



Lake Whatcom Reservoir Management Program 2010-2014 Work Plan

Prepared by the Lake Whatcom Reservoir
Interjurisdictional Coordinating Team

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Silver Beach Creek Pilot

- 2.1 Identify and prioritize stormwater projects utilizing models
- 2.2 Improve phosphorus removal in stormwater facilities
- 4.2 Educate and engage watershed residents and visitors
- 4.3 Reduce pollution from animal waste
- 4.4 Reduce pollution from vehicle washing and maintenance
- 4.5 Reduce pollution associated with landscape practices

Introduction

For the past several decades, the Lake Whatcom Reservoir's water quality has been deteriorating as a result of phosphorus entering the lake from residential development, forest practices, natural processes and other sources. This phosphorus loading has resulted in widespread algal blooms and dissolved oxygen deficits causing problems for the City's water supply system, fish and recreational users of the lake. In 1998, Lake Whatcom water quality failed to meet state dissolved oxygen standards and was placed on Washington's list of polluted waters. In response to this listing, a Total Maximum Daily Load (TMDL) study was completed by the Washington Department of Ecology (DOE) to determine the amount of phosphorus reduction needed to return the lake to acceptable water quality standards. The City of Bellingham and Whatcom County will submit this work plan to the Department of Ecology to fulfill the requirement for a Summary Implementation Strategy, the initial phase of the TMDL response strategy.

The Lake Whatcom Cooperative Management Program was established by an Interlocal Agreement in 1998 between the City of Bellingham, Whatcom County and the Lake Whatcom Water and Sewer District (formerly Water District 10). The goal of the program is to jointly manage and implement programs affecting the Lake Whatcom watershed.

Since 2003, staff from the three jurisdictions have worked to improve the functional components of the management program. The Interjurisdictional Coordinating Team (ICT) was created in 2000 to help coordinate activities and programs between the three jurisdictions. The ICT, composed of staff from each of the three jurisdictions, meets regularly to coordinate Work Plan implementation, evaluate program effectiveness and analyze data collection and monitoring results. Findings from those efforts as well as information from the TMDL study and other reports, were used to develop tasks for this work plan, tasks that will improve the water quality of the lake.

The Lake Whatcom Reservoir Management Program 2010-2014 Work Plan is the third five-year work plan. Over the next five years, this work plan will guide management activities focused on the water quality issues that result from excess phosphorus loading into the lake. Similar to preceding work plans this five-year work plan is organized around twelve Program Areas with tasks and actions for each. However the format of this plan is much different. It is a modified version of the format used in the Lake Whatcom Reservoir Technical Review Task Force report, *Recommended Management Actions for the Protection and Restoration of the Lake Whatcom Reservoir*, that was presented to the Mayor and City Council of Bellingham in May, 2009. This format was adopted in order to:

- Present the tasks in a clearer and more detailed format
- Improve the accountability by tracking the progress and resource-use of each task
- Provide flexibility to allow for changes and improvements during the five-year timeframe

Each Program Area's tasks have been color-coded for easy identification throughout the work plan. A header table at the top of each task sheet provides a quick overview of the task and includes:

- the time period in which the task will be implemented,
- the party or parties responsible for implementing the task,

- an estimate of the costs associated with the task,
- the status of the task, and
- the phosphorus reduction pathway.

Each task sheet also includes a section of one or more performance measures, indicators of effectiveness for each of the actions of each task. Also included are more detailed cost estimate tables.

We highly recommend reading the detailed explanation of the new format and the header table that can be found on pages 6 and 7.

The *Silver Beach Creek Pilot Project* (SBCP) continues to be an important focus for the Lake Whatcom Management Program under this current work plan. The project involves implementing a comprehensive strategy of Capital Improvement Projects (CIP), public outreach and education, stewardship efforts, and enforcement in the Silver Beach Creek watershed. Silver Beach Creek has some of the highest development/residential related phosphorus loading of all the Lake Whatcom tributaries and is shared by both the City and County jurisdictions making it an ideal setting for the pilot study. Implementation of the tasks in the SBCP will reduce pollution entering the lake and will also serve to test the stewardship focus of many of the tasks. The successes from this pilot project will then be applied to the entire Lake Whatcom watershed. Tasks that are being implemented as part of the Silver Beach Creek Pilot can be found in the Task Summary Table under a separate sub-section entitled *Silver Beach Creek Pilot* in addition to their standard location under the appropriate Program Area.

Successful implementation of this work plan is predicated on continued or increased funding and staffing. Obviously if funding in a Program Area is less than projected then the tasks will need to be reduced either in scope, number or timing to adjust to the funding constraint. Recently awarded and expected 2010 grant funding will be an integral part of the work plan implementation strategy. ICT staff will continue to seek additional grant funding as described in Task 11.2. Appendix B provides additional information on funding.

An annual report on work plan progress will be prepared by January 31st of the following year.

Reading the Header Table

Program Area: 1. Land Preservation

Task: 1.3 Manage Acquisition Program properties

Quick Reference: Program Area and Task Number

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010	City	\$20,000	Active	Indirect
2010-2014	County		Hold	Direct
2011-2012	SVCA District WSU Extension Education Team Data Team			

Quick Reference: Key information for each task is found in the **Header Table** (left) and can also be found in the **Task Summary Table** on pages 8-11

Header Table Descriptions:

Period: This column refers to the time period in which the task was/is being implemented. This entry includes the year the task started and the expected duration. For example, the period **2010-2014** indicates that the task is first being implemented in 2010 and is expected to continue until 2014. **2010** or any other single year indicates the task will be completed in one year.

Responsible Party: This column refers to the party or parties responsible for implementing the task.

Cost Estimate: This column gives an estimated cost for the implementation of the task during the period indicated. When applicable this estimate will be a combined amount for staff, capital and other costs for all participating parties. Details are broken out in the Cost Estimates Table.

Status: This column refers to the status of the task which is indicated by the following:

- **Active** indicates the task is funded and will be implemented.
- **Hold** indicates the task is on hold due to staff and/or funding constraints .

P Reduction: This column is used to indicate 1) whether this task is expected to result in a reduction in phosphorus loading, and 2) if there is an expected reduction, will it be a) **Indirect**, meaning that the phosphorus reduction will occur as a result of the impact this task will have on other actions, e.g. education program influence on stewardship activities, or b) **Direct**, meaning that this task is expected to directly result in a reduction in phosphorus loading, e.g. retrofitting a stormwater facility.

Quick Reference: Detailed descriptions of all **Header Table** entries can be found here

Reading the Task Sheet

The reference task number and name can be found here

Here is an example of the **Header Table** from the previous page

Program Area: 1. Land Preservation
Task: 1.3 Manage Acquisition Program properties

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City ER/County Parks	\$2.77 million	Active	Direct

Task Objective: Protect the watershed by managing Acquisition Program properties

Actions:

- Inventory and create management plans for new acquisitions
- Implement management plans for all properties
- Conduct periodic inspections, invasives control, planting, trail construction, encroachment responses, and other tasks as needed

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Acres restored, encroachment responses, special projects
 2) Summary of projects completed on properties

A detailed **Task Objective** can be found in this section

A list of **Actions** that will be taken to meet the Task Objective. This list will be updated as needed.

Boxes in this section are checked to indicate specific benefits the lake may receive as a result of this task. If **Other** is checked, a description will follow below.

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	1.0 (\$100,000)		\$30,000	\$130,000
	County	1.0 (\$100,000)	\$225,000	\$50,000	\$375,000
	District/Other				
2011	City	1.0 (\$100,000)		\$35,000	\$135,000
	County	1.0 (\$100,000)	\$75,000	\$55,000	\$230,000
	District/Other				
2012	City	1.0 (\$100,000)		\$40,000	\$140,000
	County	1.0 (\$100,000)		\$55,000	\$155,000
	District/Other				
2013	City	1.0 (\$100,000)		\$45,000	\$145,000
	County	3.0 (\$300,000)	\$150,000	\$205,000	\$655,000
	District/Other				
2014	City	1.0 (\$100,000)		\$50,000	\$150,000
	County	3.0 (\$300,000)	\$150,000	\$205,000	\$655,000
	District/Other				
Total		14.0 (\$1.4 million)	\$600,000	\$770,000	\$2.77 million

Performance Measures indicate how progress toward completing the task objective is being measured

The **Cost Estimates** section gives an estimate of the resources and funding to be used to implement the task for the designated period. Cost estimates are divided into Full Time Equivalents (1.0 FTE = \$100k), Capital Costs (\$), Other Costs (\$), and Total Costs (\$) for the respective jurisdictions. Undetermined is used to indicate when no resource/funding information is currently available.

Task Summary Table

1. Land Preservation	Period	Responsible Party	Cost Estimate	Status	P Reduction
1.1 Acquire easements or titles to watershed properties	2010-2014	City/County	\$14.16 million	Active	Indirect
1.2 Create Conservation Easements for Preserves	2010-2014	City	\$110,000	Active	Indirect
1.3 Manage Acquisition Program properties	2010-2014	City/County	\$2.77 million	Active	Direct
2. Stormwater Management	Period	Responsible Party	Cost Estimate	Status	P Reduction
2.1 Identify and prioritize stormwater projects utilizing models	2010-2014	City/County	\$490,000*	Active	Indirect
2.2 Improve phosphorus removal in stormwater facilities	2010-2011	City/County	\$580,000	Active/Hold	Direct
2.3 Implement comprehensive stormwater plans for phosphorus control	2010-2014	City/County	\$2.74 million	Active/Hold	Direct
2.4 Conduct inspections and assessments	2010-2014	City/County/SVCA	\$1.1 million	Active	Indirect
2.5 Coordinate NPDES Phase II implementation	2010-2014	City/County	\$500,000	Active	Indirect
2.6 Restore stream riparian areas	2010-2014	City/County	\$70,000	Active	Direct
3. Urbanization & Land Development	Period	Responsible Party	Cost Estimate	Status	P Reduction
3.1 Maintain and improve permit tracking system	2010-2014	City/County/District	\$26,000	Active/Hold	Indirect
3.2 Maintain joint development review process	2010-2014	City/County	\$4,000	Active/Hold	Indirect
3.3 Continue to assess the effectiveness of regulations	2010-2014	City/County/SVCA	\$45,000	Active/Hold	Indirect
4. Community Outreach	Period	Responsible Party	Cost Estimate	Status	P Reduction

4.1 Improve outreach and participation strategies through staff collaboration	2010-2014	Education Team	\$30,000	Active	None
4.2 Educate and engage watershed residents and visitors	2010-2014	Education Team	\$150,000	Active/Hold	Indirect
4.3 Reduce pollution from animal waste	2010-2014	City/County/District	\$30,200	Active/Hold	Direct
4.4 Reduce pollution from vehicle washing and maintenance	2010-2014	City	\$18,400	Active/Hold	Indirect
4.5 Reduce pollution associated with landscape practices	2010-2014	WSU Extension	\$15,900	Active/Hold	Direct/Indirect
4.6 Continue Residential Stormwater Retrofit Program	2010-2011	City/DOE	\$338,471	Active	Direct
4.7 Continue water conservation outreach	2010-2011	City/District	\$170,400	Active	None
4.8 Report toxic algal blooms	2010-2014	Data & Ed Teams	\$15,000	Active	None
5. Data Management & Information	Period	Responsible Party	Cost Estimate	Status	P Reduction
5.1 Continue lake water quality monitoring	2010-2014	Data Team	\$1.23 million*	Active/Hold	Indirect
5.2 Update tributary pollutant loading models	2010-2014	Data Team	\$362,000	Active/Hold	Indirect
5.3 Review and summarize monitoring studies and reports	2010-2014	Data Team	\$10,000	Active	None
5.4 Maintain and update data records	2010-2014	Data Team	\$5,000	Active	None
5.5 Establish new monitoring programs	2010-2014	Data Team	As needed*	Hold	Indirect
6. Spill Response & Hazardous Materials	Period	Responsible Party	Cost Estimate	Status	P Reduction
6.1 Amend local Emergency Operations Plans to include Lake Whatcom chapter	2010	ICT	\$3,000	Active	None
6.2 Coordinate spill response and reporting among all jurisdictions	2010, 2014	ICT	Staff	Hold	None
6.3 Conduct hazardous waste collection events	2010, 2013	ICT	\$56,000	Hold	Indirect

7. Forestry/Fish/Wildlife	Period	Responsible Party	Cost Estimate	Status	P Reduction
7.1 Review IJC reports of DNR activities	2010-2014	ICT	\$15,000	Active	None
7.2 Enforce water quality assurances	2010-2014	ICT	\$25,000	Active	Indirect
8. Transportation	Period	Responsible Party	Cost Estimate	Status	P Reduction
8.1 Improve transportation planning	2010-2012	City/County	\$2,000	Active	None
8.2 Reduce vehicle mile trips in watershed	2010-2014	City/County	\$5,000	Active	None
9. Recreation	Period	Responsible Party	Cost Estimate	Status	P Reduction
9.1 Prevent aquatic invasive species infestations	2010-2014	ICT	\$14,000	Active	None
9.2 Design recreational opportunities to protect water quality	2010-2014	ICT	\$13,000	Active	Indirect
10. Utilities & Waste Management	Period	Responsible Party	Cost Estimate	Status	P Reduction
10.1 Continue OSS contract with County Health Department	2010-2011	City	\$195,040	Active	Indirect
10.2 Promote water conservation	2010-2014	City	\$1.43 million	Active	None
10.3 Protect lake from wastewater pollution	2010-2014	District	\$4.08 million	Active	Direct/Indirect
11. Administration	Period	Responsible Party	Cost Estimate	Status	P Reduction
11.1 Staff the ICT, Management Committee, and Joint Council meetings	2010-2014	ICT	\$185,000	Active	None
11.2 Establish funding needs and strategy	2010-2014	ICT	\$45,000	Active	None
11.3 Coordinate Program Area committees	2010-2014	ICT	\$15,000	Active	None
11.4 Maintain contact with regulatory agencies	2010-2014	ICT	\$15,000	Active	None
11.5 Oversee contracts and work	2010-2014	ICT	\$47,000	Active	None

products					
11.6 Integrate Lake Whatcom Management Program goals into Comp Plans	2010-2011	City/County	\$2,000	Hold	None
12. Enforcement	Period	Responsible Party	Cost Estimate	Status	P Reduction
12.1 Improve enforcement capabilities	2010-2014	ICT/City/County/SVCA/District	\$265,000	Active	Indirect
12.2 Improve reporting of enforcement actions	2010-2014	City/County/SVCA	\$80,000	Active	Indirect
Silver Beach Creek Pilot	Period	Responsible Party	Cost Estimate	Status	P Reduction
2.1 Identify and prioritize stormwater projects utilizing models	2010-2014	City/County	\$490,000*	Active	Indirect
2.2 Improve phosphorus removal in stormwater facilities	2010-2011	City/County	\$580,000	Active/Hold	Direct
4.2 Educate and engage watershed residents and visitors	2010-2014	Education Team	\$150,000	Active/Hold	Indirect
4.3 Reduce pollution from animal waste	2010-2014	City	\$25,200	Active/Hold	Direct
4.4 Reduce pollution from vehicle washing and maintenance	2010-2014	City	\$18,400	Active/Hold	Indirect
4.5 Reduce pollution associated with landscape practices	2010-2014	WSU Extension	\$15,900	Active/Hold	Direct/Indirect

Program Area: 1. Land Preservation

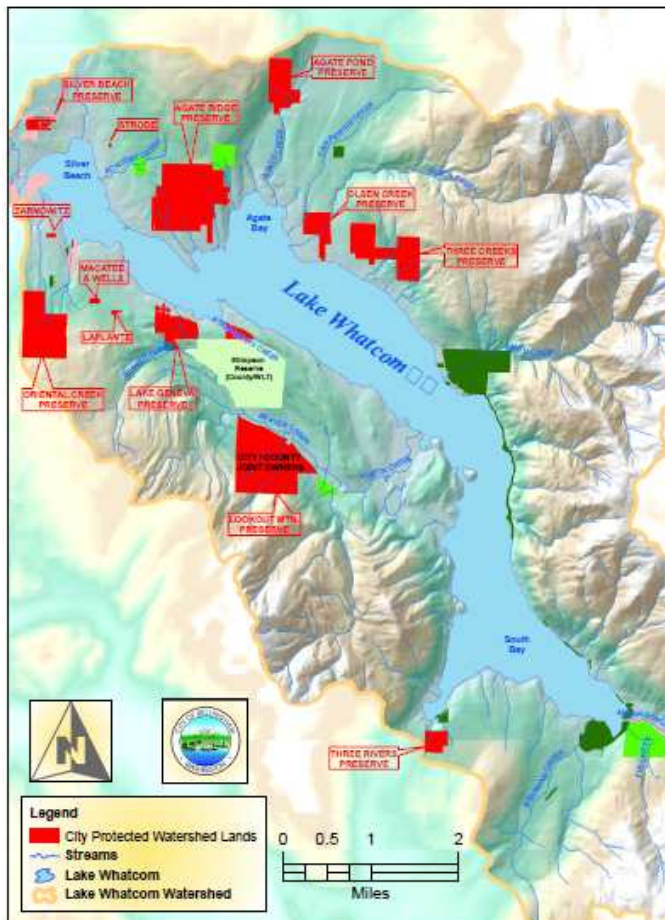
Goal:

Pursue public ownership and protection of the watershed whenever possible through public/private partnerships, tax exemptions, transfer of development rights, land trusts, and other means.

Land preservation strategies help preserve or rehabilitate natural areas for the benefit of protecting water quality. The Land Preservation Program Area aims to reduce water quality impacts to Lake Whatcom by preserving land within the watershed that might otherwise be made available for development. Land preservation strategies that have been used in the Lake Whatcom watershed include: acquisition, conservation easements, transfer of development rights, purchase of development rights, lot consolidation, and other incentive programs.

Notable Accomplishments:

To date, the City has purchased approximately 1,312.88 acres of land at a cost of \$20.5 million dollars. The City has also protected an additional 164 acres of land through conservation easements or restrictive covenants (both of which serve to restrict development). Total acreage protected now stands at 1,476 acres or 704 development units.



Reference Documents:

Goals and policy of the Land Preservation Program Area can be viewed at:

[http://www.lakewhatcom.whatcomcounty.org/UserFiles/File/allWatershed Ownership.pdf](http://www.lakewhatcom.whatcomcounty.org/UserFiles/File/allWatershed%20Ownership.pdf)

Program Area: 1. Land Preservation
Task: 1.1 Acquire easements or titles to watershed properties

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 – 2014	City/County	\$14.16 million	Active	Indirect

Task Objective: Reduce the potential number of development units in the watershed through the acquisition of easements or titles to watershed properties

Actions:

- Purchase property to reduce development and improve natural functions of property
- Finalize reconveyance of over 8000 acres from DNR to Whatcom County by 2013

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Reduction in potential development will reduce other pollutants associated with urbanized land use.

Performance Measures: Annual report to include:
 1) Reduction of development potential (# of units)
 2) Acres purchased
 3) Property locations

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.5 (\$50,000)	\$1 million	\$2 million	\$3.05 million
	County	0.25 (\$25,000)	\$150,000		\$175,000
	District/Other				
2011	City	0.5 (\$50,000)	\$700,000	\$2 million	\$2.75 million
	County	0.25 (\$25,000)	\$150,000		\$175,000
	District/Other				
2012	City	0.5 (\$50,000)	\$350,000	\$1.87 million	\$2.27 million
	County	0.25 (\$25,000)	\$50,000		\$75,000
	District/Other				
2013	City	0.5 (\$50,000)	\$250,000	\$1.89 million	\$2.19 million
	County	0.25 (\$25,000)	\$1.2 million		\$1.225 million
	District/Other				
2014	City	0.5 (\$50,000)	\$220,000	\$1.9 million	\$2.17 million
	County	0.25 (\$25,000)	\$50,000		\$75,000
	District/Other				
Total		3.75 (\$375,000)	\$4.12 million	\$9.66 million	\$14.16 million

Program Area: 1. Land Preservation
Task: 1.2 Create Conservation Easements for Preserves

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City	\$110,000	Active	Indirect

Task Objective: Create Conservation Easements (CEs) for Preserves

Actions:

- Negotiate Conservation Easements either creating new or adding to existing Preserves

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Reduction in potential development will reduce other pollutants associated with urbanized land use.

Performance Measures: Annual report to include: Summary of acres included in Preserves

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.02 (\$2,000)		\$20,000	\$22,000
	County				
	District/Other				
2011	City	0.02 (\$2,000)		\$20,000	\$22,000
	County				
	District/Other				
2012	City	0.02 (\$2,000)		\$20,000	\$22,000
	County				
	District/Other				
2013	City	0.02 (\$2,000)		\$20,000	\$22,000
	County				
	District/Other				
2014	City	0.02 (\$2,000)		\$20,000	\$22,000
	County				
	District/Other				
Total		0.1 (\$10,000)		\$100,000	\$110,000

Program Area: 1. Land Preservation
Task: 1.3 Manage Acquisition Program properties

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County	\$2.77 million	Active	Direct

Task Objective: Protect the watershed by managing Acquisition Program properties

Actions:

- Inventory and create management plans for new acquisitions
- Implement management plans for all properties
- Conduct periodic inspections, invasives control, planting, trail construction, encroachment response and other tasks as needed

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:

- 1) Inventories and property management plans for all new properties
- 2) Annual summary of inspections and projects completed including: percentage of properties inspected, acres of uplands restored, linear feet of stream or shoreline restored, percentage of completed encroachment responses, special projects.

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	1.0 (\$100,000)		\$30,000	\$130,000
	County	1.0 (\$100,000)	\$225,000	\$50,000	\$375,000
	District/Other				
2011	City	1.0 (\$100,000)		\$35,000	\$135,000
	County	1.0 (\$100,000)	\$75,000	\$55,000	\$230,000
	District/Other				
2012	City	1.0 (\$100,000)		\$40,000	\$140,000
	County	1.0 (\$100,000)		\$55,000	\$155,000
	District/Other				
2013	City	1.0 (\$100,000)		\$45,000	\$145,000
	County	3.0 (\$300,000)	\$150,000	\$205,000	\$655,000
	District/Other				
2014	City	1.0 (\$100,000)		\$50,000	\$150,000
	County	3.0 (\$300,000)	\$150,000	\$205,000	\$655,000
	District/Other				
Total		14.0 (\$1.4 million)	\$600,000	\$770,000	\$2.77 million

Program Area: 2. Stormwater Management

Goal:

Prevent water quality and quantity impacts due to stormwater runoff by implementation of best management standards and practices, pollutant source control, and construction, maintenance and retrofit of stormwater facilities.

The Stormwater Management Program Area aims to prevent water quality and quantity impacts associated with stormwater runoff. This program area focuses on the implementation of options for stormwater control including best management practices and standards, capital projects, pollutant source control and treatment, and the evaluation of stormwater control options that can be applied to both existing and new development in the watershed.

Notable Accomplishments:

For almost 20 years, the City and County have been engaged in protecting the lake through stormwater management efforts. During that time, the City's Stormwater Code has been revised four times to reflect new information on the water quality of the Lake (1990, 1995, 2006, 2009) and the County adopted three major changes to its code to add protections for Lake Whatcom and other sensitive watersheds (1994, 1999, 2002). Over the years, the City and County have continued to increase their investments in capital projects designed to slow the amount of phosphorus entering the lake.

In 2010, the City plans to complete the last of a series of capital projects to provide a first line of defense to the Lake from major stormwater inputs from City public stormwater systems. Due to differences in the treatment effectiveness of previously completed projects, the City will also concentrate on making previously completed stormwater systems more efficient at removing phosphorus and will assist private property owners to take actions to reduce water quality impacts originating on their properties.

Over the next few years, the County has plans to complete several capital improvement projects to reduce water quality impacts associated with stormwater runoff. The County will also work to provide resources and information to private property owners to help them minimize water quality impacts from their properties. Both the City and County have submitted grant proposals that could significantly increase these activities if approved.

Reference Documents:

City of Bellingham 2007 Comprehensive Stormwater Plan

<http://www.cob.org/documents/pw/storm/2007-stormwater-comp-plan.pdf>

City 1990 Watershed Stormwater Ordinance 10023

City 1995 Stormwater Ordinance 10633

City 2006 Ordinance 2006-05-047 (Amendment to BMC 15, 16, 15.40, 15.42)

City 2009 Ordinance 2009-06-041 (Amendment to BMC 15.42 Stormwater Code)

Whatcom County 2008 Lake Whatcom Comprehensive Stormwater Plan (LWCSWMP)

<http://www.whatcomcounty.us/publicworks/water/compstormwaterplan.jsp>

County 1994 Stormwater Conformance Ordinance 94-022

County 1999 Water Resource Protection Overlay District Ordinance 99-086

County 2002 Stormwater Special Districts Ordinance 2002-034

Program Area: 2. Stormwater Management
Task: 2.1 Identify and prioritize stormwater projects utilizing models

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County	\$490,000*	Active	Indirect

Task Objective: Prioritize nutrient reduction projects in the watershed using sub-watershed scale pollutant loading models

Actions:

- Define criteria for prioritization of stormwater projects
- Use pollutant loading models to identify priority stormwater projects in the sub-basins of the watershed
- Identify suitable sites for stormwater retrofits
- Inspect and evaluate all seven stormwater treatment facilities in the upper SBC watershed and prepare pre-design reports for retrofitting

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Remove pollutants e.g. oil, grease and metals

Performance Measures: Annual report to include:

- 1) Criteria for prioritization of projects
- 2) Prioritized list of stormwater projects in the watershed, updated annually
- 3) Prioritized list of suitable sites for stormwater retrofits including options, costs, and timelines for projects
- 4) Formalized plan to retrofit existing facilities and other suitable sites

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.1 (\$10,000)		\$100,000	\$110,000
	County	0.1 (\$10,000)		\$115,000	\$125,000
	District/Other				
2011	City	0.1 (\$10,000)		\$100,000	\$110,000
	County	0.1 (\$10,000)		\$75,000	\$85,000
	District/Other				
2012	City	0.1 (\$10,000)			\$10,000
	County	0.1 (\$10,000)			\$10,000
	District/Other				
2013	City	0.1 (\$10,000)			\$10,000
	County	0.1 (\$10,000)			\$10,000
	District/Other				
2014	City	0.1 (\$10,000)			\$10,000
	County	0.1 (\$10,000)			\$10,000
	District/Other				
Total		1.0 (\$100,000)		\$390,000*	\$490,000*

Program Area: 2. Stormwater Management
Task: 2.2 Improve phosphorus removal in stormwater facilities

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 – 2011	City/County	\$580,000	Active/Hold*	Direct

Task Objective: Improve phosphorus removal in stormwater facilities

Actions:

- City and County will assess stormwater facilities
- City will conduct full scale testing for Imbrium Systems phosphorus removal media (2010)
- County will conduct testing for PhosphoSorb phosphorus removal media (2010)
- County will retrofit private stormwater ponds in Silver Beach Creek Watershed (2010-2011)
- City will reconstruct Barkley/Britton wet pond to a rock/plant filter design (similar to site at WWU)

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Remove pollutants e.g. oil, grease and metals

Performance Measures: Annual report to include:

- 1) Number of stormwater facilities assessed, actions taken, percent treatment improvement for phosphorus, reductions in phosphorus, fecal coliform, flow velocity, TSS, and turbidity.
- 2) Summary of phosphorus removal efficiency of Imbrium and PhosphoSorb media
- 3) Summary of Barkley/Britton wet pond project

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.1 (\$10,000)	\$170,000		\$180,000
	County	0.2 (\$20,000)	\$125,000	\$10,000	\$155,000
	District/Other				
2011	City	0.1 (\$10,000)	\$100,000		\$110,000
	County	0.1 (\$10,000)	\$125,000		\$135,000
	District/Other				
Total		0.5 (\$50,000)	\$520,000	\$10,000	\$580,000

Program Area: 2. Stormwater Management
Task: 2.3 Implement comprehensive stormwater plans

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County	\$ 2.74 million	Active/Hold*	Direct

Task Objective: Implement existing comprehensive stormwater plans for phosphorus control

Actions:

Public Property Actions:

- Pilot projects to reduce phosphorus using bio-infiltration in public rights of ways
- Institute a tree/vegetation project on streets in watershed to increase vegetated cover
- Schedule reconfiguration of roadside ditches & regular maintenance
- County will construct projects in the Silver Beach Creek watershed to reduce erosion
- County will complete construction of Lahti Drive/Britton Road Bioswale

Private Property Actions:

- Prioritize infiltration project techniques and locations based on the outcome of soil studies
- Pilot infiltration projects providing technical assistance and financial incentives to property owners
- Establish design standards for types of infiltration techniques and a homeowner's handbook with descriptions and illustrations for each

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:

- 1) Summary (cost, location, site conditions, project type, area treated and monitoring plan) for all public and private infiltration and treatment projects
- 2) Homeowner's Handbook of design standards and infiltration techniques

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.2 (\$20,000)	\$175,000		\$195,000
	County	0.4 (\$40,000)	\$750,000		\$790,000
	District/Other				
2011	City	0.4 (\$40,000)	\$100,000		\$140,000
	County	0.4 (\$40,000)	\$600,000		\$640,000
	District/Other				
2012	City	0.4 (\$40,000)	\$100,000		\$140,000
	County	undetermined*	\$300,000		\$300,000
	District/Other				
2013	City	0.4 (\$40,000)	\$100,000		\$140,000
	County	undetermined*	\$300,000		\$300,000
	District/Other				
2014	City	0.4 (\$40,000)	\$50,000		\$90,000
	County	undetermined*	undetermined*		
	District/Other				
Total		2.6 (\$260,000)	\$2.48 million		\$2.74million

Program Area: 2. Stormwater Management
Task: 2.4 Conduct Inspections and Assessments

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County/SVCA	\$1.1 million	Active	Indirect

Task Objective: Conduct daily stormwater inspections of active development projects and conduct regular site assessments throughout the watershed

Actions:

- County will continue year-round daily inspections of development projects in the watershed
- City will provide daily inspections during construction window and twice weekly inspections outside of window
- City and County will conduct routine surveillance for non-permitted actions in watershed in coordination with Lake Whatcom permit inspection program
- Sudden Valley will continue to require and inspect on-site infiltration systems and conduct regular erosion control inspections for new construction projects and additions
- Sudden Valley will continue to conduct on-site assessments and provide education for property modifications

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:
 1) Number of permit/non-permit related inspections conducted
 2) Number of corrections notices and corrections made

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	1.0 (\$100,000)			\$100,000
	County	1.0 (\$100,000)			\$100,000
	District/Other	0.2 (SVCA) (\$20,000)			\$20,000
2011	City	1.0 (\$100,000)			\$100,000
	County	1.0 (\$100,000)			\$100,000
	District/Other	0.2 (SVCA) (\$20,000)			\$20,000
2012	City	1.0 (\$100,000)			\$100,000
	County	1.0 (\$100,000)			\$100,000
	District/Other	0.2 (SVCA) (\$20,000)			\$20,000
2013	City	1.0 (\$100,000)			\$100,000
	County	1.0 (\$100,000)			\$100,000
	District/Other	0.2 (SVCA) (\$20,000)			\$20,000
2014	City	1.0 (\$100,000)			\$100,000
	County	1.0 (\$100,000)			\$100,000
	District/Other	0.2 (SVCA) (\$20,000)			\$20,000
Total		11.0 (\$1.1 million)			\$1.1 million

Program Area: 2. Stormwater Management
Task: 2.5 Coordinate NPDES Phase II Implementation

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County	\$ 500,000	Active	Indirect

Task Objective: Coordination and implementation of NPDES Phase II stormwater requirements will demonstrate the ability to positively influence water quality to conform with TMDL and NPDES permit requirements

Actions:

- Share resources for the *Silver Beach Creek Pilot Project (SBCP)*
- Adopt required resolutions and ordinances as needed
- Continue to coordinate NPDES required programs: Illicit Discharge Detection, Construction Site Controls, Permanent Water Quality Facilities, Public Outreach, and Public Education
- Perform required public outreach activities and train staff for required duties to meet requirements

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Remove pollutants e.g. oil, grease and metals

Performance Measures: Annual report to include:
 1) Number of times and amount of resources shared
 2) Regulations and ordinances adopted out of number needed
 3) Dates and outcomes of NPDES program coordination efforts
 4) Date, number of participants and purpose of public outreach events
 5) Date, number of participants and purpose of training events
 6) Number of permit requirements that are in compliance

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.5 (\$50,000)			\$50,000
	County	0.5 (\$50,000)			\$50,000
	District/Other				
2011	City	0.5 (\$50,000)			\$50,000
	County	0.5 (\$50,000)			\$50,000
	District/Other				
2012	City	0.5 (\$50,000)			\$50,000
	County	0.5 (\$50,000)			\$50,000
	District/Other				
2013	City	0.5 (\$50,000)			\$50,000
	County	0.5 (\$50,000)			\$50,000
	District/Other				
2014	City	0.5 (\$50,000)			\$50,000
	County	0.5 (\$50,000)			\$50,000
	District/Other				
Total		5.0 (\$500,000)			\$500,000

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Program Area: 3. Urbanization & Land Development

Goal:

Prevent water quality degradation associated with urban development through zoning changes, development standards and density limits.

The Urbanization and Land Development Program Area aims to reduce water quality impacts resulting from residential and land use development activities. As areas are developed, land cover is often converted into less pervious surfaces that result in increased stormwater runoff going into the lake. The focus of this program area is to identify and adopt code changes that will result in reduced water quality impacts from residential uses. Another focus of this program area has been the improvement of data sharing between jurisdictions and the joint review of significant projects.

Notable Accomplishments:

In July 2009 the City adopted an amendment to the Lake Whatcom Reservoir Regulatory Chapter and Stormwater Regulations, making significant changes to the regulations for development and redevelopment, with a focus on eliminating phosphorus runoff. Methods to eliminate phosphorus include stormwater engineering, restoring and preserving forested conditions, or a combination of both of these methods.

In 2009, the City and County established a protocol for mutual review of proposals in the Lake Whatcom watershed that trigger a SEPA determination. This not only informs the jurisdictions of potential impacts to the watershed, but also allows for input on mitigation measures.

In 2009, the County modified the dates of the seasonal restrictions on clearing activities, and the parameters regarding the date of development permit issuance within the regulated watersheds. The amended dates provide greater protection from soil erosion due to the reduction of antecedent soil moisture content during the construction season. Soil disturbance is regulated to no more than 500 square feet from October 1st through May 31st. Development permits are only issued up to two weeks prior to the seasonal closure to allow sufficient and reasonable time for applicants to complete permitted land disturbance activities within the months of June through September.

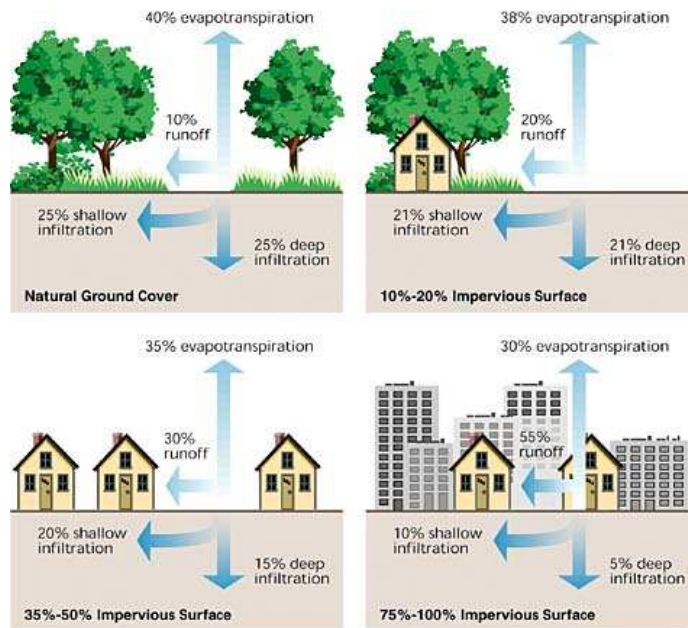


Fig. 3.21 – Relationship between impervious cover and surface runoff. Impervious cover in a watershed results in increased surface runoff. As little as 10 percent impervious cover in a watershed can result in stream degradation. In Stream Corridor Restoration: Principles, Processes, and Practices (10/98). By the Federal Interagency Stream Restoration Working Group (FISRWG) (15 Federal agencies of the U.S.)

Reference Documents:

- Bellingham Municipal Code (BMC) 16.80 (Lake Whatcom Reservoir Regulatory Chapter), 15.42 (Stormwater Regulations), 16.55 (Critical Areas Ordinance), Title 22 (Shoreline Master Program)
- Whatcom County Code (WCC) 20.80.735, 16.16 (Critical Areas Ordinance), Title 23 (Shoreline Management Program)

Program Area: 3. Urbanization & Land Development
Task: 3.1 Maintain and improve permit tracking system

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County/District	\$26,000	Active/Hold*	Indirect

Task Objective: Improve the system for tracking building and development activities in the watershed and make accessible to City, County, and District

Actions:

- Continue using Tidemark in the City and County to track permits and other activities in the watershed and share data between jurisdictions
- Develop data summaries in response to identified reporting needs
- Enhance the capability to track progress achieved by phosphorus limiting facilities and practices on private and public properties
- Convene a Development Tracking Team as necessary

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Track activities to identify trends that can be addressed through new policies or regulations

Performance Measures: Annual report to include:

- 1) Evaluation of progress limiting phosphorus due to facilities and practices on private and public properties
- 2) Current permit and development data from both jurisdictions updated monthly (for staff access and use)
- 3) Data summaries
- 4) Examples of standardized reporting on permits and activities for each jurisdiction
- 5) Outcomes of Development Tracking Team meetings

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.02 (\$2,000)			\$2,000
	County	0.1 (\$10,000)			\$10,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.02 (\$2,000)			\$2,000
	County	0.1 (\$10,000)			\$10,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	undetermined*			
	County	undetermined*			
	District/Other	undetermined*			
2013	City	undetermined*			
	County	undetermined*			
	District/Other	undetermined*			
2014	City	undetermined*			
	County	undetermined*			
	District/Other	undetermined*			
Total		0.26 (\$26,000)			\$26,000

Program Area: 3. Urbanization & Land Development
Task: 3.2 Maintain joint development review process

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 – 2014	City/County	\$4,000	Active/Hold*	Indirect

Task Objective: Maintain the City/County joint development review process

Actions:

- Continue notification and joint review of development applications in the UGA portion of the watershed
- Continue notification between City and County of projects triggering SEPA
- Re-evaluate joint development review process as necessary

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Coordinated review efforts result in improved outcomes for lake water quality

Performance Measures: Annual report to include:

- 1) Records of joint SEPA review
- 2) Summary of projected impact of each SEPA determination on Lake Whatcom TMDL targets

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2012	City	undetermined*			
	County	undetermined*			
	District/Other				
2013	City	undetermined*			
	County	undetermined*			
	District/Other				
2014	City	undetermined*			
	County	undetermined*			
	District/Other				
Total		0.04 (\$4,000)			\$4,000

Program Area: 3. Urbanization & Land Development
Task: 3.3 Continue to assess the effectiveness of regulations

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County/SVCA	\$45,000	Active/Hold*	Indirect

Task Objective: Continue to assess the effectiveness of regulations

Actions:

- County will expand its Low Impact Development Program through code amendments, permit process modifications, a technical assistance manual, and public education and outreach to accomplish TMDL and Phase II requirements (2010)
- City will revisit the 2009 code changes to the Lake Whatcom Reservoir Regulatory Chapter before Council and modify accordingly (2010)
- City will review the Silver Beach Neighborhood Plan (SBNP) (2010)
- Each jurisdiction will be updated on any proposed changes to regulations and BMPs
- Sudden Valley will modify portions of its existing guidelines to address problematic regulations and find areas where consistent regulations with other agencies can be adopted

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:

- 1) Number of acres in Native Vegetation Protection Area (NVPA - forested) in City
- 2) Number of properties with engineered stormwater facilities in City and County
- 3) Summary of effectiveness of regulations at minimizing phosphorus runoff LID Program
- 4) Actions taken to accomplish TMDL and Phase II requirements (2010)
- 5) Modifications to Lake Whatcom Reservoir Regulatory Chapter 2009 code changes
- 6) SBNP recommendations presented to the Neighborhood Association and City Council
- 7) Interjurisdictional updates on proposed changes to regulations

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.05 (\$5,000)			\$5,000
	County	0.05 (\$5,000)			\$5,000
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2011	City	0.05 (\$5,000)			\$5,000
	County	0.05 (\$5,000)			\$5,000
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2012	City	undetermined*			
	County	undetermined*			
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2013	City	undetermined*			
	County	undetermined*			
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2014	City	undetermined*			
	County	undetermined*			
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
Total		0.45 (\$45,000)			\$45,000

Program Area: 4. Community Outreach

Goal:

Increase lake stewardship and reduce urban impacts through the provision of educational programs and materials to watershed residents, the general public and decision makers on topics related to water quality, source control, and land use and development regulations.

The Community Outreach Program Area aims to protect water quality by encouraging watershed residents and visitors to become stewards of the lake. The focus of this program is to provide stewardship tools that each individual can use to help protect Lake Whatcom. These tools range from lake-friendly gardening practices to picking up pet waste and encouraging people to engage in lake-friendly car washing and maintenance practices.

Notable Accomplishments:

In 2008, the Lake Whatcom Education Team, comprising staff from the City, County, Sudden Valley Community Association, and WSU Cooperative Extension, was re-established to coordinate and implement community outreach and education programs as part of the Lake Whatcom Management Program.

In 2009, the Lake Whatcom Education Team initiated work on the *Silver Beach Creek Pilot Project* (SBCP). Residents of the Silver Beach Creek watershed were engaged in mail and telephone surveys, focus groups, and community meetings. Results from these activities provided information on existing behaviors, attitudes, barriers, and possible incentives to be used to further develop the SBCP outreach/education program in coordination with members from the community.

For the past few years, the City has engaged in a very successful dog waste disposal campaign using education materials and incentives to encourage pet owners to pick up after their pets and engage in watershed-friendly pet waste disposal practices.

In 2009, WSU Extension conducted two successful pilot Sustainable Landscaping classes in the watershed. Participants in the class received training on a variety of watershed-friendly practices that can be implemented on their properties. In exchange for the free training, participants all implemented on-the-ground changes to improve water quality on their properties and provided various types of outreach to the broader community on water-friendly gardening.

Reference Documents:

Lake Whatcom Management Program

<http://www.lakewhatcom.whatcomcounty.org/>

City of Bellingham Lake Whatcom website

<http://www.cob.org/services/environment/water-quality/lake-whatcom.aspx>

Puget Sound Partnership Eco Net

<http://www.psp.wa.gov/econet.php>

Watershed Friendly Gardening website

http://www.lakewhatcom.whatcomcounty.org/asub_fldr/gardenkit/INDEX.HTML

Program Area: 4. Community Outreach

Task: 4.1 Improve outreach and participation strategies through staff collaboration

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Education Team	\$30,000	Active	None

Task Objective: Improve lake stewardship by coordinating staff to deliver accurate and cohesive regional messaging, while increasing participation effectiveness through the sharing of information and resources

Actions:

- Coordinate with all partners on new programs to be implemented
- Share information and expertise about existing and new education programs
- Reduce conflicting program messaging to enhance outreach effectiveness
- Serve as a link to larger regional education efforts and resources
- Coordinate and implement education and outreach needs for all Program Areas with related staff and provide resources and materials as needed

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Indirect pollution reduction through an improvement in program implementation, leading to more effective behavior change

Performance Measures: Annual report to include:

- 1) Activities/programs created or modified
- 2) Qualitative assessment of Program Area coordination efforts

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City	0.02 (\$2,000)		\$2,000
	County	0.02 (\$2,000)		\$2,000
	SVCA/WSU	0.02 (\$2,000)		\$2,000
2011	City	0.02 (\$2,000)		\$2,000
	County	0.02 (\$2,000)		\$2,000
	SVCA/WSU	0.02 (\$2,000)		\$2,000
2012	City	0.02 (\$2,000)		\$2,000
	County	0.02 (\$2,000)		\$2,000
	SVCA/WSU	0.02 (\$2,000)		\$2,000
2013	City	0.02 (\$2,000)		\$2,000
	County	0.02 (\$2,000)		\$2,000
	SVCA/WSU	0.02 (\$2,000)		\$2,000
2014	City	0.02 (\$2,000)		\$2,000
	County	0.02 (\$2,000)		\$2,000
	SVCA/WSU	0.02 (\$2,000)		\$2,000
Total		0.3 (\$30,000)		\$30,000

Program Area: 4. Community Outreach
Task: 4.2 Educate and engage watershed residents and visitors

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Education Team	\$150,000	Active/Hold	Indirect

Task Objective: Improve lake stewardship by educating and engaging watershed residents and visitors

Actions:

- Maintain and improve Lake Whatcom Management Program website
- Provide opportunities for community engagement in program development
- Develop and disseminate quarterly e-newsletter with key messages about lake protection
- Produce and distribute Welcome Packet for new watershed residents
- Update informational signage throughout the watershed
- Identify effective ways to inform and engage watershed visitors
- Review and select applicable programs and materials from the Puget Sound Partnership Eco Net
- Participate in interjurisdictional community events
- Coordinate with local organizations to create appropriate public outreach materials

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Improved lake stewardship by watershed residents and visitors

Performance Measures: 1) Timely and accurate information posted on Lake Whatcom Management website
 2) Annual report to include:
 Number of subscribers to e-newsletter, responses to surveys, focus group participants, participants in interjurisdictional community events, number of citizens involved in stewardship programs, type and number of education materials produced and disseminated.

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City	0.1 (\$10,000)		\$10,000
	County	0.1 (\$10,000)		\$10,000
	SVCA/WSU	0.05 (\$5,000)/ 0.05 (\$5,000)		\$10,000
2011	City	0.1 (\$10,000)		\$10,000
	County	0.1 (\$10,000)		\$10,000
	SVCA/WSU	0.05 (\$5,000)/ 0.05 (\$5,000)		\$10,000
2012	City	0.1 (\$10,000)		\$10,000
	County	0.1 (\$10,000)		\$10,000
	SVCA/WSU	0.05 (\$5,000)/ 0.05 (\$5,000)		\$10,000
2013	City	0.1 (\$10,000)		\$10,000
	County	0.1 (\$10,000)		\$10,000
	SVCA/WSU	0.05 (\$5,000)/ 0.05 (\$5,000)		\$10,000
2014	City	0.1 (\$10,000)		\$10,000
	County	0.1 (\$10,000)		\$10,000
	SVCA/WSU	0.05 (\$5,000)/ 0.05 (\$5,000)		\$10,000
Total		1.5 (\$150,000)		\$150,000

Program Area: 4. Community Outreach
Task: 4.3 Reduce pollution from animal waste

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County/District	\$30,200	Active/Hold	Direct

Task Objective: Reduce pollution resulting from improper disposal of animal waste in the watershed with particular emphasis on proper disposal of dog waste

Actions:

- Install additional dog waste bag dispensers in the Silver Beach Creek Watershed area to provide tools for proper handling of dog waste. Stations maintained by City staff and volunteer residents. Site selection will be determined by the results of water quality testing and resident support.
- Encourage proper pet waste disposal and reward behavior changes by offering incentives to dog owners
- Update information and resources for dog owners on the Lake Whatcom website
- Make video presentations available for interested residents
- Create and distribute informational packets to licensed dog owners (when renewing or new)
- Evaluate Bloedel-Donovan’s off-leash dog program
- Explore options to reduce waste from waterfowl and hobby farms

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Increased resident involvement in lake stewardship actions

Performance Measures: Annual report to include:

- 1) Number of packets distributed, videos watched, information updated, stations installed and maintained
- 2) Monitor lawns and public spaces for changes in the presence/absence of waste
- 3) Conduct survey of residents to gauge changes in waste disposal practices
- 4) Report on evaluation of off-leash program
- 5) Report on options to reduce waste from waterfowl and hobby farms

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.02 (\$2,000)	\$1,000	\$3,200	\$6,200
	County	0.01 (\$1,000)		\$1,200	\$2,200
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.02 (\$2,000)			\$2,000
	County	0.01 (\$1,000)		\$1,200	\$2,200
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.02 (\$2,000)			\$2,000
	County	0.01 (\$1,000)		\$1,200	\$2,200
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.02 (\$2,000)			\$2,000
	County	0.01 (\$1,000)		\$1,200	\$2,200
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.02 (\$2,000)			\$2,000
	County	0.01 (\$1,000)		\$1,200	\$2,200
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.2 (\$20,000)	\$1,000	\$9,200	\$30,200

Program Area: 4. Community Outreach

Task: 4.4 Reduce pollution from vehicle washing and maintenance practices

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City	\$18,400	Active/Hold	Indirect

Task Objective: Reduce the pollution from improper car washing and vehicle maintenance practices

Actions:

- Distribute 100 car wash coupons to residents who want to change their car washing habits
- Provide car washing workshop, in the watershed, to model pollution-reducing car washing and water conservation techniques
- Distribute video and follow up discussion questions to high school clubs, science classes and sports teams
- Publish spring newspaper advertisements for watershed friendly car washing and regulation reminder
- Update information and resources on the Lake Whatcom Management Program website
- Conduct survey to measure knowledge and behavior changes
- Explore opportunities for setting up a permanent vehicle washing station in watershed

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Reduce toxins entering lake as a result of improper car washing and maintenance practices

Performance Measures: Annual report to include:

- 1) Number of coupons redeemed at car washing facilities
- 2) Number of people attending car washing workshops
- 3) Surveys to identify a reduction in at home car washes using improper car washing techniques, an increase in residents using environmentally preferable commercial car washes, and an increase in residential knowledge of proper car washing techniques
- 4) Results of effort to site a permanent vehicle washing station in the watershed

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City	0.02 (\$2,000)	\$2,500	\$4,500
	County	0.01 (\$1,000)		\$1,000
	District/Other		PSP Grant (2009) – Coupons purchased \$900	\$900
2011	City	0.02 (\$2,000)		\$2,000
	County	0.01 (\$1,000)		\$1,000
	District/Other			
2012	City	0.02 (\$2,000)		\$2,000
	County	0.01 (\$1,000)		\$1,000
	District/Other			
2013	City	0.02 (\$2,000)		\$2,000
	County	0.01 (\$1,000)		\$1,000
	District/Other			
2014	City	0.02 (\$2,000)		\$2,000
	County	0.01 (\$1,000)		\$1,000
	District/Other			
Total		0.15 (\$15,000)	\$3,400	\$18,400

Program Area: 4. Community Outreach
Task: 4.5 Reduce pollution associated with landscape practices

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	WSU Extension	\$15,900	Active/Hold*	Direct and Indirect

Task Objective: Increase community, elected officials, and managers' knowledge and use of sustainable landscape practices associated with runoff and phosphorus load reduction on properties.

Actions:

- Training: Expand existing and provide various training/education opportunities to residents, businesses and landscapers on sustainable landscape practices including follow-up and support to ensure on-ground changes (e.g. workshops, site visits).
- Demonstration Sites: Use various approaches to enable residents and businesses to see and share examples of sustainable practices (e.g. tours, demonstration sites, movable displays).
- Incentives/Resources: Encourage sustainable practices by promotion of existing and new incentives and resources to encourage use of sustainable practices.

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Community- and environmental health-related benefits

Performance Measures: Annual report to include: 1) Results of all measures used to determine the success of the above actions. Measurement techniques will include: post event surveys, participant use of coupons and other incentives, attendance/participation in events, and observation. Not all measurement techniques will be used for all actions.

Criteria used to determine an action's success will include: 1) knowledge about how landscape practices can impact runoff and phosphorus loading to streams and Lake Whatcom and other benefits associated with sustainable landscape practices, 2) on-the-ground changes in landscape practices designed to reduce runoff and phosphorus loading to water bodies, and 3) awareness of and evaluation of the extent to which targeted programs have been implemented and possible changes that may increase program success.

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City			
	County	0.01 (\$1,000)		\$1,000
	District/Other	0.05 (\$5,000) (WSU Extension)	PSP Grant (2009) coupons \$900	\$5,900
2011	City			
	County	0.01 (\$1,000)		\$1,000
	District/Other	0.05 (\$5,000) (WSU Extension)	undetermined*	\$5,000
2012	City			
	County	0.01 (\$1,000)		\$1,000
	District/Other	undetermined*	undetermined*	
2013	City			
	County	0.01 (\$1,000)		\$1,000
	District/Other	undetermined*	undetermined*	
2014	City			
	County	0.01 (\$1,000)		\$1,000
	District/Other	undetermined*	undetermined*	
Total		0.15 (\$15,000)	\$900	\$15,900

Program Area: 4. Community Outreach
Task: 4.6 Continue Residential Stormwater Retrofit Program

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2011	City/DOE	\$338,471	Active	Direct

Task Objective: Decrease stormwater runoff from residential properties in the Lake Whatcom watershed by providing stormwater education and incentives to watershed residents as part of the Residential Stormwater Retrofit Program (RSRP)

Actions:

- Conduct stormwater education workshops for watershed residents as part of the Residential Stormwater Retrofit Program (RSRP)
- Eligible residents attending the workshops will qualify for free installation of 95-gallon rain barrels
- Create an informational video on program for advertising on BTV10 and at other events
- Update resources and information on stormwater incentives, codes, and regulations for residents

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Water conservation

Performance Measures: Annual report to include:
 1) Number of rain barrels installed on number of RSRP project area properties
 2) Number of gallons of stormwater managed per year using rain barrels

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City	1.15 (\$115,000)	DOE Grant Funding \$50,286	\$165,286
	County		Grant dependent	
	District/Other			
2011	City	1.15 (\$115,000)	DOE Grant Funding \$58,185	\$173,185
	County		Grant dependent	
	District/Other			
Total		2.3 (\$230,000)	\$108,471	\$338,471

Program Area: 4. Community Outreach
Task: 4.7 Continue Water Conservation Outreach

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2011	City/District	\$170,400	Active	None

Task Objective: Decrease city-wide water consumption through water conservation outreach program

Actions:

- Develop and implement water conservation education program
- Continue existing public outreach measures including: rain barrel program (workshops and general sales), voluntary metering program, water conservation kit distribution, video and public service announcements, and events.

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Water conservation

Performance Measures: Annual report to include:
 1) Number of rain barrels and water conservation kits distributed
 2) Number of participants in voluntary metering program

Cost Estimates:

Year	Party	FTEs (\$)	Other	Total
2010	City	0.62 (\$62,000)	\$19,700	\$81,700
	County			
	District/Other	0.01 (\$1,000)	\$2,500	\$3,500
2011	City	0.62 (\$62,000)	\$19,700	\$81,700
	County			
	District/Other	0.01 (\$1,000)	\$2,500	\$3,500
Total		1.26 (\$126,000)	\$44,400	\$170,400

Program Area: 4. Community Outreach
Task: 4.8 Report Toxic Algal Blooms

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data & Educ. Teams	\$15,000	Active	None

Task Objective: Alert the public to the presence of toxic algal blooms to avoid harm to recreational users

Actions: As needed

- Relay information from LWMP monitoring programs, water treatment plant staff or other sources to the general public regarding toxic algal blooms that are potential health hazards

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Improved tracking and reporting of toxic algal blooms reduces harm to recreational users of the lake

Performance Measures: Annual report to include (as needed):
 1) Timeliness of public information announcements
 2) Number of algae related health incidents reported

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.15 (\$15,000)			\$15,000

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Program Area: 5. Data Management & Information

Goal:

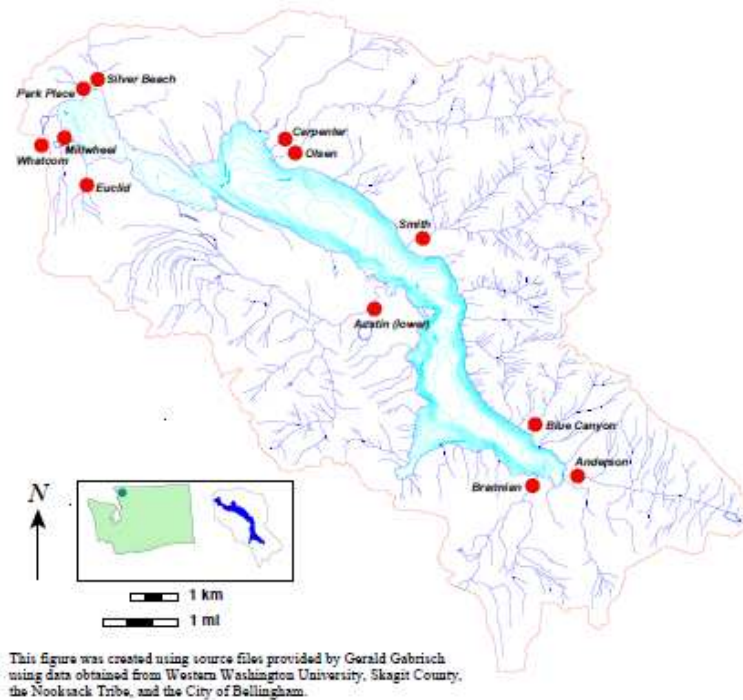
Maintain and enhance databases sufficient for detection of water quality and quantity trends, assessment of problems, evaluation and selection of management actions, and monitoring of action effectiveness.

The Data and Information Management Program Area aims to collect and manage data to increase our understanding of water quality, pollution source, and land use trends over time and to guide management decisions accordingly. This Program Area is administered by a Data Management Team composed of staff from the City, County, District, WWU's Institute for Watershed Studies, and the Department of Ecology.

Notable Accomplishments:

City and County staff worked together to compile and update the Lake Whatcom Data Catalog, an Access database containing over 290 titles, summaries, and document locations of Lake Whatcom related studies and reports.

In 2009, the first phase of the Lake Whatcom Tributary Monitoring Program was completed. Findings from the study, conducted by Brown and Caldwell, were evaluated by the Data Management Team who recommended that a second phase of monitoring at new and existing tributaries be conducted.



The Lake Whatcom Data Management Team continues to work closely with WWU's Institute for Watershed Studies to collect and manage Lake Whatcom monitoring data.

Reference Documents:

Lake Whatcom Data Catalog

Copies of the documents are available at the Whatcom County Public Works Water Resources Library and the Bellingham Public Library

Lake Whatcom Monitoring Reports

<http://www.ac.wvu.edu/~iws/>

Program Area: 5. Data Management & Information
Task: 5.1 Continue Lake Whatcom water quality monitoring

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data Team	\$1.23 million*	Active/Hold*	Indirect

Task Objective: Continue long-term baseline water quality monitoring in Lake Whatcom and selected tributary streams

Actions:

- Contract with Institute for Watershed Studies
- Create annual monitoring report

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Information/data used to improve water quality policies and management actions

Performance Measures: 1) Distribute monthly progress reports to Data Team
 2) Annual monitoring reports

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City			\$226,963	\$226,963
	County				
	District/Other				
2011	City			\$236,031	\$236,031
	County				
	District/Other				
2012	City			\$245,472	\$245,472
	County				
	District/Other				
2013	City			\$255,000*	\$255,000*
	County				
	District/Other				
2014	City			\$265,000*	\$265,000*
	County				
	District/Other				
Total				\$1.23 million*	\$1.23 million*

Program Area: 5. Data Management & Information

Task: 5.2 Update tributary loading models

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data Team	\$362,000	Active/Hold*	Indirect

Task Objective: Provide data and oversee tributary pollutant loading model updates

Actions:

- Refine the tributary monitoring project to more precisely determine phosphorus loading sources

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) End of study report of phosphorus loading sources with water quality and quantity data for specified tributaries integrated into loading models

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City			\$80,000	\$80,000
	County	0.03 (\$3,000)		\$80,000	\$83,000
	District/Other			\$18,000	\$18,000
2011	City			\$80,000	\$80,000
	County	0.03 (\$3,000)		\$80,000	\$83,000
	District/Other			\$18,000	\$18,000
2012	City				
	County	undetermined*		undetermined*	
	District/Other				
2013	City				
	County	undetermined*		undetermined*	
	District/Other				
2014	City				
	County	undetermined*		undetermined*	
	District/Other				
Total		0.06 (\$6,000)		\$356,000	\$362,000

Program Area: 5. Data Management & Information
Task: 5.3 Review and summarize monitoring studies and reports

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data Team	\$10,000	Active	None

Task Objective: Review and summarize monitoring studies and reports to determine policy implications

Actions:

- Read, discuss and summarize reports
- Provide summaries to ICT

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: New information/data used to improve water quality policies and management actions

Performance Measures: Annual report to include:

- 1) Summary of water quality issues identified by monitoring studies and reports
- 2) Policy recommendations in response to reports
- 3) Tasks that are modified or new in response to reports

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
Total		0.1 (\$10,000)			\$10,000

Program Area: 5. Data Management & Information

Task: 5.4 Maintain and update Data Catalog

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data Team	\$5,000	Active	None

Task Objective: Maintain and update data records

Actions:

- Add entries into the Lake Whatcom Data Catalog for all Lake Whatcom research, monitoring and reports published in the prior year

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Data Catalog acts as an information source for the public to improve lake stewardship

Performance Measures: 1) Annual update of Lake Whatcom Data Catalog

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City				
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2011	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2012	City				
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2013	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2014	City				
	County	0.01 (\$1,000)			\$1,000
	District/Other				
Total		0.05 (\$5,000)			\$5,000

Program Area: 5. Data Management & Information

Task: 5.5 Establish new monitoring programs

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	Data Team	As needed*	Hold	Indirect

Task Objective: Continue to improve detection of water quality and quantity trends by establishing new monitoring programs as needed

Actions:

- Respond to data needs identified by staff and/or consultants by initiating new monitoring programs

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: New information/data used to improve water quality policies and management actions

Performance Measures: 1) Annual review of identified data needs and update of monitoring program

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City				
	County	undetermined*		undetermined*	
	District/Other				
2011	City				
	County	undetermined*		undetermined*	
	District/Other				
2012	City				
	County	undetermined*		undetermined*	
	District/Other				
2013	City				
	County	undetermined*		undetermined*	
	District/Other				
2014	City				
	County	undetermined*		undetermined*	
	District/Other				
Total					

Program Area: 6. Spill Response & Hazardous Materials

Goal:

Prevent water quality degradation due to hazardous material spills through spill prevention and response programs, and continual improvement of communication network to handle spill response.

The Spill Response and Hazardous Materials Program Area aims to prevent water quality impacts associated with improper storage and handling of hazardous materials within the watershed and to ensure that spill prevention and response programs adequately protect water quality. The current focus of this program area is to improve spill response time to water quality threats by coordinating spill response reporting and information sharing between jurisdictions.

Notable Accomplishments:

In May of 2008, the City of Bellingham and Whatcom County held a watershed-wide household hazardous waste collection event and collected 22,482 pounds of household hazardous waste from 278 residents. Waste collected included a ton of fertilizers containing phosphorus, 4,219 pounds of pesticides and poisons, 110 pounds of fluorescent lamps, and 5,900 pounds of oil based paints.

Reference Documents:

Washington Toxics Coalition
www.watoxics.org

City of Bellingham Emergency Operations Plan
Annex 6 – Hazardous Materials

Whatcom County Emergency Management
<http://www.whatcomcounty.us/dem/prepare/hazmaterial.jsp>

Program Area: 6. Spill Response & Hazardous Materials

Task: 6.1 Amend local Emergency Operations Plans

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010	ICT	\$3,000	Active	None

Task Objective: Amend local Emergency Operations Plans (EOPs) to include a chapter on Lake Whatcom-specific responses

Actions:

- Work with emergency management staff from each jurisdiction to amend Emergency Operations Plans to include a Lake Whatcom Chapter

Intended Lake Benefits:

Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Improved local emergency response plan to respond to Lake Whatcom-specific emergencies

Performance Measures: 1) Local Emergency Operations Plans amended to include Lake Whatcom Chapter
2) Summary of amendments to be included in annual report

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.03 (\$3,000)			\$3,000

Program Area: 6. Spill Response & Hazardous Materials
Task: 6.2 Coordinate spill response reporting among all jurisdictions

Period	Responsible Party	Cost Estimate	Status	P Reduction
2011 and 2014	ICT	Staff	Hold	None

Task Objective: Coordinate spill response reporting among all jurisdictions (Fire, LWWS, DOE)

Actions:

- Convene a Spill Response Team to review and report on spill response procedures and reporting protocols (Convene in 2011 and 2014 or after significant spill incidents)

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Coordinated response reporting has the potential to improve clean-up efforts and provide greater transparency between jurisdictions

Performance Measures: Annual report to include (as needed):

- 1) Findings of reviews and amendments made to spill response procedures and reporting protocols per recommendations of Spill Response Team

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2011	City				
	County				
	District/Other				
2014	City				
	County				
	District/Other				
Total					

Program Area: 6. Spill Response & Hazardous Materials

Task: 6.3 Conduct hazardous waste collection events

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010, 2013	ICT	\$56,000	Active	Indirect

Task Objective: Conduct hazardous waste collection events at locations in the watershed

Actions:

- Work with Moderate Risk Waste Facility staff to plan and implement events

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Removal of all lawn, garden, and household hazardous products

Performance Measures: Annual report for years 2010 to 2013 to include the following:
 1) Summary of event (location, # participants, # staff)
 2) Pounds of waste collected

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)		\$25,000	\$26,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)		\$25,000	\$26,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.06 (\$6,000)		\$50,000	\$56,000

Program Area: 7. Forestry/Fish/Wildlife

Goal:

Develop and maintain a comprehensive watershed forest management plan that minimizes impacts to water quality, and promotes actions and programs that protect and enhance fish and wildlife habitat.

The Lake Whatcom watershed provides habitat for a wide variety of fish and wildlife species. Most of the land in the watershed is in a forested condition and is managed by the State Department of Natural Resources, timber management companies, or private landowners. The Forestry/Fish/Wildlife Program Area aims to protect the clean water functions provided by forests located in the Lake Whatcom watershed.

Notable Accomplishments:

Over the past few years, the City and County have continued to monitor forestry activities in the watershed to ensure that any adverse water quality impacts are minimized.

In 2005, the City of Bellingham adopted a Critical Areas Ordinance and the County adopted an updated version of their Critical Areas Ordinance. These ordinances outline the specific rules and regulations regarding development near wetlands, streams and other environmentally sensitive areas.

Reference Documents:

City of Bellingham Critical Areas Ordinance (BMC 16.55)

<http://www.cob.org/documents/planning/comprehensive-plan-code-amendments/critical-area-ordinance/2005-12-06-final-cao.pdf>

City of Bellingham Shoreline Master Program (BMC Title 22)

<http://www.cob.org/documents/planning/shoreline-master-program/november-final-draft-cc.pdf>

Whatcom County Critical Areas Ordinance (WCC 16.16)

<http://www.whatcomcounty.us/pds/naturalresources/criticalareas/index.jsp>

Whatcom County Shoreline Management Program (WCC Title 23)

http://www.whatcomcounty.us/pds/naturalresources/shorelines/regulations/codeandmaps/pdf/SMMP_CountyApproved_EcologyApproved_090323_clean_000.pdf

Interjurisdictional Committee (IJC) Reports

Program Area: 7. Forestry/Fish/Wildlife
Task: 7.1 Review IJC reports of DNR activities

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$15,000	Active	None

Task Objective: Promote actions and programs that protect and enhance fish and wildlife habitat by reviewing the Interjurisdictional Committee's (IJC) reports of DNR activities

Actions:

- Set up annual meeting to review IJC reports
- Incorporate review findings into work plan and present recommendations to Management Committee
- Provide recommendations to the IJC when appropriate

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:

- 1) Annual meeting schedule developed and implemented (2010)
- 2) Work plan updates based on IJC reports
- 3) Conclusions and recommendations presented to Management Committee

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.15 (\$15,000)			\$15,000

Program Area: 7. Forestry/Fish/Wildlife
Task: 7.2 Enforce water quality assurances

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$25,000	Active	Indirect

Task Objective: Promote actions and programs that protect and enhance fish and wildlife habitat by advocating for stricter Department of Ecology (DOE) enforcement of water quality assurances

Actions:

- Advocate for strict DOE enforcement of water quality assurances

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual evaluation of logging operations adherence to assurances
 2) Propose and advocate for stricter assurances as warranted

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.25 (\$25,000)			\$25,000
	County				
	District/Other				
2011	City				
	County				
	District/Other				
2012	City				
	County				
	District/Other				
2013	City				
	County				
	District/Other				
2014	City				
	County				
	District/Other				
Total		0.25 (\$25,000)			\$25,000

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Program Area: 8. Transportation

Goal:

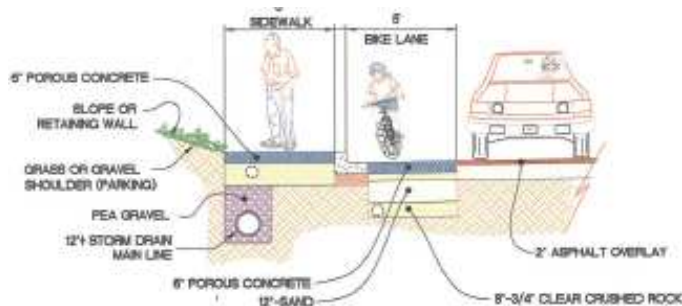
Design and develop transportation systems that include alternatives to automobiles, locate “through” routes away from the lakeshore, ensure treatment of runoff before entering the lake and otherwise protects water quality.

Motorized vehicles are a source of a variety of pollutants found in stormwater runoff. Pollutants such as oil, antifreeze, rubber, heavy metals, transmission and brake fluid can be deposited and accumulate on roadway surfaces through normal vehicle use. These pollutants can be carried during rain events to storm drains and ditches and eventually end up in our streams and lakes. The Transportation Program Area aims to limit transportation-related impacts to water quality by encouraging watershed residents to use alternative transport and to limit the number of vehicle mile trips being made in the watershed.

Notable Accomplishments:

In September of 2008, the City completed the Northshore Drive Roadway and Drainage Improvement Project. The project included installing new stormwater-main piping, porous concrete sidewalks, street lighting, and porous concrete bike lanes, in conjunction with rehabilitating and resurfacing the existing roadway. The design retrofitted the entire street to meet requirements for both enhanced phosphorus treatment of stormwater runoff, as well as completing the gap in the sidewalk between Dakin Street and the Silver Beach Store making it easier and safer for watershed residents to commute by bike.

The City of Bellingham Public Works Department received Project of the Year from the Washington State Chapter of the American Public Works Association (APWA) for the Northshore Drive Roadway and Drainage Improvement Project.



Reference Documents:

City of Bellingham Comprehensive Plan Ch. 3 Transportation Element
TG 38 and TG 39

Whatcom County Comprehensive Plan Ch. 6 Transportation Element

Smart Trips – Whatcom County

<http://www.whatcomsmarttrips.org/>

Program Area: 8. Transportation
Task: 8.1 Improve transportation planning

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010-2012	City/County	\$2,000	Active	None

Task Objective: Protect water quality from transportation-related activities by improving transportation planning coordination in a manner consistent with water quality protection goals

Actions:

- Evaluate cost and method for road design standards impacts to water quality including road dimensions, road surface and shoulder, and ditch design
- Determine implementation schedule for Transportation Comp Plan’s traffic routing objectives
- Amend 2011 Transportation Comp Plans to minimize water quality impacts in the watershed (as needed)

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Potential reduction in transportation-related lake water quality impacts

Performance Measures: 1) Report on results of road design standards evaluation
2) Report on results of traffic flow routing evaluation
3) Amend road design standards as needed to respond to evaluation
4) Amendments to Comp Plans to include any revisions to goals and policies pertaining to water quality impacts associated with transportation

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
Total		0.02 (\$2,000)			\$2,000

Program Area: 8. Transportation
Task: 8.2 Reduce vehicle mile trips (VMT) in watershed

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County	\$5,000	Active	None

Task Objective: Protect water quality from transportation-related activities by reducing vehicle mile trips (VMT) in the watershed

Actions:

- Coordinate with WTA to identify and implement strategies to increase transit ridership in watershed (e.g. Explore options for installing high-visibility bus shelters at all WTA bus stops in Sudden Valley and Geneva)
- Coordinate with neighborhood groups, associations and schools to promote commute trip reduction
- Plan and design bike/pedestrian facilities along major transportation routes (e.g. Expand Euclid Park Trail connection to Old Lakeway to increase ridership in Geneva, improve bike/bus access to North Shore Park Trail.)
- Coordinate with Education Team to create public outreach materials and encourage watershed residents to reduce vehicle mile trips in the watershed
- Implement plan to reduce “through traffic” use of streets near the lake as shortcuts to destinations outside of watershed.

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Potential reduction in transportation-related lake water quality impacts

Performance Measures: 1) Use WTA tracking system to monitor increase in transit ridership in watershed
 2) Annual report of increase in non-vehicular transportation opportunities in watershed to include linear feet of new trails, new trail connections, new bus stops, new park and ride spaces, etc.

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2011	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2012	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2013	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
2014	City	0.01 (\$1,000)			\$1,000
	County				
	District/Other				
Total		0.05 (\$5,000)			\$5,000

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Program Area: 9. Recreation

Goal:

Promote recreational opportunities that do not degrade water quality, and improve on ways to reduce impacts of existing activities.

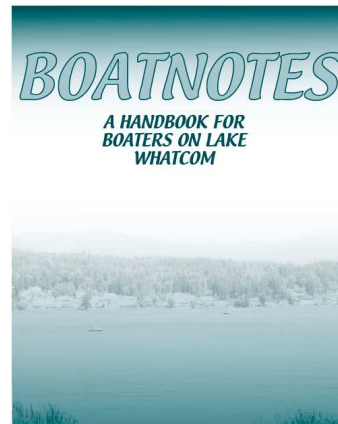
The Lake Whatcom watershed is a popular recreational site for local residents and visitors. Recreational opportunities in the watershed include boating, swimming, fishing, hiking, biking, and horseback riding. Some of these activities have the potential to adversely impact the watershed and water quality through the release of pollutants, the destruction of wildlife habitat, and the spread of invasive species. The Recreation Program Area focuses on promoting recreational opportunities that minimize impacts to water quality while reducing the impacts of existing recreational activities.

Notable Accomplishments:

In 2005, the City and County banned the use of boats with carbureted 2-stroke engines on Lake Whatcom.

In 2006, a revised version of *Boatnotes: A handbook for boaters on Lake Whatcom* was distributed to educate boaters on ways to engage in boating activities that do not adversely impact the watershed or water quality.

In 2009, the County initiated the process to reconvey approximately 8,000 acres from DNR to Whatcom County for Park purposes.



Reference Documents:

Boatnotes Handbook
http://www.cob.org/documents/pw/environment/Boatnotes-Handbook_2006_6.pdf

Washington Invasive Species Council
 Annual Report 2009
<http://www.invasivespecies.wa.gov>

100th Meridian Initiative
<http://www.100thmeridian.org>

Protect Your Waters
<http://www.protectyourwaters.net>



**STOP AQUATIC
 HITCHHIKERS!™**

Prevent the transport of nuisance species.
 Clean all recreational equipment.
www.ProtectYourWaters.net

Program Area: 9. Recreation

Task: 9.1 Prevent aquatic invasive species infestations

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$14,000	Active	None

Task Objective: Work with state and regional efforts to avoid aquatic invasive species infestations that can occur as a result of improperly regulated recreational activities such as boating and/or fishing

Actions:

- Contact state and regional organizations for information and assistance in preventing aquatic invasive species infestations
- Monitor spread of aquatic invasive species as well as any new prevention and control efforts
- Create an Aquatic Nuisance Species Action Plan to prevent aquatic invasive species infestations
- Include feasible prevention program strategies such as implementing a watercraft inspection program, requiring permits for access to lake, and other options
- Begin implementation of feasible prevention program strategies

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Preventative measures result in avoided ecosystem, health, and economic costs

Performance Measures:

- 1) Evaluate the benefits and costs of a watercraft inspection program (2010)
- 2) Implement the watercraft inspection program if approved (2011)
- 3) Annual report to include:
 - List of contacts at state and regional level working on invasive species
 - Local and regional aquatic invasive species status and prevention and control efforts
 - Aquatic Nuisance Species Action Plan for Lake Whatcom
 - If permit program implemented, number of permits issued/revenue collected

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.05 (\$5,000)			\$5,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
Total		0.14 (\$14,000)			\$14,000

Program Area: 9. Recreation

Task: 9.2 Design recreational opportunities to protect water quality

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$13,000	Active	Indirect

Task Objective: Participate in the design of recreational opportunities that protect water quality

Actions:

- Work with City and County Park Departments to establish water quality protection as a primary criterion in the design of recreational projects
- Coordinate with County Park Departments to modify park plan and downgrade North Shore trail status to reduce vehicle mile trips in the watershed

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: Hydrocarbon pollution and litter

Performance Measures: 1) Annual report to include recreational project design features that affect water quality

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
Total		0.13 (\$13,000)			\$13,000

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Program Area: 10. Utilities & Waste Management

Goal:

Promote conservation of water resources and provision of city sewer to areas with on-site treatment.

The Utilities and Waste Management Program Area aims to promote water-use efficiency by residential, industrial, and commercial users. This program area also strives to minimize water quality impacts associated with on-site waste systems by ensuring existing on-site septic systems and sewers are working effectively and by advocating for the provision of city sewer to areas with on-site treatment.

Notable Accomplishments:

The City's water conservation program has been active since the early 1990s. Reducing outdoor water use during peak demand periods has been promoted through education and outreach, and through a rain barrel program. Reductions in indoor water usage have been encouraged through distribution of water conservation kits that contain a low-flow showerhead, faucet aerators, a toilet displacement bag, and water conservation information. A Voluntary Metering Program was established that encourages water conservation and accountability. The City also conducts scheduled annual leak detection of water system zones to ensure efficiency and accountability.

The City continues to contract with the Whatcom County Health Department (WCHD) to inspect and maintain on-site sewage systems in the City's portion of the watershed. On-site sewage system inspections are performed in the Lake Whatcom watershed on a routine basis and repairs to failing systems are completed in a timely manner.

At the request of the City the WCHD is taking part in the *Silver Beach Pilot Project* (SBCP) and has been collecting surface water samples from designated sites along Silver Beach Creek on a bi-weekly basis. The WCHD participates on the Lake Whatcom Education Team, collaborating on joint education and outreach projects in the watershed.

WCHD and the City recently completed work on an educational folder entitled *Homeowners Guide to On-site Sewage Systems*. These folders are distributed to OSS owners during service visits within the Lake Whatcom watershed.

Reference Documents:

Washington State 2003 Municipal Water Supply-Efficiency Requirements Act
<http://www.doh.wa.gov/ehp/dw/Programs/wue.htm>

City of Bellingham's Water Use Efficiency Program
<http://www.cob.org/documents/pw/utilities/2008-water-use-efficiency-program.pdf>

On-Site Sewage System Rules and Regulations
 Whatcom County Health Department
 Chapter 24.05 WCC
http://www.co.whatcom.wa.us/health/pdf/oss_regulations.pdf

City of Bellingham Municipal Code Amendments
 Ordinance 2007-04-031
 16.80.080 - Development Standards For Residential Single Development

Program Area: 10. Utilities & Waste Management
Task: 10.1 Continue OSS contract with County Health Department

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2011	City	\$195,040	Active	Indirect

Task Objective: Continue onsite septic system (OSS) contract with the County Health Department (current through 2011)

Actions:

- Work with County Health Department to continue contract including enforcement of septic system operation and maintenance regulations, updated database of septic systems, response to failing septic systems, and homeowner education
- Create reports summarizing results of on-site septic system surveys, water quality monitoring and follow-up actions

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual report of compiled quarterly progress reports on contract tasks

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City			\$97,520	\$97,520
	County				
	District/Other				
2011	City			\$97,520	\$97,520
	County				
	District/Other				
Total				\$195,040	\$195,040

Program Area: 10. Utilities & Waste Management

Task: 10.3 Protect lake from wastewater pollution

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	District	\$4.08 million	Active	Direct/Indirect

Task Objective: Protect the Lake by removing sewage from the watershed

Actions: District will:

- Maintain and replace sanitary sewer infrastructure to efficiently move effluent to treatment plant
- Continue to manage I & I
- Continue to prevent overflows
- Continue mandatory connection to sewer when available and within 200 feet of property
- Not allow extension of Water service without sewer connection
- Only allow approval of on-site septic systems when sewer is not currently available and when economically feasible
- Work with City and County with regard to new development subject to District's sewer and water extension policies
- Complete capital projects

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures:

- 1) Annual expenditure per Capital Improvement Plan
- 2) Report annually on District activities outlined above

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City				
	County				
	District/Other	undetermined		\$538,327	\$538,327
2011	City				
	County				
	District/Other	undetermined		\$808,536	\$808,536
2012	City				
	County				
	District/Other	undetermined		\$995,186	\$995,186
2013	City				
	County				
	District/Other	undetermined		\$836,454	\$836,454
2014	City				
	County				
	District/Other	undetermined		\$907,726	\$907,726
Total				\$4.08 million	\$4.08 million

Program Area: 11. Administration

Goal:

Administer and coordinate ICT and committee activities to support Management Plan implementation.

The Administration Program Area aims to effectively administer and coordinate the Interjurisdictional Coordinating Team (ICT) and Program Area Committee activities to support the successful implementation of the Lake Whatcom Management Plan.

Notable Accomplishments:

Since 2000 the Interjurisdictional Coordinating Team (ICT) has served to coordinate staff from the City, County, Water and Sewer District, as well as several partner organizations. The ICT's administration and coordination efforts have resulted in the successful implementation of two Lake Whatcom Management Program five-year work plans, each with numerous tasks and actions. The second five-year work plan has now been completed.

In 2008, the Lake Whatcom Joint Policy Working Group was formed as a subcommittee of the Joint Councils/Commissioners. Several Lake Whatcom Joint Policy Group subcommittee meetings have been held to discuss the status of Lake Whatcom Management Program, regulations, land use and other issues.

During 2009, Sudden Valley Community Association staff were invited to participate in ICT meetings and work product development. SVCA is now also actively participating in work plan implementation.

Reference Documents:

1992 Lake Whatcom Joint Resolution

<http://lakewhatcom.org/cc10resolution1992.htm>

Program Area: 11. Administration

Task: 11.1 Staff the ICT, Management Committee, and Joint Council meetings

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$185,000	Active	None

Task Objective: Support Lake Whatcom Management Program (LWMP) implementation by staffing the Interjurisdictional Coordinating Team (ICT), the Management Committee, and Joint Council meetings

Actions:

- Produce agendas, minutes, research, presentations and other work products for all LWMP meetings
- ICT members attend and participate in all LWMP meetings

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Report location of agendas, minutes and presentations for all LWMP meetings

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.16 (\$16,000)			\$16,000
	County	0.16 (\$16,000)			\$16,000
	District/Other	0.05 (\$5,000)			\$5,000
2011	City	0.16 (\$16,000)			\$16,000
	County	0.16 (\$16,000)			\$16,000
	District/Other	0.05 (\$5,000)			\$5,000
2012	City	0.16 (\$16,000)			\$16,000
	County	0.16 (\$16,000)			\$16,000
	District/Other	0.05 (\$5,000)			\$5,000
2013	City	0.16 (\$16,000)			\$16,000
	County	0.16 (\$16,000)			\$16,000
	District/Other	0.05 (\$5,000)			\$5,000
2014	City	0.16 (\$16,000)			\$16,000
	County	0.16 (\$16,000)			\$16,000
	District/Other	0.05 (\$5,000)			\$5,000
Total		1.85 (\$185,000)			\$185,000

Program Area: 11. Administration
Task: 11.2 Establish funding needs and strategy

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$45,000	Active	None

Task Objective: Establish work plan funding needs and strategy to support work plan implementation

Actions:

- Represent funding needs in City/County/District budget processes
- Identify and seek grant funding to support implementation of work plan tasks

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual report to include percentage of tasks that are funded by budgets, grants or other sources

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.04 (\$4,000)			\$4,000
	County	0.04 (\$4,000)			\$4,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.04 (\$4,000)			\$4,000
	County	0.04 (\$4,000)			\$4,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.04 (\$4,000)			\$4,000
	County	0.04 (\$4,000)			\$4,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.04 (\$4,000)			\$4,000
	County	0.04 (\$4,000)			\$4,000
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.04 (\$4,000)			\$4,000
	County	0.04 (\$4,000)			\$4,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.45 (\$45,000)			\$45,000

Program Area: 11. Administration
Task: 11.3 Coordinate Program Area committees

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$15,000	Active	None

Task Objective: Support management plan implementation by coordinating Program Area committees

Actions:

- Facilitate meeting, discussion and issue resolution by key program area staff and members of ICT
- Coordinate stormwater management with transportation planning and other Program Areas
- Identify task implementation issues that require participation by key staff working in a Program Area

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:

- 1) Joint Program Area tasks identified and implemented
- 2) Changes made to Program Area planning and processes as a result of ICT recommendations

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.15 (\$15,000)			\$15,000

Program Area: 11. Administration
Task: 11.4 Maintain contact with regulatory agencies

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$15,000	Active	None

Task Objective: Support Management Plan implementation by maintaining information exchange with agencies

Actions:

- Receive and respond to communication from regulatory agencies regarding lake water quality, natural resources, and lake watershed land use

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual report on significant regulatory issues resolved or left outstanding

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)			\$1,000
Total		0.15 (\$15,000)			\$15,000

Program Area: 11. Administration
Task: 11.5 Oversee contracts and work products

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT	\$47,000	Active	None

Task Objective: Oversee variety of consultant and contractor projects, contracts and work products

Actions:

- Provide administration oversight for contracts including: Institute for Watershed Studies, Conservation Contracting, Brown and Caldwell, Whatcom County Health Department and others (2010)
- Sudden Valley staff will increase monitoring of capital projects and ensure consultant planning and construction work meets all jurisdictional regulations and requirements

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual report to include status of projects and contracts

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.02 (\$2,000)			\$2,000
	County	0.02 (\$2,000)			\$2,000
	District/Other	0.01 (\$1,000)/0.05 (SVCA) (\$5,000)			\$6,000
2011	City	0.02 (\$2,000)			\$2,000
	County	0.02 (\$2,000)			\$2,000
	District/Other	0.01 (\$1,000)/0.05 (SVCA) (\$5,000)			\$6,000
2012	City	0.02 (\$2,000)			\$2,000
	County	0.02 (\$2,000)			\$2,000
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2013	City	0.02 (\$2,000)			\$2,000
	County	0.02 (\$2,000)			\$2,000
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
2014	City	0.02 (\$2,000)			\$2,000
	County	0.02 (\$2,000)			\$2,000
	District/Other	0.05 (SVCA) (\$5,000)			\$5,000
Total		0.47 (\$47,000)			\$47,000

Program Area: 11. Administration

Task: 11.6 Integrate Lake Whatcom Management Program goals into Comp Plans

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010-2011	City/County	\$2,000	Hold	None

Task Objective: Support Management Plan implementation by integrating the Lake Whatcom Management Program goals into 2011 Comprehensive Plan updates

Actions:

- Review existing comprehensive plans for consistency with Lake Whatcom goals
- Amend comprehensive plans to reference TMDL and NPDES Phase II Permit

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: 1) Annual report to include citations of Comprehensive Plans updates that incorporate Lake Whatcom Management Program goals and TMDL and NPDES references

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other				
2011	City				
	County				
	District/Other				
Total		0.02 (\$2,000)			\$2,000

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Program Area: 12. Enforcement

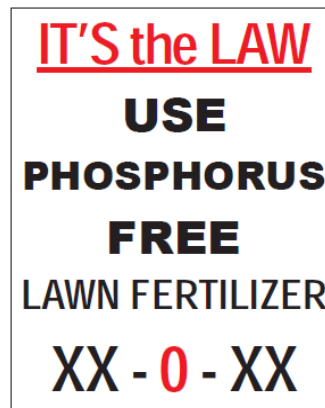
Goal:

Improve City and County enforcement of regulations aimed at protecting lake water quality.

The Enforcement Program Area aims to support enforcement of land use, development and other associated regulations to protect the water quality of Lake Whatcom. An enforcement team was convened by the Interjurisdictional Coordinating Team (ICT) in 2008 to improve enforcement actions in the watershed.

Notable Accomplishments:

Both the City and County have enforcement staff patrolling the watershed on a daily basis. Enforcement staff are responsible for inspecting both permitted and non-permitted activities in the watershed and reporting any activities that are in violation of the City and County stormwater codes.



Reference Documents:

BMC 15.42 subsections 070-110

Whatcom County Comprehensive Stormwater Plan

Program Area: 12. Enforcement
Task: 12.1 Improve enforcement capabilities

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	ICT/City/County/SVCA/District	\$265,000	Active	Indirect

Task Objective: Improve enforcement coordination and cross-training

Actions:

- Convene Enforcement Team to assess and improve current watershed-wide enforcement capabilities and organize cross-training opportunities
- Monitor enforcement actions to determine if enforcement capabilities have improved as a result of changes to procedures and from participation in training events
- Sudden Valley will modify portions of its existing guidelines to address problematic enforcement areas

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe: More effective enforcement of measures to protect lake water quality

Performance Measures: Annual report to include:

- 1) Number of participants and departments in cross-training events
- 2) Measured or observed improvements to communication feedback, response to public complaints, and permit compliance (2010, 2012, 2014)
- 3) Number and types of enforcement actions taken
- 4) Record of changes made to SVCA enforcement guidelines

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)/ 0.5 (SVCA) (\$50,000)			\$51,000
2011	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)/ 0.5 (SVCA) (\$50,000)			\$51,000
2012	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)/ 0.5 (SVCA) (\$50,000)			\$51,000
2013	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)/ 0.5 (SVCA) (\$50,000)			\$51,000
2014	City	0.01 (\$1,000)			\$1,000
	County	0.01 (\$1,000)			\$1,000
	District/Other	0.01 (\$1,000)/ 0.5 (SVCA) (\$50,000)			\$51,000
Total		2.65 (\$265,000)			\$265,000

Program Area: 12. Enforcement
Task: 12.2 Improve reporting of enforcement actions

Period	Responsible Party	Cost Estimate	Status	P Reduction
2010 - 2014	City/County/SVCA	\$80,000	Active	Indirect

Task Objective: Improve City and County reporting of enforcement actions in the watershed

Actions:

- Sudden Valley will continue to report watershed and critical area violations to the County and improve follow-up on compliance issues
- Evaluate reporting (internal and to the public) of enforcement actions, recommend changes as needed to increase internal communication and public awareness
- City will provide education for citizens on how to report violations of water quality rules

Intended Lake Benefits: Phosphorus Reduction Fecal Coliform Reduction Sediment Reduction Other

If other, please describe:

Performance Measures: Annual report to include:
 1) Change in unpermitted activities in watershed
 2) Change in citizen reporting of water quality violations

Cost Estimates:

Year	Party	FTEs (\$)	Capital Costs	Other	Total
2010	City	0.1 (\$10,000)			\$10,000
	County	0.1 (\$10,000)			\$10,000
	District/Other	0.1 (SVCA) (\$10,000)			\$10,000
2011	City				
	County	0.1 (\$10,000)			\$10,000
	District/Other	0.1 (SVCA) (\$10,000)			\$10,000
2012	City				
	County				
	District/Other	0.1 (SVCA) (\$10,000)			\$10,000
2013	City				
	County				
	District/Other	0.1 (SVCA) (\$10,000)			\$10,000
2014	City				
	County				
	District/Other	0.1 (SVCA) (\$10,000)			\$10,000
Total		0.8 (\$80,000)			\$80,000

Appendices

Appendix A - Clean Water Act – Total Maximum Daily Load Response Strategy for Lake Whatcom Total Phosphorus and Bacteria

Appendix B - Funding Sources

Appendix C - Acronyms

Appendix A
Clean Water Act – Total Maximum Daily Load
Response Strategy for
Lake Whatcom Total Phosphorus and Bacteria

Lake Whatcom is the subject of a Federal Clean Water Act process known as a Total Maximum Daily Load which is administered by the State of Washington Department of Ecology. In 1998 the lake was included in a list of polluted water bodies due to low dissolved oxygen levels in the water. In 2004 Total Phosphorus was added to the list of pollutants affecting lake water quality. Several other pollutants have been found in fish tissue samples, these include mercury, PCB, Dieldrin, and others.

Every TMDL submitted by the State of Washington includes a *Summary Implementation Strategy* (SIS) and a final *Detailed Implementation Plan* (DIP). These companion documents to the TMDL are described in a Memorandum of Agreement between EPA and Ecology, view the MOA at this link: <http://www.ecy.wa.gov/programs/wq/tmdl/303moa12.pdf>.

The *Lake Whatcom Watershed Total Phosphorus and Bacteria Total Maximum Daily Load, Water Quality Study Findings* (TMDL Study) was completed in November 2008 by Ecology. This document identifies pollutant sources, pollutant loading amounts, load reduction requirements and suggested response strategies.

In preparation for submitting a TMDL plan to EPA for approval, Ecology develops a (SIS) which includes the pollutant source, loading and reduction requirements and additional information from the TMDL Study as well as a concise, description of activities planned or underway to implement the TMDL, as provided in the *2010-2014 Lake Whatcom Management Program Work Plan* (2010-2014 Work Plan).

After EPA approves the SIS, Ecology, in cooperation with local interests, will develop a DIP, which describes specific strategies and timelines to meet reduction targets, as well as identifying the responsible entities. The DIP also includes a detailed monitoring plan that sets monitoring guidelines to evaluate the TMDL's effectiveness, describes funding sources and establishes funding commitments.

In addition to the public process provided for in the 2010-2014 Work Plan, there will also be opportunities for public comment during development of the DIP.

Appendix B Funding Sources

Adequate funding is essential to successful implementation of the 2010-2014 Lake Whatcom Management Program Work Plan. Funding sources include:

- 1) Lake Whatcom Property Acquisition Fee
- 2) Bellingham Stormwater Utility
- 3) Bellingham Water Utility
- 4) Bellingham Street Utility
- 5) Bellingham General Fund
- 6) Whatcom County General Fund
- 7) Whatcom County Flood Control Zone fee
- 8) Real Estate Excise Tax
- 9) Lake Whatcom Water and Sewer District Utility
- 10) Sudden Valley Community Association
- 11) Grants

Funding for implementation of activities varies both in the types of funding sources and the certainty of the funding. The funding indicated in the Cost Estimates table of each task is actual funding available from one or more of the listed funding sources **as of the date of this draft plan**. An account of the funding that supports each task will be available as an addendum to this Appendix B in the Fall of 2010. Since most tasks are implemented by more than one jurisdiction, those tasks have more than one funding source, at least one per jurisdiction. Some tasks are funded by more than one source within a jurisdiction e.g. Task 4.2 is partly funded by the Bellingham Stormwater Utility and the Bellingham Water Utility.

Funding sources that are derived from an ongoing dedicated source such as the Property Acquisition fee have greater certainty than those that are derived from a General Fund or other non-dedicated source.

The Cost Estimates table for each Task includes information for each year of the recommended duration of the Task. When the funding is certain an amount is entered for that period in the appropriate column, however, when the recommended duration of the Task extends beyond which funding is now known and dedicated then the Cost Estimates table will indicate "undetermined" funding for the years with undesignated funding. Future budget recommendations and grant applications will then focus on funding Tasks with "undetermined" funding.

Funding issues will be further clarified during the development of the *Detailed Implementation Plan*, when the final project list is developed with timelines, funding needs, and funding sources identified. That process will include opportunities for the public to comment on the long term funding strategy for the TMDL. Decisions and commitments to funding and project implementation will also be incorporated into the NPDES permits for the city and county.

Appendix C Acronyms

APWA: American Public Works Association
BMC: Bellingham Municipal Code
BMP: Best Management Practice
CE: Conservation Easement
CIP: Capital Improvement Project
DIP: Detailed Implementation Strategy
DNR: Washington Department of Natural Resources
DOE: Washington Department of Ecology
EOP: Emergency Operations Plan
ICT: Interjurisdictional Coordinating Team
IJC: Interjurisdictional Committee
LWMP: Lake Whatcom Management Program
NPDES: National Pollution Discharge Elimination System
NVPA: Native Vegetation Protection Area
OSS: Onsite Septic System
RSRP: Residential Stormwater Retrofit Program
SBCP: Silver Beach Creek Pilot Project
SEPA: State Environmental Protection Act
SIS: Summary Implementation Strategy
SVCA: Sudden Valley Community Association
TMDL: Total Maximum Daily Load
UGA: Urban Growth Area
WCC: Whatcom County Code
WCHD: Whatcom County Health Department
WTA: Whatcom Transportation Authority
WWU: Western Washington University

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