

# Birch Bay Watershed and Aquatic Resource Management (BBWARM) District 2009 Annual Report

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## Executive Summary

The Birch Bay Watershed, located in northwestern Whatcom County, contains approximately 27 square miles of low elevation hills, wetlands, and coastal bluffs draining into Birch Bay and its adjacent marine waters. Land uses in the watershed include rural residential, small farms, parks and open space, industrial, and urban density mixed development close to the bay. Birch Bay's beaches, large tide flats, and extensive shellfish beds make it a popular vacation destination. The Birch Bay Watershed is also a region of rapid growth and development that is experiencing problems with stormwater flooding and water quality. Of special concern in the watershed is the threat of bacterial contamination from upland sources making shellfish in areas of the bay unsafe for harvest.

The Birch Bay Watershed and Aquatic Resource Management (BBWARM) District was established in March 2007 as a special purpose district to manage stormwater in the Birch Bay Watershed and address concerns about water quality problems and flooding. BBWARM has a five-member advisory committee, and staff support is provided by Whatcom County Public Works Stormwater Division. As a new district, BBWARM is moving forward developing a stormwater program based on recommendations and priorities outlined in the *Birch Bay Comprehensive Stormwater Plan*.

This first BBWARM District Annual Report contains a summary of the history leading up to the establishment of the BBWARM District, work accomplished from 2007 through 2009, budget information for 2009 and 2010, and program objectives established in the 2010 work plan. Key BBWARM accomplishments from 2007 to 2009 include:

- Establishing an advisory committee and holding monthly public meetings;
- Completing an analysis of program funding options;
- Developing 2009-2010 work plans and budgets;
- Creating an automated fee roll program for the BBWARM subzone assessment;
- Identifying priority stormwater capital improvement projects and completing conceptual designs for the top ten;
- Hiring a program specialist to provide dedicated staff support for BBWARM;
- Expanding the water quality monitoring into the Terrell Creek watershed.

## History & Governance

The BBWARM District is the product of a community-initiated effort to protect and restore aquatic and water resources in Birch Bay. Beginning in 1999, residents and businesses of the Birch Bay Watershed initiated a series of community-led planning efforts to resolve flooding and water quality problems within the watershed. These initial efforts resulted in the *Birch Bay Economic Development Action Plan* (2000) and the *Birch Bay Community Plan* which was adopted as a sub area plan of the *Whatcom County Comprehensive Plan* in 2004. The *Birch Bay Community Plan* recognized the importance of stormwater management and identified local concern with the rapid rate of development in the watershed and associated increase in stormwater runoff and water quality problems in Birch Bay. This led to a collaborative, community-driven planning effort between the community, Whatcom County, and a consultant between October 2005 and July 2006 resulting in the *Birch Bay Comprehensive Stormwater Plan*. The *Birch Bay Comprehensive Stormwater Plan* recommends the creation of a stormwater management area with a funding strategy. The plan also recommends a number of programmatic and capital (structural) solutions to stormwater-related problems in the watershed.

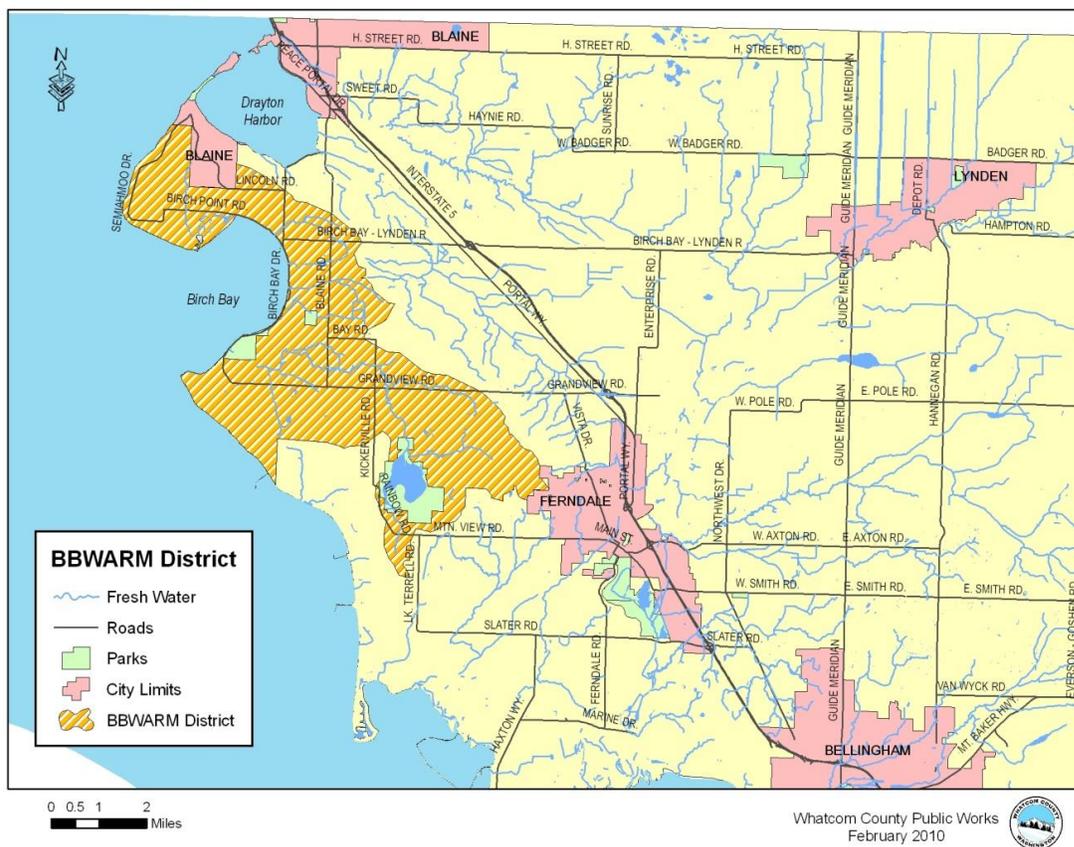


Figure 1. BBWARM District boundary

On March 27, 2007, the BBWARM District was established as a sub flood, or subzone, district of the Whatcom County Flood Control Zone District (FCZD) to manage stormwater in the Birch Bay Watershed (authorized by RCW 86.15.025). Supervision of BBWARM as a subzone is the responsibility of the Whatcom County FCZD Board of Supervisors (authorized by RCW 86.15.050). Whatcom County Council members, by virtue of their office, are the Whatcom County FCZD Board of Supervisors. See Figure 1 for location of the BBWARM District boundary and Table 1 for a summary of milestones and Whatcom County resolutions and ordinances related to the establishment of the BBWARM District.

**Table 1. BBWARM District Milestones**

September 28, 2004	Whatcom County Council adopts the Birch Bay Community Plan (Ord. 2004-047)
February 22, 2005	Whatcom County Council designates the Birch Bay Watershed as a Stormwater Special District and Water Resource Special Management Area (Ord. 2005-030)
November 2005 – July 2006	Birch Bay Community, Whatcom County Planning & Development Services, and consultant work to develop a stormwater plan
May 2005 – June 2008	Birch Bay Community, Whatcom County Public Works, and consultant develop a Comprehensive Funding Plan proposal
November 8, 2006	Whatcom County Council adopts the Birch Bay Comprehensive Stormwater Plan (Ord. 2006-070)
March 27, 2007	Whatcom County FCZD Board of Supervisors establish the Birch Bay Watershed & Aquatic Resource Management District (Res. 2008-016)
March 25, 2008	Whatcom County FCZD Board of Supervisors appoint BBWARM Advisory Committee members (Res. 2008-016)
July 22, 2008	Whatcom County FCZD Board of Supervisors authorize the BBWARM subzone assessment and set rates (Res. 2008-049 & 050)
October – December 2008	Whatcom County Public Works develops and submits the first fee roll for the BBWARM subzone assessment
April 2009	Whatcom County implements the BBWARM subzone assessment
July 22, 2009	Whatcom County FCZD Board of Supervisors adopts adjacent lot amendment proposal for WCC 100.07 (Res. 2009-015)

## Overview of Accomplishments: 2007 – 2009

The BBWARM District works to protect and restore the aquatic resources and water quality of the Birch Bay Watershed and reduce threats from localized flooding. This work is a collaborative effort between BBWARM Advisory Committee members, Whatcom County Public Works, Birch Bay citizens, and partnering agencies and organizations. From establishment in 2007 through 2009, the work of the BBWARM District has been focused on the initial steps necessary to develop a stormwater program and Stormwater Management Plan based on the *Birch Bay Comprehensive Stormwater Plan*. Significant BBWARM District accomplishments through 2009 are summarized below.

- **BBWARM Advisory Committee Established**—In Spring 2008, five BBWARM Advisory Committee members were appointed by the Whatcom County FCZD Board of Supervisors for two to four year terms. Monthly public advisory committee meetings with established ground rules and business rules began in July 2008. Meeting schedule and agendas are posted on the Whatcom County Public Works website at <http://www.whatcomcounty.us/publicworks/birchbay>.
- **Analysis of BBWARM Stormwater Program Funding Options Completed**— A stormwater program funding analysis was developed with the Birch Bay Community by Whatcom County Public Works Stormwater Division and their consultant, FCS Group, between May 2007 and June 2008. This analysis included an examination of capital and programmatic costs as identified in the *Birch Bay Watershed Comprehensive Stormwater Plan*, an evaluation of equitable methods to generate fees to fund the program, and the development of a rate structure of the BBWARM subzone assessment. The proposal was approved by the Whatcom County FCZD Board of Supervisors and served as basis for the resolutions implementing the BBWARM fee and funding mechanism. Authorization for fee rates and guidance for the implementation of the BBWARM fee collection is included in Whatcom County Code - Chapter 100.07 *Birch Bay Watershed and Aquatic Resources Management District Funding Mechanism*.
- **BBWARM 2009-2010 Work Plan Developed**—A work plan was created to move forward on select priority recommendations from the *Birch Bay Comprehensive Stormwater Plan*. Products of this work plan included the 2009 and 2010 BBWARM budget proposals (see Appendix A) for the Whatcom County FCZD Board of Supervisors as well as a logic model showing inputs, outputs, and desired outcomes of the BBWARM stormwater program.
- **Automated Fee Roll Program Developed**—Whatcom County Public Works worked with NW Data Services to create an automated fee roll program using a Geographic Information System (GIS) and assessor data. Complicated calculations required for the application of rate adjustments and fee calculations on non-single family residences are programmed into a spreadsheet that interacts with the impervious surface information contained in the GIS as well as custom calculations included in individual project files. The first BBWARM Fee roll using the new system was 2010. Significant time savings will be realized in the annual roll generation and day-to-day management due to this automated and specialized application.
- **Priority Capital Improvement Projects Identified**—Whatcom County Public Works contracted with Land Development Engineering & Surveying, Inc. in July 2009 to provide design assistance on stormwater projects in the Birch Bay Watershed. Work completed in 2009 under this contract included: (1) re-evaluation of the capital improvement projects (CIPs) identified in the *Birch Bay Comprehensive Stormwater Plan* and revision of the initial ranking system to generate an updated prioritized list of CIPs; (2) identification of the top ten priority CIPs for implementation; (3) conceptual design solutions for the top ten CIPs; and (4) identification of

the top five priority CIPs based on additional information gathered in the conceptual design process.

- **Program Specialist Position Hired**—Whatcom County Public Works worked with the BBWARM Advisory Committee to research and develop a job description for a position to support the BBWARM program as recommended in the *Birch Bay Comprehensive Stormwater Plan*. This resulted in a program specialist position within Public Works that was advertised in the fall of 2009 and filled in December 2009.
- **Water Quality Monitoring Program Expanded**—BBWARM began collaboration with Whatcom County Water Resources, Whatcom County Marine Resources Committee, Birch Bay Shellfish Protection District, and the Environmental Protection Agency in a comprehensive water quality monitoring program for the Birch Bay Watershed. This program monitors the amount of fecal coliform bacteria, temperature, and other select water quality parameters in freshwater tributaries flowing into Birch Bay. In addition, a microbial source tracking study in the Terrell Creek watershed will identify different sources of fecal coliform contamination. In 2009, BBWARM began providing staff support to help expand the water quality monitoring program into the Terrell Creek watershed.

## BBWARM Budget

The ordinance establishing the BBWARM District stated the intention to authorize an assessment to fund implementation of the *Birch Bay Comprehensive Stormwater Plan* (authorized by RCW.15.080). Between 2005 and 2008, Whatcom County Public Works and a consultant worked with the Birch Bay Community to analyze funding options and different rate structures for a possible stormwater assessment. This work resulted in the *Whatcom County Birch Bay Stormwater Funding Analysis* completed by the FCS Group and later the authorization of the BBWARM subzone assessment by the Whatcom County FCZD Board of Supervisors on July 22, 2008.

Collection of the BBWARM subzone assessment began in April 2009, generating a dedicated fund for the BBWARM District stormwater program. The BBWARM Advisory Committee and Whatcom County Public Works developed a 2009-2010 work plan and 2009 budget proposal for use of this dedicated fund in compliance with the *Birch Bay Comprehensive Stormwater Plan* during the spring and summer of 2009. The BBWARM 2009 budget was adopted by the Whatcom County Council on August 8, 2009. The BBWARM 2010 budget proposal was developed to continue and expand work identified for 2009. The 2010 budget was adopted by the Whatcom County Council on December 8, 2009. See Appendix A for the approved 2009 and 2010 BBWARM budgets and Appendix B for answers to frequently asked questions about the BBWARM subzone assessment.

In addition to the expenditures from the dedicated fund created with the BBWARM subzone assessment, Whatcom County has invested significant financial resources developing a stormwater program for the Birch Bay Watershed. These investments include hundreds of hours of staff time,

approximately \$200,000 for the *Birch Bay Comprehensive Stormwater Plan*, and approximately \$95,000 for the *Whatcom County Birch Bay Stormwater Funding Analysis*.

## Partnerships

The BBWARM District shares common goals and objectives with many partner organizations working to improve water quality in Whatcom County. Collaborating with partners to find effective and efficient means to meet water quality objectives is an ongoing effort identified in the 2009-2010 work plan. Significant BBWARM partnering accomplishments in 2009 include the following.

- The Birch Bay Shellfish Protection District (BBSPD) was established in May 2009 after the Washington State Department of Health closed the area around the mouth of Terrell Creek to shellfish harvest due to concerns about elevated fecal coliform bacteria levels in Terrell Creek. The BBSPD and BBWARM District partially share advisory committee members and coordinate meeting schedules. Both districts began coordination of work plans and to look for opportunities to partner in 2009, with focus on the Terrell Creek watershed.
- BBWARM partnered with the Whatcom Conservation District (WCD) in their proposal to the Washington State Department of Ecology's (DOE) Centennial Clean Water Grant Program and the Environmental Protection Agency's (EPA) Puget Sound Watershed Management Assistance Program.. The DOE proposal is for \$250,000 in grant funds to support a Landowner Stewardship Initiative education and outreach program for small farm owners in the Terrell Creek watershed. The EPA grant requested \$775,570 in federal funds also for support of the Landowner Stewardship Initiative but adds additional funds to provide cost-share assistance to rural landowners and includes an ecologically based sub-basin stormwater planning component for an urbanized portion of the watershed. If approved, BBWARM has committed \$30,000 per year for four years in cost share match for both proposals. If the EPA proposal is approved, additional match in the form of \$140,127 capital project costs will also be included as match.

## BBWARM 2010 Work Plan Summary

BBWARM 2010 program objectives are a continuation and expansion of work begun in 2009. The BBWARM 2010 work plan includes priority program elements selected from recommendations made in Chapter 7 of the *Birch Bay Comprehensive Stormwater Plan*. These program elements are components of a Stormwater Management Plan for the BBWARM District. Recommendations made in the *Birch Bay Comprehensive Stormwater Plan* are divided between programmatic solutions and structural or capital solutions. For a summary of program elements and objectives included in the BBWARM 2010 work plan, see Table 3. The BBWARM 2010 work plan flow chart is located in Appendix C.

**Table 2. Summary of BBWARM 2010 Work Plan**

<b>Capital (Structural) Solutions</b>	
<b>Program Element</b>	<b>2010 Objectives</b>
Capital Improvement Projects (CIPs)	<ul style="list-style-type: none"> <li>• Complete preliminary designs for the top five CIPs</li> <li>• Select CIPs for final engineering and design</li> <li>• Complete final engineering designs and establish project budget and implementation schedule</li> </ul>
<b>Programmatic Solutions</b>	
<b>Program Element</b>	<b>2010 Objectives</b>
Education	<ul style="list-style-type: none"> <li>• Build a general education program                             <ul style="list-style-type: none"> <li>○ Define a BBWARM message and education program objectives</li> <li>○ Establish means to communicate education message to general and target audiences</li> <li>○ Develop educational programs</li> <li>○ Seek opportunities to partner with other education programs in the watershed</li> </ul> </li> <li>• Target specific audiences                             <ul style="list-style-type: none"> <li>○ Promote proper disposal of pet waste</li> <li>○ Develop a Landowner Stewardship Initiative program to promote installation of Best Management Practices (BMPs) in the Terrell Creek watershed (in cooperation with Whatcom Conservation District and Birch Bay Shellfish Protection District)</li> <li>○ Promote the maintenance of private stormwater systems</li> <li>○ Promote use of Low Impact Development (LID) methods</li> <li>○ Identify additional target audiences for education and outreach</li> </ul> </li> <li>• Create an internal Whatcom County website to facilitate information sharing and coordination between county programs</li> <li>• Initiate a 1-call phone number for public reports or inquiries about drainage, erosion, or water quality issues</li> </ul>
Collaborative Programs	<ul style="list-style-type: none"> <li>• Partner with other organizations on programs or projects that serve to protect or restore water and aquatic resources in the Birch Bay Watershed</li> </ul>
Maintenance & Operations	<ul style="list-style-type: none"> <li>• Develop a maintenance and operations plan for stormwater drainage systems in coordination with Whatcom County Public Works</li> </ul>
Water Quality Monitoring	<ul style="list-style-type: none"> <li>• Provide support to the Birch Bay/Terrell Creek Fecal Coliform and Nutrient Monitoring Project</li> <li>• Use water quality monitoring data to guide future work plans</li> </ul>
Administration	<ul style="list-style-type: none"> <li>• Maintain/update BBWARM subzone assessment fee roll and automated system</li> <li>• Provide program administration (budget, accounting, advisory committee support, etc.)</li> <li>• Respond to public inquiries</li> <li>• Complete 2009 Annual Report</li> </ul>

## **Advisory Committee**

Alan Friedlob (Point Whitehorn)  
Keats Garman, Vice Chair (Birch Point)  
Lesli Higginson (British Petroleum)  
Don Imhof (Upper Terrell Creek Watershed)  
Don Montfort, Chairman (Birch Bay Water and Sewer District)

## **Contact Information**

For more information about the BBWARM District please contact Whatcom County Public Works Stormwater Division.

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Kraig Olason, Senior Planner, [kolason@co.whatcom.wa.us](mailto:kolason@co.whatcom.wa.us)

## Appendices

### Appendix A: Summary BBWARM Budget Sheet

Object Code		2009 Budget	2010 Budget
		Res. 2009-045 Adopted 8/4/09	Res. 2009-071 Adopted 12/8/09
6110	REG SALARIES & WAGES	\$25,438.00	\$52,270.00
6120	EXTRA HELP	\$12,351.00	
6140	OVERTIME	\$3,000.00	\$6,000.00
6200	PERSONAL BENEFITS	\$12,881.00	\$23,457.00
6320	OFFICE SUPPLIES	\$1,000.00	\$3,000.00
6330	PRINT	6,200.00	\$23,700.00
6340	BOOKS/PUBS	\$1,400.00	\$1,200.00
6510	TOOL EQUIP		
6520	SOFT WARE	\$2,000.00	
6630	PROFESSIONAL SERVICES	\$ 53,000.00	\$115,000.00
6710	POST SHIP	\$6,500.00	\$14,500.00
6720	TELEPHONE	\$300.00	\$720.00
6780	TRAVEL/ED/TRAINING	\$1,000.00	\$2,500.00
6790	TRAVEL-OTHER	\$3,000.00	\$5,500.00
6810	ADVERTISING	\$ 1,150.00	\$2,650.00
6860	EQUIP RENTAL		
6869	EQUIP INTERFUND		
6870	SPACE RENTAL	\$2,750.00	\$5,500.00
7060	REPAIR & MAINT		\$ 1,000.00
7110	REGISTRATION TUITION	\$2,100.00	\$2,100.00
7140	MEETING REFRESHMENT	\$400.00	\$500.00
7159.108	ADMINCOST ALLOCATION PWA	\$ 30,390.00	\$30,390.00
7190	OTHER MISC	\$ 10,000.00	\$13,500.00
7199	OTHER MISC INTERFUND	\$ 15,000.00	\$15,000.00
7210	INTER-GOVT PROFESSIONAL SERVICES	\$ 15,000.00	\$38,000.00
7420	COMPUTER CAPITAL OUTLAYS	\$2,200.00	
<b>TOTAL</b>		<b>\$207,060.00</b>	<b>\$356,487.00</b>

## Appendix B: Answers to Frequently Asked Questions About Birch Bay Stormwater Program Funding

1. **What is stormwater?**

Stormwater is the runoff that results from rainfall. It may contain toxins, metals, oil, grease, nutrients, etc., that can degrade the quality of the area's waterways and rivers. Also, uncontrolled stormwater can create local flooding problems.

2. **How much is the stormwater charge?**

For single family residences, the rate that is charged depends on the “development density” – the percentage of your property covered by developed, impervious surfaces such as asphalt, rooftops, and concrete. If your property is between 1% and 10% covered by impervious surface area, then the rate is \$5.02 per month or \$60.24 per year. If your property is between 11% and 50% covered by impervious surface area, then the rate is \$6.26 per month or \$75.12 per year. If your property is more than 50% covered by impervious surface area, then the rate is \$8.72 per month or \$104.64 per year.

Apartments, commercial, industrial, institutional, and public structures will pay the rates noted above for each development density, but for every 4,000 square feet of impervious surface area on the parcel.

3. **What makes up the rate?**

Over the next six-year period, about 46% of rate revenue will pay for operating and maintenance costs including monitoring and public involvement. The remaining 54% of rate revenue will be spent on capital projects in the Birch Bay Watershed.

4. **Is this a new charge?**

Yes. The Whatcom County Flood Control Zone District provides some related, regional services, but there is no local program or supporting fee.

5. **What is the service charge based on?**

The service charge is based on the program costs identified in the 2006 *Birch Bay Comprehensive Stormwater Plan*.

6. **What is impervious surface area?**

Impervious surface area is hard surface, such as that found on rooftops, sidewalks, parking lots, and gravel or hard-packed dirt, which impedes the natural infiltration of stormwater into the ground.

7. **Who has to pay?**

Generally, all developed property in to the Watershed will pay the stormwater service charge including houses, schools, churches, public property, and businesses. Streets serve to convey surface water runoff to the benefit of the stormwater system and so are exempted from the charge.

8. **Is there a review process for this service charge?**

Incorrect charges may be appealed within thirty days of the date of the bill. Credits of up to 27% of the charge will be offered for qualifying on-site facilities.

9. **How much money will this service charge raise?**

The service charge will raise approximately \$710,000 in 2009 and \$748,000 in 2010. Due to expected growth, revenues are forecasted to rise each year without additional increases in the service charge.

10. **Why are public properties, churches, and schools being billed?**

The service charge, just like water and sewer rates, is based upon the cost of services provided. Because this is not a tax, it must be collected from all properties that receive service. Public properties, churches, and schools contribute a significant amount of runoff because of their size and amount of hard surface.

11. **Why is there a flat rate for residential properties within each density designation?**

Most residences have a similar amount of impervious area. The flat rate simplifies the administration of the charge but maintains the equity of the charge structure.

12. **My home/business is not connected to the public drainage system, or I have built on-site facilities to manage my runoff. Why should I have to pay?**

Your property may not be physically connected to the drainage system in the same manner as it is to water and/or sewer service, or you may have built on-site facilities, but you and your property are still provided service. The Birch Bay Watershed and Aquatic Resource Management District stormwater program improves and maintains the upstream stormwater facilities that protect your property. The County establishes design criteria and regulations for development that help control off-site stormwater problems. Every property and person in the watershed is served by these activities either directly or indirectly.

13. **Is this drainage charge deductible on my income tax?**

For residential customers, this is a service charge and not a tax. It cannot be deducted from your income tax. For non-single family property owners, the charge may be considered a cost of doing business by the IRS depending on your specific tax situation.

14. **I am a renter, do I pay the charge or does the landlord?**

The bill will usually go to the property owner.

15. **Where does the money go?**

The service charge revenue will be used to improve the performance of the stormwater system in both the near and long term. This will be accomplished by constructing additional infrastructure to increase the capacity of the system, increasing the maintenance of the existing system, and installing capital improvements to lower the maintenance burden necessary to maintain the system's performance level.

16. **Has this program been used elsewhere?**

Yes. Large and small communities throughout the nation have adopted stormwater control programs and local service charges. Local examples include Bellingham, Skagit County, and Burlington.

17. **Is this a one-time charge?**

No, it is an ongoing charge for the development of new and maintenance of existing stormwater control facilities.

**18. How can I get help with a neighborhood stormwater problem?**

Give us a call at (360) 715-7450, and Public Works will be happy to investigate solutions.

**19. What is the fuss about stormwater quality?**

Stormwater quality is a result of "non-point source pollution." As the name implies, non-point source pollution comes from numerous locations and is carried through runoff. The types of pollutants include toxins, metals, oils, nutrients, and fecal coliform. These directly impact the quality of water sources and represent more than 50% of the pollution picture.

**20. How can I be sure that this money won't pay for other County projects?**

By law, these district charges may not exceed the cost of providing improvements and services. Your stormwater charges will go into a special fund which will be used only to pay for the Watershed stormwater program.

**21. I don't want my dollars going to pay for helping out somebody across the Watershed from me.**

The District has an obligation to address the most critical problems first. However, every area of the Watershed / District will see the benefit of increased maintenance and planned capital projects.

**22. What led to this new fee?**

Growth and development is continuing in and around the Birch Bay Community. In 2002, the Birch Bay Community Steering Committee was organized to address the rapidly increasing population and development in the area. A key concern of the group was the impact of development on the water quality of the Bay itself. A number of citizens joined in as the Stormwater and Shellfish Protection subgroup to focus on the impacts of stormwater. From the fall of 2005 until the present, this group has worked with representatives of the Whatcom County Planning and Development Department and a consulting firm to begin to address the areas of concern. Their effort resulted in the *Birch Bay Comprehensive Stormwater Plan (CSP)*. The CSP was adopted in 2006 and provides guidance on addressing or preventing current and future problems related to increasing flooding and erosion, declining water quality and loss of aquatic habitat as a result of increasing growth and development in the region.

Appendix C: BBWARM 2010 Work Plan Flow Chart

**BIRCH BAY WATERSHED AND AQUATIC RESOURCE MANAGEMENT (BBWARM) DISTRICT  
2010 WORK PLAN**

