

Fiscal Year 2008 Application Form

for

Centennial Clean Water Fund (Centennial)

Federal Clean Water Act Section 319

Nonpoint Source Fund (Section 319)

Washington State Water Pollution Control

Revolving Fund (SRF)

Financial Assistance

Please carefully follow the Application Instructions to help you complete a successful application.

The Application Instructions will also help you determine the priority and eligibility of funding for projects.

The Application Instructions immediately follow Part 3 of the Application.

This FY 2008 Application Form and other resources needed can be found at:

<http://www.ecy.wa.gov/programs/wq/funding/2008>

If you need this document in an alternate format, please contact us at 360-407-6502. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

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FY 2008 Water Quality Financial Assistance Application - Part 1

Fiscal Year 2008 Funding Application
 Centennial Clean Water Fund (Centennial)
 Federal Clean Water Act Section 319
 Nonpoint Source Fund
 Washington State Water Pollution Control
 Revolving Fund (SRF)

ECOLOGY USE

 Application no. _____

See Part 3 of the Application for Application Instructions

1. PROJECT TITLE: Bellingham Water Quality & Habitat Improvement

2. APPLICANT NAME: City of Bellingham Public Works	3. FEDERAL IDENTIFICATION NO: 91-600-1229
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4. APPLICANT SIGNATORY:

Name: Clare Fogelsong

Title: Environmental Resources Manager	Telephone Number: 360-676-6961
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Address: 210 Lottie Street, Bellingham, Washington 98225

5. APPLICANT STAFF CONTACT:

Name: Renee LaCroix

Title: Environmental Coordinator	Telephone Number: 360-676-6961	E-Mail Address: rlcroix@cob.org
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Address: 210 Lottie Street, Bellingham, Washington 98225

6. PROJECT INFORMATION:

What is the population in the PROJECT area? 73,640

Is the PROJECT located in a basin with salmonid stocks listed as threatened or endangered in accordance with the Endangered Species Act? Yes No

Is the PROJECT statewide? Yes No

*If NO, list county(ies), Water Resource Inventory Area designation(s), Legislative district(s), and Congressional district(s) where at least five percent of the PROJECT will be accomplished **BELOW**.*

Please Note: The total of each separate designation (County, Legislative District, Congressional District, and WRIA) must equal 100 percent (list from greatest to least percentage, and please break any ties by at least one percentage point).

County(ies) for the Project:	
Name	Percent
Whatcom	100%

State Legislative District(s) for the Project:			
	Number	Percent	
	40	30	
	42	70	

Congressional District(s) for the Project:			
	Number	Percent	
	2	100	

Water Resource Inventory Area(s) for the Project:			
	Number	Percent	
	1	100	

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Provide the following geographic location information for your project. The longitude and latitude of various project sites and maps can be obtained with information provided in the *Application Instructions*. For projects where there is not a discrete location (e.g., area-wide public education and communication project), use the central point within the project boundary (polygon) for the location.

NOTE	Latitude/Longitude	Site 1	Site 2	Site 3	POLYGON, CENTER-NW-NE-SW-SE
We are asking you for up to five (5) map coordinates to form "polygon(s)" of up to three (3) sites that your proposed project will target. (See Application Instructions for more detail, sources of maps, and latitude and longitude information.)	Latitude: (e.g., 45.3530)	48.7211	48.7639	48.7532	Center of polygon (Primary location)
	Longitude: (e.g., 120.4510)	122.5061	122.3755	122.3295	
	Latitude: (e.g., 45.3530)	48.7213	48.7663	48.7559	Most northwest map points
	Longitude: (e.g., 120.4510)	122.5068	122.3794	122.3337	
	Latitude: (e.g., 45.3530)	48.7241	48.7665	48.756	Most northeast map points
	Longitude: (e.g., 120.4510)	122.5047	122.3725	122.3244	
	Latitude: (e.g., 45.3530)	48.7198	48.7609	48.7495	Most southwest map points
	Longitude: (e.g., 120.4510)	122.5069	122.3824	122.3338	
	Latitude: (e.g., 45.3530)	48.7202	48.7609	48.7497	Most southeast map points
	Longitude: (e.g., 120.4510)	122.5048	122.3733	122.3241	

7. PROJECT DURATION: (See Application Instructions)

Anticipated Start Date: **January 2008**

Project Length: **60 months**

Anticipated Project Completion Date: **December 2012**

For Water Pollution Control Facility Construction projects, indicate the anticipated Initiation of Operation Date: _____

8. PROJECT TYPE:

Note - For all projects:

Water body directly affected: (List all, including segment, reach, etc.)

- Lake Whatcom
- Whatcom Creek RM 0-RM4 and all tributaries (Lincoln, Fever, Cemetery and Hanna creeks)
- Chuckanut Creek RM 0-2.5
- Padden Creek RM 0.5-1.0
- Squalicum Creek RM 0-RM 4.5 and tributaries w/in city limits (unnamed, Spring Creek, Baker Creek)
- Silver Creek headwaters

or

Statewide

Is water body listed on the Clean Water Act Section 303(d) List as impaired? Yes No

If yes, what is the 303(d) listing identification?

- Lake Whatcom: DO, phosphorus (List ID 5846;8621)
- Whatcom Creek: DO, temperature, fecal coliform (List ID 39035; 39033; 39034; 39162; 39160; 16408; 39841; 39842; 39843)
- Chuckanut Creek: DO, fecal coliform (List ID 38959; 39065; 39064)
- Padden Creek: DO, temperature, fecal coliform (List ID 39003; 39005; 39133; 39128; 39130; 39223)
- Squalicum Creek: DO, temperature, fecal coliform (List ID 30902; 39021; 39019; 39152; 39150; 39153; 39151)
- Silver Creek: DO, fecal coliform (List ID

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Type(s) of water bodies that the proposal targets: *(check all targeted)*

- Freshwater rivers
- Freshwater lakes
- Freshwater wetlands
- Ground water
- Direct marine water
- Saltwater estuary
- Other (specify)_____

Type of target the proposed project addresses: *(check all targeted)*

- Wastewater treatment plant needs
- Water reclamation and reuse
- Stormwater pollutant control needs
- Best management practices (specify) **NRCS Field Operating Technical Guide (FTOG)**
- Riparian restoration
- Endangered salmonids
- Threatened salmonids
- Other Endangered Species Act protected species (identify)_____
- Commercial shellfish habitat
- Recreational shellfish habitat
- Pollutant control of impaired domestic water supply
- Public health needs (public health emergency or severe public health hazard)
- Public education and communication
- Other (specify)_____

9. For Water Pollution Control *ACTIVITY* projects only:

a) If your project proposal is primarily to accomplish planning, please check and complete:

- Planning project to target:** *(check all that are applicable and describe in Part 2)*
- Clean Water Act, Section 303(d)-listed problem area (see “303(d)-listed Problem Areas” in the *Nonpoint Source Plan, Volume 1* at: http://www.ecy.wa.gov/programs/wq/nonpoint/nps_plan.html#plan_vol1)

- Ground water quality
- Surface water quantity
- Air quality from wind-blown dust
- Public health
- Commercial shellfish beds
- Recreational shellfish beds
- Domestic water supply
- Salmonid stock status
- Public education and communication
- Other

b) If your project proposal is primarily targeting “Implementation,” please check and complete:

- Implementation project**

In the space provided below provide a full reference for the plan(s) you are implementing, including the action and page where the action can be found. Review the information on the 9 key criteria for implementation projects identified in the application instructions.

- City of Bellingham Watershed Master Plan, 1995.
- Whatcom Creek Long-term Restoration Plan, 2000

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- WRIA 1 Salmonid Recovery Plan, 2005 (part of the Shared Strategy for Puget Sound)
- Draft Whatcom Creek Fecal Coliform Total Maximum Daily Load Report-Water Quality Improvement Plan. Ecology Publication 06-10-041
- Internal Review Draft Whatcom Creek Temperature Total Maximum Daily Load Report-Water Quality Improvement Plan. Ecology Publication 00-00-00
- Lake Whatcom Restoration Plan, 1992
- Lake Whatcom TMDL, currently under internal Ecology review

Will the proposed project *itself* result in a load reduction of Nitrogen, and/or Phosphorus, and/or Sediment? Yes No

If yes, please check the applicable boxes below.

NOTE: The recipient of financial assistance will be responsible for reporting the annual load reduction results.

Nutrient and sediment levels (including, but not limited to):	Nitrogen	<input type="checkbox"/>
	Phosphorus	<input type="checkbox"/>
	Sediment	<input checked="" type="checkbox"/>

Will the proposed project target reduction of other constituents not listed above? Yes No

If yes, please check below:

The proposed project will target reduction of:	Total Coliform	<input type="checkbox"/>
	Fecal Coliform	<input checked="" type="checkbox"/>
	Others?	<input checked="" type="checkbox"/>

Please list: Temperature

Does your project involve riparian restoration? Yes No

If yes, please check those riparian values that can be demonstrated as measurably improved (quantitatively):

Shade	<input checked="" type="checkbox"/>
Bank stability	<input checked="" type="checkbox"/>
Organic litter	<input checked="" type="checkbox"/>
Large woody debris	<input checked="" type="checkbox"/>
Other (list)	<input type="checkbox"/>

10. For Water Pollution Control *FACILITY* projects only:

Check only **one** of the six boxes below that represents the present proposal, but complete **all** prerequisite planning dates and include attachments noted.

Proposal to obtain financial assistance for:	Prerequisite planning approval dates:
<input type="checkbox"/> Combined comprehensive, general sewer, or stormwater plan with a facilities plan	Not Applicable
<input type="checkbox"/> Site specific facility planning (Step 1)	Provide the date of the approved comprehensive plan that identifies the need for your project. Date of Ecology Approval: _____ (attach a copy of approval letter)
<input type="checkbox"/> Design (Step 2)	Provide the date of the approved facilities plan ¹ and any amendments. Date of Ecology Approval: _____ (attach a copy of approval letter)
<input type="checkbox"/> Construction (Step 3)	Provide the date of the approved plans and specifications and any addenda. Date of Ecology Approval: _____ (attach a copy of approval letter)

¹ Site specific planning documents must be approved as "facilities plans"; plans approved as "engineering reports" will not suffice.

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<input type="checkbox"/> Design and construction (Step 4)	Provide the date of the approved facilities plan and any addenda. Date of Ecology Approval: _____ (attach a copy of approval letter)
<input type="checkbox"/> Alternative contracting/service agreement	Provide the date of the approved facilities plan, engineering report² , or general sewer plan and any addenda. Date approved: _____ (attach a copy of approval letter and other alternative contracting/service agreement documentation)
Do you have an Ecology permit for this project? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide permit number: _____ For wastewater facilities, provide information on effluent limits: BOD: _____ mg/l TSS: _____ mg/l	
For domestic wastewater and stormwater construction projects, provide the following: Is a financial hardship assistance loan and/or grant being requested? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, a Financial Hardship Analysis Form must be included with this application. (See the <i>FY 2008 Guidelines</i> , for more information.)	
11. REFINANCE: (<i>Water Pollution Control Facility Projects only</i>)	
If this is an application for interim or standard refinance, please mark the appropriate box. <input type="checkbox"/> Interim <input type="checkbox"/> Standard If this is a standard refinance project, complete Part 3 of this application form along with Part 1 (you do not need to complete Part 2). If this is an interim refinance project, you need complete only Parts 1 and 2. If the standard refinance box is checked, attach a copy of the Declaration of Construction of Water Pollution Control Facilities.	
12. FUNDING REQUEST: (<i>Identify the amount of funding requested to complete your project.</i>)	
Facilities projects (including planning, design, and construction) are eligible for <u>loan funds only</u>.	
<i>Cross check for consistency with costs and requests in Part 2, Question 11, "Budget"</i>	Project Amount & Terms:
Total Project Cost This amount represents the full cost of the project.	\$349,575.00
Eligible Project Cost This amount represents that portion of the project cost that is eligible for Ecology grant or loan assistance.	\$349,575.00
Ecology Grant Request (Activity Projects Only) This amount represents the Ecology grant request at 75 percent (0.75 multiplied by the total eligible project cost) for an activity project. Please note project ceiling amounts and match requirements. Refer to the <i>FY 2008 Funding Guidelines</i> , Volume 1.	\$231,805.00
Ecology Loan Request (Activity or Facility Projects) This amount represents the Ecology loan request, up to 100 percent of the eligible project cost. Refer to the <i>FY 2008 Funding Guidelines</i> , Volume 1, for loan term and interest rate options.	\$ _____ Term: _____ years Interest rate: _____%
Federal Funds in Project (Activity Projects Only) Identify any source(s) of federal funds anticipated to complete the project. Federal agency _____ Federal agency _____ Federal agency _____	Amount requested (or to be requested) from these agencies: \$ _____ \$ _____ \$ _____
If grant funds are not offered for your project, would you accept loan funds for part or all of the eligible project cost? (Answers will not affect your grant request priority.) <div style="text-align: center;"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div>	

² If an engineering report or general sewer plan is submitted, a facilities plan must subsequently be submitted and approved.

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If yes, indicate the total amount of Ecology loan funds you would accept, the loan term, and the interest rate. Refer to the <i>FY 2008 Funding Guidelines</i> , Volume 1, for loan term and interest rate options.	\$ _____ Term: _____ years Interest rate: _____%

13. PROJECT SUMMARY: *(50 words or less)*

The **Bellingham Water Quality & Habitat Improvement** project will implement TMDL and 4(b) Water Quality Improvement Plan actions on municipal properties in the Lake Whatcom Watershed and five streams within the City limits. Project elements will help identify pollution sources and improve water quality and habitat for ESA listed salmonids.

14. APPLICATION CERTIFICATION:

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM THE LEGALLY AUTHORIZED SIGNATORY OR DESIGNEE FOR THE SUBMITTAL OF THIS INFORMATION ON BEHALF OF THE APPLICANT.

Clare Fogelsong	
Printed Name	Signature
Environmental Resources Manager	
Title	Date

15. APPLICATION SUBMITTAL INFORMATION:

Send one original (containing an original signature) and four copies of the entire application package to:

<p><u>U.S. Postal Mailing Address:</u></p> Department of Ecology Water Quality Program Financial Management Section P.O. Box 47600 Olympia, WA 98504-7600	<p><u>Overnight Mail or Hand Delivery Address:</u></p> Department of Ecology Water Quality Program Financial Management Section 300 Desmond Drive Lacey, WA 98503
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Applications must be received at the Department of Ecology (Lacey Headquarters Office) no later than 5:00 p.m. on Tuesday, October 31, 2006. Facsimile or electronic delivery of applications will NOT be accepted as the primary means of transmittal (see below).

You must submit:

- One (1) signed paper original, and
- Four (4) paper copies.

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- To help Ecology process your application, PLEASE ALSO send the application in MS Word or compatible format via floppy disk (or CD) along with your paper submittal. Disks should be marked with the Project Title and Applicant Name. Disks will only be used by Ecology and only for processing your application.

To verify delivery of the application by the deadline, consider using return receipt mail.

THIS CONCLUDES PART 1

FY 2008 Water Quality Financial Assistance Application - Part 2

Throughout the application, the project must directly address the problem causing the water quality impairment(s). The maximum number of priority points possible and considerations that evaluators will use to assign priority points are outlined at the beginning of the Application and are explained in the Application Instructions.

SECTION I. SUMMARY OF PROBLEM AND SOLUTION

- 1. Summarize the overall water quality problem and how it will be solved or addressed by the project.** (Provide a map of the general area and a sketch of the project area on the map. For an example, see the Application Instructions. Limit your answer to one page or less.)

Summary of Water Quality Problem:

The City of Bellingham, located in northwest Washington State, is home to approximately 74,000 people. Lake Whatcom serves as the reservoir for the municipal water supply, providing drinking water to 86,000 residents of both the City and portions of Whatcom County. There are also five streams within the city limits: Squalicum, Whatcom, Padden, Chuckanut and Silver creeks. These ecosystems provide critical spawning and rearing habitat for several species of salmonids and trout including Chinook, coho, chum, pink, steelhead, rainbow, sea-run and resident cutthroat, and kokanee. The urban water bodies also provide citizens recreational opportunities in the form of swimming, sport fishing and aesthetic enjoyment.

Lake Whatcom is listed on the Department of Ecology's 303(d) list for a number of constituents, including DO and phosphorus. A TMDL is currently underway to address DO and phosphorus concerns in the lake. All five of the streams located within the City of Bellingham city limits are listed on Ecology's 2002/2004 303(d) list for fecal coliform and dissolved oxygen (DO). Three of the five streams are also on the 303(d) list for temperature. Draft TMDL's have recently been completed for temperature and fecal coliform in Whatcom Creek downstream of Lake Whatcom. The draft Whatcom Creek Temperature TMDL submittal identified a lack of riparian shade as the primary cause of increased temperatures. Reduced riparian zones also contribute to increased fecal coliform loadings because of their reduced ability to filter pollutants. Major controllable sources of fecal coliform bacteria include pet and pest waste, illicit sewer connections and illegal dumping. In some areas of the city, failing septic tanks and agriculture/hobby farms may represent important sources of fecal coliform. Excess bacteria and poor water quality degrades the primary contact recreation beneficial uses and creates a human health hazard for children swimming in the creeks during summer months. DO and nutrient exceedences also adversely affect fish habitat.

The sources of impairment identified for Whatcom Creek are truly citywide concerns because they are applicable to all city streams. As a result the city will be working with the Department of Ecology in the coming months to prepare Category 4(b) plans for the remaining listed streams (Chuckanut, Padden, Squalicum and Silver creeks). Actions taken to address fecal coliform and temperature exceedences in those waterbodies will be similar to actions identified in the TMDL Water Quality Improvement Plans for Whatcom Creek. The anticipated completion date of the Category 4(b) plans is December 2007.

Summary of how the problem will be directly addressed by the project:

The **Bellingham Water Quality & Habitat Improvement** project directly confronts the impacts of human activities on water resources at several levels. The proposed project includes actions that will be implemented citywide as well as actions that will be implemented at specific sites to address water quality concerns, including degraded salmon habitat on city-owned lands in the Lake Whatcom watershed or within the Bellingham city-limits (see Map 1).

First, the project will implement a variety of *water quality improvement actions*. Actions to be implemented consist of: 1) site assessments and vegetation management on city owned properties the Lake Whatcom watershed to address phosphorus and DO concerns in Lake Whatcom, which serves as the city's water supply; 2) removal of three culverts from city-owned properties in the Lake Whatcom watershed to reduce erosion and restore natural hydrologic pathways; 3) fecal coliform source surveys of Chuckanut, Squalicum and Silver creeks, to identify specific bacteria inputs and "hot spots" and support implementation of Category 4(b) water quality improvement plans for those streams; and 4) a stream restoration project aimed at restoring water quality and improving salmonid habitat in Padden Creek within Fairhaven Park, a popular neighborhood park.

Second, the project will address the human actions contributing to degraded water quality at their source, providing education and *public outreach* to promote stewardship and an understanding of how human land use impacts local streams and lakes. In the Lake Whatcom watershed, brochures describing the land acquisition program and proper watershed stewardship techniques will be mailed to 8,000 watershed residents. Lake Whatcom watershed residents will also be offered hands on training in implementing stewardship techniques, and will be provided with the opportunity to exercise these newfound skills by serving as volunteer watershed property stewards. In the Whatcom Creek watershed, which drains areas downstream of Lake Whatcom, a brochure and video will be produced describing actions residents can take at home to reduce fecal coliform and temperature loading in Whatcom Creek. These materials will be mailed to over 12,000 residents of the Whatcom Creek watershed. The city will also organize stream clean-up days on each of

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Whatcom Creek's main tributaries (Hanna, Cemetery, Lincoln and Fever creeks) to provide an opportunity for face-to-face outreach to watershed residents. The Whatcom Creek education program will be used as a pilot project to evaluate the success of such outreach activities at changing behaviors, using a pre-and post survey of watershed residents.

Third, the project will produce a citywide "*Habitat Restoration Master Plan*" that will identify and prioritize future water quality and habitat restoration opportunities that may be implemented to improve aquatic habitat and water quality. The plan will help the city meet NPDES permit requirements and TMDL allocations, implement 4(b) plans efficiently and cost effectively, and achieve objectives identified in the WRIA 1 Salmon Recovery Plan. The citywide Habitat Restoration Master Plan will also support successful implementation of the "no net loss of function" goal that is a cornerstone of the updated Shoreline Master Program and Critical Areas Ordinance.

Finally the project will include a *monitoring* component. Long-term temperature and shade monitoring in Whatcom Creek will be initiated to evaluate the effectiveness of the TMDL load/wasteload allocation for effective shade. Pre and post-project surveys of water quality and physical habitat conditions will be conducted at specific restoration sites (i.e. watershed property culverts and Padden Creek in Fairhaven Park). Monitoring data collected as part of this project will be submitted to Ecology's EIM database upon project completion.

SECTION II. WHAT SPECIFIC PUBLIC HEALTH AND WATER QUALITY THREATS OR IMPAIRMENTS ARE BEING CAUSED BY THE WATER QUALITY PROBLEM?

Special Public Health Hazard Determination (rare circumstances): (Respond to the following question [2] only if there is a documented public health emergency or hazard as described in this question.)

2. Is the public presently exposed to unrestricted contact with inadequately treated surfacing septage or raw sewage in a widespread area of human habitation (throughout a substantial portion of a town, city, tribal reservation, etc.) that places the remainder of the area or community in a significant or unacceptable health risk?

Yes No

Note: If you believe the Answer to Question 2 is Yes, see Application Instructions for necessary guidance before you check and describe any of the following:

- "Public Health Emergency" declared by the State Department of Health
- "Severe Public Health Hazard" declared by the State Department of Health
- "Severe Public Health Hazard" declared by the local health department

Describe the emergency or hazard:

Regardless of the determination above, please continue to answer all questions.

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Impairments or Imminent Threats of Impairment to Water Quality Standards and Designated Uses

Check those designated use impairments that are applicable to the proposed water body. Include a clear explanation regarding the water quality standards and specific designated uses that are, or are in imminent jeopardy of, being impaired. To receive points, the problem and solution must be directly linked to the impairment or imminent threat and be directly addressed by the proposed project.

For Questions 3 through 6, check and describe up to three (3) of the four (4) impairments, violations, or imminent threats that are a direct result of the stated water quality problem(s). *Please refer to the Application Instructions for the definition of "Imminent Threats of Impairment," evaluation criteria, points available, additional resources available to applicants, etc.*

SPECIAL NOTE: Answer **up to three (3)** of the following four (4) questions (Questions 3 through 6). See *Application Instructions*.

3. Drinking Water Quality Standard Impairments or Imminent Threats of Impairment: (Check and describe one [1], if applicable. Provide supporting documentation if applicable and attach to Application)

- According to state and/or local health department(s), the water body has "significantly exceeded limits" for drinking water quality standards.
- Recurrent or continued health advisories have been issued by state and/or local health department(s).
- There is a documented trend toward advisory status or noncompliance, or a documented impact or threat of impact to groundwater resources.

Lake Whatcom, the drinking water source for over 86,000 residents, has been listed by the Department of Ecology as a 303(d) impaired body of water for dissolved oxygen (DO) and phosphorus. The 2005 City of Bellingham Source Water Treatment and Trends report noted that "Lake Whatcom is beginning to exhibit water quality that would be expected of a lake that is abutted by land uses including transportation and urban development. It is only within the last ten years that changes in water quality have become apparent in the lake itself. Changes observed in the water treatment have only been observed within the past two years at the treatment plant." The report continues, "Because of changes in source water quality the City has now found itself unable to meet its internal standards for drinking water quality, particularly in the summer months, and keep up with water demand. This trend has only recently been observed. The amount of algae coming into the Water Filtration Plant in late spring and summer has increased. The increase in turn impacts our ability to meet quality standards and attain sufficient water production."

Algal growth is limited by the available supply of phosphorus or nitrogen, so if excessive amounts of these nutrients are added to the source water, algae and aquatic plants can grow in large quantities. When algae die, they are decomposed by bacteria, which use dissolved oxygen. Low dissolved oxygen can make the lake untenable for aquatic life. Parts of the lake have run out of oxygen during certain times of the year for decades, but the rate of loss is accelerating. Sources of phosphorus in the Lake Whatcom watershed are failing septic systems, detergents, fertilizers, and exposed soil.

The increasing amount of algae in the water, particularly in the summer, has led Bellingham to increase the amount of aluminum sulfate it uses to remove certain particles in its water treatment process. Those particles can include parasites that cause intestinal diseases such as giardia and cryptosporidium. The 2005 City of Bellingham Source Water Treatment and Trends report notes "There has been an increase through time in the amount of alum needed to clarify the water. Alum dosages have been the highest in the last two years reaching 19 parts per million (mg/L). This is the highest alum dosage ever recorded for the utility."

The issues of low dissolved oxygen and increasing amounts of algae can be addressed in the watershed before the water reaches the lake. For this reason, the City has placed a high priority in stormwater retrofits in the watershed. Both the City of Bellingham and Whatcom County recently passed Phosphorus Ordinances (2005-038 and 2005-06-044, respectively) which ban the use of phosphorus containing fertilizers and lawn products in the watershed. The city and county have also passed ordinances that tighten development standards in the watershed.

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4. Aquatic Habitat Impairments or Imminent Threat of Impairments: (Check and describe as many as applicable.)

- Affects habitat of endangered or threatened salmonid stocks.
- Addresses “Limiting Factor(s)” identified in a “Limiting Factors Analysis” approved by the Conservation Commission.
- Addresses “Solutions” identified in the *Statewide Strategy to Recover Salmon*.
- Impairs habitat of aquatic species that are not known to be threatened or endangered.

Affects habitat of endangered or threatened salmonid stocks or other aquatic species

Chinook salmon, listed as “threatened” under the ESA, utilize 2.7 miles of Whatcom Creek for migration, spawning and rearing life stages. Chinook salmon have also been documented in Padden and Squalicum creeks in low numbers (one or two fish per year). Steelhead trout in the Puget Sound ESU, which includes streams located in the Bellingham, were proposed by NOAA Fisheries for listing as threatened in March 2006. Steelhead trout are known to spawn and rear in Chuckanut, Whatcom and Squalicum Creeks, and are known to be present in Padden Creek and several tributaries of Squalicum Creek. Certain bull trout life histories are also believed to use the lower reaches and estuaries associated with all three project streams for foraging. Bull trout are listed as threatened under the ESA.

Addresses Limiting Factor(s) identified in a Limiting Factors Analysis approved by the Conservation Commission

The July 2002 report “Salmon and Steelhead Habitat Limiting Factors in WRIA 1, the Nooksack Basin” identifies the following factors of concern for the urban streams: “*The land cover vegetation has also been greatly altered, increasing the likelihood of water flow impacts. Impervious surfaces are rated “poor” in the Terrell and Colony Creeks, and are probably poor in Squalicum, Whatcom and Padden Creeks. Warm water temperatures have been documented in Dakota, Squalicum, Whatcom, Padden, and Chuckanut Creek watersheds.... Based upon a broad-scale analysis, riparian conditions are tentatively rated “poor” in the watersheds of Dakota, California, Terrell, Squalicum, Whatcom, Padden, Chuckanut, Oyster, and Colony Creeks, but reach-specific data were lacking*”. The proposed project specifically and substantively address water quality pollution through the planting of riparian areas, habitat improvements and implementation of TMDL Water Quality Improvement Plans.

Addresses key actions of Statewide Strategy to Recover Salmon

Salmon recovery objectives are outlined in the WRIA1 Salmonid Recovery Plan (Nooksack Natural Resources et al. 2005) and include the following:

- Maintain or increase the quality and quantity of habitat necessary to provide healthy, self-sustaining runs of salmonids
- Retain or provide adequate quality and quantity of water in streams for salmonids
- Ensure that citizens and stakeholders are actively engaged in salmon conservation efforts.

Restoration and reconnection of isolated habitats in the lowlands and independent tributaries such as those located within the City of Bellingham was one of eight key action intended to benefit Chinook identified in the plan (Whatcom County 2005).

The **Bellingham Water Quality & Habitat Improvement** project addresses those objectives by implementing actions that will directly improve habitat quality, and contribute to long-term and self sustaining improvements in water quality parameters such as temperature and DO that will directly benefit salmon. The education component will engage city residents in the process by identifying the sources of the pollutants delivered to streams by stormwater, informing them of how those pollutants affect water quality and aquatic life, and what they, as individuals, can do to change their behaviors and help solve the problem.

Impairs habitat of other aquatic species

Lake Whatcom supports populations of kokanee salmon and resident trout that utilize streams for spawning and rearing. Fisheries managers are concerned about the long-term health of naturally reproducing kokanee salmon in Lake Whatcom (Whatcom County 2003). Habitat concerns include the loss or alternation of suitable spawning habitat. Kokanee spawn in Anderson Creek, the city’s conduit for transferring water from the water supply intake on the Middle Fork Nooksack. Two properties owned by the City of Bellingham (Trillium 198 acres; Olsen 360 acres) both provide stream habitat for kokanee and resident cutthroat.

Urban streams within the project areas also provide critical spawning and rearing habitat for several species of salmonids and trout including coho, chum, pink, steelhead, rainbow and sea-run and resident cutthroat. If no action is taken to improve riparian function and water quality in the streams, then species diversity and abundance of returning salmon and resident fish may decline

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dramatically.

Nooksack Natural Resources, Lummi Natural Resources and Whatcom County. 2005. WRIA 1 Salmonid Recovery Plan.

Whatcom County. 2003. Facts about Kokanee. <http://whatcomsalmon.wsu.edu/salmonfacts/kokaneefacts.pdf>

5. Impairments or Imminent Threat of Impairments of Public Recreational and Commercial Shellfish Harvesting Areas: (Check and describe one [1], if applicable; Cite orders and/or other written confirmation from DOH and attach at end of Application).

- The classification of a shellfish harvesting area within the proposed project area has been downgraded.
- The shellfish harvesting area's classification is conditionally approved, restricted, or prohibited.
- The State of Washington Department of Health (DOH) did not classify the area because preliminary data indicated the classification would be prohibited.
- A shellfish harvesting area within the proposed project area is now on the DOH's Early Warning System Threatened List.

Describe the recreational or shellfish harvesting impairment(s) or imminent threat(s) of impairment that support checked category(ies) above :

6. Other Designated Use Impairments or Threats of Impairments: (Identify and explain in accordance with Application Instructions. Check and describe as many as applicable.)

Designated use(s) are impaired or imminently threatened for:

- Swimming or water skiing
- Sport fishing
- Water quality impairments of fish migration
- Boating
- Aesthetic enjoyment
- Livestock water source that is presently functioning
- Irrigation water

Describe specific impairments:

Swimming

Primary Contact recreation is a designated beneficial use of Lake Whatcom as well as all five streams within the Bellingham city limits. High fecal coliform levels pose a threat to human health, particularly to children swimming in the Lake or creeks during summer months. The swimming beach at Bloedel Donovan Park located at the northwest end of Lake Whatcom has been closed multiple times due to the high fecal coliform counts. All urban streams within the Bellingham City limits are used extensively by the public as concentrated recreation sites, and many serve as popular local swimming holes during the summer.

The Urban Streams Monitoring Program data collected by the City of Bellingham's state accredited laboratory indicate certain segments of Chuckanut, Whatcom, Padden, Squalicum and Silver Creeks exhibited frequent violations of applicable surface water quality standards. All five urban streams are included on Ecology's 2002/2004 303(d) list. Data from the Urban Streams annual monitoring reports from 1990 to 2005 show the sample site at the mouth of Padden Creek violated water quality standards in 65% of bacteria samples. Data show since 1990 the sample site at the mouth of Squalicum Creek violated water quality standards in

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34% of bacteria samples. Data also show since 1990 the sample site at the mouth of Whatcom Creek violated water quality standards in 47% of bacteria samples. Samples from the mouth of Chuckanut Creek have exceeded water quality standards annually with the exception of the 2000 sampling year. In 2005, 25% of the samples collected from Chuckanut Creek contained more than 200 CFU/mL. The City does not currently monitor Silver Creek, however it is listed as impaired due to high fecal coliform levels on the 2002/2004 303(d) list.

Without corrective action in a timely manner, Lake Whatcom and the urban streams will continue to experience degraded water quality. Impairments will lead to reduced beneficial uses including loss of public recreational opportunities.

Sport Fishing

Lake Whatcom and urban streams within the city of Bellingham provide numerous sport fishing opportunities. Lake Whatcom supports a large bass fishery, and recreational fishing for kokanee and trout are also popular. Kokanee are a popular game, and contribute \$36.7 million annually to the state's economy; of that, 55.6 percent (\$20.7 million) is from fisheries supported by the Lake Whatcom hatchery (Parametrix Inc. 2003). The Washington Department of Fish and Wildlife operates a hatchery near the outlet of Lake Whatcom, and two-thirds of the state's kokanee fishery depends on periodic stocking of fry from this facility. Periodic fish kills have been documented in Lake Whatcom, although the factors leading to these events are poorly understood (Whatcom County 2003)

Urban streams also support sport fishing. From 1989 to 1998 the chum fishery at the mouth of Whatcom Creek was the largest chum sport fishery in the state, with an increasing catch throughout the period. Local residents also fish for resident trout Whatcom Creek and other small streams. The continued long-term success of these fisheries depends on healthy fish populations.

Water Quality Impairments to Fish Migration

Kokanee and resident trout inhabiting Lake Whatcom utilize tributary streams for spawning. Excess sedimentation and impaired habitat in those channels may impede upstream migration to spawning grounds, particularly during the late summer when kokanee spawn. Excess fine sediment deposition can also smother eggs in redds.

Anadromous salmonids also require low stream temperatures to successfully complete their life cycle. High temperatures in streams used for spawning may delay upstream migration of salmon (Salinger and Anderson 2006). Whatcom, Squalicum and Padden Creeks are all currently listed on the State 303(d) list for temperature. The city's urban streams monitoring project has documented high temperatures in those streams during the time when salmonids are migrating upstream.

Aesthetic enjoyment

Both Lake Whatcom and the urban stream corridors within the city landscape are aesthetic components that residents value highly. High phosphorus loadings in still-water environments such as Lake Whatcom contribute to eutrophication which can result in algal blooms. Algal blooms reduce the clarity of the lake water and can result in a stale, musty odor. Such changes in the lakes character can impair aesthetic enjoyment. Fecal coliform, high temperatures and nutrients leading to algal blooms can also impair stream aesthetics.

Parametrix, Inc. 2003. Lake Whatcom and Bellingham hatcheries replacement feasibility report.

Salinger, D.H. and J.J. Anderson. 2006. Effects of water temperature and flow on adult salmon migration delay and swim speed. Trans. Amer. Fish. Soc. 135(1): 188-199

Whatcom County. 2003. Facts about Kokanee. <http://whatcomsalmon.wsu.edu/salmonfacts/kokaneefacts.pdf>

7. Total Maximum Daily Load (TMDL) Development, Watershed Plan Development, or Implementation of a best management practice (BMP): (Check only the box that best describes the stage the proposed project fits in the TMDL, watershed plan, or other pollution control project process.)

7. A. Planning Projects

- The proposed project will substantially assist initial TMDL development.
- The proposed project will develop a watershed based plan that addresses EPA's 9 key elements (see instructions).
- The proposed project will identify and schedule best management practices needed to control identified water quality impairments.

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Provide name of TMDL, watershed plan, or specific BMPs, and a brief description of your progress:

7. B. Implementation Projects

- The proposed project will implement actions to meet load or wasteload allocations identified in a TMDL.
- The proposed project implements actions identified in a watershed plan.
- The proposed project implements pollution source control actions identified in a program listed in Category 4b in the state's Water Quality Assessment.
- The proposed project implements an early action strategy designed to address an identified water quality impairment prior to completion of a formal plan.

The proposed project will implement actions identified in three TMDLs. In addition, proposed implementation actions, including those identified in watershed plans, will reduce identified water quality impairments as well as serving as a basis for Category 4(b) plans currently under development for Section 303(d) listed streams that are not currently undergoing TMDL development.

The proposed project will implement actions to meet load or wasteload allocations identified in a TMDL.

The Department of Ecology has completed the modeling and investigative phase of work for the *Lake Whatcom TMDL for Dissolved Oxygen and Phosphorus* (listing identifications 5846 and 8621, respectively). The next steps, to be taken over the next year include a technical review with comments, a complete technical review, and developing a TMDL with Summary Implementation Plan. Site assessments of watershed properties will identify all stream channels, trails, concentrations of invasive species and other features of concern. High concentrations of invasive non native vegetation species will be removed and replaced with native vegetation. Removal of eroding culverts from municipal properties in the Lake Whatcom Watershed will reduce sediment delivery. Together, these actions will lead to reduced surface erosion and increased slope stability, thereby conserving nutrients and directly reducing nutrient delivery to the lake. Educating watershed residents about proper watershed stewardship and providing them the opportunity to get involved in watershed stewardship projects on city-owned properties is expected to ultimately result in the implementation of similar practices on private properties.

The draft *Whatcom Creek fecal coliform TMDL and Summary Implementation Plan* was made available for public review in September 2006. The City of Bellingham and Department of Ecology are currently working on the detailed implementation plan. Non-point sources are the primary inputs of fecal coliform to Whatcom Creek, and are delivered either directly to streams or to the City's municipal storm drain system then routed to streams via stormwater. A key component of meeting both the load and the wasteload allocations is to get city residents to reduce fecal coliform delivery from private property by altering their activities, including handling of pet waste, disposal of yard waste and maintenance of vegetated buffers along seasonal drainage ways. The education component of the proposed project will address these actions by providing residents with information on how to reduce their impacts via a variety of media. The Whatcom Creek education program is considered a pilot project that, if successful, will be extended to other city watersheds as part of 4(b) plans currently under development. The effectiveness of the proposed program will be evaluated by conducting pre- and post implementation surveys.

A preliminary draft of the *Whatcom Creek temperature TMDL and Water Quality Improvement Plan* has been completed and is currently undergoing internal review. The draft plan is expected to be circulated for public comment in the next few months. The City of Bellingham and Department of Ecology are working together to develop a detailed implementation plan. Riparian restoration to increase shade is the primary means of meeting load/wasteload allocations. The city has been actively acquiring and restoring riparian habitats along Whatcom Creek since 1999. The proposed project includes the establishment of long-term shade monitoring stations that will be use to track the effectiveness of the City's efforts at restoring shade along Whatcom Creek.

The proposed project implements actions identified in a watershed plan.

Restoration and reconnection of isolated habitats in the lowlands and independent tributaries such as those located within the City of Bellingham was one of eight key action intended to benefit Chinook identified in the *WRIA 1 Salmon Recovery Plan* (Whatcom County 2005). The Padden Creek restoration component of the proposed project is a prime example of the type of restoration called for in the WRIA 1 Recovery Plan.

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The proposed project implements pollution source control actions identified in a program listed in Category 4b in the states Water Quality Assessment.

Chuckanut, Padden, Squalicum and Silver creeks are all listed on the Department of Ecology's 2002/2004 303(d) list as impaired for fecal coliform. The City has informed the Department of Ecology that they plan to complete 4(b) plans to address these impairments. Since pollution sources and control actions are similar throughout the city landscape, we anticipate that the 4(b) plans will be modeled closely on the Whatcom Creek fecal coliform detailed implementation plan that is currently under development and on target for completion by September 2007. The City expects to submit draft 4(b) plans for other urban streams concurrently with the Whatcom Creek Water Quality Improvement Plan. The first step in implementing the 4(b) plans will be to complete fecal coliform source surveys to identify the location of specific fecal coliform sources and contaminant hot spots. The proposed project includes implementation of source surveys on Chuckanut, Squalicum and Silver Creeks starting in the summer of 2008. Source surveys have been completed on Padden and Whatcom Creeks.

The proposed project implements an early action strategy designed to address identified water quality impairment prior to completion of a formal plan.

The July 2002 report "Salmon and Steelhead Habitat Limiting Factors in WRIA 1, the Nooksack Basin" identifies increased peak flows from impervious surfaces, poorly functioning riparian zones and degraded aquatic habitat as limiting factors in urban streams (Smith 2002). Restoration of small independent tributaries was identified as a key action to be implemented as part of the WRIA 1 Salmon Recovery Plan; however, because the streams are small and salmonid numbers are low, these stream system typically receive a low priority for restoration relative to other portions of WRIA 1. Development of a city-wide Habitat Restoration Master Plan will help identify other potential restoration opportunities in the five independent tributary streams that flow through the city and will facilitate the prioritization and cost effective implementation of those opportunities in the future. The City of Bellingham's habitat restoration plan will complement and support overall basin-wide recovery efforts.

SECTION III. HOW DOES YOUR PROPOSED PROJECT ADDRESS THE WATER QUALITY PROBLEM AND WHAT ARE YOUR MEASURES OF SUCCESS? (Water quality goals, outcomes, and milestones you will achieve or address.)

8. Check one or more of the Water Quality "GOALS" the proposed project will directly address; complete one of the sentences below and include waterbodies affected:

- A. "Severe Public Health Hazard" or "Public Health Emergency" will be eliminated.

Untreated surfacing septic tank effluent from ___ homes throughout the (city, town, district, reservation) of _____ will be eliminated when the wastewater treatment plant is constructed.

- B. The projects will contribute toward designated uses being restored or protected, 303(d)-listed water bodies restored to water quality standards, or healthy waters kept from being degraded.

All designated uses of Lake Whatcom and Whatcom, Chuckanut, Padden, Squalicum and Silver creeks will ultimately be restored.

- C. Regulatory compliance with a consent decree, compliance order, etc.

Discharge standards required by Ecology Permit WA00_____ for the _____ (name of waterbody) will be achieved.

9. Describe the qualitative and quantitative Water Quality Project "OUTCOMES" expected as a result of the activities you will complete in this project. These OUTCOMES must lead to the GOAL(S).

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Project Results and Performance Measures:

The proposed project consists of four main elements: 1) Water Quality Improvement Actions; 2) Public Education and Outreach; 3) Restoration Planning and 4) Monitoring. Project results and performance measures for each plan element are listed below.

1. Water Quality Improvement Actions

- Site assessment of 15 properties in the Lake Whatcom watershed owned by the City of Bellingham to identify sensitive areas (streams, wetlands, priority habitats) and impairments (invasive species, eroding areas, pollutant sources).
- Removal/ suppression of non-native invasive species and restoration of native vegetation on 3.5 acres of city-owned properties within the Lake Whatcom watershed.
- Removal of 3 culverts, restoration of natural hydrologic pathways, and reduced erosion on three seasonal streams that cross properties owned by the City of Bellingham in the Lake Whatcom watershed.
- Collection of 300 fecal coliform samples to identify specific fecal coliform sources and contaminant hot spots along 11.3 miles of urban streams within the Bellingham City limits (Chuckanut, Squaticum and Silver creeks and associated tributaries).
- Improvement of the existing degraded stream ecosystem along 800-feet of Padden Creek within Fairhaven Park
- Reduced erosion and sedimentation and increased channel complexity and diversity of available salmon habitat in 800-feet of Padden Creek through placement of LWD, spawning gravel and bank re-contouring.

2. Education and Public Outreach

- Create and distribute 8,000 brochures describing the City's Lake Whatcom Watershed land acquisition program and proper watershed stewardship techniques.
- Provide training and recruit at least 5 volunteer land stewards to assist with monitoring and restoration of City-owned lands within the Lake Whatcom Watershed.
- Create and broadcast a video on local public access stations describing the TMDL status of Whatcom Creek and identify actions that local residents and businesses can implement at home to help reduce those pollutants.
- Create and distribute 12,000 brochures describing the TMDL status of Whatcom Creek and identify actions that local residents and businesses can implement at home to help reduce those pollutants.
- Increase in awareness of TMDL and water quality concerns and documented lifestyle changes for at least 25% of the residents of the Whatcom Creek watershed.
- Convene four neighborhood stream clean-up parties on Hanna, Fever, Lincoln and Cemetery creeks (1 per creek) to inform local residents of the TMDL status of Whatcom Creek and actions that they can implement at home to help reduce those pollutants.

3. Habitat Restoration Master Plan

- Produce a city-wide Habitat Restoration Master Plan that identifies and prioritizes at least 20 opportunities for future habitat restoration that can be implemented in the next 10 years.

4. Monitoring

- Complete and submit QAPP for long-term temperature monitoring on Whatcom Creek.
- Set up 50 long-term shade monitoring stations on Whatcom Creek to track TMDL implementation and effectiveness.
- Complete and submit QAPP for monitoring water quality, habitat and revegetation success of the proposed project.
- Collect and submit data to Ecology's EIM data base that documents improvements of habitat, water quality and riparian vegetation achieved through implementation of the **Bellingham Water Quality & Habitat Improvement** project.

10. Identify and describe the Water Quality Project "MILESTONES" that will measurably lead to achieving the Water Quality OUTCOMES and GOAL(S).

1. Water Quality Improvement Actions

- A. Watershed Property site assessments will be completed to identify sensitive areas (streams, wetlands, priority habitats) and impairments (invasive species, eroding areas, pollutant sources)

Milestones

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1. Purchase GeoXM GPS mapping unit by 6/08
 2. Complete mapping of watershed properties by 6/09
 3. Complete removal and suppression of at least 75% of invasive plant species from Watts, LaPlante, Solomon-Waker-Gaines and Trillium properties by 9/10
 4. Complete planting of watershed properties by 1/11
- B. Culvert removal on the watershed properties will immediately restore natural hydrologic pathways. Within 3-5 years, the riparian buffer will increase bank stability, reducing inputs of fine sediments.

Milestones

1. Complete site designs for culvert removal on watershed properties by 6/08
 2. Complete culvert removal by 9/08.
 3. Complete riparian plantings by 12/08
 4. Continue post-project monitoring through 9/12
- C. Identification of fecal coliform sources on Chuckanut, Squalicum and Silver Creeks through land use analysis to identify areas where implementation of 4(b) plan requirements including BMPs and education programs should be focused.

Milestones:

1. Update fecal coliform QAPP for Ecology approval by 5/08
 2. Initiate and complete fecal coliform sampling in Chuckanut Creek by 10/09
 3. Initiate and complete fecal coliform sampling in Squalicum Creek by 10/10
 4. Initiate and complete fecal coliform sampling in Silver Creek by 10/11
- D. LWD structures, gravel augmentation and bank recontouring in Padden Creek will immediately increase instream hydraulic and structural diversity resulting in higher DO levels, increased sorting and storage of sediments, and the formation of deeper pools with lower water temperatures. The riparian plantings along Padden Creek will immediately filter pollutants from the adjoining heavily used trail system, reducing fecal coliform levels. Within 3-5 years, the riparian buffer will increase bank stability, reducing inputs of fine sediments. After 10-15 years, canopy closure will significantly reduce stream temperatures and increase DO levels (stream temperature decreases may be experienced considerably earlier depending on plant growth and channel orientation).

Milestones

1. Develop instream designs for LWD placement, gravel augmentation and bank contouring of Padden Creek by 6/08.
2. Submit permit applications for instream work at Padden Creek by 7/08.
3. Complete baseline surveys of habitat and water quality conditions by 7/08
4. Complete instream construction at Padden Creek by 10/08
5. Complete riparian plantings at Padden Creek by 01/09
6. Continue post-project monitoring through 9/12

2. Education and Public Outreach

- A. Educating residents of the Lake Whatcom watershed is a key component of the Water Quality Improvement Plan for phosphorus and DO. Education of residents is anticipated to result in behavioral and attitude changes that will result in reduced phosphorus inputs to the Lake over 2-3 years.

Milestones

1. Produce and mail brochures on Lake Whatcom Property acquisition and stewardship by 8/09
 2. Provide volunteer training for Watershed Property Stewards by 3/10
 3. Compile database of Watershed Property Stewards by 6/10
- B. Educating residents of the Whatcom Creek watershed is a key component of the Water Quality Improvement Plans for fecal coliform and temperature. Education of residents and businesses is anticipated to result in behavioral and attitude changes that will result in reduced fecal coliform inputs to streams and stormwater systems over 2-3 years. Education of watershed residents and businesses regarding the importance of vegetated buffers on small seasonal streams is expected to result in reduced temperatures and improved shading over a period of 3-5 years.

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Milestones

1. Complete pre-project education survey of Whatcom Creek watershed residents by 5//08
2. Develop and mail out TMDL brochure to Whatcom Creek watershed residents and businesses by 06/08
3. Produce and air video on TMDL status and implementation actions by 02/09
4. Distribute video on TMDL status and implementation actions to Whatcom Creek Watershed residents and businesses by 09/09
5. Convene four neighborhood stream cleanup parties for residents of Whatcom Creek watershed by 09/10
6. Complete post-project education survey of residents of the Whatcom Creek Watershed by 12/11
7. Complete analysis of Whatcom Creek Watershed education program effectiveness by 6/12

3. Restoration Planning

Development of a citywide Habitat Restoration Master Plan will illuminate watershed planning efforts by providing a prioritization framework for the preservation, restoration and recovery of Bellingham's aquatic and riparian habitats. The Habitat Restoration Plan will guide land use decisions in public and private developments and create a list of future high return projects that should be implemented, including projects potentially funded with grant monies. Highest priority will be given to projects that will substantially reduce pollutant loadings in 303(d) listed stream or that will improve habitat for ESA listed species. Implementation of projects identified via the Habitat Restoration Master Plan will begin immediately and will result in improved water quality and habitat over the next 10- 15 years with results lasting for perpetuity

Milestones

1. Hire Consultant to prepare citywide "Habitat Restoration Master Plan" by 6/08.
2. Complete and submit Habitat Restoration Master Plan by 6/09.
3. Present plan to City Council for adoption by 08/09

4. Monitoring

A. Long-term monitoring of shade on Whatcom Creek will be critical for evaluating the effectiveness of TMDL load/wasteload allocations. Monitoring is anticipated to provide periodic feedback regarding the adequacy of load allocations for the next 50 years.

Milestones

1. Complete and submit QAPP for long-term temperature monitoring on Whatcom Creek by 12/10
2. Set up long-term temperature monitoring stations and complete effectiveness monitoring of shade in Whatcom Creek by 8/11.
3. Submit temperature data and restoration project effectiveness data to Ecology's EIM database by 9/12.

B. Pre- and post project monitoring of restoration sites will document improvements in water quality and stream ecology resulting from water quality improvement actions.

1. Complete and submit QAPP for monitoring water quality, habitat and revegetation success of the proposed project by 3/09
2. Initiate pre-project monitoring by 6/09
3. Complete post project monitoring by 8/12
4. Submit temperature data and restoration project effectiveness data to Ecology's EIM database by 9/12.

5. Project management and Administration

Milestones

1. Submit Quarterly Progress Reports through 9/2012.
2. Submit Final Project Report 12/2012.

Project Scope of Work and Management Team

11. Outline and explain the tasks, including activities, objectives, and milestones (referred to in the financial assistance agreement as "required performance") needed to address the water quality problem(s) in a timely manner. **(Please note the point assignment and propose what is clearly the most efficient allocation of staff resources to bring about the OUTCOMES proposed and tangible water quality improvements.)**

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Task 1. Project Administration and Management

Activities:

- A. The RECIPIENT shall administer and manage the project. Responsibilities shall include, but not be limited to: maintenance of project records; submittal of payment vouchers, fiscal forms, and progress reports; compliance with applicable procurement and interlocal agreement requirements; attainment of all required permits, licenses, easements, or property rights necessary for the project; conducting, coordinating, and scheduling of all project activities; quality control; and submittal of required performance items.
- B. The RECIPIENT shall ensure that every effort will be made to maintain effective communication with the Recipient's designees, the DEPARTMENT, all affected local, state, or federal jurisdictions, and/or any interested individuals or groups. The RECIPIENT shall carry out this project in accordance with completion dates outlined in this Agreement.
- C. The RECIPIENT shall submit all invoice requests and supportive documentation, to the Financial Manager of the DEPARTMENT.

Required Performance:

1. Effective administration and management of this grant project.
2. Maintenance of all project records.
3. Submittal of all required performance items, progress reports, financial vouchers, and maintenance of all project records.

Total Task Cost (Additive to total project cost): **\$29,250**

Task 2. Water Quality Improvement Actions

Activities:

- A. Lake Whatcom watershed property site assessment – The RECIPIENT will conduct site assessments on 15 city-owned watershed properties and remove invasive species from approximately 3.5 acres, replanting those areas with native species.
- B. Culvert removal on Solomon-Walker Gaines and Olsen properties in the Lake Whatcom Watershed – The RECIPIENT will use Best Management Practices as defined by the DEPARTMENT to remove culverts on municipal properties to restore natural hydrology of the streams and riparian zones.
- C. Fecal coliform source identification – The RECIPIENT will use GIS data to identify potential sources of fecal coliform in the watersheds of city streams that are listed on the state 303(d) list for exceedences of fecal coliform. GIS analysis will be used to identify potential sources. Walk-through surveys will be conducted along 11.3 miles of urban streams and up to 300 samples of fecal coliform will be collected upstream and downstream of potential sources. These data will be used to guide implementation of source control and BMPs specified in TMDL and 4(b) related Water Quality Improvement Plans.
- D. Channel restoration and riparian planting along Padden Creek - The RECIPIENT will hire a consultant to design and a habitat restoration project on Padden Creek that will restore bank stability, improve water quality and salmon habitat, and re-establish native riparian vegetation.

Required Performance

1. Obtain permits, order and secure all project materials, and coordinate work schedules for restoration projects

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2. Use GIS/GPS mapping to complete site assessments of 15 watershed properties.
3. Use City of Bellingham Public Works Operations staff and City-sponsored Washington Conservation Corps Crews to remove 3 culverts from unnamed streams on municipal-owned properties in the Lake Whatcom Watershed.
4. Use City-sponsored Washington Conservation Corps Crews to clear invasive species and plant native trees and shrubs from 3.5 acres on five watershed properties.
5. Survey 11.3 miles of stream for fecal coliform sources and collect 300 samples from the Chuckanut, Squalicum, and Silver creeks and basins.
6. Hire a consultant to complete project design for Padden Creek channel restoration through the City RFQ process.
7. Complete instream construction for Padden Creek channel restoration using City of Bellingham crews.
8. Use City-sponsored Washington Conservation Corps Crews to clear invasive species and plant native trees and shrubs along approximately 0.6 acres in Fairhaven Park adjacent to Padden Creek.

Total Task Cost (Additive to total project cost): **\$174,341**

Task 3. Public Education and Involvement

Activities

- A. The RECIPIENT will create and distribute brochures providing stewardship messages relating to the Lake Whatcom Watershed Property Acquisition Program. The RECIPIENT will provide training in proper watershed stewardship techniques and opportunities to serve as watershed property volunteers.
- B. The RECIPIENT will conduct public education and outreach to residents of the Whatcom Creek watershed, including producing and distributing brochures and a video to residents of the Whatcom Creek watershed informing them of the Whatcom Creek TMDL status and identifying actions they can take at home to address TMDL inputs. Four stream clean-up parties will be organized, one on each of Whatcom Creeks main tributaries. A pre-and post project survey will be conducted to evaluate citizen's knowledge about how their actions affect water quality in the Whatcom Creek watershed and assess behavioral changes resulting from the education campaign.

Required Performance

1. Design and print 8000 brochures for distribution to Lake Whatcom watershed residents
2. Hold two watershed property workshops to train Lake Whatcom watershed volunteers
3. Create a database of Lake Whatcom watershed property volunteers
4. Complete pre-project survey of 300 residents in the Whatcom Creek watershed.
5. Distribute 12,000 brochures to residents of the Whatcom Creek watershed
6. Produce and distribute 12,000 videos on Whatcom Creek TMDLs
7. Organize 4 stream clean-up parties for Whatcom Creek neighborhoods
8. Complete post-project survey of 300 residents in the Whatcom Creek watershed to evaluate the effectiveness of the Whatcom Creek education program.

Total Task Cost (Additive to total project cost): **\$64,852**

Task 4. City-wide Habitat Restoration Master Plan

Activities

- A. The RECIPIENT will develop a city-wide Habitat Restoration Master Plan intended to guide the preservation, restoration and recovery of Bellingham's aquatic and riparian habitats. The Plan will also facilitate the implementation of TMDL and 4(b) Water Quality Improvement Plans, the Shoreline Master Program, the Critical Areas Ordinance, the City of Bellingham Watershed Master Plan and the WRIA 1 Salmonid Recovery Plan.

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Required Performance

1. Effective project coordination and oversight
2. Completion of plan that identifies and prioritizes future restoration opportunities based on the designated use, seriousness of the impairment, potential beneficial project effect and project access/ownership and cost.

Total Task Cost (Additive to total project cost): **\$68,125**

Task 5. Monitoring

Activities

A. Long-term shade monitoring – The RECIPIENT will use GIS data and recent aerial photos to set up long-term shade monitoring stations along on Whatcom Creek in support of the TMDL Water Quality Improvement Plan. Long-term shade monitoring stations will be used to track reach-scale changes in stream shading and temperature for each stream system.

B. The RECIPIENT will conduct pre-and post project monitoring of restoration sites (i.e. Lake Whatcom watershed property culvert removal sites and Padden Creek at Fairhaven Park) for the duration of the grant. Parameters of interest will include phosphorus, Total Suspended Solids, temperature, DO, bank stability and vegetation depending on the project site.

Required Performance

1. Revise 2002 temperature QAPP and submit to the DEPARTMENT for approval prior to initiating monitoring.
2. Set-up 30 long-term temperature monitoring stations along Whatcom Creek downstream of the middle falls.
3. Prepare and submit QAPP for restoration project monitoring.
4. Monitor restoration sites and submit annual reports for the duration of the grant.
5. Submit monitoring data to the DEPARTMENTS EIM database

Total Task Cost:(Additive to total project cost): **\$13,277**

Provide the following project budget information:

Project Cost by Task Elements

Proposed Project Budget and Time Frame			
Task elements	Subtask Cost	Total Cost	Months needed to complete
1. Project administration/management		\$ 29,250	60
2. Water Quality Improvement Actions		\$174,341	
A. Lake Whatcom watershed site assessments	\$ 27,318		24
B. Lake Whatcom culvert removal	\$ 15,220		36
C. Urban stream fecal coliform surveys	\$ 30,055		60
D. Padden Creek/Fairhaven Park Restoration	\$101,747		60
3. Education and Public Outreach		\$64,582	60
A. Lake Whatcom Watershed Education Program	\$ 47,685		
B. Whatcom Creek Education Program	\$ 16,897		
4. Citywide Habitat Restoration Master Plan		\$ 68,125	24
5. Monitoring		\$ 13,277	60

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A. Whatcom Creek Temperature and Shade	\$ 5,929		60
B. Restoration Sites	\$ 7,348		60
Total project cost and months needed to complete:		\$349,575	60

Project Cost by Budget Object	
Salaries:	\$ 52,700
Benefits:	\$ 15,810
Indirect costs:	\$ 15,327 (May include up to 25% of employee salaries and benefits)
Contracts:	\$125,500 (Design/engineering; restoration plan development, fecal coliform analysis)
Materials, goods, and services	
Restoration materials	\$ 21,070 (native plants, mulch, misc.)
Large Woody Debris	\$ 20,000
Gravel	\$ 10,000
Lab analyses	\$ 10,000
Educational material	\$ 31,120 (brochures, CDs, postage)
Signs	\$ 3,000
Equipment (list major items):	
GeoXM GPS mapping unit	\$ 7,980
Camera w/hemispheric lens	\$ 135
Backhoe/excavator rental	\$ 3,000
Travel:	\$ 0
Other (please outline):	
WCC Crew Cost	\$ 33,933
Total project cost:	\$349,575

If you are requesting grant funding for an activity proposal, provide the following information about costs and matching funds: <i>(Note: this information must correspond to Part 1, Question 9)</i>	
Ineligible project costs (if any):	0
Total eligible project cost:	\$349,575
Funds requested from Ecology (75 percent = 0.75 multiplied by the total eligible project cost):	\$231,805
List other funding sources and amounts, including local matching funds (25 percent = 0.25 multiplied by the total eligible project cost):	\$117,770
Funding source: ER salaries and benefits \$83,837 Funding source: COB sponsored WCC crew \$33,933	
Total project cost:	<u>\$339,575</u>

Describe the status of matching funds:

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Matching funds will be contributed in the form of ER staff salaries and volunteer labor supplied by Washington Conservation Corps Crews and individual placements

12. Describe the project management team, members' relevant skills and experience, and the percentage of their time they will devote to the project.

Management team description:

Renee LaCroix—Project Lead

Environmental Restoration Coordinator, City of Bellingham Public Works Department
M.Sc. Environmental Science, B.Sc. in Environmental Policy and Assessment.

Renee provides technical expertise in the watershed planning/management arena of environmental resources; represents the City of Bellingham in regional and interagency groups dealing with watershed planning and management; facilitates development of the City's Habitat Conservation Plan, oversees habitat restoration projects and assesses proposed development and other activities for compliance with ESA Response and Recovery Plans. Other relevant experience includes working with the Nooksack Salmon Enhancement Association (NSEA) as the Monitoring and Volunteer Coordinator. Responsibilities included developing, implementing and supervising a chemical and biological water quality monitoring program; organizing community volunteer salmon habitat restoration projects; and educating the community about their role in protecting and creating healthy salmon habitat. While in graduate school Renee taught upper-level university laboratory sessions in Stream Ecology and Biostatistical Analysis. Responsibilities included developing curriculum, prepping the necessary supplies, lecturing, and grading. Renee also wrote and administrated three grants to finance her graduate degree. Renee worked as a Limnology Research Associate for the National Science Foundation funded McMurdo Dry Valleys LTER in McMurdo Dry Valleys, Antarctica. Other experience includes installing salmon habitat structures (large woody debris and cabled boulders) in high gradient rivers while working for North Cascades National Park and conducting various surveys while working with the Washington State Department of Fish and Wildlife such as salmon redd surveys, marine nearshore juvenile salmon surveys, herring surveys, and crab surveys. To date she has received and administered over \$1.5 million in grant funding.

Susan Madsen

Environmental Monitoring Coordinator, City of Bellingham Public Works Department
M.Sc. Earth Resources, B.Sc. in Forestry. B.A. in Geography.

Susan's responsibilities include implementation oversight of the Whatcom Creek Long-Term Restoration and Monitoring Plan; supervision of the development and implementation of Whatcom Creek TMDLs; management of two Washington Conservation Corps Crews that implement salmon habitat restoration projects and supervising a variety of stream monitoring and assessment programs including adult and juvenile salmonids, macroinvertebrates, Salmon Watchers and fish passage barrier surveys, among others.

Other relevant experience includes 12 years as a Senior Scientist with R2 Resource Consultants. While at R2, Susan specialized in the interaction between geomorphic processes and fisheries, and has conducted channel, riparian, and fish habitat assessments throughout the Pacific Northwest. Key projects included development of monitoring plans to track channel changes resulting from removal of a small dam, studies evaluating the need for replacement of gravel downstream of hydroelectric projects, and identification of flows required to maintain side channel connectivity under variable flow regimes. Ms. Madsen is also experienced in Watershed Analysis and assessment, participating in the completion of more than 15 Watershed Analyses, and assisting with the development and implementation of seven Habitat Conservation Plans.

Clare Fogelson,

Environmental Resources Manager, City of Bellingham Public Works Department

The Environmental Resources Division (ERD) is composed of Policy, Education and Restoration Sections. As Manager, Clare oversees the work of the three sections, coordinating the ERD's Policy, Public Involvement and Education programs, and restoration projects with the work of other City departments as well as with other jurisdictions. Clare is the City's lead staff representative for WRIA1 Watershed Management Planning, Salmon Recovery including ESA response and recovery planning, inter-jurisdictional coordination of data collection/management, Environmental Emergency Response, and Lake Whatcom water resource planning.

Other relevant experience includes five years as Project Manager for the Nooksack Salmon Enhancement Association (NSEA), several years as a wetlands consultant, several years as a citizen participant in the Nooksack Watershed Initiative Task Force, and

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two terms as a Whatcom County Planning Commissioner. Clare chairs the Whatcom Creek Trustees Council comprised of Federal and State agencies, Tribes, and City of Bellingham. This committee oversaw the emergency restoration of Whatcom Creek and continues in that role for implementation of the final Restoration Plan.

While with NSEA Clare developed and implemented projects ranging from riparian re-vegetation to habitat inventory and assessment using TFW modules in four sub-basins of WRIA 1 (Squalicum, Dakota, Bertrand, and Kao). The project list includes virtually all project types typically associated with stream evaluation, prioritization, restoration, and monitoring. Several projects were accomplished with Centennial Clean Water Grants, others were administered through the Whatcom Conservation District. Clare was also responsible for strategic planning with NSEA and oversaw changes in the direction and scope of NSEA's activities.

Joy Monjure

Education Coordinator, City of Bellingham Public Works Department 1986 to present

Joy Monjure began her career with the City of Bellingham in 1986. In 1989 she became the first Education Coordinator. Joy's passion is for getting beyond the choir to the uninspired. She is adamant that the information and behaviors she promotes are presented in simple and straightforward language. This drive to target the "uninspired" citizens with education about the environment and encourage environmental stewardship has been at the core of all programs under Joy's responsibility. Joy's strengths include her design and layout skills and her extensive involvement in many "healthy communities" efforts. This has gained her wide recognition among community leaders that enables her to rally support for meaningful projects.

Joy's passion is for getting beyond the choir to the uninspired. Joy has directed and overseen the production of twenty-five, educational videos focusing primarily on watershed topics. The videos air over the local government and education cable television channel, and are available for loan at all public libraries in the county, three high school, and three college libraries. The dedication of Joy and producer Suzanne Blais has resulted in the videos winning six Communicator Awards, four Telly awards, four Videographer awards, three Axiem awards, an Aurora award, an Excellence in Communication award from the American Water Works Association and one Emmy nomination. Joy received Re-Resources Environmental Hero and City Leadership Award in 2005.

Kym Fedale

Environmental Educator, City of Bellingham, Public Works Department
B.S. Environmental Education and Interpretation

Kym has been an Environmental Educator in Whatcom County for the past 8 years. She has experience developing and presenting a variety of curriculum and strives to provide hands-on learning experiences to diverse audiences. Kym has participated in programming in variety of settings, from Mount St. Helens to the Tennant Lake Interpretive Center and schools throughout Whatcom County. Currently, for the City of Bellingham, she provides educational programs for citizens focusing on water quality issues, city infrastructure and the importance of watershed stewardship.

Presently Kym serves as a board member on the Northwest Environmental Education Council to provide effective environmental education and support to audiences, teachers and organization throughout the Pacific Northwest.

Emily Resch

Watershed Property Inspector, City of Bellingham, Pubic Works Department
B.S. Environmental Geography, M.S. Geography and Natural Resource Management

Emily works for Patty Fernandez as the Watershed Property Inspector. Emily's duties include examining municipal-owned properties in the watershed and keeping associated databases. In terms of the grant, Emily's responsibilities will include vegetation initial site plan preparation, monitoring, and communicating information to the Lake Whatcom Watershed Advisory Board. Emily will visit the properties regularly to record any activity. She will also be in charge of GPS surveys of Lake Whatcom watershed properties, including streams, wetlands, roads, and social trails to accurately assess and explain where the restoration and maintenance will take place on the property. She will keep the data on vegetation monitoring and restoration activities, as well as work with the Washington Conservation Corps crew members and leads for restoration projects in the watershed.

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SECTION IV. LOCAL INITIATIVES YOU HAVE TAKEN OR ARE TAKING THAT WILL HELP TO MAKE YOUR PROJECT A SUCCESS.

13. Explain the following:

- The tasks you have completed and/or the status of the tasks needed to ensure that you are ready to proceed with the proposed project within six months of preparation of a financial assistance agreement.
- Include provisions and commitments to maintain and monitor the project after state assistance has ended, at least through the Post Project Assessment Period. (See *Application Instructions*)

Local initiatives and future commitments:

The proposed project elements were selected based on a combination of factors that ensure our readiness to proceed immediately upon the approval of an agreement. The City administration and council are supportive of the Environmental Resources Division's fish habitat and water quality restoration programs both within the city limits and in the Lake Whatcom Watershed. City of Bellingham Environmental Resources staff are experienced with grant administration requirements. We have successfully administered numerous Ecology grants, including previous Centennial Grants in 2002, 2004 and 2005. The list below provides examples of past and ongoing endeavors of the City of Bellingham. Prior efforts have promoted interest in the city's water quality projects and set the stage for successful implementation of the proposed project.

Lake Whatcom Watershed

- The Lake Whatcom Management program is a joint effort of the City of Bellingham, Whatcom County, and Lake Whatcom Water and Sewer District (formerly Water District 10) that was initiated in 1990 to protect Lake Whatcom as a source of drinking water for approximately 85,000 county residents. In 2005, the second five-year work plan was developed and adopted for the Joint Lake Whatcom Management Program. High priority program areas are stormwater management, land preservation, and urbanization/land development.
- The City of Bellingham has convened the Lake Whatcom Watershed Advisory Board to advise the City regarding the watershed land acquisition program, and the future use and maintenance of acquired property. The guidelines that the Board has already established will steer the restoration, maintenance, and education of the project. These actions ensure that the city is ready to proceed with our proposal within six months of a financial assistance agreement.
- The Watershed Advisory Board has compiled a detailed list of management recommendations for each municipal-owned property. The work tasks for the properties are outlined as the necessary activities to be implemented in this project proposal.
- The City of Bellingham passed Ordinance No. 2000-09-058 to charge a fee on water use that provides the property acquisition fund for the Lake Whatcom Watershed.
- The City of Bellingham passed Resolution No. 2005-09 "A Resolution Adopting the Recommendations of the Lake Whatcom Advisory Board for the Protection and use of the Properties Acquired by the Lake Whatcom Land Acquisition Program."
- The City of Bellingham is in the process of creating a Watershed Ranger position. When approved, this staff member will monitor activities throughout the Lake Whatcom watershed that may adversely affect water quality, and work with watershed property stewards and other landowners to prevent adverse effects.

Urban Streams

- The City of Bellingham Urban Streams Monitoring program was initiated in 1990. There are currently a total of eighteen monitoring stations located on all five Bellingham streams. The program has a dedicated source of funding from the City's Water Utility fund.
- Since 1999 the City has acquired several stream riparian properties that provide important habitat benefits for fish and wildlife. Several of the properties are providing a corridor of functional habitat combined with restoration opportunities. The City is also

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acquiring conservation easements that provide for restoration projects in perpetuity.

- The completed Centennial 2002 grant provided the City baseline data on temperature and shading in Whatcom Creek. That data was instrumental in the development of the Whatcom Creek Temperature TMDL and Water Quality Improvement Plan (draft currently undergoing internal review at Ecology). The data collected as part of the Centennial 2002 grant will provide a baseline to from which improvements in effective shading can be quantified using the proposed long-term temperature monitoring stations to be set up as part of this project.
- The Centennial 2004 Grant and 2005 grants included funding to complete five stream habitat enhancement and riparian restoration projects. One project (Squalicum Creek) was completed in 2005, and a second (Baker Creek) was completed in 2006. The three additional projects are on target for completion in 2007 (Whatcom Creek-Haskell; Squalicum Spring) and 2008 (Padden Creek 24th-30). Together these projects will result in improved riparian conditions on 17 acres of stream adjacent land, and enhanced habitat on over 2 miles of stream. These projects, and projects such as the Padden Creek-Fairhaven Park Project included in this grant application will also reduce fecal coliform levels in each creek.
- Whatcom Creek Restoration Planning, under the revised Natural Resource Damage Assessment process, recently completed for two fish habitat restoration projects. These projects are adjacent to Whatcom Creek project provided additional opportunities for riparian and instream restoration projects. The Whatcom Creek restoration Plan also includes funding to monitor channel and riparian zone habitat within the burn area through 2016.
- The Centennial 2005 grant also included funding to work collaboratively with Ecology on developing a fecal coliform TMDL for Whatcom Creek. The draft TMDL and Summary Implementation Strategy were released for public comment in September 2006. The City anticipated working closely with Ecology over the next 12 months to complete the detailed implementation plan.
- Four other urban streams that flow through the City of Bellingham are also currently listed on Ecology's 2002/2004 303(d) list for fecal coliform. Because of the similarities in sources and solutions compared to Whatcom Creek, the City has committed to developing 4(b) plans for each of those four stream systems. The 4(b) plans will be developed concurrently with the Whatcom Creek Detailed Implementation Plan and are expected to be complete by September 2007.
- A Stormwater Utility fee was passed in 2001 with much public input regarding needs, costs and benefits. The Utility provides a dedicated source of funds for the assessment and remediation of culvert fish passage barriers as well as funding for capital stormwater improvement projects.
- In 2005, the City passed a new stormwater ordinance that includes Low Impact Design Requirements and adopts Ecology's 2005 Stormwater Management Manual.
- The city recently revised its Critical Area Ordinance, providing increased protection for urban stream corridors. The CAO requirements will contribute to implementation of TMDL and Category 4(b) water quality improvement plans throughout the city.
- The City is in the process of revising its Shoreline Master Program. Proposed revisions will increase protection afforded Shorelines of the State within the Bellingham city limits. The SMP update requires "no net loss" of shoreline ecological functions. The restoration plan developed as part of the proposed project will be used to support that commitment. The revised plan is anticipated to be completed by December 2006.

Staffing

- The Department of Ecology has dedicated staff resources to advise the City on the TMDL projects.
- The City's Environmental Resources Division currently has three staff members dedicated to public education, one staff person dedicated to completing the TMDL process and one staff member supervising stream restoration activities. The City also currently has two interns whose work focus on monitoring and maintaining watershed properties, and city policy relative to watershed practices. These staff are supported by the ER Manager, administrative and clerical staff.

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SECTION V. STATE OF WASHINGTON AND FEDERAL MANDATES ADDRESSED BY THE PROPOSED PROJECT (excluding TMDLs)

14. Check and describe only ONE of the following that best fits the project proposal.

- The project proposal is for water reclamation facility design or construction.

Describe:

- The project proposal is a water conservation project (your activities or facilities project will decrease the amount of water withdrawn from the water supply).

Describe:

- The project proposal mainly involves remediation of an existing water quality problem (excluding TMDLs addressed in Question 7).

The **Bellingham Water Quality & Habitat Improvement** project addresses documented concerns of the Federal Clean Water Act, the Endangered Species Act, and water quality violations according to Chapter 173-201A WAC.

Working with Ecology, Whatcom County, the Lake Whatcom Watershed Committee, and the Washington Conservation Corps, the City of Bellingham is able to implement corrective actions to restore water quality, salmon habitat and public recreation in its urban streams by identifying and treating pollution sources, creating functioning native riparian buffer areas and aquatic habitat and educating City residents regarding threats and solutions to water quality problems.

The funds requested under this proposal are directly tied to reducing bacteria and thermal loading in Whatcom Creek and other urban streams listed on Ecology's 303(d) list, and ultimately ensures that the TMDL implementation goals are achievable. Source identification and implementation of 4(b) plans on listed streams without TMDLs will prevent Ecology from having to develop future TMDLs. The Water Quality Improvement Plans will comply with the federal mandate of the Clean Water Act, state laws addressing non-point pollution, and the 1997 Memorandum of Agreement between EPA and Ecology.

Informed citizens are the key to improving water quality in our local water bodies. Educational efforts that provide opportunities for understanding our how residents actions influence water quality and stream and lake ecology will empower citizens to make informed decisions and behavior changes to reduce their effects on 303(d) listed water bodies by reducing non-point source pollution in their neighborhoods.

In June 2005, the WRIA 1 Salmonid Recovery Plan was released. Its purpose is to outline a local strategy of projects, programs, and timelines to recover salmonid populations, with a particular focus on Chinook salmon, which are listed under the federal Endangered Species Act. The draft plan was included in the Shared Strategy for Puget Sound, a regional recovery plan. The regional plan responds to the Endangered Species Act (ESA) and federal agency requirements and describes regional, cross-watershed strategies and actions. Improvement of water quality and aquatic habitat in independent, lowland tributary streams was one of 8 key actions identified in the WRIA 1. The proposed project will directly address those issues on five urban streams.

- The project proposal mainly involves prevention of a water quality problem.

Describe:

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SECTION VI. LOCAL PRIORITY SETTING PROCESS (See *Application Instructions* and *FY 2008 Funding Guidelines*)

APPENDIX B, Local Priority Setting Process.

APPENDIX C, Matrix of Required Signatures for Local Priority Setting Process.*

APPENDIX E, Map of Water Resource Inventory Areas.

*NOTE: *Statements of Agreed Priority must be received at Ecology Headquarters no later than December 14, 2006.*
Faxes may be submitted, but these need to be followed by signed originals.

THIS CONCLUDES PART 2

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FY 2008 Water Quality Financial Assistance Application - Part 3

(For Standard Refinance Project Proposals Only)

1. What was the overall water quality problem, how was the problem solved or addressed by the project, and is the project currently meeting its discharge permit requirement(s)?

Describe:

2. Was a "facilities plan," as defined on *FY 2008 Funding Guidelines, Volume 1*, prepared by the applicant and approved by Ecology?

Yes No

If no, **STOP HERE**; your project is not eligible to compete for funding. Do not submit this application form.

If yes, please provide the following dates: Facilities plan approval: _____
Approval of plans and specifications: _____

Attach a copy of the facilities plan, the plans and specification approval letters from Ecology, and the Declaration of Construction of Water Pollution Control Facilities.

3. Was the project in compliance with National Environmental Policy Act (NEPA) or the SRF State Environmental Review Process (SERP)?

Yes No If yes, enter the date of NEPA or SERP Approval: _____

If no, **STOP HERE**; your project is not eligible to compete for funding. Do not submit this application form.

4. If the project was financed with a bond(s), will the bonds be callable by October 31, 2006? Yes No

If no, will the bond(s) be callable by April 13, 2007? Yes No

If yes, enter the call date of the bond(s): _____

If no, **STOP HERE**; your project is not eligible to compete for funding. Do not submit this application form.

5. Will the loan be used to advance refund the prior debt?

Yes No

If yes, **STOP HERE**; your project is not eligible to compete for funding. Do not submit this application form.

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6. How was the project financed?

Check one or more boxes

- General obligation bond
- Revenue bond
- Bank
- Public works trust fund
- US Department of Agriculture/Rule Development
- Inter-local fund transfer
- Other (specify) _____

7. Provide the following financing information.

- Amount borrowed: \$ _____
- Interest rate: ____%
- Term in years: ____
- Loan principal left to be repaid: \$ _____ as of _____ (date)
- Date of final repayment: _____

8. Provide the following annual wastewater treatment costs and residential information.

1. Estimated annual operation, maintenance, and equipment replacement costs:

- Labor \$ _____
- Utilities \$ _____
- Materials and supplies \$ _____
- Outside services \$ _____
- Miscellaneous expenses \$ _____
- Equipment replacement (e.g., pumps, vehicles) \$ _____
- Other (specify) \$ _____

2. Annual debt service on loan to be refinanced: \$ _____

3. Annual debt service on any other wastewater treatment plant loan(s): \$ _____

4. Non-residential share of total annual wastewater treatment plant costs: \$ _____

5. Number of residential households: _____

THIS CONCLUDES PART 3

