand-pulling
 - Benthic barriers
 - Chemical Control
- Treatment Scenarios
 - Scenario 1: Partial Lake
 - Scenario 2: Partial Lake + Targeted Areas



June Eurasian Milfoil Survey



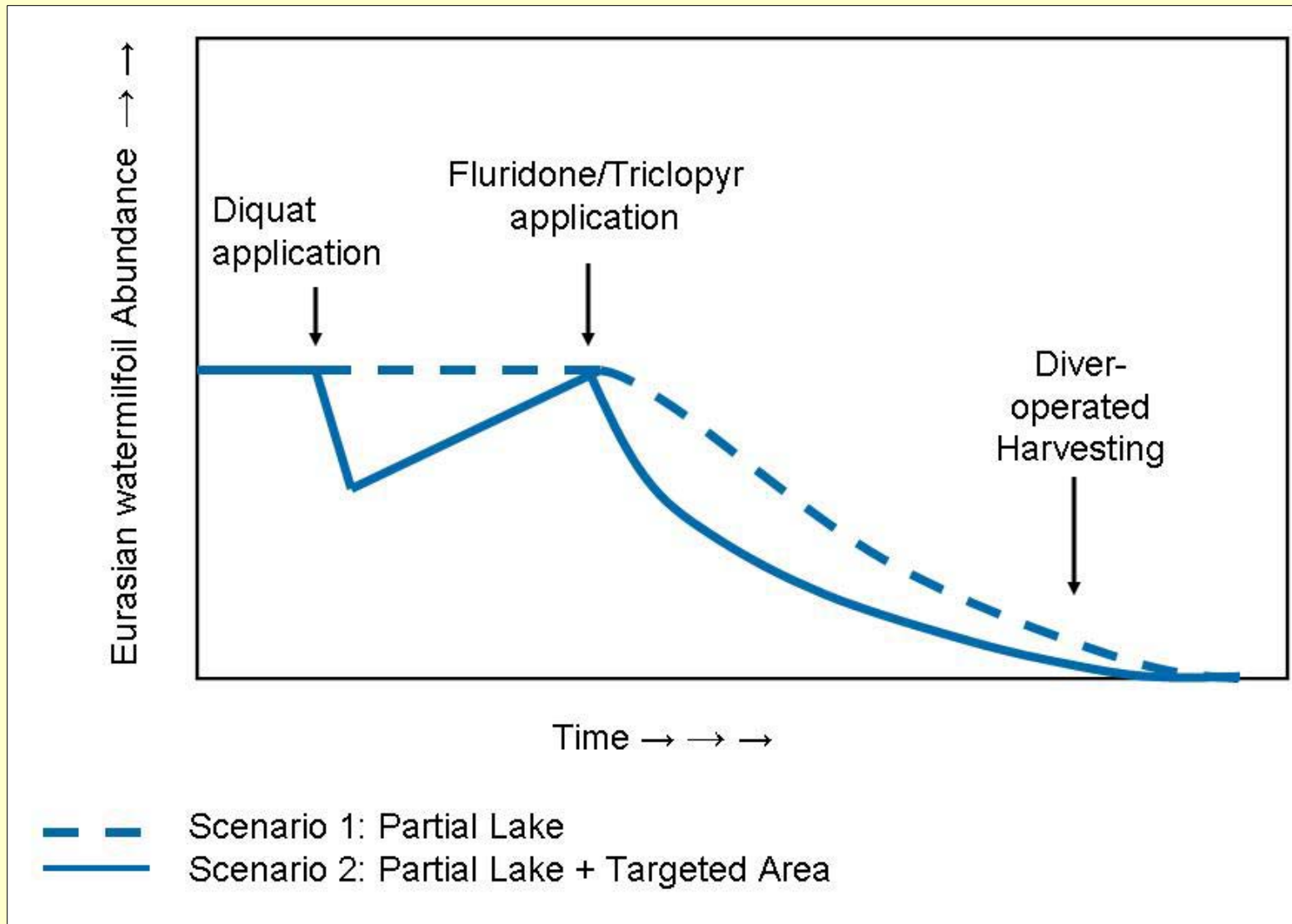
Legend	
▲	Milfoil
●	Native
●	No Plant
—	threatdepth
■	Dense Milfoil
■	Moderate Milfoil
World Imagery	

0 750 1,500 3,000 Meters

AqaTechnex, LLC, June 2010



Scenario 1 v Scenario 2



Aquatic Herbicides Under Consideration

Active Ingredient	Trade Names (G) = granular (L) = liquid	Selectivity	Label Water Use Restrictions and Advisories (Ecology)			
			Drinking	Swimming	Fish	Irrigation
Fluridone	Sonar® AS (L) Avast!® (L) Sonar®PR (G) Sonar®Q (G)	Non-selective; slow acting				30 days
Triclopyr (triethylamine [TEA] salt)*	Renovate®3 (L) Renovate®OTF (G)	Selective for broad-leaved plants; fast acting; destroys entire plant		Advisory (Ecology) during treatment and 12 hr post-treatment		Not for irrigation for 120 days or until <1 ppb (Label [^])
Diquat	Reward® (L)	Non-selective; fast-acting; destroys vegetative portion of plant	1-3 days** (human); 1 day livestock/ domestic animal consumption	Advisory (Ecology) during treatment and 24 hr post-treatment		1-5 days depending on crop

* Ground water monitoring protocols shall be used if a permittee is applying triclopyr for the third time in a three year period (Appendix C).

** Ranges in days determined by application rate, see label for details.

[^] Irrigation restrictions dependant upon specific use and season.

Recommended: Scenario 1: Partial Lake (5-Year Program)

Year	Action (Initial Approach)
1	<p>Summer: Partial lake application with liquid fluridone; apply 2 to 4 “bump” applications to maintain desired concentration for at least 45 days. Implement prevention efforts to eliminate introduction of plant propagules.</p> <p>Fall: Survey to inform Year 2 treatment; hand-pull areas less than < 5 acres</p>
2	<p>Summer: Application of granular fluridone (isolated bays) or granular triclopyr (exposed shorelines) to 2 acres surrounding infested areas identified in Year 1 fall survey; apply 2 to 4 “bump” applications to maintain desired concentration for at least 45 days. Increase prevention efforts to eliminate introduction of plant propagules.</p> <p>Fall: Deploy divers for hand removal of plants in areas less than 5 acres and mark areas greater than 5 acres for herbicide application in Year 3</p>
3	<p>Summer: Same as above and increase use of diver hand-pulling to eliminate satellite infestations Further increase and enforce prevention efforts to eliminate introduction of plant propagules.</p> <p>Fall: Same as above</p>
4	<p>Summer: Spot application of triclopyr to areas greater than 5 acres; deploy divers for hand removal of plants in areas less than 5 acres. Continue to enforce prevention efforts to eliminate introduction of plant propagules.</p> <p>Fall: Same as above</p>
5	<p>Summer: Same as above Continue to enforce prevention efforts to eliminate introduction of plant propagules.</p> <p>Fall: Same as above</p>

Manual Control

- Coordinate with Cascade
- Bottom Barrier, hand-pulling and hand-cutting
- Small-scale homeowner projects
- Guidance provided in WDFW “Pamphlet”
 - <http://www.wdfw.wa.gov/hab/aquaplnt/aquaplnt.pdf>



Aquatic Plants and Fish



publication # APF-11-97

Scenario 1 Potential Costs: Year 1

- Estimated 400 acres Treated w/ Fluridone \approx \$270K to \$500K
 - Range based on \$675/ac to \$1250/ac
 - Number of “bump” applications
 - Non-native and native plant density
- Diver-assisted Harvesting & Surveys \approx \$1.6K to \$3.8K/day
 - Non-native and native plant density
 - Survey area
- Monitoring Protocols TBD, to include:
 - Plant surveys
 - Water quality analysis
 - Management effectiveness

Management Plan Draft Schedule

	Feb '10	Mar '10	Apr '10	May '10	June '10	July '10	Aug '10
Vegetation Mapping					X		
Plant index						X	
Public Meetings		31st		11th	10th		
Materials for Cascade Website/Newsletter			1st	X	X		
Apply to Ecology for Aquatic Plant & Algae Management General Permit				X			
Draft IAVMP					X		
Final IAVMP					X		
Implement Year 1 Recommendations							X

Permitting Overview

- ✓ Local Permits Applied
 - Pierce County
 - City of Bonney Lake
- ✓ Applied for National Pollutant Elimination Discharge (NPDES) Permit
 - Applicators must be registered by Washington Department of Agriculture
 - Notification
 - ✓ Ecology
 - Public notice (newspaper notice)
 - Residents and businesses
 - Campers (PSE Camp only)
 - Posting prior to treatment
 - Monitoring

Notification: Residents and Businesses

- Notification requirements are product specific
 - E.g. potable or domestic water use, irrigation use or livestock watering
- Ecology Requirements:
 - All residents and businesses within ¼ miles
 - Mail, newsletter, or handbills delivered to the residence or business
 - 10 to 21 days prior to treatment

Herbicide Treatment
Business and Residential Notice

Distribution Date: _____

_____ will be treated with the aquatic herbicide(s)/algaecide(s) on/or between _____.

Product(s) planned for use: _____

Active ingredient(s): _____

Location of Treatment(s): _____

Treated and potentially affected areas will be sign posted the day of application. The signs will describe any water use restrictions or advisories.

If you are withdrawing water for potable or domestic water use, livestock watering, or irrigation, and have no alternate water source, please contact the applicator (name) _____ at () _____ or (e-mail) _____ to arrange an alternate water supply.

If you would like to request additional notification prior to treatment, or have further questions, please contact me using the information above.

This herbicide treatment is regulated under a permit issued by the Washington State Department of Ecology.

Posting Requirements

Posting to Private and Publicly-owned Shorelines

- Post signs no more than 48 hours prior to application
- Signs in place until end of water use restriction period Colors indicate phase of treatment
- Face the water and shore
- Within 10 ft. of shore
- Within 400 ft. of treatment area
- Post every 100 ft. of shoreline or every property

CAUTION

Fluridone (1-methyl-3-phenyl-5-[3-(trifluoromethyl) phenyl]-4(1H)- pyridinone) will be applied under permit to these waters on _____ to control aquatic vegetation.

There are no swimming or recreation restrictions or advisories when using this product.

Applicator to put additional label restrictions or advisories here:

Potable Water Restrictions:

Irrigation Restrictions:

Fishing Restrictions:

Stock Watering Restrictions:

For more information contact the applicator: _____

Phone number: (____) _____

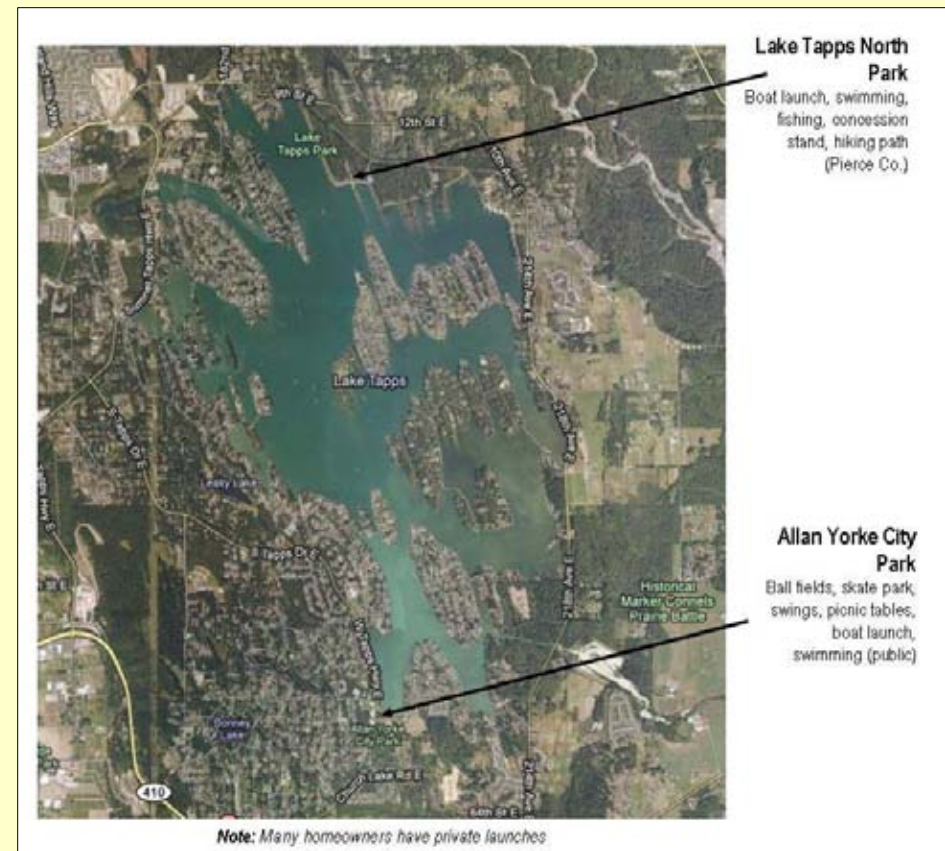
Or the Department of Ecology at (____) _____

THIS SIGN SHALL REMAIN IN PLACE UNTIL 2 DAYS AFTER APPLICATION

Posting Requirements cont.

Posting to Shoreline Public Access Areas

- 2 x 3 ft. size minimum
- Signs face the water and shore
- Signs within 25 ft. of shoreline
- Post every 100 ft. of shoreline
- Map of treatment area
- Post to all public access areas within ¼ mile of treatment area
- Post to all public boat launches within 1 ½ miles of treatment area



Additional Notification and Information from Cascade

- Websites
 - Cascade (www.cascadewater.org)
 - Lake Tapps Community Council (www.laketappsnews.org)
- Email Notification
- Direct Mail Notification
- Articles in Reporter Newspapers