

Lake Whatcom Reservoir Management Program for 2000

January 2000



The 2000 Program: Executive Summary

The draft 2000 Lake Whatcom Work Program represents the cooperative efforts of the City of Bellingham, Whatcom County, and Water District 10.

assistance, regulations, and enforcement was used to identify actions that will reduce inputs of nutrients, fecal coliform, and other contaminants.

The work program lays the framework for addressing the varied and multiple challenges that exist when managing a lake and watershed that is a drinking water source that also supports other uses. The program was drafted to reflect adopted policy direction as well as to incorporate suggestions received from individuals, groups, staff, and elected and appointed officials.

The 1998 jointly adopted inter-local agreement sets the minimum annual budget for the work-program at \$375,000. The draft program must be jointly adopted by the legislative bodies of the City of Bellingham, Whatcom County, and Water District 10 prior to its implementation.

Comments on the draft program released in October 1999 were accepted through December 9, 1999. All comments received were reviewed by the Bellingham City Council, Whatcom County Council, and Water District 10 Commission for inclusion in the final work program.

The 2000 Lake Whatcom Reservoir Management Program 2000 reflects the changes as directed by the jurisdictions through the review process.

TABLE OF CONTENTS

| | |
|---|----|
| <i>Lake Whatcom Program Background</i> | 2 |
| <i>Watershed Ownership</i> | 6 |
| <i>Stormwater Management</i> | 7 |
| <i>Urbanization/Land Development</i> | 9 |
| <i>Community Outreach</i> | 11 |
| <i>Data and Information Management</i> | 14 |
| <i>Spill Response & Hazardous Materials</i> | 16 |
| <i>Forestry/Fish/Wildlife</i> | 17 |
| <i>Transportation</i> | 18 |
| <i>Recreation</i> | 19 |
| <i>Utilities & Waste Management</i> | 20 |
| <i>Appendix A: 1999 Accomplishments</i> | 23 |
| <i>Appendix B: Program Goals and Policies</i> | 27 |

Program actions are grouped into eleven program areas ranging from community outreach to stormwater management and land use. A multi-pronged approach that integrates education, research and monitoring, technical

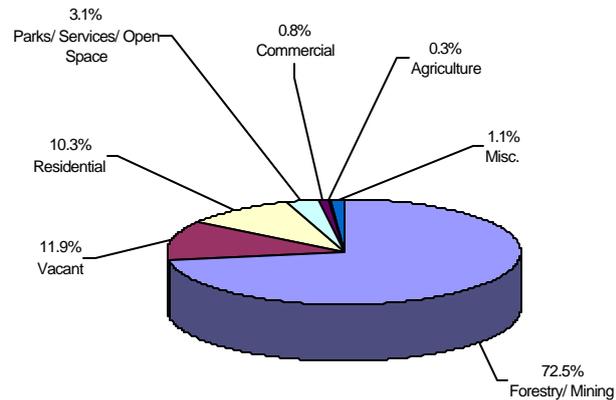
Program Background

Lake Whatcom

Lake Whatcom is a large multi-purpose reservoir that is the source of drinking water for the City of Bellingham, Water District 10, several other smaller water districts/associations, and about 250 homes that draw water directly from the lake. All told, the lake provides water to about half the population of Whatcom County. There is continued interest in expanding the delivery of water from Lake Whatcom to other areas of the County where supplies are limited.

As previously mentioned, Lake Whatcom is a multiple use lake and watershed. In addition to providing water for drinking, commercial and industrial uses, the lake is used for boating, swimming, and fishing. The majority of the watershed in Basins 2 and 3 is forested. Other land uses include existing and future residences (a total of approximately 10,500 homes could be located within the watershed), limited commercial establishments, small-scale farms, public and private parks, and other public facilities. The ongoing management challenge is trying to determine the extent to which these practices can occur while maintaining safe, clean drinking water. The challenge is further increased by possible requirements related to the Endangered Species Act, tribal water rights, and the potential impact these issues may have on how the City operates its diversion on the Middle Fork of the Nooksack River.

The City of Bellingham and Water



Lake Whatcom Watershed Land Uses

District 10 are responsible for ensuring drinking water standards are met for their customers. To date water supplies have consistently met standards. The ability to continue to economically meet drinking water standards requires maintaining source water that requires minimal treatment. For this reason, the City of Bellingham maintains an ongoing source water monitoring program. Other agencies including Western Washington University, Department of Natural Resources, Department of Fish and Wildlife, Department of Ecology, Water District 10, and Whatcom County have also conducted monitoring, studies and/or evaluations of the lake and watershed.

Lake Whatcom is a complex system with three distinct basins. Assessments of Lake Whatcom water quality vary with the sampling location and study. There is general agreement that water quality in Basin 3 of the lake remains high by most conventional measures although some individuals have raised concerns about fish-

eries. Basin 3 contains 96% of the volume of water in the lake. Water District 10's intake is located in this basin.

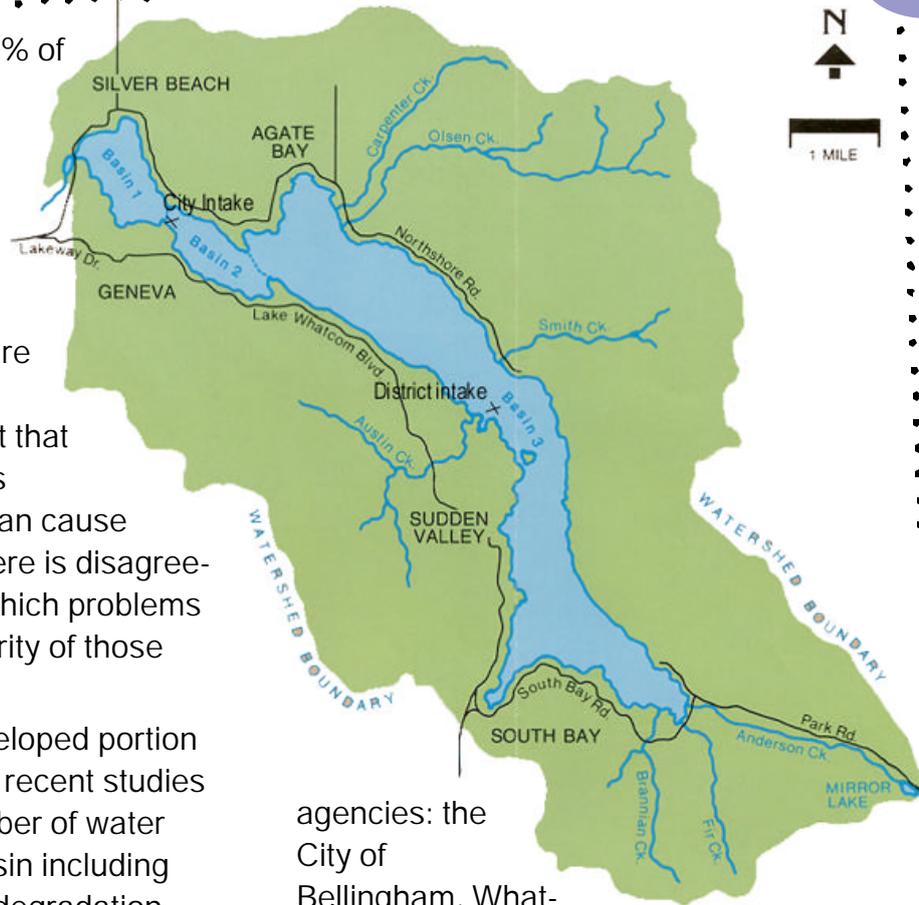
Assessments of water quality in the northern two basins of Lake Whatcom are more controversial. While there is general agreement that existing land uses, such as residential development, can cause water quality problems, there is disagreement about the extent to which problems already exist and the severity of those problems.

Basin 1 is the most developed portion of the watershed. Several recent studies and reports identify a number of water quality concerns in this basin including long-term trends showing degradation. Fecal coliform and phosphorus inputs are among the key concerns identified. Low dissolved oxygen, mercury and PCBs have also been identified. Work is underway to further evaluate the various perspectives in order to take the most appropriate management actions.

Basin 2 is currently less developed and water quality is higher than in Basin 1. The intake for the City of Bellingham is located in this basin.

Management Process

A variety of agencies, organizations, and individuals play a role in managing and protecting Lake Whatcom. As a means to better coordinate the efforts of these various players, an interjurisdictional management program was established in 1990 involving three of the key



agencies: the City of Bellingham, Whatcom County and Water District 10. The relationship was formalized in 1998 through passage of an interlocal agreement. This agreement accomplished several things:

- Roles and Responsibilities: Roles and responsibilities of the legislative and administrative bodies of each jurisdiction were clarified (Figure 1);
- Program Planning: A mechanism for ongoing adaptive program planning was established. The management program is reviewed and revised as necessary on an annual basis. The program plan must be adopted jointly through passage of a joint resolution by the City, County, and Water District 10.
- Public Input: A predictable process for public input was established. The public

LAKE WHATCOM MANAGEMENT ORGANIZATION

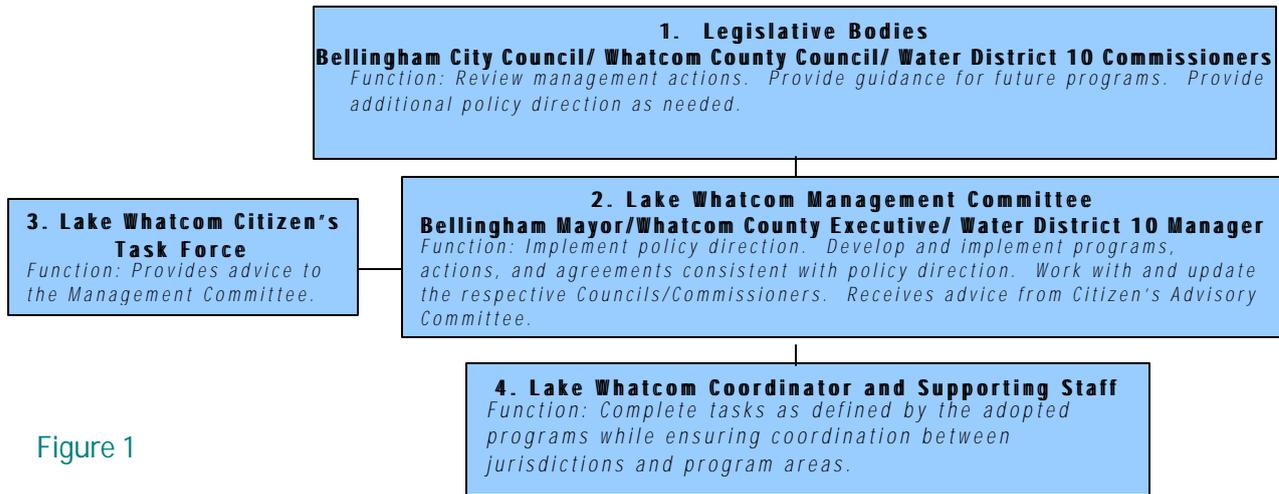


Figure 1

is encouraged to express their concerns and provide input on management strategies to the three legislative bodies at the semi-annual joint Council/Commission meetings; and
Note: In addition to the legislative meetings, other public involvement opportunities are provided through Management Committee meetings, individual program areas and, most recently, through the establishment of a Citizen Advisory Committee.

- **Funding:** Dedicated funds to protect and manage Lake Whatcom and its watershed were provided as a result of the interlocal agreement. A total of at least \$375,000 is allocated annually, with \$175,000 provided by the City of Bellingham, \$175,000 provided by Whatcom County, and \$25,000 provided by Water District 10. The draft program Plan that follows identifies funding needs related to the various activities. Where additional funding needs are anticipated but specific details are not known, a

“placeholder” has been inserted. A placeholder indicates that there will be additional work but that specific details will need to be developed. The Lake Whatcom Management Committee will jointly approve all expenditures.

Developing the 2000 Draft Plan

The basis for developing the draft 2000 Plan include the following considerations:

- **Adopted Goals, Policies, Action Items:** Adopted policy direction was a key factor used to develop the 2000 work program. Policy direction comes from the 1992 jointly adopted resolution, County Comprehensive Plan, City Comprehensive Plan, and Water District 10 Comprehensive Water Supply Plan.
- **Input from Public, Agencies, Staff, Others:** Many comments and recommendations were received from individuals, agencies, staff, committees, and organizations. Public comments were also provided at three Lake

Whatcom Management meetings (March 18, May 26, and July 15, 1999). All of the recommendations were summarized and used to develop the existing program. The legislative bodies have received copies of all recommendations that were received.

- Known/Potential Water Quality Concerns: The draft program focuses on actions for known or potential concerns. At this time, nutrient inputs (particularly phosphorus), fecal coliform, and "other" contaminants of concern have been identified in various reports.
- Prioritization on Stormwater, Urbanization/Land Use, Public Ownership: In 1999, the legislative bodies identified these three program areas as the highest priority for action. It is assumed that they remain the high priority areas unless directed differently.
- Uncompleted 1999 Program Elements: Some tasks within the 1999 work plan may not be completed this year. Those that may not be completed were reviewed and included in the 2000 work plan as appropriate.

Based on the above considerations, actions are identified in eleven program areas: watershed ownership, stormwater management, urbanization/land use, community outreach, data and information management, spill response and hazardous materials, recreation, utilities and waste management, transportation, and forestry/fish/wildlife. Emphasis has been placed on short and long-term public health related actions that reduce inputs from nutrients, fecal coliform, and other contaminants. To effectively address

each of these water quality concerns, actions are identified that integrate education, research and monitoring, technical assistance, regulations and enforcement. Some tasks will result in immediate implementation while others will result in proposed options or actions for management changes. Management changes will require additional public/legislative/administrative review prior to implementation.

This multi-pronged approach provides the essential framework for dealing with not only these water quality concerns but other management issues in the watershed.

Included for each program area are deliverables, time schedules, identification of resource needs and lead agency. Additional information is provided on program priority, relevant/related goals and policies (Appendix A), and water quality concerns addressed. The program plan extends from 2000-2005, as requested by the legislative bodies in 1999.

The majority of the actions focus on the year 2000. The projects that will extend beyond that date and that will have ongoing needs are identified. The work plan will be updated again in 2000 with the assumption that those actions will be automatically included.

Watershed Ownership



Priority High

Goals 2, 11

Program Tasks

- T1: Evaluate the affect of public ownership and reduced densities on tax revenues. Include existing tax exempt properties and programs.
[Lead= County; 1999 Carry-over]
- T2: Identify, assess, and evaluate property purchases for purposes of early action stormwater management (e.g. retrofits). For more information refer to Early Action Projects under the Stormwater Management Element of the Work Plan.
[Lead= County; Est. Budget=To Be Determined; 1999 Carry-over]
- T3: Develop criteria for use in prioritizing areas for protection.
[Lead= County]
- T4: Evaluate and recommend options for preserving and enhancing high priority lands in natural/protected condition.
[Lead= County]
- T5: Integrate recommended options (T4) with the identified priority areas (T3).
[Lead= County]

Deliverables

- *Report identifying affect of public ownership on tax revenues.*
- *Identification of sites for early action stormwater facilities.*
- *List of criteria and priorities for protection.*
- *List of options for preserving and enhancing priority lands.*
- *Parcel-by-parcel recommendations and implementation for priority land protection.*

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|--------|-----------------|------|------|------|
| T1 | Project | | | | | | | |
| T2 | Project | | | | | | | |
| T3 | Project | | | | | | | |
| T4 | Project | | | | | | | |
| T5 | | | | | Project/Ongoing | | | |

Water Quality Concern Addressed:

| | <i>Fecal Coliform</i> | <i>Nutrients</i> | <i>Other</i> |
|------------------|-----------------------|------------------|--------------|
| <i>All Tasks</i> | X | X | X |

Work Program Element

Stormwater Management

Priority High

Goals 11

A Comprehensive Stormwater Program is being developed for the Lake Whatcom Watershed. The program is comprised of 2 phases. The first phase is underway and generally includes tasks T1-T6, which follow. A scope of work for Phase 2 will be developed as part of Phase 1 efforts (as noted in task T6).



- ♦ T1: Locate and identify major drainage systems including outfalls, stream basins, major stormwater conveyance systems, public/private detention facilities, and problems associated with those systems.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T2: Identify and select a watershed loading/lake response model to assess pollutant-loading sources and to predict total phosphorus concentrations for existing and future land use scenarios applying different control measures. Note: If more extensive modeling is required an extended timeframe will be needed.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T3: Identify any additional data needs required to complete the stormwater modeling, detect trends, assess problems, evaluate actions, and inform management decisions.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T4: Identify, rank, and describe possible cause and effect relationships between pollutant sources and loads and in-lake effects.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T5: Identify benchmarks in the form of numeric in-lake water quality goals for total phosphorus, chlorophyll a, Secchi visibility, and other parameters. *[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]*
- ♦ T6: Review compliance of Bellingham and Whatcom County stormwater programs with existing regulations, identify gaps, and recommend compliance strategy.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T7: Research, identify, and present information on a range of available funding options, including examples used by other communities.
[Lead= County, City, WD 10; Est. Budget= Existing EES Contract]
- ♦ T8: Placeholder to continue the 1998 initiated effort to develop a Comprehensive Stormwater Program for the watershed. A placeholder is recommended for actions that may include:
 - Continued implementation of early action projects– these projects include installation of treatment facilities along Lakeway near Cable Street, improvements in the Park Place stormwater facility, maintenance and operation workshop/training, and street/drainage facility

Stormwater Management Element (cont.)

improvements;

- An expanded modeling component that considers the possible impacts of modifying the operation of the diversion; and
- Implementation of Phase 2 of the Stormwater program.

[Lead= County, City, WD 10]

- ♦ T9: Hire temporary staff to ensure adequate implementation of stormwater and erosion control standards and to provide technical assistance at construction sites.

[Lead= County; Est. Budget= \$8,000; Equip. = Vehicle]

- ♦ T10: Identify ground water recharge areas within City limits and develop recommendations for using these areas to manage stormwater. *[Lead= City]*

- ♦ T11: Implementation of Phase 2 scope of work, which will include action in the following areas:

- Operation and Maintenance Program and Ordinance
- Stormwater Ordinance Updates for Compliance
- Capital Improvement Program
- Continued Implementation of Early Action Projects
- Stormwater Runoff Control
- Technical Manual
- Education Program
- Funding Strategies
- Additional Water Quality Assessment

Deliverables

- *Stormwater System Inventory*
- *Watershed/Lake Response Model*
- *Data Gaps Identification*
- *Source Identification Technical Memorandum*
- *Benchmark Lake Whatcom Water Quality Goals*
- *Compliance Review Memorandum*
- *Year 2001 Project Funding Memorandum*
- *Early Action Projects (Maintenance/Operation workshop, stormwater treatment facility site identification and feasibility study, Park Place facility improvements, street/drainage system improvements, treatment facilities for road resurfacing project), Phase 2 Scope of Work.*
- *City of Bellingham Recharge Areas Report*

Stormwater Management Element (cont.)

Schedule for Completing Tasks:

| <i>Task</i> | <i>Mar-00</i> | <i>Jun-00</i> | <i>Sep-00</i> | <i>Dec-00</i> | <i>2001</i> | <i>2002</i> | <i>2003</i> | <i>2004</i> |
|-------------|-----------------|---------------|---------------|---------------|-------------|-------------|-------------|-------------|
| <i>T1</i> | Project | | | | | | | |
| <i>T2</i> | Project | | | | | | | |
| <i>T3</i> | Project | | | | | | | |
| <i>T4</i> | Project | | | | | | | |
| <i>T5</i> | Project | | | | | | | |
| <i>T6</i> | Project | | | | | | | |
| <i>T7</i> | Project | | | | | | | |
| <i>T8</i> | Project/Ongoing | | | | | | | |
| <i>T9</i> | Project | | | | | | | |
| <i>T10</i> | Project | | | | | | | |
| <i>T11</i> | Project/Ongoing | | | | | | | |

Water Quality Concern Addressed:

| | <i>Fecal Coliform</i> | <i>Nutrients</i> | <i>Other</i> |
|------------------|-----------------------|------------------|--------------|
| <i>All Tasks</i> | <i>X</i> | <i>X</i> | <i>X</i> |

Other Related Programs

- ♦ The County will continue working to refine standards for on-site stormwater quality and quantity facilities for all new construction or remodels consistent with adopted ordinance language.
- ♦ The County will update the standards in Chapter 3 Land Clearing to reflect the changes in Title 20 related to erosion and sedimentation.
- ♦ The County will be implementing improvements to countywide stormwater management.

Work Program Element

Urbanization/Land Development



Priority High

Goals 1, 13

Program Tasks

- ♦ T1: The city will actively pursue density reduction through zoning, overlay element, and/or ordinance revisions for the portion of the watershed under City jurisdiction. *[Lead= City; Est. Budget= \$20,000 inventory/impact assessment]*
- ♦ T2: Continue 1998 effort to define, evaluate, and recommend changes to the current development review process for projects in the watershed to ensure coordination with other jurisdictions to enhance water quality protection. *[Lead= County and City; 1999 Carry-over]*
- ♦ T3: The City will develop and implement higher standards for new development in the watershed. *[Lead= City; Est. Budget= \$2,000 City Intern]*
- ♦ T4: Monitor and evaluate implementation of the County overlay zone, which sets higher standards for development in the watershed. Recommend changes as necessary including possible revisions and additional actions-consider, as appropriate, incorporating higher standards that may be set by the City for consistency between jurisdictions. Develop educational materials and provide technical assistance to the public. *[Lead= County; Est. Budget= \$3,500 PS]*
- ♦ T5: Assist Community Outreach Team with their watershed stewardship award program by providing examples of successes. *[Lead= County and City; Est. Budget= \$1,000]*
- ♦ T6: Annual tracking by jurisdictions of building and development activities in the watershed, including updating build-out projections and current dwelling units. Jurisdictions will coordinate types of information gathered. *[Lead= County and City; Est. Budget \$2,000 Intern]*
- ♦ T7: Develop and distribute educational materials related to TDRs, and review and evaluate status and progress of County TDR program. *[Lead= County; Est. Budget= \$5,000 PS; 1999 Carry-over]*
- ♦ T8: Fully enable an inner-city TDR program. *[Lead= City; Est. Budget= \$5,000 City intern]*
- ♦ T9: Develop incentives (including possible tax relief) to voluntarily reduce densities and encourage actions that reduce impacts on water quality with consideration given to input received from local committees. *[Lead= County; Est. Budget= \$10,000 PS; 1999 Carry-over]*
- ♦ T10: The County will continue working with Sudden Valley Community

Urbanization/Land Development Element (cont.)

Association to achieve the density reduction target of 1400 lots. *[Lead= County]*

- ♦ T11: Evaluate options for higher penalties and stop-work orders for individuals that do not comply with development and erosion control standards within the watershed. *[Lead= TBD; Budget: TBD]*
- ♦ T12: Review and modify the City and County Shoreline Management Plans for consistency with new State requirements, and consider additional improvements for implementing Best Management Practices and related standards for such things as setbacks and vegetative buffers. *[Lead= County/City; Budget: TBD]*

Deliverables

- *Proposed revisions to Bellingham ordinance.*
- *Proposal of a development review process that ensures adequate coordination and joint opportunities to enhance water quality protection.*
- *New standards and regulations within City limits.*
- *Educational materials for the overlay zone. Recommendations, if any, resulting from the evaluation of new County overlay zone implementation including consideration of standards that the City may institute within their jurisdictional boundaries with the goal being to provide consistency and predictability within the watershed.*
- *Illustrated examples of good development and construction practices in the watershed for use in the stewardship program.*
- *Recommendations for changes to the County TDR program as needed and ordinance for inner-city TDR program.*
- *Report describing potential incentive programs.*
- *Recommended options for penalties and stop-work orders.*
- *Proposed revisions to the County and City Shoreline Management Plans.*

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|-----------------|---------|------|------|------|
| T1 | Project | | | | | | | |
| T2 | Project | | | | | | | |
| T3 | Project | | | | | | | |
| T4 | Project | | | | | | | |
| T5 | Project | | | Ongoing | | | | |
| T6 | Project | | | Ongoing | | | | |
| T7 | Project | | | Project/Ongoing | | | | |
| T8 | Project | | | | | | | |
| T9 | Project | | | | Project | | | |
| T10 | Project | | | Ongoing | | | | |
| T11 | Project | | | | Project | | | |
| T12 | Project | | | | Project | | | |

Water Quality Concern Addressed:

| | Fecal Coliform | Nutrients | Other |
|-----------|----------------|-----------|-------|
| All Tasks | X | X | X |

Work Program Element

Community Outreach



Priority Medium

Program Tasks

Goals 1

Community outreach actions will focus mainly on reducing inputs of nutrients, fecal coliform, and other contaminants of concern.

- ♦ T1: Identify effective lake-friendly alternatives for pesticides and fertilizers. Develop and implement a strategy to distribute information to watershed residents. *[Lead= County; Est. Budget= TBD]*
- ♦ T2: Develop and implement an integrated pest management (IPM) program for households and public lands (especially consider Bloedel Donovan Park) in the watershed to reduce inputs of pesticides and fertilizers. *[Lead= County; Est. Budget= TBD]*
- ♦ T3: Develop and implement outreach programs for reducing fecal coliform inputs focusing initially on pet waste stations and newsletter articles. Initial emphasis for implementation will be areas around the City and

District intakes and the most developed areas of the watershed. Evaluate options for coordination with dog licensing program. *[Lead= County; Est. Budget= \$5,000 PS]*

- ◆ T4: Develop and implement a mini-grant program that places priority on reducing impacts in the developed portions of the watershed. Explore options for funding partnerships. *[Lead= County; Est. Budget= \$12,000 grants/PS]*
- ◆ T5: Continue with existing avenues for the public and elected officials to be informed and involved in the Management Program including:
 - Continue maintaining Lake Whatcom website;
 - One-page quarterly summaries of activities;
 - Cable broadcast of Joint Special Council Meetings and semi-annual public Management Committee meetings;
 - Quarterly updates of activities published in WaterWhys;
 - Continue maintaining mailing and e-mail lists for meeting notification and other activities;
 - Prepare written summary of annual water quality studies and results;
 - Monthly Management Committee meetings with 4 of them scheduled as public meetings (2 of which are in conjunction with the Joint Special Council Meetings);
 - Citizen Advisory Committee meetings;
 - Joint Special Council/Commission semi-annual public meetings; and
 - Quarterly written and verbal updates to Councils/Commission*[Lead= City, County, District; Est. Budget= TBD]*
- ◆ T6: Include watershed stewardship messages on utility bills. Evaluate at the end of the first year to determine if it should be continued.
[Lead= City, District; Est. Budget= \$800; 1999 Carry-over]
- ◆ T7: Placeholder for continued implementation of Focus Group efforts pending review of current actions. *[Lead= County]*
- ◆ T8: Work with students, groups, and individuals to develop and install educational signs in the watershed. *[Lead= City; Est. Budget= \$2,200 PS (City)]*
- ◆ T9: Develop and implement stewardship award program.
[Lead= City, County; Est. Budget= \$500 prize/publicity; 1999 Carry-over]
- ◆ T10: Explore the development of a watershed educational display that can be taken to a variety of local festivals. *[Lead= City; Est. Budget= \$1,000 PS (City)]*
- ◆ T11: Investigate expanding an ongoing water quality education program in schools. *[Lead= TBD; Est. Budget= TBD]*
- ◆ T12: Support the Pledge Program by publishing one Pledge newsletter and evaluate potential actions that may be needed for the program in the future.
[Lead= City; Est. Budget= \$2,200 PS]
- ◆ T13: Support educational needs that may arise throughout the years as directed by the Management Committee/Coordinating Team. *[Lead= TBD; Est. Budget: TBD]*
- ◆ T14: Develop and distribute educational materials about vegetative buffers and cover. *[Lead= TBD; Est. Budget= TBD]*
- ◆ T15: Analyze the feasibility (including interest and resources needed) to develop and implement and Adopt-A-Stream, Adopt-A-Watershed, Watershed Masters, and/or volunteer monitoring program for subwatersheds.
[Lead= TBD; Est. Budget= TBD]

Community Outreach Element (cont.)

Deliverables

- *Implemented strategy to encourage alternative pesticide and fertilizer use in the watershed.*
- *Integrated pest management program for households and public lands in the watershed.*
- *Pet waste stations and educational articles distributed through newsletters. Outreach strategy may include dog licensing program.*
- *Establish mini-grant program guidelines and criteria.*
- *Consistent public and legislative outreach programs.*
- *City and District utility bills with stewardship message.*
- *Rotating signs with stewardship messages as watershed is entered.*
- *Presentation of stewardship awards to citizens.*
- *Watershed educational display presented at a variety of local festivals.*
- *Recommendations for expanding water quality education programs in the schools.*
- *Pledge newsletter distributed to watershed residents and recommendations for future actions related to the Pledge Program.*
- *Educational materials related to vegetated buffers.*
- *Feasibility analysis to develop Adopt-a-Stream or similar program in the watershed.*

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|-----------------|--------|--------|--------|-----------------|------|------|------|
| T1 | Project/TBD | | | | | | | |
| T2 | Project/TBD | | | | | | | |
| T3 | | | | | Project/Ongoing | | | |
| T4 | Project/TBD | | | | | | | |
| T5 | Ongoing | | | | | | | |
| T6 | Project/TBD | | | | | | | |
| T7 | TBD | | | | | | | |
| T8 | Project/Ongoing | | | | | | | |
| T9 | Project/Ongoing | | | | | | | |
| T10 | Ongoing/TBD | | | | | | | |
| T11 | Project/TBD | | | | | | | |
| T12 | Ongoing | | | | | | | |
| T13 | | | | | Ongoing | | | |
| T14 | | | | | Project | | | |
| T15 | | | | | Project | | | |

Water Quality Concern Addressed:

| | <i>Fecal Coliform</i> | <i>Nutrients</i> | <i>Other</i> |
|------------------|-----------------------|------------------|--------------|
| <i>All Tasks</i> | X | X | X |

Other Related Programs

- The City of Bellingham will continue with existing education programs.

Data and Information Management

| | |
|----------|------|
| Priority | High |
| Goals | 3 |

Program Tasks



- T1: Provide an annual review of the latest monitoring results to identify high priority concerns to address in the Management Program. *[Lead= County]*
- T2: Annual update of bibliography, abstracts, and library collections. *[Lead= County]*
- T3: Evaluate and/or conduct new monitoring/research including:
 - T3A - Additional data needs that may be identified as part of the Comprehensive Stormwater Program (Task T3).
 - T3B - Placeholder for follow-up to creek monitoring started in 1999 *[Lead= County]*
 - T3C - Placeholder for response to Dept. of Ecology's study that could include investigation of contaminant sources, additional monitoring, risk assessment related to fish tissue and human health exposure. *[Lead=County; Est. Budget= \$10,000]*
 - T3D - Build on existing work to determine the extent to which waterfowl populations may be affecting water quality and management options. *[Lead= County; Est. Budget= \$6,000 EH]*
 - T3E - Initiate a pilot study to determine the concentration and distribution of indicator coliform bacteria in water and sediment at Bloedel Donovan swimming area. *[Lead= County; Est. Budget= \$1,000 EH, \$3,500 Analytical & Supplies]*
 - T3F - Evaluate potential water quality impacts and BMPs associated with the Sudden Valley Golf Course and public properties in the watershed (e.g. Bloedel Donovan). *[Lead= City]*
 - T3G - Complete the "Y" Road landfill investigation. *[Lead= County]*
 - T3H - Compare water quality between City and District intakes. *[Lead= City/District; Est. Budget= TBD]*
- T4: Provide peer review for watershed studies as directed by Management Committee. *[Lead= Management Committee; Est. Budget= \$10,000]*

Data and Information Management Element (cont.)

Deliverables

- *Annual review of monitoring results and high priority water quality issues.*
- *Updated bibliography with abstracts, website, library.*
- *Creek monitoring results.*
- *Follow-up monitoring for Ecology report.*
- *Report on impacts of waterfowl and recommended actions for addressing waterfowl populations.*
- *Results of indicator bacteria pilot study at Bloedel Donovan.*
- *Evaluation of water quality impacts and BMPs associated with public properties and Sudden Valley.*
- *Results of Y-Road landfill investigation and recommendations.*
- *Comparison of water quality at City and District intakes.*

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|---------|--------|--------|---------|------|------|------|
| T1 | Ongoing | | | | | | | |
| T2 | Ongoing | | | | | | | |
| T3A | Project | | | | | | | |
| T3B | | Project | | | | | | |
| T3C | | Project | | | | | | |
| T3D | | Project | | | | | | |
| T3E | | Project | | | | | | |
| T3F | | | | | Project | | | |
| T3G | | Project | | | | | | |
| T3H | | Project | | | | | | |
| T4 | Ongoing | | | | | | | |

Water Quality Concern Addressed:

| | <i>Fecal Coliform</i> | <i>Nutrients</i> | <i>Other</i> |
|------------------|-----------------------|------------------|--------------|
| <i>All Tasks</i> | X | X | X |

Other Related Programs

- The City will continue with ongoing monitoring programs.

Spill Response and Hazardous Materials

Priority Medium

Goals 5, 6, 10

Program Tasks

- T1: Biannual inventory of spill response equipment. Replace equipment used in the watershed. *[Lead= County; Est. Budget= \$1,000 equipment]*
- T2: Provide annual spill incidence and response report. *[Lead= County]*
- T3: Compile, evaluate, and bring forward options used by other communities to limit and/or restrict the use of pesticides in the watershed. *[Lead= County; Est. Budget= \$5,000 PS]*
- T4: Evaluate the potential to restrict or modify the transport of hazardous materials in the watershed providing clear definition of the types of hazardous materials being considered as part of the evaluation. *[Lead= County; Est. Budget= TBD]*
- T5: Explore options for technical and financial assistance to residents with underground storage tanks (e.g. removal, testing, education, etc.) *[Lead= County; Est. Budget= \$5,000 PS]*
- T6: Continue working with Dept. of Emergency Management to provide an automatic dialer system to enhance public notification of spills. *[Lead= County]*
- T7: Placeholder for implementing recommendations from spill response interviews. *[Lead= County; Est. Budget= TBD]*
- T8: Conduct annual spill response exercises, include tabletop and field exercise. *[Lead= County; 1999 Carry-over]*
- T9: Summarize the process for responding to spills in the watershed in a manner that can clearly be communicated to the public and elected officials. Use this to develop and distribute educational material to the public that informs them who they should call in case of a spill. *[Lead= TBD; Est. Budget= TBD]*



Deliverables

- *Options for restricting or limiting the use of pesticides in the watershed.*
- *Automated dialer system.*
- *Recommendations for technical/financial assistance to address underground storage tanks.*
- *Annual spill incidence and response report.*
- *Consistent supply of spill response equipment at six locations in the watershed.*
- *Spill response exercises coordinated with WaterWeeks.*
- *Educational materials illustrating the Lake Whatcom Spill response procedure.*

Spill Response and Hazardous Materials Element (cont.)

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|---------|------|---------|------|------|
| T1 | | | | Ongoing | | | | |
| T2 | | | | Ongoing | | | | |
| T3 | | | | | | Project | | |
| T4 | | | | | | Project | | |
| T5 | Project | | | | | | | |
| T6 | | | | Ongoing | | | | |
| T7 | | | | TBD | | | | |
| T8 | | | | Ongoing | | | | |
| T9 | Project | | | | | | | |

Water Quality Concern Addressed:

| | Fecal Coliform | Nutrients | Other |
|-----------|----------------|-----------|-------|
| All Tasks | X | X | X |

Work Program Element

Forestry/Fish/Wildlife

Priority Medium

Goals 4, 21

Program Tasks

- T1: Placeholder for possible recommendations that may come from the Forestry Forum, Citizen Advisory Committee, or DNR Committee (SB 5536).
- T2: Work with appropriate agencies and others to identify fish and wildlife problems and actions needed in the watershed with consideration given to culvert problems and Agate Bay fish kills.
[Lead= City; Est. Budget= TBD]
- T3: Provide an annual review of the Lake Whatcom Program to ensure coordination with salmon recovery efforts.
[Lead= City and County; Est. Budget= None]



Deliverables

- *Identification and evaluation of primary fish and wildlife concerns in the watershed with recommendations for priority actions.*
- *Annual review of the Lake Whatcom Program in relation to salmon recovery efforts.*

Forestry/Fish/Wildlife Element (cont.)

| <i>Task</i> | <i>Mar-00</i> | <i>Jun-00</i> | <i>Sep-00</i> | <i>Dec-00</i> | <i>2001</i> | <i>2002</i> | <i>2003</i> | <i>2004</i> |
|-------------|---------------|---------------|---------------|---------------|-------------|-------------|-------------|-------------|
| <i>T1</i> | TBD | | | | | | | |
| <i>T2</i> | Project | | | | | | | |
| <i>T3</i> | Ongoing | | | | | | | |

Primary Water Quality Concern Addressed:

| | <i>Fecal Coliform</i> | <i>Nutrients</i> | <i>Other</i> |
|------------------|-----------------------|------------------|--------------|
| <i>All Tasks</i> | | X | X |

Work Program Element

Transportation



Priority Medium

Goals 12

Program Tasks

- T1: Revise existing transportation plans, including 6-year road plans, to maximize the prevention, avoidance, and minimization of water quality impacts resulting from the transportation element. *[Lead= City; Est. Budget \$2,000]*
- T2: Develop and implement an alternative transportation contest for watershed residents. *[Lead= TBD; Est. Budget= TBD]*
- T3: Build upon existing work to develop an educational display that illustrates the impacts of motorized vehicle use on water quality. *[Lead= TBD; Est. Budget= TBD]*
- T4: Recommendations to road standards for the Lake Whatcom watershed (the County is in the process of revising its standards). *[Lead= County]*

Deliverables

- *Revised transportation plans addressing related water quality concerns.*
- *Alternative transportation contest.*
- *Educational display illustrating the impacts of motorized vehicle use on water quality.*
- *Recommendations for changes to road standards.*

Transportation (cont.)

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|--------|------|------|------|------|
| T1 | Project | | | | | | | |
| T2 | Project | | | | | | | |
| T3 | Project | | | | | | | |
| T4 | Project | | | | | | | |

Primary Water Quality Concern Addressed:

| | Fecal Coliform | Nutrients | Other |
|-----------|----------------|-----------|-------|
| All Tasks | | | X |

Work Program Element

Recreation

| | |
|----------|--------|
| Priority | Medium |
| Goals | 8 |

Program Tasks



- T1: Compile, evaluate, and recommend a strategy to reduce potential impacts of motorized watercraft (boats and floatplanes) on the lake. Emphasis of task will be on:
 - water quality impacts including an evaluation of local and regional knowledge and a determination of whether additional monitoring is needed; and
 - management options including status quo, banning all motorized vessels, banning 2-stroke engines, and restricting boating to County residents.

[Lead= County with City assistance; Est. Budget= \$10,000 PS; 1999 Carry-over]
- T2: Update County and City Park Master Plans for parks in the Lake Whatcom watershed to ensure consistency with adopted goals and policies. *[Lead= County; 1999 Carry-over]*
- T3: Develop informational material that conveys the message that the lake is a drinking water source for use at high boating traffic areas such as Bloedel Donovan. Information material will include positive actions boaters can take to protect the lake. *[Lead= TBD; Est. Budget= TBD]*

Recreation (cont.)

Deliverables

- Evaluation of water quality impacts and management options for motorized vessels on Lake Whatcom.
- Updated City and County Master Park Plans.
- Informational material on boating on lake Whatcom.
- Recommendations for management strategies to councils/ commission.

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|--------|---------|------|------|------|
| T1 | Project | | | | | | | |
| T2 | | | | | Project | | | |
| T3 | | | | | Project | | | |

Work Program Element

Utilities and Waste Management*



Priority Medium

Goals 9, 14, 15, 16, 17, 18, 20

Program Tasks

- T1: City of Bellingham pilot water metering project. *[Lead= City]*
- T2: Conduct a feasibility study for roof rainwater collection. *[Lead= TBD]*
- T3: Initiate work on developing a demonstration garden(s). *[Lead= TBD]*
- T4: Conduct public water audit workshop series. *[Lead= TBD]*
- T5: Develop Public Service Announcements for the Public Access Channel. *[Lead= TBD]*
- T6: Develop a report on G-P modifications and the impact on water consumption. *[Lead= TBD]*
- T7: Develop waterwise garden tours. *[Lead= TBD]*

Deliverables

- Results of pilot water metering project.
- Feasibility of rainwater collections system.
- Demonstration garden.
- Public water audit workshop series.
- Public service announcements.
- Report on G-P modifications and impacts on water conservation.
- Waterwise garden tours.

Utilities and Waste Management Element (cont.)

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|--------|--------|--------|---------|------|------|------|------|
| T1 | | | | Project | | | | |
| T2 | | | | Project | | | | |
| T3 | | | | Project | | | | |
| T4 | | | | Project | | | | |
| T5 | | | | Project | | | | |
| T6 | | | | Project | | | | |
| T7 | | | | Project | | | | |

Other Related Programs

- Continue ongoing City conservation programs.
- The City will identify and assess impacts to other services that will result from the provision of water to county areas of anticipated growth.
- The City will evaluate the diversion system including Middle Fork fish passage, instream flows in the Nooksack River system, impacts on Mirror Lake and Lake Whatcom, and impacts on Whatcom Creek.
- The City will determine system operating flexibility regarding instream flows, lake water levels, and Whatcom Creek flows.
- The City will recommend changes to requirements regarding lake levels and hydropower cfs levels.

* Combines Solid Waste, Sewers, On-site Systems, Conservation, Distribution, and Diversion Operation

Work Program Element

Other Programs

Program Tasks

- T1: Summarize information related to the Citizen Advisory Committee, including the mission, projects (as known), and participants. *[Lead= Management Committee; Est. Budget= None]*
- T2: In future updates of the Lake Whatcom Program include a comprehensive list of all programs related to the watershed and budget/expenditure information. *[Lead= County/City/District; Est. Budget= None]*
- T3: Conduct a brief overview of information on the costs and feasibility of finding an alternative water supply if Lake Whatcom were no longer useable. Build upon existing work. *[Lead= TBD]*

Other Actions (cont.)

- ◆ T4: Compile and evaluate information from other multijurisdictional drinking water watersheds that focuses on how the following topics are addressed:
 - Data management and monitoring
 - Spill response
 - Enforcement
 - Laws/ordinances

[Lead= County/City/District; Est. Budget= TBD PS]

Deliverables

- *Description of Citizen Advisory Committee.*
- *Comprehensive program updates that include all related programs and budget/expenditure information.*
- *Description of costs and feasibility of alternative water supplies.*
- *Compilation of information from other multi-jurisdictional drinking water watersheds related to data monitoring and management, spill response, enforcement, and laws/ordinances.*

Schedule for Completing Tasks:

| Task | Mar-00 | Jun-00 | Sep-00 | Dec-00 | 2001 | 2002 | 2003 | 2004 |
|------|---------|--------|--------|---------|------|------|------|------|
| T1 | Project | | | | | | | |
| T2 | | | | ongoing | | | | |
| T3 | Project | | | | | | | |
| T4 | | | | Project | | | | |

Appendix A: 1999 Accomplishments

1999 Accomplishments

In January 1999, the County Council, City Council, and Water District 10 Commissioners passed a resolution jointly adopting the 1999 Lake Whatcom Management Program. The program identified actions in many areas including stormwater, urbanization/land use, watershed ownership, education, and data management. A brief summary of 1999 accomplishments is provided below. The summary does not include all of the actions accomplished by the various jurisdictions. In addition to the joint programs, each agency has a variety of programs related to Lake Whatcom that they pursue independently (e.g. the City has an extensive monitoring program). These independent programs are not included in the summary of accomplishments.

Urbanization/Land Development

- The Whatcom County Planning Commission passed four actions related to Lake Whatcom: a transfer of development rights (TDR) ordinance; revisions to Title 20 that would provide an overlay zone for the watershed; revisions to the stormwater facilities for all new construction and remodels (single family homes are currently exempt); and revisions to the land clearing ordinance requiring reduced thresholds for review, additional mechanisms for inspection, phased clearing, and changes to cover protections consistent with State requirements. The County Council is cur-

rently reviewing all of the proposals brought forward by the Planning Commission.

- Dwelling unit projections and impervious surface estimates have been completed for existing and proposed development within the Lake Whatcom watershed.
- The watershed maps have been updated to include 1999 assessors records for parcels in the watershed.
- The County has been working with Sudden Valley in their development of a density reduction plan.
- The County has developed a map and database summarizing the type and location of development activities that have occurred in 1999 in the watershed.
- A map of major landowners has been developed.
- An erosion control survey was conducted throughout the watershed.

Stormwater Management

- Consultants were hired to implement Phase I of the Comprehensive Stormwater Management Program.
- Stakeholder Interviews were conducted with various local government, state agency, utility provider, and other individuals/non-profits to identify issues/concerns, perspectives and preferences on management options, perspectives on funding, early action projects, and preferred approaches for being kept updated and involved. A summary report was written and is being used to target future actions.

- Early Action Projects: A list of early action projects was developed based on stakeholder interviews and other comments received. Actions which have currently been taken in response to recommendations include: increased enforcement staff in the watershed; an evaluation of County and City road and ditch maintenance activities by the consultant, assessing options for improving the performance of Park Place Pond, development of a maintenance and operation workshop; and a pilot project in which the County will look at alternative design approaches for managing roadside drainage on an existing County road. Discussions continue regarding high priority action that should be pursued immediately.
- Inventory: Preliminary inventory work has been conducted and a database and map is available that identifies private and some public stormwater facilities in the watershed.
- Peer Review Committee: The Peer Review Committee has been identified.
- Water Quality Report: A draft Water Quality Report is scheduled to be sent to the Peer Review Committee in October.

Community Outreach/Education

- A website (www.lakewhatcom.wsu.edu) has been developed and maintained to provide information on Lake Whatcom.
- An educational mural was painted on the trailer at Bloedel Donovan Park, which holds spill response equipment.
- Public Joint Special Legislative Meetings and quarterly Management Committee meeting were held and aired

on local cable access.

- Quarterly written and verbal updates were provided to legislative bodies.
- Sehome High students conducted interviews with long-time residents to document historical perspectives of life around the lake. A display has also been developed that incorporates the students work.
- An intern was hired to investigate the potential for a demonstration/interpretive center at Bloedel Donovan Park.
- WaterWhys newsletter was used to disseminate quarterly updates on Lake Whatcom activities.
- Notebooks covering information on the Lake Whatcom Management Program were completed and distributed to legislative representatives, the Bellingham/County Library, and District 10 office.
- A Lake Whatcom Citizen Committee has been established that reports to the Management Committee.
- An informational display on alternative landscape surfaces was setup at the Home Show.
- A What's New update was sent to the building community alerting them to proposed changes to County land use regulations.
- An educational/informational workshop was held for the Whatcom County Planning Commission and other elected officials to provide them with information on land use, water quality perspectives, and stormwater management.
- A Lake Whatcom Management Program was developed.

Spill Response and Hazardous Materials

- A portable weather station was purchased for use by the Specialized Emergency Response Personnel.
- Spill equipment is being restocked at the various storage sites in the watershed.
- A trailer that will hold spill containment equipment was purchased and located at Bloedel Donovan Park.
- A map has been created that identifies fire districts and stations that respond to spills in the watershed. Spill response equipment that is held at each station has been identified.

Data and Information Management

- Updates/abstracts for watershed related reports have been written and database updated and placed on the website.
- An intern has been hired in cooperation with the Institute for Watershed Studies to compile and summarize historic information that exists in the Institute files.
- The County has hired a consultant to undertake the Y Road landfill assessment. Phase I of the assessment is expected to be completed in 2000.
- The bathymetric map of the lake is being updated in coordination with the Bureau of Reclamation.
- Existing fecal coliform information for Silver Beach Creek and Austin Creek has been compiled and mapped as the first step in determining if additional monitoring is needed.
- A report on potential water quality concerns related to Canada Geese was developed and will be used to evaluate possible future needs.

- The City, in cooperation with Western Washington University, has conducted water movement studies in Lake Whatcom.

Utilities and Waste Management

- Goal 9 (Solid Waste) and Goal 16 (On-site Waste Systems) were reviewed to determine the extent to which additional work was needed.
- Solid Waste: Two elements of the original goal have been completed: on-site waste burial is prohibited and landfills are prohibited as part of the proposed overlay zone. The two remaining elements of the original goal are underway: the Y Road landfill assessment and education efforts directed at the proper disposal of household waste.
- On-site Waste Systems: Element one of the original goal was completed/ongoing: prioritizing complaint response system. Element two, which involves an operational permit system, is under review but not compatible with the current system. Element three, the survey of older residences, is complete. Element four, which involves proper use and maintenance of the system, is ongoing and includes the latest action which was approval of an operation and maintenance work plan by the Board of Health in 1999. Element five, related to system additives, is addressed by providing system owners with State Health additive information in the materials they are provided. Element six remains to be evaluated.

Forestry

- The Management Committee wrote DNR to request several actions related

- to forest management including a water quality component to the Watershed Analysis. A reply was received.
- The County, City, and District participated in the legislatively established Committee that developed recommendations that were submitted to DNR in November.

- As part of the background work needed to develop criteria and identify possible geographic areas for public ownership, information from groups such as the Land Trust, Natural Heritage Foundation, and Watershed Initiative has been compiled.

Conservation

- The City of Bellingham, Water District 10, and Georgia Pacific have updated their joint 1998/1999 Conservation Plan.
- A survey of household water use has been completed and local and statewide data has been summarized and graphed.
- An outdoor water audit kickoff meeting was conducted.
- A pilot water meter program was investigated and will be implemented in 2000.
- Water audit kits have been purchased and are available to schools, businesses, and the public for water auditing.
- A new award was designed and created for the Whatcom in Bloom competition.
- Water conservation articles were published in WaterWhys, WWIN, the City of Bellingham newsletter, and Whatcom Watch.

Other

- The County has hired an additional staff position to assist in the Lake Whatcom Management Program.
- Background information has been collected regarding boating in preparation for action at a later date.

Appendix B: Program Goals and Policies

General Goal Statements:

Lake Whatcom Management Policies (jointly adopted 1992):

- To recognize Lake Whatcom and its watershed as the major drinking-water reservoir for the County and develop public and private management principles for the lake and watershed consistent with a drinking water reservoir environment. Affirm this goal by establishing the name: Lake Whatcom Reservoir.
- To protect, preserve and enhance water quality and manage water quantity to ensure long-term sustainable supplies for a variety of uses, with priority placed on domestic water supply. Management programs and actions will be made in recognition of existing contractual agreements and potential for review and renegotiation in light of these goals.
- To prioritize protection over treatment in managing Lake Whatcom and its watersheds. Management actions shall reflect a long-term view of replacement or treatment costs.
- To manage water quantity to sustain long-term efficient use of the water for beneficial uses within the county that are consistent with a drinking-water reservoir, and recognize the integral link with the Nooksack River and associated water resource concerns.
- To ensure that opportunities for public comment and participation are provided in policy and management program development, and to promote public awareness and responsible individual actions.
- To promote learning, research, and information opportunities which better our understanding of the watershed system, the impacts of activities, and the benefits and potentials of policies implemented.

Whatcom County Comprehensive Plan:

- Policy 11F-6: Pursue the adoption and implementation of ground and/or surface water management plans and integrate the plans into local comprehensive plans. Designate the Lake Whatcom Watershed as a high priority in this effort.
- Policy 11F-7: In conjunction with all jurisdictions develop and adopt programs to protect water quality and quantity with watersheds, aquifers, and marine bodies which cross jurisdictional boundaries.

City Comprehensive Plan:

- LUG-17: Bellingham's water quality is improved through the pursuit of goals expressed in the Joint Lake Whatcom Watershed Agreement with the County and Water District 10 and through continued efforts to control stormwater quantity and quality.
- LUP-116: The City should support joint planning efforts with Whatcom County and Water District 10 to implement the goals and policies for the Lake Whatcom Watershed identified in Joint Resolution 68-92, approved by the City in November, 1992.
- CFG-28: Recognize Lake Whatcom and its watershed as the major drinking-water reservoir for the county and develop public and private management principles for the lake and watershed consistent with a drinking water reservoir environment.
- CFG-29: Protect, preserve and enhance water quality and manage water quantity to ensure long-term sustainable

supplies for a variety of uses, with priority placed on domestic water supply. Management programs and actions will be made in recognition of existing contractual agreements and potential for review and renegotiation in light of these goals.

- CFG-30: Prioritize protection over treatment in managing Lake Whatcom and its watersheds. Management actions shall reflect a long-term view of replacement or treatment costs.
- CFP-1: Bellingham and Whatcom County shall coordinate drainage, stormwater management and flood control in Urban Growth Areas and work toward the development of common standards.
- CFP-2: Bellingham and Whatcom County shall cooperate to protect water quality and quantity within watersheds and marine water bodies which cross jurisdictional boundaries.

Water District 10 Water and Sewer Comprehensive Plan:

- Goal 4- Water District 10 shall provide water that has high standards of quality, safety, and reliability.
- Goal 5- Water District 10 shall participate with other watershed jurisdictions in efforts to protect Lake Whatcom consistent with its multiple use character.
- Resource Protection Policy a- The District, in concert with other jurisdictions, will work to protect the water supply resource base of Lake Whatcom.

Goal 1: Public Education and Involvement

Lake Whatcom Management Policies (jointly adopted 1992):

To develop and incorporate mechanisms which:

- Provide information regarding individual actions which can reduce or mitigate urban impacts;
- Provide educational formats for describing quality and quantity issues;
- Provide opportunity for public participation in developing the management program and policies for the lake; and
- Utilize enforcement actions as opportunities for education and learning

County Comprehensive Plan:

- Policy 2B-1: Work with property owners in the resort communities to develop an understanding to the unique needs of these areas and evaluate land use regulations for their responsiveness to these needs.
- Goal 2E: Encourage and support individual responsibility to achieve community values.
- Policy 2E-1: Provide education on the assets of the community and offer incentives for individual citizens to take responsibility to protect those assets.
- Goal 2G: Encourage citizen participation in the decision-making process.
- Policy 2G-1: Improve methods to notify affected property owners of proposed land use changes.
- Land Use Action Item 11: Design and produce presentations, written materials and other programs to educate citizens on the value of preserving the assets of the community and each individual's responsibility to preserve those assets.

- Land Use Action Item 12: Establish a committee comprised of citizens, local officials, including one or more Planning Commissioners, and land development experts to design a set of economic incentives for property owners to voluntarily reduce density on their property and to encourage protection of valuable open space identified on the Open Space Map.
- Land Use Action Item 21: Establish Council appointed subarea citizens committees to participate in the updating and review of subarea plans. 23: Improve methods of notification to affected property owners of land use decisions.
- Policy 11A-2: Protect the environment through a comprehensive program that includes voluntary activity, education, incentives, regulation, enforcement, restoration, monitoring, acquisition, mitigation, and intergovernmental coordination.
- Policy 11A-7: Support efforts to educate and inform the public as to the benefits of a healthy and viable environment, their ecologically fragile areas, and their economic and social value.
- Policy 11A-8: Coordinate efforts with property owners, citizen groups and governmental and non-governmental agencies in furthering Whatcom County's environmental goals and policies.
- Policy 11A-12: Broadly inform the citizens of the county of the locations of potential development constraints associated with natural conditions.
- Policy 11B-3: Support education as an important tool in developing public appreciation for the value of natural systems and provide the public with informational materials and presentations relating to natural system functions, regulations, and issues.
- Policy 11E-1: Actively promote and participate in education, research and information opportunities which better our understanding of the county's complex water resource system.
- Environment Action Item 45: Support the development of an educational booklet which lists, describes, and characterizes the appropriate use of native vegetation to enhance natural systems in Whatcom County.

City Comprehensive Plan:

- CFG-32: Ensure that opportunities for public comment and participation are provided in policy and management program development, and promote public awareness and responsible individual actions.
- CFG-33: Promote learning, research, and information opportunities which better our understanding of the watershed system, the impacts of activities, and the benefits and potentials of policies implemented.
- CDG-23: Bellingham's increasingly diverse citizenry continues to take an active part in and are aware of land use and other decision making processes through a variety of means, including effective notification procedures, neighborhood meetings with developers prior to project review, and actively involved neighborhood and community groups.

Goal 2: Watershed Ownership

Lake Whatcom Management Policies (jointly adopted 1992):

- Pursue public ownership and protection of the watershed whenever possible through public/private partnerships, tax incentives, transfer of development rights, land trusts, grants, etc.

County Comprehensive Plan:

- Land Use Action Item 36: Work with the Sudden Valley Community Association to develop and implement a mechanism to achieve density reduction targets.
- Land Use Action Item 47: Working with landowners, develop a list of priority sites for acquisition or other form of open space preservation based on criteria from *Preserving a Way of Life: A Natural Heritage Plan for Whatcom County*
- Land Use Action Item 48: Continue to acquire priority sites utilizing the Conservation Futures Levy and other funding sources. Work with Whatcom County Land Trust and others to facilitate protection of these designated sites.
- Policy 11A-10: Support acquisition, conservation easements, open space, and other such programs to protect high-value natural areas as identified through the GMA planning process, the Natural Heritage Plan, the state Priority Habitats and Species program, and other sources.
- Policy 11A-11: Designate high-value open space and natural areas for acquisition, conservation easements, open space and other such programs to protect these natural areas upon request or consent of the property owner.

City Comprehensive Plan:

- CDG-22: Undisturbed natural areas allow habitat for fish and wildlife, provide connections within greenway corridors and protect steep slopes and sensitive areas. Greenways in Bellingham connect with similar corridors in the urban fringe. Mechanisms to retain these open areas range from public acquisition to clustering development on adjacent portions of sites, and from regulatory requirements to regulatory incentives.

Goal 3: Information and Data Management

Lake Whatcom Management Policies (jointly adopted 1992):

- Coordinate with appropriate agencies to maintain and expand a data base sufficient for detection of trends, assessment of problems, evaluation of actions, and forming management decision that ensure protection and enhancement efforts are achieved.

County Comprehensive Plan:

- Policy 2PP-4: Work cooperatively with the City and Water District 10 to identify, review, and, as appropriate, recommend changes to existing

monitoring programs that will address the needs of the various jurisdictions. Place a particular focus on the information needed to evaluate the impacts of additional development in the watershed. Include an analysis of the diversion from the Middle Fork of the Nooksack. Coordinate effort with the Lake Whatcom Management Committee process.

- Policy 2G-1: Improve methods to notify affected property owners of proposed land use changes.
- Policy 11-5: Support the implementation and completion of local/state Watershed Action Plans as one means of addressing non-point source pollution.
- Policy 11F-6: Pursue the adoption and implementation of ground and/or surface water management plans and integrate the plans into local comprehensive plans. Designate the Lake Whatcom Watershed as a high priority in this effort.
- Policy 11F-7: In conjunction with all jurisdictions, develop and adopt programs to protect water quality and quantity within watersheds, aquifers and marine water bodies which cross jurisdictional boundaries.

City Comprehensive Plan:

- CFG-33: Promote learning, research, and information opportunities which better our understanding of the watershed system, the impacts of activities, and the benefits and potentials of policies implemented.
- LUP-117: Develop more thorough environmental studies of sensitive areas and specify potential measures in the neighborhood plans, thereby reducing the need for extensive environmental review of projects and reliance on SEPA negotiations for routine permits.
- LUP-118: Establish specific benchmarks to measure the health of the community, including but not limited to economic vitality, housing affordability and variety, environmental protection, and cultural and recreational resources.

Goal 4: Forest Practices

Lake Whatcom Management Policies (jointly adopted 1992):

- Promote low impact forest practices in the watershed over residential development while working to ensure that forest management practices are conducted in harmony with the principles of a drinking water reservoir.
- Pursue zoning and development incentives to retain lands in long term forestry
- Develop and maintain a comprehensive watershed forest management plan which minimizes cumulative impacts on the drinking water reservoir.

County Comprehensive Plan:

- Policy 2L-3: Emphasize forestry uses with some provision for rural and agricultural uses in the south and southeastern regions of the county.
- Policy 2L-4: Expand the rural economic base by supporting natural resource, cottage, light industries, forestry and agriculture, as well as allowing for some

- Small Towns in appropriate regions of the county.
- Policy 2VV-1: Retain valuable agriculture and forestry lands by enrollment in Whatcom County's open space taxation program.
- Goal 8E: Maintain and enhance Whatcom County's forest land base.
- Policy 8F-2: Develop a range of non-regulatory programs, options, and incentives which forest landowners can employ to meet or exceed county environmental goals.

Goals 5&6: Hazardous Materials

Lake Whatcom Management Policies (jointly adopted 1992):

- Ensure that potential for water quality contamination associated with the use and transport of hazardous materials in the watershed is minimized.
- Restrict and/or designate the route of transport for certain kinds of hazardous materials with the watershed
- Implement a hazardous materials spill prevention program involving improvements in road design, traffic speed modification, and hazardous material transportation routing restrictions
- Develop an identification and reporting system consistent with state and federal guidelines
- Coordinate information sharing among agencies, citizens, local government, and emergency responders to optimize response time to water quality threats
- Reduce adverse water quality impacts from storage and handling of hazardous materials within the watershed.
- Identify the various sources and areas of concern (i.e. wrecking yards, underground storage tanks, etc.)
- Evaluate effectiveness of existing regulations and policies to adequately address concern
- Recommend and implement additional actions as appropriate (i.e. restrict or condition certain types of activities)
- Educate users on hazardous materials alternatives, use, and disposal with an emphasis on avoidance of use of hazardous materials in the watershed

County Comprehensive Plan:

- Goal 5R: Support waste prevention for both solid and hazardous substances as a primary focus prior to waste management.
- Goal 5T: Using existing and future technologies, make available safe, effective, economical, and environmentally sound techniques for solid and hazardous waste disposal.
- Policy 5T-1: Support best-management practices for disposal of household, commercial, and industrial solid and hazardous wastes.

City Comprehensive Plan:

- TG-32: Insure the enforcement of existing regulations which protect the safety of citizens from the potentially catastrophic effects of an accident involving the

transportation of hazardous material.

- TP-22: Minimize and control levels of harmful pollutants generated by transportation related construction, operations, and maintenance activities from entering surface and groundwater resources.
- TP-101: All trucks transporting hazardous materials should be restricted to designated routes that do not travel through high risk areas. Any variance to these restrictions should be allowed only when authorized by a permit that is issued by the Police and Fire departments.
- TP-102: Without a special permit, trucks transporting hazardous materials should only be allowed on Interstate 5, and two designated truck routes

Goal 7: Nutrient Loading and Other Potential Threats

Lake Whatcom Management Policies (jointly adopted 1992):

- Identify other sources of nutrient loading and other threats and implement measures to minimize impacts on the lake.

City Comprehensive Plan:

- CFG-16: Minimize erosion and sedimentation of watercourses.
- CFG-28: Recognize Lake Whatcom and its watershed as the major drinking-water reservoir for the county and develop public and private management principles for the lake and watershed consistent with drinking water reservoir environment.
- CFG-30: Prioritize protection over treatment in managing Lake Whatcom and its watersheds. Management actions shall reflect a long-term view of replacement or treatment costs.
- CFG-31: Manage water quantity to sustain long-term efficient use of the water for beneficial uses within the county that are consistent with a drinking-water reservoir, and recognize the integral link with the Nooksack River and associated water resource concerns.
- CFP-3: Work to reduce the amount of water pollutants from stormwater runoff and combined sewer overflows.

Water District 10 Water and Sewer Comprehensive Plan:

- Resource Protection-d: The District shall (to the best of its ability and consistent with its legal authority) prevent health and safety problems. Washington State Law (Titles 56 &57) authorizes the District to provide for the reduction, minimization, or elimination of pollutants from any lake, stream, or other waterway within its borders. These same laws authorize the District to take other measures conducive to the public health, convenience and welfare, and to protect the general region's water supply from pollution.

Goal 8: Recreation

Lake Whatcom Management Policies (jointly adopted

1992):

- Allow recreational opportunities which do not adversely impact the watershed or water quality while finding appropriate ways to reduce impacts of existing activities.

County Comprehensive Plan:

- Goal 2TT: Identify and protect open space corridors within and between urban growth areas. These corridors should include trails and other lands useful for recreation, while emphasizing wildlife habitat, and connection of critical areas, where feasible.

City Comprehensive Plan:

- Goal #2: Insure a perpetual, city-wide system of publicly owned or protected open space which will preserve a visually attractive and environmentally sound community and provide an interconnected system of trails, parks, scenic views and other open space.
- Landscape plans should preserve existing vegetation to the greatest degree possible.
- Open space preservation should reflect the goals of the City to provide continuous and visually pleasing trail, roadway, shoreline, and wildlife movement corridors.
- The City should preserve natural drainage patterns, reduce the probability of flooding, allow for the natural absorption of water into the soil and to preserve and/or establish water related recreational opportunities.
- Goal#3: Improve recreational access to shoreline for all Bellingham residents, including saltwater as well as freshwater lakes, ponds, and streams.
- Cooperate with other appropriate agencies to identify and provide physical and visual access to as much of Lake Whatcom's shoreline as is reasonably possible.
- The City should identify and preserve those ponds, marshes, drainage courses, and ravines which provide wildlife habitat, are important to the City's hydrology and water retention systems, and may have potential recreational value.
- The City should preserve or restore open space corridors along the city's major streams and appropriate tributaries. These corridors form a natural framework for the City's Open Space System.

Goal 9: Solid Waste

Lake Whatcom Management Policies (jointly adopted 1992):

- Ensure that the generation, handling, storage, or disposal of solid waste does not degrade water quality
- Prohibit the development of landfills within the watershed
- Direct the Health Department to assess the Y road landfill contributions to water quality degradation
- Prohibit the on-site burial of waste within the watershed (state regulations currently exempt single family residences and single family farms engaged in

- on-site solid waste handling)
- Promote education efforts directed at the proper disposal of waste, and use of the household hazardous waste facility

County Comprehensive Plan:

- Goal 5R: Support waste prevention for both solid and hazardous substances as a primary focus prior to waste management.
- Policy 5R-1: Support solid waste source reduction activities including conservation education programs, source reduction programs for county agencies, a waste exchange and materials re-use clearinghouse, and home composting and other activities related to yard debris.
- Policy 5S: Improve the overall county waste reduction and recycling rate to 44% by the year 2002.
- Goal 5T: Using existing and future technologies, make available safe, effective, economical, and environmentally sound techniques for solid and hazardous waste disposal.
- Policy 5T-1: Support best-management practices for disposal of household, commercial, and industrial solid and hazardous wastes.

Goal 10. Spill Response

Lake Whatcom Management Policies (jointly adopted 1992):

- Ensure that spill prevention and response programs adequately protect water quality.
- Improve spill response program to ensure that a communication network associated with spill occurrences is clearly defined, tested and implemented.

City Comprehensive Plan:

- TG-32: Insure the enforcement of existing regulations which protect the safety of citizens from the potentially catastrophic effects of an accident involving the transportation of hazardous material.
- TP-22: Minimize and control levels of harmful pollutants generated by transportation related construction, operations, and maintenance activities from entering surface and groundwater resources.

Goal 11. Stormwater

Lake Whatcom Management Policies (jointly adopted 1992):

- Prevent water quality degradation and water quantity impacts associated with stormwater runoff.
- Adopt and implement stormwater management standards and maintenance practices that include control of off-site impacts, the use of source control and treatment, Best Management Practices, erosion and sediment control, and operation and maintenance.
- Control development density and location
- Phase in a stormwater management program for existing development, including treatment of discharges

- Evaluate options which can be applied to both existing and new development to reduce impacts on water quality, including vegetation management, education, and cost incentives
- Require maintenance of stormwater treatment devices and facilities

County Comprehensive Plan:

- Policy 2PP-2: Develop a storm draining utility district or other funding mechanism to deal with the unique problems of development in a drinking water watershed.
- Policy 6E-3: Minimize the amount of impervious surface whenever practical by using natural engineering design methods such as the use of open, shallow, grassed street swales instead of curbs and gutters, and, where feasible, encouraging alternate surfacing options.
- Policy 6E-4: Engineer, construct, and maintain road improvements to control pollutants affecting water quality and reduce run-off entering surface or groundwater consistent with water quality standards.
- Policy 11G-6: Develop specific stormwater management programs for each drainage basin within the county's jurisdiction which may be impacted by urban levels of development. Recognize the Lake Whatcom Watershed as a high priority in this effort. Coordinate efforts with the Lake Whatcom Management Committee program.
- Policy 11G-7: Establish, as a high priority, a stormwater maintenance program which assures that stormwater systems function at or near design capacity.
- Environment Action Item 28: Develop a stormwater management program designed to manage the quality and quantity of run-off from public facilities and industrial, commercial, and urban residential areas including streets and roads. Each component of the program shall cover both new and existing developments. Emphasis should be placed on controlling stormwater through source controls and best management practices.
- Environment Action Item 29: At a minimum, each urban stormwater component of this program shall include:
 - Identification of potentially significant pollutant sources and their relationship to the drainage system and water bodies.
 - Investigation of problem drains, including sampling.
 - Programs for operation and maintenance of storm drains, detention systems, ditches and culverts.
 - A water quality response program to investigate sources of pollutants, spills, fish kills, illegal hookups, dumping, and other water quality problems. These investigations should be used to support compliance/enforcement efforts.
 - Assurance of adequate local funding for the stormwater program through surface water utilities, sewer charges, fees, or other revenue-generating sources.

- Local coordination arrangement such as interlocal agreements, joint programs, consistent standards, or regional boards or committees.
- Ordinances requiring implementation of stormwater control for new development.
- A public stormwater educational program aimed at residents, businesses, and industries in the urban area.
- Strong inspection, compliance, and enforcement measures.
- An implementation schedule.
- Adequate design specifications and construction practices to insure minimized on-site erosion and sedimentation during and after construction.
- Environment Action Item 30: Incorporate watershed considerations into the development of a comprehensive stormwater management strategy. This should include the identification of priority watersheds relative to stormwater management and the application of Action Item 29 to each watershed in the order of their priority.
- Environment Action Item 31: Incorporate minimum impervious surface treatment into the development of a comprehensive stormwater management strategy. In this effort, develop best management practices for developers and provide information on alternative surfacing materials to the public.
- Environment Action Item 32: Amend subdivision, zoning, and other land use regulations and design standards to require that land use activity minimize the amount of impervious surface whenever practical. This should include the use of open space, grass lined swales instead of curbs and gutters. Alternate surfacing options should be encouraged whenever possible.
- Environment Action Item 34: Focus on the Lake Whatcom watershed as a high priority in developing a stormwater management program. Develop stormwater management plan which achieves a uniform level of protection throughout the Lake Whatcom watershed. Ensure coordination and communication with the public and affected jurisdictions such as Water District 10, Sudden Valley Community Association, and Bellingham.
- Environment Action Item 36: Develop and implement a stormwater maintenance program for the Lake Whatcom Watershed that would ensure that existing systems are adequately maintained.
- Environment Action Item 37: Ensure that existing stormwater standards are adequately enforced within the Lake Whatcom watershed.
- Environment Action Item 38: Place a high priority on integrating impervious surface reduction incentives into policies, regulations, and standards for the Lake Whatcom watershed.
- Environment Action Item 39: Prioritize project review in the Lake Whatcom watershed. Initiate an administrative review process for new development projects within the Lake Whatcom watershed to clearly resolve potential stormwater problems prior to construction.

City Comprehensive Plan:

- CFG-14: Minimize conventional storm drainage design and where possible, rely upon those alternative approaches that recognize the improvement of natural watercourses and wetlands in maintaining a viable drainage system.
- CFG-15: Minimize the volume and rate of runoff associated with land development.
- CFG-16: Minimize erosion and sedimentation of watercourses.
- CFG-17: Encourage the design of systems which will minimize potential pollution from surface drainage.
- CFG-19: Encourage continuous improvement of regulatory practices and policies regarding drainage-related control.
- CFG-20: Provide for necessary drainage-related capital improvement which are consistent with the recommendations of the comprehensive plan.
- CFG-21: Encourage the design of systems which will reduce capital improvement costs to the City.
- CFP-1: Bellingham and Whatcom County shall coordinate drainage, stormwater management and flood control in Urban Growth areas and work toward the development of common standards.
- CFP-3: Work to reduce the amount of water pollutants from stormwater runoff and combined sewer overflows.
- CFP-40: Illegal connections of stormwater flowing into sanitary sewers can cause serious problems and should be separated from the sanitary system wherever possible.
- CFP-41: All street improvements should include enclosed storm drains.
- CFP-42: All storm sewers should be designed to carry major storms without significantly increasing stream erosion and flood damage.
- CFP-43: A system for insuring the maintenance of catch basins should be instituted by the City.
- CFP-44: Examine the variety of funding sources and means of financing available for storm drainage facilities in order to insure that the most fair and equitable method is used when construction or improvement are required.
- CFP-45: Whenever possible, street improvements and the installation of storm sewers should be undertaken simultaneously.
- CFP-46: In order to mitigate for detrimental impacts, new development should be closely monitored to assure compliance with Stormwater BMPs.
- CFP-47: Existing development regulations provide some protection for surface water. Additional protection for the quality of stormwater will be required of new development.
- CFP-48: Regional detention and water quality facilities should be used as much as possible to limit that impact.

Water District 10 Water and Sewer Comprehensive Plan:

- Resource Protection Policy-c: The District cannot restrict access to the Lake Whatcom watershed.

Therefore, the District shall encourage land uses that tend to benefit water quality by increasing infiltration and slowing run-off. Run-off in the basin is naturally rapid, and land use or vegetative conditions that slow run-off tend to be beneficial.

Goal 12: Transportation

Lake Whatcom Management Policies (jointly adopted 1992):

- Design and develop transportation and traffic systems within the watershed to minimize the impacts on water quality.
- Promote the development and use of mass transit, and other alternative transportation systems which minimize detrimental impacts of traffic within the watershed
- Design major routes and transportation lines so that they are not located adjacent to the lake or in a location/design which does not allow for adequate treatment prior to entering the lake
- Ensure road drainage systems for existing and new roads minimize water quality impacts
- Evaluate and implement actions which minimize the number and use of roads which lie adjacent to the lake (e.g. reduce through traffic by making appropriate roads dead end)
- Provide ongoing evaluation of effects of transportation on feeder streams, surrounding wetlands, and the lake

County Comprehensive Plan:

- Policy 6E-1: Promote designs to preserve mature trees, unique wildlife habitats, water quality and other elements of the natural environment, including environmentally sensitive areas and shorelines, during the design and construction of road improvement projects.
- Policy 6E-3: Minimize the amount of impervious surface whenever practical by using natural engineering design methods such as the use of open, shallow, grassed street swales instead of curbs and gutters and, where feasible, encouraging alternate surfacing options.
- Policy 6E-4: Engineer, construct, and maintain road improvements to control pollutants affecting water quality and reduce run-off entering surface or groundwater consistent with water quality standards.

City Comprehensive Plan:

- TG-13: Establish on-going mechanisms to improve communication and develop coordinated approaches to common problems among governmental jurisdictions in Whatcom County and to ensure coordination and consistency among state, regional, and local transportation plans.
- TG-14: Raise the public's level of awareness about regional transportation issues, laws and regulations, and alternative transportation modes such as transit, rideshare, bicycling and walking to better achieve the goals of the comprehensive plan.

- TP-8: Discourage transportation improvements, regardless of the financing mechanisms, that would trigger premature development that is, development which is inconsistent with applicable comprehensive plans and zoning.
- TP-21: Reduce the amount of impervious surfaces to the extent practicable to reduce total surface runoff, slow concentrations and capture particulates.
- TP-22: Minimize and control levels of harmful pollutants generated by transportation related construction, operations, and maintenance activities from entering surface and groundwater resources.
- TP-27: Encourage the use of common parking facilities among compatible, adjacent land uses where feasible.
- CDP-63: Provide traffic diversion and speed reduction techniques on neighborhood streets where appropriate.

Goal 13. Urbanization/Development

Lake Whatcom Management Policies (jointly adopted 1992):

- Prevent water quality degradation associated with development within the watershed
- Review and recommend changes in zoning and development potential that are compatible with a drinking water reservoir environment
- (In addition to zoning) identify and promote other actions to minimize potential for increased development in the watershed (i.e. land trust, development rights, cost incentives, etc.)
- develop specific standards which reduce the impacts of urbanization, such as minimal lot clearing; clustered development to reduce infrastructure; collection and treatment of stormwater before entering the lake
- develop appropriate interlocal agreements with governing agencies to prohibit the potential for additional development once an agreed upon level is set

County Comprehensive Plan:

- Policy 2P-4: Limit development within urban growth areas with no municipal sewer and water service to one unit per five acres.
- Policy 2S6: Designate all areas within Bellingham's Urban Growth Area that are also located within the Lake Whatcom Watershed as a Resource Protection Area/Urban Growth Area.
- Policy 2S-7: Eliminate any density bonuses otherwise allowed under Whatcom County regulations for development within the Lake Whatcom Watershed.
- Policy 2KK-2: Work with Sudden Valley Community Association towards achievement of the density reduction target of 1400 lots.
- Policy 2KK-3: If the county acquires lots through tax foreclosure, consider selling them as non-buildable lots.
- Goal 2PP: Prioritize the Lake Whatcom area in establishing incentives for appropriate development.

- Provide support and funding to be successful.
- Policy 2PP-1: Work with property owners to find acceptable development solutions at lower overall densities than the present zoning allows.
- Policy 2PP-5: Evaluate and pursue as appropriate the use of incentives to encourage voluntary lot consolidation.
- Land Use Action Item 42: Establish a provision that prevents density increases or bonuses from occurring as a result of provision of sewer in the Rural Zone in the Lake Whatcom Watershed.
- Policy 11G-5: Evaluate the role of watersheds in the maintenance of water quality and quantity and determine what cumulative impacts development activity may have on watershed hydrology.

City Comprehensive Plan:

- LUG-11: Development patterns in Bellingham's urban fringe reflect the cooperation of the city, and county and public to assure an orderly and compatible transition from rural to urban uses in the fringe areas surrounding Bellingham. The impacts of increased urbanization on existing residential areas are mitigated through the use of vegetative buffers, adequate open space, and design/performance standards.
- LUG-13: Bellingham's regulations encourage and provide incentives for innovative housing and mixtures of housing types that preserve natural resources and consolidate open space.
- LUG-17: Bellingham's water quality is improved through the pursuit of goals expressed in the Joint Lake Whatcom Watershed Agreement with the County and Water District #10 and through continued efforts to control stormwater quantity and quality.
- LUG-23: Citizens and property owners join forces to protect the quality of Lake Whatcom, its watershed, the city's other lakes and creeks and Bellingham Bay. Through community education, regulation, performance based development standards and public and private cooperation, the community as a whole supports protection of these natural resources as a priority.
- LUG-30: Preserve the scenic vistas of important natural features such as the Cascade Mountains, Lake Whatcom, Bellingham Bay, Chuckanut Bay, the San Juan Islands and the hills which provide the natural backdrop to the city.
- LUG-45 (residential): Develop clear land use and environmental permitting procedures which provide a balance between accommodating development and protecting the public health, safety, and welfare.
- LUP-35: Because of limited capacity of the street and sanitary sewer systems serving the area, and because of concerns over water quality degradation associated with urban development, the City of Bellingham will not support proposals that would increase the overall zoned density in the Lake Whatcom Watershed unless the adequacy and availability of the full range of urban services can be demonstrated and unless it can also

- be reasonably demonstrated that such proposals will not degrade the quality of the water in the lake either on an incremental or cumulative basis.
- LUP-50: Encourage more efficient use of land through such devices as cluster subdivisions, attached wall housing, and reduced street standards.
- LUP-69: While acknowledging that development will occur, every effort should be made to preserve and enhance the views of Lake Whatcom, Bellingham Bay, Chuckanut Bay, and the mountains and hills which provide the city's backdrop.
- LUP-113: Shorelines, wetlands, and steep hillsides should be protected or impacts mitigated in accordance with adopted standards.
- LUP-114: Destruction of significant natural features should be minimized.
- LUP-115: Water, air, and noise quality should be maintained and/or enhanced through the development and/or enforcement of environmental regulations.
- LUP-116: The City should support joint planning with Whatcom County and Water District #10 to implement the goals and policies for the Lake Whatcom Watershed identified in Joint Resolution 68-92, approved by the City in November, 1992.
- LUP-117: Develop more thorough environmental studies of sensitive areas and specify potential mitigating measures in the neighborhood plans, thereby reducing the need for extensive environmental review of projects and reliance on SEPA negotiations for routine permits.
- LUP-118: Establish specific benchmarks to measure the health of the community, including but not limited to economic vitality, housing affordability and variety, environmental protection, and cultural and recreational resources.
- HP-5: Promote the use of innovative development patterns to better utilize land, promote design flexibility, and preserve open space and natural features.
- HP-6: Promote the development of housing that is compatible with surrounding land uses, traffic patterns, public infrastructure and environmentally sensitive areas.
- HP-17: Encourage infill development on land which remains vacant or underutilized, in otherwise built-up areas.
- UP-3: Coordinate City land use planning and growth projections with utilities through shared information and data.
- UP-12: Discourage (utility) impacts on shorelines and environmentally sensitive areas. When no reasonable or practicable alternative exists, mitigate consistent with City regulations.
- CDP-10: Massive surface grading of development sites should be minimized to protect the character of the landscape.

Water District 10 Sewer and Water Comprehensive Plan:

- Fiscal Policy-a: The District recognizes and adopts the

regional design policies in the Whatcom County Comprehensive Land Use Plan, Lake Whatcom Subarea and the Whatcom County Water and Sewer Comprehensive Plan.

- Fiscal Policy-d: The District recognizes the responsibility of providing appropriate expanded services at an appropriate time. Typically, expansion of service is appropriate only when the District has met its prior obligations, identified financing for the expansions, confirmed fiscal soundness of the projects and the Board of Commissioners has determined that the project is consistent with Water District #10's overall policies and goals. Expanded service also must be consistent with Whatcom County's land use decisions, and consistent with availability (at a reasonable cost) of water and sewer. In some cases, agreements with the City of Bellingham place limitations on the District's abilities to provide water and/or sewer service.
- Fiscal Policy-f: The District will make available its limited capacity for sewage treatment to all new applicants on a first-come-first serve basis throughout the District's service area.
- Resource Protection Policy-b: The District will recognize the natural limitations of the Lake Whatcom watershed when making decisions that pertain to the provisions of services. These limitations include slope, permeability, soil type, vegetation, and erosion. Objective descriptions of natural condition will be used to guide infrastructure development. For example, some areas may not be serviceable except with expensive and extreme engineering modifications.
- Resource Protection Policy-c: The District cannot restrict access to the Lake Whatcom watershed. Therefore, the District shall encourage land uses that tend to benefit water quality by increasing infiltration and slowing run-off. Run-off in the basin is naturally rapid, and land use or vegetative conditions that slow run-off tend to be beneficial.

Goals 14&15: Sewer System

Lake Whatcom Management Policies (jointly adopted 1992):

- Prioritize the utilization of sewers over on-site systems in a manner consistent with management principles for a drinking water reservoir environment.
 - Ensure that sewer systems promote, improve, and protect water quality without promoting growth.
 - Prevent direct discharge of sewage from sewer systems
- Review appropriate sites and promote extension of sewer systems into areas with septic system problems

County Comprehensive Plan:

- Land Use Action Item 42: Establish a provision that prevents density increases or bonuses from occurring as a result of provision of sewer in the Rural Zone in

the Lake Whatcom Watershed.

- Policy 5P-2: The maintenance and operation program should be phased in beginning with high priority areas designated by the County Council. In implementing this policy, Lake Whatcom is a high priority area.

City Comprehensive Plan:

- LUP-24: Bellingham and the existing service districts within the Urban Growth Boundary (water associations, fire districts, etc.) shall execute interlocal agreements to coordinate service provisions and manage growth for areas within the boundary prior to annexation. The interlocal agreements should address transition issues raised by annexation, with affected special districts.
- LUP-30: Direct urban growth and development into areas where existing city utilities and services are available and can be readily expanded.
- LUP-35: Because of limited capacity of the street and sanitary sewer systems serving the area, and because of concerns over water quality degradation associated with urban development, the City of Bellingham will not support proposals that would increase the overall zoned density in the Lake Whatcom watershed unless the adequacy and availability of the full range of urban services can be demonstrated and unless it can also be reasonably demonstrated that such proposals will not degrade the quality of the water in the lake either on an incremental or cumulative basis.
- CFP-33: Water, sewer and storm drainage service should be provided as outlined in existing city plans, with highest priority given to improving service in those areas where it already exists, next highest priority to infilling areas surrounded by utility service, and lowest priority to extension of utilities into unserved areas.
- CFP-35: Bellingham and the existing service districts within the Urban Growth Boundary shall execute interlocal agreements to coordinate plans for serving areas within the boundary prior to annexation. The interlocal agreements should address transition issues raised by annexation, with affected special districts.
- CFP-60: The siting of residences served by on-site sewage disposal systems in the Urban Growth Areas should be reviewed by Whatcom County for designs that permit future conversion of these lots to urban densities.

Water District 10 Water and Sewer Comprehensive Plan:

- Fiscal Policy-e: The District's written commitment to serve legally created lots of record in un-served areas will typically be valid for only one year. The District may (at its own option) extend service mains into already developed areas. The Commissioners will consider this option if the project is of proven benefit for resource protection (such as to eliminate failing septic systems, etc.).
- Resource Protection Policy-b: The District will recognize the natural limitations of the Lake Whatcom

watershed when making decisions that pertain to the provisions of services. These limitations include slope, permeability, soil type, vegetation, and erosion. Objective descriptions of natural condition will be used to guide infrastructure development. For example, some areas may not be serviceable except with expensive and extreme engineering modifications.

Goal 16: On-Site Waste Systems

Lake Whatcom Management Policies (jointly adopted 1992):

- Ensure that accidental or intentional discharges of hazardous materials and other contaminants to septic systems serving domestic and commercial facilities do not adversely impact water quality.
 - Establish a complaint response system which would prioritize action on complaints within the Lake Whatcom Watershed
 - Develop and implement an operational permit system for all septic systems within the watershed
 - Conduct a more intensive survey at the older seasonal residences as recommended in the Septic System Survey conducted by the Health Department in 1990
 - Encourage the proper use and maintenance of systems through public education, system monitoring and regulation enforcement
 - Eliminate the use of hazardous septic system cleaners in the watershed
 - Identify existing and potential new commercial facilities within the watershed which use hazardous materials and evaluate, recommend and implement management plans to prevent impacts on water quality

County Comprehensive Plan:

- Policy 2DD-3: Ensure that adequate on-site wells and waste-water disposal systems are properly installed, monitored, and maintained.
- Policy 2DD-5: Promote better land use practices and protect water quality by encouraging land owners and developers to investigate and implement innovative subdivision, septic system designs, and stormwater management.
- Goal 5P: Reduce the incidence of on-site sewage treatment system failure through system management and enforcement of standards.
- Policy 5P-1: Support state on-site sewage system regulations which requires that local health departments implement a program ensuring proper maintenance and operation for all on-site systems. In implementing this policy, Lake Whatcom is a high priority area.
- Policy 5Q-1: Discourage extension of sewer lines in areas not designated for urban growth or there are serious public health or environmental concerns.
- Policy 5Q-4: Support the development of new

technology and alternative sewage disposal methods as an alternative to expensive sanitary sewer systems to assure ground water quality is maintained.

- Utilities Action Item 26: Complete the draft Lake Whatcom Septic Plan developed under the Lake Whatcom Management Committee Process. Place a particular emphasis on developing and implementing a maintenance, operation, inspection program for the Lake Whatcom Watershed with incentives for compliance.

Goal 17: Conservation

Lake Whatcom Management Policies (jointly adopted 1992):

- Promote the wise and efficient use of water through conservation for domestic, industrial, and commercial users.

County Comprehensive Plan:

- Goal 5F: Support cost-effective conservation as a significant supply factor and implement policies that promote energy conservation measures.
- Policy 5F-2: Encourage and support the use of conservation-based methods and technologies.
- Environment Action Item 19: Promote more efficient use of the resource (water) by supporting and/or participating in efforts of the County-wide Conservation Committee, the Whatcom Water Utilities Committee and other avenues as they may arise.
- Environment Action Item 26: Assess the benefits of metering water within Urban Growth Areas, determine the costs of doing so, make recommendations for further action.

City Comprehensive Plan:

- CFP-10: Bellingham shall cooperate with Whatcom County, other municipal corporations, tribal governments, federal and state agencies, and public and private utilities in conserving water and drawing upon said water to support growth.
- CFP-53: an aggressive water conservation program including distribution of water saving devices along with public education has been proposed and will help to limit water waste. Continued implementation and development of this program is a priority.

Goal 18. Diversion Operation for Reservoir Management

Lake Whatcom Management Policies (jointly adopted 1992):

- To manage or reduce the diversion of water from the Nooksack River and Lake Whatcom in a manner consistent with water resource laws and to the extent possible minimizes impacts on beneficial uses within the Nooksack Basin, with a particular emphasis on fisheries.

City Comprehensive Plan:

- CFG-29: Protect, preserve, and enhance water quality and manage water quantity to ensure long-term

sustainable supplies for a variety of uses, with priority placed on domestic water supply. Management programs and actions will be made in recognition of existing contractual agreements and potential for review and renegotiation in light of these goals.

- CFG-31: Manage water quantity to sustain long-term efficient use of the water for beneficial uses within the county that are consistent with a drinking-water reservoir, and recognize the integral link with the Nooksack River and associated water resource concerns.
- CFP-50: Lake Whatcom water levels should be maintained to provide maximum storage while creating the minimum damage to adjacent properties.
- CFP-51: The City's water reservoirs should have adequate storage to meet the fire protection needs of the area they service.

Goal 19. Recharge

Lake Whatcom Management Policies (jointly adopted 1992):

- Where it does not conflict with water quality goals and objectives, identify and promote beneficial recharge practices within the watershed and assist in maintaining supplies for all beneficial uses (e.g. stream buffers, encouraging minimum impervious surfaces within the watershed, etc.)
- Monitor stream quality, flow, and fisheries as a method of early detection of impacts to water quality (in the Lake)

Goal 20. Distribution/Availability within the County

Lake Whatcom Management Policies (jointly adopted 1992):

- Given the importance of Lake Whatcom and its Middle Fork Diversion as a source of water supply, and the limited availability of alternative sources to support anticipated growth in the county, establish a process to determine the extent to which the Lake Whatcom reservoir water should be made available beyond the Bellingham Urban Area.

Goal 21. Fish and Wildlife

Lake Whatcom Management Policies (jointly adopted 1992):

- Promote actions and programs which protect and enhance fish and wildlife habitat to include:
 - Design culverts and bridges over streams which do not prohibit fish passage
 - Promote and encourage actions to correct areas where fish passage problems are already existing
 - Maintain, protect, and re-create stream buffers
 - Regulate stream flow to reduce scouring and sediment deposition

County Comprehensive Plan:

- Policy 2SS-3: Protect unique or critical wildlife and native plant habitat.
- Goal 2TT: Identify and protect open space corridors within and between growth areas. These corridors

should include trails and other lands useful for recreation, while emphasizing wildlife habitat, and connection of critical areas, where feasible.

- Policy 2VV-3: Support the conservation of fish and wildlife habitat through enrollment in Whatcom County's open space taxation program.
- Policy 11J-1: Define and identify habitats and habitat features important to fish and wildlife.
- Policy 11-2: Develop and adopt programs which protect habitats that are essential to the conservation of species that have been identified as endangered, threatened or sensitive by the state or federal government.
- Policy 11J-3: Develop and adopt programs which provide incentives for the protection of environmentally fragile areas or critical wildlife habitats.
- Policy 11J-4: Where feasible incorporate fish and wildlife habitats into public capital improvement projects, and consider for incorporation into mitigation banking program.
- Policy 11J-5: Provide measures to mitigate water quality and quantity impacts from both public and private alterations of natural drainage systems.
- Policy 11J-6: Consider sensitive fish, shellfish, and wildlife species and their habitats when establishing zoning densities and patterns.
- Policy 11J-7: Promote voluntary fish and wildlife habitat enhancement projects through educational and incentive programs. These projects, which can be done by individuals, organizations, and businesses, should buffer and expand fish and wildlife habitat.
- Policy 11J-8: Give careful consideration to the siting of industrial, commercial, residential, and other use designations when located near important marine habitats.
- Policy 11J-9: Protect, retain and enhance the beneficial uses and functions of streams and rivers. Define and identify the beneficial uses and functions of streams and rivers which include wildlife and fisheries habitat, water quality, open space, aesthetics, and recreation.
- Goal 11K: Protect and enhance natural systems that support native fish and wildlife populations and habitat.
- Environment Action Item 48: Develop geographically-based wildlife management plans for important habitat conservation areas. These plans should take into full consideration the unique environmental qualities of the area as well as the existing or planned surrounding land use activities and constraints. These plans should be utilized as a basis for both the formulation and administration of regulations that address fish and wildlife protection.
- Environment Action Item 50: Develop and distribute educational materials to the public which describe the characteristics of healthy and viable fish and wildlife habitats.
- Environment Action Item 51: Identify existing and

historically important fish habitats. Include a component that seeks to protect and restore these habitats and to mitigate future impacts to fish habitats.

City Comprehensive Plan:

- LUG-25: Undisturbed natural areas allow habitat for fish and wildlife, provide connections within greenways corridors and protect steep slopes and sensitive areas. Greenways in Bellingham connect with similar corridors in the urban fringe. Mechanisms to retain these open areas range from public acquisition to clustering development on adjacent portions of sites, and from regulatory requirements to regulatory incentives.
- LUP-113: Shorelines, wetlands, and steep hillsides should be protected or impacts should be mitigated in accordance with adopted standards.



Lake Whatcom Management Program 2000-2004 Work Plan Accomplishments

In January 2000, County Council, City Council, and Water District 10 Commissioners (now Lake Whatcom Water and Sewer District) adopted the *Lake Whatcom Reservoir Management Program 2000-2004 Work Plan*. The five-year work plan outlined tasks under ten program areas. Three program areas were identified as high priority: watershed ownership, stormwater management, and urbanization/ land development. In addition, three priority water quality concerns were identified: nutrients, fecal coliform bacteria, and other pollutants (i.e. pesticides, metals).

Over the past five years, this work plan guided the management activities in the watershed. Following is a condensed summary of accomplishments through this five-year work plan. The summary is organized by Program Area and Task as outlined in the *2000-2004 Work Plan*. The work plan can be found on the Lake Whatcom Management Program website (<http://www.lakewhatcom.wsu.edu/>) or at Whatcom County Water Resources Division (676-6876). A more detailed summary of work plan accomplishments will be available on the Lake Whatcom Management Program website in Spring 2004.

Program Area 1: Watershed Ownership-

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.

Task 1

- The assessed values of the watershed properties acquired through the City's Lake Whatcom Watershed Property Acquisition Program were multiplied by their property tax rate (consolidated levies) to determine the tax revenue the properties would have provided the county in 2003 and 2004.

Task 2

- The City purchased an easement at the foot of Alabama at Electric Avenue for a new stormwater facility. Some future stormwater retrofits may require an easement purchase, but those have not yet been identified.

Task 3

- Established land preservation/acquisition criteria based on recommendations from the Lake Whatcom Watershed Citizen Task Force. These criteria are based on proximity to waterbodies, slope, current land use, and potential land use.
- The City developed overlay land acquisition criteria that are considered for land purchased with the City's Land Preservation Fee. These include proximity to water intake and other specific physical features.

Task 4

- Compiled information describing land preservation options (tools and funding sources). The City's Land Preservation Fee and the County's Conservation Futures Fund are the primary funding sources for implementing land preservation goals.
- Established the Watershed Advisory Board to assist with the City's Land Acquisition Fee Program.

Task 5

- Purchased 877 acres of watershed land.
- Recorded covenants in Sudden Valley permanently restricting residential development on 198 parcels using joint agreements between the Sudden Valley Community Association, County, District and City.
- Exchanged 243 Sudden Valley transferable restrictive covenants for 243 permanent restrictive covenants, targeting priority parcels for water quality protection.

Program Area 2: Stormwater Management

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.

Task 1

- Conducted stormwater system inventories within the Lake Whatcom watershed detailing the locations of all catch basins and culverts within the watershed.

Task 2

- Coordinated development of pollutant loading and lake response models for the Lake Whatcom watershed through the WRIA 1 Project and Department of Ecology TMDL Process.

Task 3

- Completed data gaps evaluations through the Lake Whatcom Stormwater Program (2000), the Water Source Protection Plan (2000), and the WRIA 1 Project.

Task 4

- Prioritized activities that may have adverse impacts on the lake's water quality through the Water Source Protection Plan (2000). High priorities included residential development (new development and existing homes), municipal/commercial functions (power transmission and wastewater conveyance systems), and transportation (impervious surfaces, automobile impacts).

Task 5

- This task has not been implemented.

Task 6

- The City completed their stormwater utility update in 2001 that identified the compliance of existing laws, regulations, and policies within their stormwater programs.

Task 7

- Summarized stormwater funding mechanisms that have been implemented in similar communities.

Task 8

- Lake Whatcom Stormwater Program Early Action Project Examples:
 - County Roadside Maintenance Practices- The Lake Whatcom watershed continues (since 1991) to be a no spray zone for herbicides (WCC 12.48).
 - Erosion Control Best Management Practices- The County installs erosion and sediment control best management practices at all road maintenance projects in the watershed.
 - Stormwater Retrofits- The City installed stormwater treatment vault systems and rain gardens at Silver Shores neighborhood, Bloedel Donovan Park, Electric Avenue and Alabama Street.
 - The County is adapting ditch maintenance practices to focus these activities in the dry season.
 - The City sweeps arterials and side streets in the City's portion of the watershed three to four times a month.

- The County will begin sweeping arterials and residential roads in the County's portion of the watershed two times per month in spring 2004.
- The City mows roadside vegetation three times per year to assist with ditch maintenance.
- The City is earmarking \$250,000 per year for stormwater retrofits. In 2004, retrofits will occur at East Connecticut and Park Place.
- The City uses *First Down* for ice control. Sand is swept from the roads within one week of the end of icy conditions.

Task 9

- Whatcom County hired a staff member to review project proposals for compliance with zoning, land-use, and stormwater regulations. The position also inspects permitted sites for ongoing compliance, performs community outreach, and functions as a representative for the Planning Division for Lake Whatcom related issues.
- The City dedicated staff to provide technical assistance and compliance of stormwater regulations.

Task 10

- The City obtained Geographic Information System (GIS) data from the National Soil Conservation Service that is used to identify ground water recharge areas, and in development reviews for stormwater management.

Task 11

- This task has not been implemented.

Other Related Programs

- Whatcom County adopted Stormwater Special District standards in 2002 requiring permanent on-site stormwater quality and quantity facilities for single-family dwelling units and duplexes in the watershed.

Program Area 3: Urbanization/ Land Development

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

Tasks 1 & 3

- The City adopted development regulations in 2001, the "Silver Beach Ordinance", to limit impervious surfaces, retain native vegetation, and establish seasonal clearing restrictions in new and redevelopment in the watershed.
- The City developed, and made available to the public, an extensive list of native plants for revegetation requirements in the Silver Beach Ordinance.

Task 2

- The County and City inspectors coordinate with Department of Ecology inspectors to monitor the implementation and maintenance of stormwater source control and treatment best management practices (BMPs) for permitted clearing and development sites.
- The County and City are reviewing overlapping zoning and land use regulations for urban growth areas for consistency.

Task 4

- Whatcom County enhanced land development regulations in the watershed through the Water Resources Overlay District, Water Resources Special Management Area, and Stormwater Special District requirements. The regulations included a decrease in allowable impervious areas, establishment of tree canopy area retention, and establishment of seasonal restrictions on clearing activity.
- Developed educational materials that describe County development regulations and permit review processes in the watershed.

Task 5

- Refer to Community Outreach Task 9.

Task 6

- Tracking land development permits in the City and County.

Task 7

- Created an educational brochure and Transferable Development Right (TDR) packet to assist interested landowners. Conducted public forums and outreach efforts to educate development community about the TDR program.
- Reviewed and enhanced the County's Transferable Development Right (TDR) Program by establishing receiving areas, transfer ratios and minor program enhancements to help facilitate the program.
- Developed recommendations to further enhance coordination between the County and City.
- Established a framework for a development rights bank and allow for in lieu payments.

Task 8

- This task has not been implemented.

Task 9

- This task has not been implemented.

Task 10

- Assisted Sudden Valley Community Association with the density reduction program through joint purchase of parcels with restrictive covenants.

Task 11

- This task has not been implemented.

Task 12

- Updating City and County Shoreline Management Programs and Critical Areas Ordinances.

Other Related Projects

- The County implemented a rezone in the Lake Whatcom watershed that resulted in a reduction of approximately 1,400 potential dwelling units within the watershed.

Program Area 4: Community Outreach

Provide 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.

Tasks 1 & 2

- Created the Lake-Friendly Gardening Kit and Workshop Series to describe gardening practices with reduced impacts to water quality.
- Created a phosphorus-free fertilizer blend and educational brochure for distribution at a number of gardening supply stores in the county.
- Created an Integrated Pest Management (IPM) program for crane flies.

Task 3

- Established ten Mutt Mitt stations in the watershed with approximately 12,000 mitts distributed in the first year of the program.
- Created and distributed educational brochures describing the impacts of dog waste on water quality.

Task 4

- This task has not been implemented.

Task 5

- Restructuring the Lake Whatcom Management Program website to provide management program updates as well as watershed facts and stewardship tips.

- Updating the Lake Whatcom Management Program mailing and e-mail lists on an as needed basis.
- The Lake Whatcom Management Committee meeting on a monthly basis.
- Holding Special Joint Council/Commission meetings twice annually (March and September) to provide updates on Lake Whatcom Management Program activities and to discuss coordinated projects or programs.
- The City publishes a consumer confidence report, called "*Pure Facts*", annually that reports on Bellingham's drinking water quality and ways to protect it.
- The City and Black Dog Productions produce *Water Whys*, a television series that focuses on educating the public on a variety Whatcom County water issues, including Lake Whatcom.

Task 6

- Distributed City utility bills with watershed stewardship tips and messages.
- Distributed information about Lake-Friendly Gardening Kits and Phosphorus-Free Fertilizer in District utility bills.

Task 7

- This task has not been implemented.

Task 8

- Posted signs indicating entrance into the watershed on the major roadways.
- Posted educational signs for the City seasonal land clearing restrictions in the watershed.
- Posted watershed stewardship signs developed through the 5th Grade Poster Contest in the Bloedel Donovan Park bathrooms.

Task 9

- "Excellence in Watershed Stewardship" awards were presented to eight watershed residents in 2000 at the Celebrate Lake Whatcom event. Awards were based on the following source control elements: pesticide/fertilizer use, impervious surfaces, site-appropriate vegetation, automobiles use and maintenance, and waste management practices.

Task 10

- Created a diorama of the watershed that is used for community events and educational tours.

Task 11

- City provides watershed curriculum materials for students and teachers, a fifth grade program on watersheds, tours of the City's water and wastewater treatment plants, and water quality and insect survey test kits for stream ecology education.

Task 12

- The City participates in the Watershed Pledge Program by publishing an annual Pledge newsletter discussing watershed issues and mails Watershed Pledge information to residents of Bellingham.

Task 13

- Provided educational materials to support the actions of the Lake Whatcom Management Committee.

Task 14

- Developed an educational display, presentation and handbook describing the protection, enhancement, and creation of backyard riparian buffers.

Task 15

- The City offers stream kits for loan to teachers and groups interested in learning about stream ecology.

Other Related Activities

- Converted the Lake Whatcom slide show to video format, available at all Whatcom County libraries.

- The City supports a volunteer program for storm drain marking to increase the visibility of storm drains.
- The County, City, and Department of Ecology partnered to provide training for the ReSources and People for Lake Whatcom sponsored Stormwater Watchers Team.

Program Area 5: Data and Information Management

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.

Task 1

- Review water quality data through the Lake Whatcom Data Team.

Task 2

- Updated the Lake Whatcom Data Catalog and library collections.
- Conducted additional tributary water quantity and quality monitoring as identified through the Comprehensive Stormwater Program.

Task 3A

- Partnered with the Department of Ecology and Utah State University to collect additional tributary data (on a monthly basis) and storm event samples in 2003.

Task 3B

- This task has not been implemented.

Task 3C

- In partnership with the State, conducted follow-up studies on mercury in fish tissues, water, and sediment.
- Conducting a mercury source investigation through contract with USGS. This investigation was coordinated with the Department of Ecology's Lake Whatcom TMDL study.
- Conducted follow-up water quality and sediment monitoring of pentachlorophenol at the Cable Street stormdrain.

Task 3D

- Compiled information about waterfowl, impacts on water quality, and potential management options.

Task 3E

- Conducted water quality sampling for bacteria at the Bloedel Donovan swimming area.

Task 3F

- This task has not been implemented.

Task 3G

- Conducted a series of investigations on the Y-Road landfill.

Task 3H

- Compared water quality between the City and District intakes.

Other Related Programs

- The City continues to contract with Western Washington University for annual water quality monitoring.

Program Area 6: Spill Response and Hazardous Materials

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

Task 1

- Inventoried spill response equipment, restocked fire district supplies and created a surplus supply at Bloedel Donovan.
- A spill incident form was created to assist with tracking incidents and response equipment use in the watershed.

Task 2

- Developed a summary and map illustrating the location of spill incidents in 1998 and 1999.
- Created a spill incident form to assist with tracking incidents and response equipment use in the watershed.

Task 3

- Compiled information regarding pesticide restrictions in other communities.

Task 4

- Investigated potential options for restricting the transport of hazardous materials within the watershed.

Task 5

- Evaluated issues related to underground storage tanks and options for assisting watershed residents.

Task 6

- Enhanced public notification of spills through an automatic dialer system.

Task 7

- This task has not been implemented.

Task 8

- Conducted a spill response tabletop exercise.

Task 9

- Developed information regarding spill response and prevention for the website and boater's handbook.

Program Area 7: Forestry/Fish/Wildlife

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.

Task 1

- Received recommendations from the Forestry Forum regarding the Department of Natural Resources (DNR) Landscape Plan Draft Environmental Impact Statement (DEIS).

Task 2

- The County inventoried approximately 30 culverts in the Lake Whatcom watershed. Barriers to fish passage have been corrected in five watershed culverts.
- Compiled Lake Whatcom fishery reports generated by Washington State Department of Fish and Wildlife (WDFW).

Task 3

- The City is developing a Habitat Conservation Plan (HCP) for the water supply system including Lake Whatcom in response to Endangered Species Act listings and informed by salmon recovery goals.

Program Area 8: Transportation

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.

Task 1

- Identified several projects that would open new routes for traffic now using lakeshore routes through the Bellingham Comprehensive Transportation Plan update draft.
- The County is using best available science for drainage and stormwater management associated with road projects to reduce impacts to water quality.
- The County is encouraging alternative transportation by providing improved bike lanes and sidewalks through road projects. County Public Works coordinates with the County Bicycle Advisory Committee for input on these improvements.

Task 2

- This task has not been implemented.

Task 3

- Created an article for the Water Whys newsletter and website describing water quality impacts associated with motorized vehicles and source control activities to reduce impacts.

Task 4

- The City adopted road standards specific to the watershed to reduce pavement and provide stormwater treatment.
- The County considers the City's road standards for subdivisions in the watersheds and applies these standards where feasible.

Program Area 9: Recreation

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

Task 1

- Received recommendations from the Motorized Watercraft Advisory Committee regarding boating on Lake Whatcom.

Task 2

- Park Master Plans for the City and County are being updated and will address park use within the watershed.

Task 3

- Created a quick tips fact sheet describing boating stewardship in terms of water quality protection and safety.
- Created and distributed a boating kit and boating handbook to help boaters find ways to reduce impacts on the lake system. The handbook describes the potential impacts of boating on the lake system and steps individuals can take to protect the lake.

Program Area 10: Utilities and Waste Management

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

Task 1

- Conducted a pilot water-metering project.

Task 2

- Completed a feasibility study on rainwater collection systems and offered a rain barrel program to City and County residents.

Task 3

- Applied for a Centennial Grant to design and install a demonstration garden.

Task 4

Task 5

- Public service announcements on water conservation are currently running on the public access channel.

Task 6

Task 7

- Compiled information about local and regional waterwise demonstration gardens. Developing descriptions and locations for website.

Other Related Programs

- The District completed the Lake Louise Interceptor Line that added capacity and flexibility to the District's Sewer System. During this last year's rainy season the District did not experience any overflows due to the high rain falls events. This was due to the increased capacity and ability to direct the flows to the new Lake Louise interceptor line.
- The District completed Lakewood Lane and Grand Avenue Sewer Extension Projects. These projects are part of the District's ongoing phase out of septic systems, with cost sharing of construction with landowners.
- The District continued ongoing program for the removal of septic systems within Sudden Valley.
- The District is locating, analyzing, prioritizing, excavating and repairing inflow and infiltration (I & I) needs within the sewer system. Targeted North Point area of Sudden Valley for a sliplining project in summer of 2004.