APPROVED

City of Tumwater
Barnes Lake Management District

Meeting Minutes

June 8, 2006
Public Works Conference Room, City Hall

I. Call to order

Kathy Peterson called to order the regular meeting of the Barnes Lake Steering Committee (BLMD-SC) at 6:00 p.m. on June 8, 2006 in the Public Works Conference Room at City Hall.

II. Roll call

Kathy Peterson conducted a roll call. The following persons were present: Ron Lumaguip, Bill Baxter, John Swander, Bob Hayes, Rosemary Walsh and Staff Representative Smith. Judith Loft was excused. Chuck Nordstrom, LMD member from Lake Terrace Drive also attended.

III. Approval of minutes from last meeting

The BLMD-SC reviewed the minutes from the last meeting. Bill Baxter and Rosemary Walsh requested clarification of the intent of including hazardous trees as part of the IAVMP. Staff stated that this was part of a "brainstorming" session and will not be included as part of the IAVMP. The minutes were approved as written.

IV. Public Comment Period – No Comments

V. **Additions to Meeting Agenda** – No additions

VI. Open issues

a) Review of vegetation control options

In preparation for the permit application, SEPA checklist, and finalization of the IAVMP, the Steering Committee reviewed all options approved in the State of Washington for aquatic vegetation management. After spending the majority of the meeting reviewing the mechanical, physical, and chemical control methods, the Steering Committee chose the herbicide glyphosate as the primary control method for the non-native fragrant water lily and the native spatterdock. An information sheet on glyphosate is attached.

Vegetation Management Options & BLMD-SC Recommendation

For more detailed information on individual management measures, please refer to Ecology's guidance manual: A Citizen's Manual to Developing Integrated Aquatic Management Plans, available online at: www.ecy.wa.gov

Physical Control Measures	
Hand Pulling – removal of rooted, submerged plants is an intensive treatment option. This method involves digging out the entire plant with a spade or long knife and disposing residue on the shore. Various permits required, cost prohibitive for external sourcing, and has been attempted previously on Barnes Lake with little success.	Hand Pulling will remain on the table for management of the vegetation, but implemented at a later date and on smaller scales than is required for current treatment scenarios. Minimal applications would be viable along individual homeowner shorelines. Most hand pulling will be done with volunteer labor.
Hand Cutting – Similar to hand pulling with the exception that the plants are cut below the surface and the roots are generally not removed. Hand cutting is not effective for long term removal of vegetation.	The SC feels that this method, as with hand pulling, would be more effective after a lake-wide treatment measure has been implemented.
Bottom Barrier Application – as the name implies, a barrier is installed along the bottom of the lake bed, shading out light and prohibiting ALL vegetative growth. Best used in small areas around docks, swim beaches, etc.	For lake wide treatment, bottom barriers are not a feasible measure and would be cost prohibitive. SC recommends individuals with docks that may want to pursue this as an additional treatment option independently of the LMD, but advises that additional permits may be needed.
Water Level Drawdown – involves the lowering of lake levels to expose the vegetation and root systems.	SC opts to not pursue this option. This option is non-selective and impacts to the environment and habitat would be too great. Heavily regulated activity; permitting costs extensive; and impacts too high for reasonable consideration.
Watershed Controls – involves the use of educational and technological measures to reduce nutrient loading in the lake.	SC feels this will be a viable measure for use after initial vegetation control takes place. Watershed controls are not effective for dealing with the vegetation currently impacting Barnes Lake.
Water Column Dyes – involved the insertion of dye to the lake to prevent sunlight from reaching the submerged vegetation.	This measure is non-selective to all aquatic plants, would have no impact on the targeted lily populations, and is generally not effective in shallow lakes. SC removed this measure from future consideration.
Mechanical Control Methods	
Mechanical Harvesting – short term technique to remove plants interfering with aesthetic and recreational activities.	Barnes Lake used a similar method in the 1990s with little long-term success. Mechanical harvesting may be utilized in removal of floating lily islands, but not for long-term vegetation management.
Rotovation/Cultivation (Bottom Derooting) – involves tilling of lake bottom and removal	This method is non-selective, removing all species of vegetation and disrupts water quality

of roots and vegetative matter.	and aquatic habitats. Cost prohibitive. SC recommends that this method never be used on the lake for vegetation management.
Diver-Operated Suction Dredging – hand removal of vegetative materials.	While a good method for control of some species, it is not recommended for infestations of lily plants. Highly cost prohibitive. Not recommended by the SC for use in Barnes Lake.
Biological Control Methods	Importing Grass carp may be considered as an option in the future to handle emergent vegetation. Grass Carp do not eat lily vegetation, therefore would be ineffective for initial treatments.
Chemical Control Methods	
Fluridone – effective for lily treatment and other vegetation. Systemic herbicide.	Due to the high costs, non-selectivity, and injection into the water column, this herbicide is not the preferred method for lily control. Will be kept as a potential control method for emergent vegetation.
Glyphosate – Effective and recommended treatment for lily control. Systemic herbicide.	Selective herbicide with no known impacts to wildlife when applied as the aquatic formulation. Herbicide has short half-life in the environment and does not pose a threat to groundwater. The SC chose Glyphosate as the primary method of control for aquatic vegetation.
Endothall – Non-systemic herbicide. Temporary reductions in plant growth.	Not effective for long-term management of lily infestation. Moderately expensive. SC recommends retaining this option for control of emergent vegetation as necessary, but it not the preferred method for lily control.
Copper Chelates – no longer an approved method from DOE.	Not considered.

While glyphosate was chosen as the primary control method, the steering committee believes that successful management of the aquatic vegetation will best be maintained using a variety of methods which include both physical and mechanical methods. Due to the cost prohibitive nature of some methods, these were excluded from consideration.

b) Update on Water Quality Monitoring and vegetation survey activities

Sue Davis, Thurston County Environmental Health, conducted the first round of sampling for the season. Preliminary results suggest that Barnes Lake is currently in poor health. Dissolved Oxygen (DO) levels – the amount of available oxygen in the water to support aquatic life – are the lowest observed in Thurston County. At the surface of the lake where DO is expected to be the highest, levels were 4.36 mg/L. In comparison, a healthy lake generally has 9-10 mg/L DO. At 1m below the surface, DO was 3.3 mg/L; at 2-3m, DO was near 0 mg/L. It is anticipated that removal of the extensive coverage of

water lilies will enhance DO levels and foster a return of water quality to the lake. Additional land use and behavioral changes will also be needed to return the lake to healthy conditions. Staff are awaiting further results from the monitoring event.

VII. New business

a) Wildlife survey results/Audubon Society Update

Chair Peterson reported that she has contacted the Audubon Society to discuss any wildlife surveys they may have conducted in the Barnes Lake vicinity. The Audubon Society stated they do not have comprehensive surveys and the one completed by the residents of Barnes Lake would be best suited for the purposes of the LMD.

b) Planning for the June 28th public meeting

The SC discussed needs, time, and location of the public meeting to be held for discussion of aquatic vegetation management options and conservancy areas. The meeting will be held at 7pm on June 28th at the United Methodist Church.

c) Ecology permit considerations

Staff spoke with Ecology regarding the recent legal action taken by groups in King County to halt further issuance of any permits for herbicide applications. A decision by the State Supreme Court reversed the stay temporarily, allowing Ecology to continue issuing permits. A stop order may be issued.

A SEPA Checklist is required by Ecology. City staff will prepare the checklist and submit to Ecology with the application for permit coverage.

d) Conservancy Area Considerations

Further delineation is required to determine the extent of the conservation areas. Staff is waiting for Ecology's report from the vegetation survey to finalize areas to be included for preservation during the permitting period.

Ecology uses a sliding scale to determine the extent of the area to be preserved for conservancy areas. Since Barnes Lake falls into the under 50-acre category, 60% of natives are authorized for treatment and 100% of non-native vegetation.

VIII. Adjournment

Kathy Peterson adjourned the meeting at 8:00 p.m.

Minutes submitted by: Dan Smith, Staff Representative

Minutes approved by: Barnes Lake Management District Steering Committee