

Lakeside Life Lessons

A community's commitment to a healthier watershed



Long Lake, Kitsap County.

Introduction

Long Lake, in Kitsap County, is approximately 3.5 miles from the city of Port Orchard. True to its name, Long Lake is a narrow body of water that stretches two miles in length. At a mean depth of 6.5 feet, the lake is highly eutrophic and has been inundated with noxious aquatic weeds as well as toxic blue-green algae blooms for several decades. Beneficial uses such as swimming, fishing, boating, and aesthetic enjoyment have been severely hampered. The lake is currently listed on Ecology's 2008 Water Quality Assessment as a water of concern for fecal coliform and as a water body impaired by noxious weeds. Throughout the years, the lake has received alum treatments and applications of herbicides, but there was no detailed plan of action addressing water quality impairments for the lake and its watershed.

Problem

In 2002, several of the lake residents began talking about what they could do to help improve Long Lake's beneficial uses. The lake had frequent toxic algae blooms and increasing volumes of plant growth, which limited opportunities for swimming, fishing, and boating. The lake group's first step was to officially register their organization as a non-profit organization titled Citizens for Improving Long Lake (CILL). The group met with Ecology staff and county officials, and solicited the expertise of Tetra Tech Environmental Consulting firm. As the group educated themselves on lake and watershed health, it became apparent that acquiring funding would be their primary objective in order to address any water quality impairments for Long Lake.

CILL worked diligently for several years to develop a comprehensive plan for Long Lake. In 2005, with the help of their local state representative Senator Bob Oke, CILL, by way of Kitsap County, received special appropriation funding totaling \$ 950,000 from the Washington State Legislature to implement their comprehensive plan. Ecology managed the appropriation and advocated that the lake plan include outreach on controlling phosphorus throughout the Long Lake watershed.

Project Goals

With careful consideration of the water quality impairments that face the lake, the Long Lake comprehensive plan includes five basic elements:

- Alum treatments to control internal phosphorus loading and thus reduce Cyanobacteria levels.
- Control of Eurasian water milfoil, Brazilian elodea, and other non-native plants.
- Maintain boating and fishing lanes through dense aquatic plant management beds.
- Monitor for adaptive management decisions relative to the next year's programmed activities.
- Public education to ensure that citizens around Long Lake are active and informed participants of the management efforts. This element included efforts to promote individual responsibility for phosphorus control throughout the lake watershed.



Milestones and Outcomes



Previous whole lake alum treatments performed in Long Lake in 1980 and 1991 were ineffective because of incorrect mixing of the ratio of alum to phosphorus. However, in 2007 another whole lake alum treatment was performed with impressive results. The high-dose alum treatment resulted in an 82% reduction in chlorophyll *a* and a 50% reduction of phosphorus in the water column of the lake. In addition, the watershed education helped make lake residents more aware of how their everyday actions affect Long Lake quality.

Noxious Weeds

Long Lake has been documented as having aquatic noxious weeds for the past 35 years. Sampling in 1996 found the presence of Eurasian watermilfoil in the lake. The new comprehensive lake plan is designed to control noxious weeds and keep them clear of high use areas for swimming, fishing, and boating. Localized areas containing milfoil

will be eradicated from the lake. Brazilian Elodea is established throughout the lake, but the plan proposes to control this plant rather than completely eradicate it because the plant actually protects sediments from re-suspending into the water column.

Long Lake Daze

The year 2006 marked the first of CILL's Long Lake Daze. Long Lake Daze is a one-day festival open to all citizens. The festival has information booths from Kitsap County's Noxious Weed Program and Health District, Ecology, and booths from local area businesses. Long Lake Daze also offers food, drinks, and play structures for kids. Each year, the festival continues to gain in popularity and, more importantly, continues to reach out to more residents in the watershed about Long Lake phosphorus control and water quality health.



Project highlights

Initial funding provided by the legislature helped control water quality impairments in Long Lake. The project also helped bring community members together to talk about watershed issues and, more importantly, to discuss possible sources of future funding. CILL members have started the process of exploring formation of a lake management district (LMD). Ecology helped get residential phosphorus reduction included in the watershed education element of the comprehensive lake plan. Households determined to be in the prescribed area of the LMD would be assessed a fee by the county to help continue funding for implementation projects in Long Lake.

Partners

Participants involved in the Long Lake project include Washington State Department of Ecology, Kitsap County, Tetra Tech Environmental Services, Senator Bob Oke, CILL, and the many dedicated residents of Long Lake.

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Pictures provided by Ken Spohn, Harry Gibbons, and Dana Coggon

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