

## Programmatic Highlights

- Inform lake visitors that Lake Samish is a drinking water supply.
- Maintain culverts and catch basins.
- Maintain rutted roads and prevent ditch erosion.
- Designate watershed manager for program management and contact with public.
- Create GIS-based inventory of facilities to aid maintenance work.
- Request maintenance of WSDOT stormwater treatment vault.
- Resolve roles for continuation of lake-level management.
- Use relevant education materials from other watersheds.
- Manage boat launch for water quality considerations.
- Perform monitoring/modeling as funds permit.



Finney Creek at North Lake Samish Rd, January 2009

## Capital Project Highlights

- Replace or install key culverts at four different locations.
- Provide water quality treatment catch basins at several locations.
- Reconfigure road drainage near Calmor Cove.
- Dissipate energy of Pacific Creek
- Dredge Friday Creek dam sediments.

## Funding and Governance

Some recommended actions can be funded and administered from Whatcom County's general, road and flood control taxes. Other programmatic activities and all of the capital projects will require an additional funding source.

This plan recommends the existing Samish Watershed Subzone structure for revenue generation for both the lake-level and stormwater management activities.

Programmatic activities were classified as "Basic/Now" or "Special/Later" depending upon whether they were routine activities already covered by existing funding, or activities that were specially related to the circumstance of Lake Samish serving as a drinking water source subject to "urban-quality" runoff.

Funding for "Basic/Now" activities is a continuation of several County Department budgets potentially allocable to Lake Samish Basin, plus current subzone assessments for lake-level management. "Special/Later" activities require additional funding and time to implement. County Council acting as Board of Supervisors of the Flood Control Zone District has several options for raising the suggested additional revenue through the existing Samish Watershed Subzone: an *ad valorem* tax, a "per domestic unit" tax, or a user fee. This plan presents several funding examples.

## For More Information

To learn more about Lake Samish and Whatcom County stormwater planning efforts, contact:

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<http://www.wilsonengineering.com/lakesamishsw/>



## Executive Summary

### Introduction

Lake Samish is located in the southwest corner of Whatcom County, Washington just south of the City of Bellingham. The 816-acre lake is a valuable resource for public recreation such as boating, fishing, swimming, and other water and lakeshore activities. The lake serves as a water supply for 95 percent of the 1,300 residents that live around its shores. There is no public water system, but 400 houses closest to the lake are served by a public sewer system. Heavily traveled I-5 traverses the watershed and runs adjacent to the eastern lakeshore for three miles.

Lake Samish discharges into Friday Creek, a salmon spawning tributary of the Samish River. The Lake Samish Basin is located in Water Resource Inventory Area No. 3, and is entirely outside the City of Bellingham Urban Growth Area (UGA) in unincorporated Whatcom County.

Forestry land comprises 67% of the basin area, with active logging typically underway somewhere in the basin at all times. Despite some 560 existing residences, less than 2% of the Lake Samish Basin's total area is covered by impervious surfaces.



## Goals of the Lake Samish Comprehensive Stormwater Plan

- Understand the Lake Samish Basin stormwater system.
- Develop guidance for improving water quality, and managing water quantity.
- Reduce stormwater impacts from beneficial land uses: homes, highways, recreation, natural habitat, and forestry.

**Surface Water Quality Issues in Lake Samish Basin**

Lake Samish residents are keenly aware of the potential for both acute and chronic risks to water quality. This Comprehensive Stormwater Plan explains the lake's dynamic workings, suggests simple but effective changes through education, and directs public and private resources to maximum advantage.

The lake does not generally exceed surface water quality standards, so protection and preventing any further degradation is the goal. Urban-quality stormwater runoff contains sediment, nutrients, fecal coliform, petroleum hydrocarbons and metals, which are all of concern. Sediment from residential development, forestry, and lakeshore recreation creates alluvial fans at creek mouths and collects behind the Friday Creek outlet dam.

While some gradual changes in lake trophic status are naturally occurring, stakeholders do not want to accelerate any process that leads to excess algal growth and murky waters unsuitable for drinking and contact recreation.



January 2009 Flooding



Alluvial Deposits

**Water Quantity and Changing Hydrology**

With forestry zoning comprising 67% of the basin, sediment and natural debris must be carefully managed to prevent downstream flooding and siltation. When residential development and logging change the land surface, the natural hydrology evolves very quickly from largely underground movement of water to the lake, to a higher percentage of surface runoff with attendant sediment and potential contamination of runoff. In the worst cases, drainage pipes become clogged with sediment and debris, causing localized flooding. Flooded roads next to the lake are a public safety driving hazard, and create acute spill potential if an accident were to occur. Debris flows, flooding, and road washouts can prevent emergency access to Samish Water District sewer facilities, with attendant potential for sewage spills.

**Plan Contents**

- Chapter 1 - Introduction and background of Lake Samish Basin physical attributes, environmental and political history.
- Chapter 2 – Conditions and characteristics of the lake and basin; monitoring and modeling review.
- Chapter 3 –Regulations relevant to stormwater management.
- Chapter 4 – Maintenance and operations of stormwater-impacting facilities (multiple agencies)
- Chapter 5 – Capital improvements needed
- Chapter 6 – Programmatic recommendations
- Chapter 7 – Funding and governance



**Public Participation**

- Stakeholders are focused, knowledgeable
- Five public meetings held on plan topics
- Review of complex Technical Memos
- 50+ unique comments on issues
- Public helped planning stage
- Public willing to help with implementation

Public comment has thoroughly informed the plan and the recommendations. Stakeholder adoption of roles and responsibilities is key.



**Solutions**

More than fifty programmatic actions and ten capital improvement projects were identified to address problems. An avenue for some form of action is clearly available for every agency and stakeholder. While some of the programmatic activities can be accomplished by citizen volunteers and County staff within existing budgets, all remaining projects will require a new source of funding.

A County-designated watershed manager would most effectively direct the collaboration between residents and multiple government agencies. A watershed manager could accomplish many of the programmatic actions, keep the public informed and involved, and be the County's official Lake Samish point of contact with all responsible entities.

These agencies play key roles in the health of Lake Samish:

- Whatcom County –multiple departments
- Samish Water District
- WA Dept. of Natural Resources
- WA Department of Fish and Wildlife
- WA Department of Transportation
- WA Department of Ecology