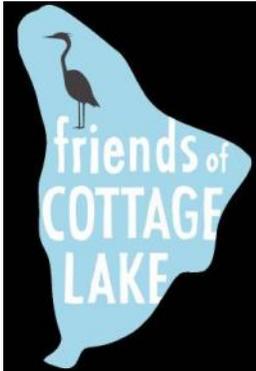


July 1, 2007

Volume 2, Issue 3



The Cottage Lake Connection

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Cottage Lake Park Shoreline Restoration Off to a Great Start!

King County and Friends of Cottage Lake are working together to beautify and restore the shoreline near the dock at Cottage Lake Park. The end goal is to enhance the natural buffer along the lakeshore with native plants and build an educational "wet garden".

A group of volunteers met at the park on June 16th to start preparing the site for the eventual fall planting. Invasive weeds (yellow flag iris and blackberry) were removed and cardboard and mulch were put down to kill the grass where the native plants will go. Great progress was made, but there is still a lot of work remaining (see the planting plan on page 3).



We have scheduled two more work parties this summer (July 21st and August 18th from 9am to noon each day) to continue the project and are looking for more volunteers. If you know of any groups that might be interested in helping with this community project, please contact Jonathan Morrison. We look forward to seeing even more people at the next event—thanks to everyone that came out!

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News from our neighbors on Lake Leota

by Pati An

Editors note: Lake Leota is just down the road from Cottage Lake and faces many of the same issues we do. All of the recommendations also apply to Cottage Lake and I want to thank Pati for taking the time to put together this article.

In 2007, a "Sustainable Development Study", including an environmental analysis of Lake Leota, was completed for the City of Woodinville. In summary, it was found:

1. Lake Leota has been identified on the King County Wetland Inventory as Big Bear Creek 9, a class 2 wetland. Although wetlands are common around the lakeshore- with a few extending up tributary channels and swales- present wetlands are but a small remnant of pre-settlement wetlands. Vegetation cover in the watershed and around the lake tends towards the coastal climax forest, which once dominated these near-ocean hills. All waterfront lots appear to have a narrow band of wetland vegetation at the interface of the lawn and water's edge.
2. Lake Leota is "perched" above the Qva aquifer. Perched lakes commonly lose most of their outflow as seepage. King County lake monitoring reports state that nearly all out-flowing water leaves Lake Leota via groundwater flow. Surface outflow is commonly accepted as the beginning of Cold Creek, although it is still an intermittent stream at this point. Cold Creek's beneficial contribution to Bear Creek Watershed's salmon habitat is unique due to the coldness of its water.
3. Storm-water runoff is the obvious source for most of the heavy metals found in the lake. Lead and nickel were the two metals with highest concentrations relative to toxic thresholds. Based on studies of similar systems, current levels are assumed high enough to have adverse affects on more than 50% of the invertebrates in the lake. Usually, high metal levels are not a problem because Lake Leota is full of oxygen. But in the summer, Lake Leota has too many nutrients. Nutrients encourage excessive growth of weeds such as algae. These weeds suck up the oxygen, creating "anaerobic conditions". As stated in the report: "Anaerobic conditions, however, cause a reducing environment in the sediments whereby significant quantities of toxic metals can be mobilized from (the sediments) to the overlying water column with potential toxicity to organisms lake-wide."
4. The extensive lawns encompassing the lake undoubtedly supply large amounts of available plant nutrients to the lake.
5. Lake Leota's health is in danger from storm water runoff, septic tanks, and fertilizers. The soils surrounding the lake have a low phosphorous binding capacity rendering them

poor substrate for septic drain fields. At present levels of watershed development, storm-water runoff to Lake Leota is sufficient to increase sediment phosphorus to mesotrophic levels and metals to levels exceeding toxic thresholds. These factors are hastening the "death of the lake". As stated in the Lake Leota Analysis: "The end result of the aging process is a wetland followed by a wet meadow."

6. The study recommended that Lake Leota and its drainage basin be kept at R-1 zoning, primarily because a limit of one residence per acre facilitates retention of native vegetation and soils and makes it easier to minimize effective impervious surface. This, in turn, helps reduce erosive storm water flows to the lake. The study did find that zoning density could be increased immediately around the lake if septic systems were converted to sewage. But, upgrading septic systems to improve their nutrient removal could provide much of the benefit of sewer service while also maintaining the benefits of lower density zoning. Upstream in the basin, cumulative harm from greater densities would likely be measurably greater than the cumulative benefit from sewer service.

Recommended practices for near-shore property owners:

- **Regular maintenance of septic systems** (every 3 years, 2 years with a garbage disposal). Consider upgrading drain fields to enhance nutrient retention.
- **Minimize the use of fertilizer.** Especially harmful are phosphorus-rich, artificial fertilizers used on lakeside lawns. If you must fertilize, use organic compost in areas *at least* 200 feet back from the shoreline.
- **Minimize use of chemicals in the landscape** (example: weed and bug killers) and inside the home.
- **Maximize native vegetation in landscapes.** This will facilitate nutrient retention in the earth rather than the water. Especially beneficial is a buffer zone of native plants at water's edge, which will also discourage Canadian Geese. Geese love lawns and stick around because of them. The more our lake-side areas return to their natural, wooded state, the less desirable they will become for the geese.
- **Minimize lawns and hardscaping.** Lawns, being vegetation, are still better than hardscaping (such as retaining walls at shoreline or concrete patios elsewhere). Lawns do facilitate ground-water absorption- albeit

(Continued on page 3)

(Continued from page 2)

- minimally. But fertilized lawns may be as or more harmful than hardscaping. This is due to run-off of fertilizers into the water.
- **Stop all irrigation pumping from the lake to maximize water retention and volume in the lake.** This will maximize groundwater seepage to Cold Creek and it's salmon.
- **Limit the size of docks and design them to increase the amount of light reaching the water.** This will improve the diversity of plant and animal communities near the shoreline. Consider lake-friendly construction materials such as recycled plastic decking materials which don't require painting or re-sealing.
- **Avoid the use of detergents that contain phosphorus.** Do not wash cars or use detergents in your yard or anywhere that the run-off will drain into a storm-water drain.
- **Avoid use of anti-bacterial soaps.**
- **Limit the use of personal and house-hold cleansers,** including hair care products if your house is on septic.
- **Limit dumping of coffee grounds down drains** (very hard on septic systems).
- **Management of detrimental, invasive aquatic plants:** All harvested material should be taken away from the lake to avoid releasing the nutrients and metals -taken up by the plants- back into the lake. Detrimental shoreline or aquatic plants currently on Lake Leota are: knotweed (attractive, with a bamboo-like stalk and nice foliage with white flowers), yellow iris, and most of the lilies. The milfoil currently in Lake Leota is native, but can and should be pulled when it is propagating aggressively, like an invasive weed.

- **Clean up pet and geese feces in yards and on docks.** It is important to dispose of them properly. Waste from ducks and geese that is swept into the lake will increase its fecal coliform. This is a health hazard. Similarly, fecal coliform finds its way into the water via animal waste left on the ground. (But, rhododendron plants seem to like goose poop—put it as compost under bushes away from the lake).

The Enviro-Group of the Lake Leota Community Club is currently working with the City of Woodinville on plans to upgrade the storm-water drains that run directly into the lake from the roadways. We are advocating for the adoption of low impact development regulations, community education about the CAO and other means to protect our waterways. Please free to contact us directly with questions!

Best Wishes to all of our Neighbors,
 Pati An anpati@comcast.net
 Enviro-Group of Lake Leota Community Club



Cottage Lake Park
 Planting Plan: Plants

- Hard stemmed bulrush
- Faciated bulrush
- Slough sedge
- Wapato
- Dagger rush
- Woolly reed
- Sweet reed
- Highland cranberry
- Common tansywort
- Pacific willow
- Red cedar dogwood
- Pacific sticklewort
- Lady fern
- Pacific crabapple
- Yarrow stemmed dogwood
- Vine maple

Department of Natural Resources and Parks
 Water and Lake Resources Section
 Lake Stewardship Program

Newsletter Information

Newsletters are printed quarterly in
January, April, July, October

We would love to include any pictures, stories, or event announcements that relate to our Cottage Lake community.
 [Articles may be edited]

Submission deadlines are normally by the 15th of the month prior to the issue date.

We are looking for additional volunteers to help with the newsletter (content, layout, editing)

Contact
jonathanmorrison@hotmail.com
 if you are interested.

Update on the Water Lily Treatment

By Jonathan Morrison

Last summer the community decided to pursue the eradication of the invasive water lilies on Cottage Lake using the aquatic herbicide Glyphosate. Aquatechnex was hired to perform the spraying, but due to weather conditions, only one full treatment was done last year. The eradication will continue this summer and the first spraying is scheduled for mid-July with a follow-up spraying in August (Aquatechnex will be using a gas motor boat—see insert below for details). For more information on the water lily problem and treatment, please see our website:

www.friendsofcottagelake.org/waterlilies.htm



Water Lilies at the south end of Cottage Lake (June 2007)



Use of gas motor requested to complete water lily spraying this summer

By Matt McCain

This is a public notice to inform lake residents that Aquatechnex, the contractor hired to eradicate Cottage Lake’s invasive fragrant water lilies, has requested permission to use an internal-combustion engine for continued eradication efforts this summer.

The non-electric motors are needed to adequately reach the North and South ends of the lake where the largest, most dense areas of the non-native lilies are located. Last summer’s spraying efforts were cut short due in large part to not being able to penetrate these heavily choked areas.

While a county ordinance prohibits the use of internal-combustion engines on Cottage Lake, such use is allowed for official purposes and when adequate public notification has been given. The first one-day spraying is scheduled to occur in mid-July, with a follow-up spraying likely to occur in August. A gas motor may be unnecessary for the follow-up visit. For more information on Cottage Lake’s lily eradication efforts, please visit www.friendsofcottagelake.org or contact jonathanmorrison@hotmail.com.

Friends of Cottage Lake was awarded a \$2,500 grant from the 2006 Small Change for a Big Difference Grant for use in the eradication of the invasive water lilies.

The grant is funded by WaterWorks and awarded by the King County Department of Natural Resources and Parks. The grant will be used to help fund the spraying this summer.

WaterWorks



Calendar of Summer Events

- July 4th dusk Ring of Fire: Lakeside residents light red flares or tiki torches at dusk to create a "ring of fire" around the lake
- July 5th 7pm Music in the Park—"Dr. D and the Dixie Dogs" (Dixieland)
- July 12th 7pm Music in the Park—"The Bill Mattocks Band" (Blues, Ballads and Classic Rock)
- July 19th Music in the Park—"Hillbilly Highway" (Local Bluegrass)
- July 21st 9am to 12pm **Cottage Lake Park Restoration Work Party II**—site preparation: removing weeds and putting down cardboard and mulch. Tools and refreshments provided!
- July 26th 7pm Music in the Park—"Toucans" (Steel Drum Band)
- August 2nd 7pm Music in the Park—"Mach One Jazz Orchestra"
- August 18th 9am to 12pm **Cottage Lake Park Restoration Work Party III**



Join the [Cottage Lake Community Website](http://www.friendsofcottagelake.org/cottagelake) and share your favorite photos. The site also has information on meetings, events, etc:

www.friendsofcottagelake.org/cottagelake

Did you know? Some Cottage Lake Facts...

- Cottage Lake spans 63 acres.
- In 2006, it was estimated 8 acres of invasive fragrant water lilies covered Cottage Lake.
- There are two creeks which flow into Cottage Lake: Daniels Creek in the northwest and Cottage Creek in the northeast.
- Daniels Creek originates in Crystal Lake in Snohomish County, then flows south, travels under Woodinville-Duvall Road and empties into the northwest corner of the lake.
- Cottage Creek originates from natural springs located just north of Bear Creek Elementary School. It flows behind the Safeway, under Woodinville-Duvall Road, through the wetlands of Cottage Lake Park and into the lake.
- Cottage Lake has one outlet, Cottage Lake Creek, which flows out of the southwest corner of the lake. It travels south and eventually connects with Bear Creek.
- Cottage Lake is also home to some interesting critters: trout, bass, perch, frogs, dragon flies, eagles, turtles, beavers, river otters, muskrats, osprey, geese, ducks and Great Blue Herons. In the early 1990's, a stray caiman (small alligator) was captured in Cottage Lake.
- Cottage Lake is listed on Washington State's 303(D) list of impaired water bodies for total phosphorus.
- The oldest home on Cottage Lake was built in 1891 and is still inhabited today
- Cottage Lake Park used to be a private resort and was a popular destination in the 1930s.

Cottage Lake Connection

Newsletter from the Friends of Cottage Lake

17214 185th Avenue NE

Woodinville, WA 98072

www.friendsofcottagelake.org



Friends of Cottage Lake

MEMBERSHIP & DONATION FORM

\$10 Membership Fee

\$_____ Donation for support of FOCL activities

Name: _____

Address: _____

City, State, Zip _____

Phone: _____

Email Address: _____

Yes, please email my next *Cottage Lake Connection*

Make check payable to: **Friends of Cottage Lake**

All fees & donations are tax deductible

Calendar of Cottage Lake Events

- July 4th Ring of Fire (at dusk). Lakeside residents light red flares or tiki torches at dusk to create a "ring of fire" around the lake
- July 21st 9am to 12pm - Cottage Lake Park Restoration Work Party II
- Aug 18th 9am to 12pm - Cottage Lake Park Restoration Work Party III
- Sept 25th 7pm - Watershed Watchers Event at the Woodinville Water District Meeting Room—17328 NE Woodinville Duvall Road