

# REVIEW AND SUMMARY OF CURRENT STORMWATER OUTREACH AND EDUCATION EFFORT BY WHATCOM COUNTY

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Residents of Silver Beach Creek neighborhood in Lake Whatcom participate in a tour of the new Silver Beach Creek Bioswale.

Photo by Sarah Brace

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December 14, 2012



## Table of Contents

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|  |    |
|--|----|
| I. Introduction.....   | 1  |
| Background.....  | 1  |
| NPDES Permit Requirements for Education and Outreach .....                             | 1  |
| II. Approach.....  | 2  |
| III. Summary of Whatcom County’s Education and Outreach Efforts.....                   | 3  |
| Permitted Areas .....  | 3  |
| Past and Current Programs and Efforts.....   | 4  |
| IV. Summary of Interview Results.....  | 6  |
| Overview.....  | 6  |
| What Is Working Well .....   | 6  |
| Challenges for Outreach .....  | 6  |
| V. Relevant Resources .....  | 7  |
| WA Department of Ecology .....   | 7  |
| US Environmental Protection Agency.....  | 8  |
| Other States .....   | 9  |
| OTHER.....   | 9  |
| VI. Gaps, Opportunities, and Recommendations .....                                     | 10 |
| Overall Gaps in Whatcom County Public Outreach on Stormwater .....                     | 10 |
| Opportunities and Recommendations.....   | 10 |
| Appendices .....   | 13 |
| Appendix I: NPDES Phase II Permit Requirements for Public Education and Outreach ..... | 14 |
| Appendix II: Interviewees and questions.....   | 16 |

# WHATCOM COUNTY PUBLIC WORKS

## Review of NPDES Phase II Stormwater Outreach Efforts

### I. Introduction

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#### Background

Whatcom County has undertaken a variety of successful public outreach and involvement efforts in the past 10-15 years aimed at reducing the harmful effects of stormwater runoff. The majority of these efforts are a component of the county's NPDES Phase II Stormwater Permit (permit) requirements. However, several efforts, notably in the Birch Bay watershed, were undertaken to address stormwater runoff issues in sensitive water bodies that are outside the permitted area.

As stormwater issues have become more complex in recent years and permit requirements have evolved and expanded, the County deemed it necessary to take a fresh and comprehensive look at its stormwater outreach and involvement efforts to ensure that they were as focused and effective as possible.

Whatcom County contracted with Windward Environmental, with Veda Environmental as a sub-contractor, to help them meet the goal of better understanding both the strengths and gaps in existing stormwater outreach and involvement efforts. A review of these efforts took place from March 1 through September 19, 2012 and consisted of online research, interviews with County staff and contractors, and an examination of existing documents. Three core tasks associated with this report include:

- a. Review stormwater education and outreach program efforts being carried out by Whatcom County.
- b. Review EPA's stormwater outreach digital toolkit to identify existing tools and resources utilized by other jurisdictions throughout the country that will be useful for Whatcom County's efforts.
- c. Identify gaps and opportunities for improving outreach programs across Whatcom County's programs.

#### NPDES Permit Requirements for Education and Outreach

Whatcom County is a permittee under the Washington State Department of Ecology's (Ecology) *Western Washington Phase II Municipal Stormwater Permit* program. Urban areas that collect stormwater runoff in municipal separate storm sewer systems (MS4s) and discharge it to surface waters are required to have a permit under the Federal Clean Water Act.

In addition to helping Whatcom County identify strengths and gaps in its current outreach efforts, this report will assist the County in meeting its permit requirements for public

involvement and outreach. The goal of the Public Education and Outreach element of the permit is to “reduce or eliminate behaviors and practices that cause or contribute to stormwater pollution.”<sup>1</sup> In general, there are two key education and outreach requirements of Phase II permittees:

1. Efforts should target specific audiences, such as homeowners and businesses.
2. Jurisdictions should achieve measureable improvements in the target audience’s understanding of the problem and what they can do to solve it.

The permit requires the County to a) create focused public education, outreach, involvement, and participation programs for stormwater management, and b) develop tools to measure the understanding and adoption of targeted behaviors by program participants. The specific requirements can be found in Sections S5.C.1 (Public Outreach and Education) and S.5.C.2. (Public Involvement and Participation) of the permit.<sup>2</sup> For reference, S5.C.1 is included as Appendix I of this report.

Ecology uses the following four criteria to evaluate a Phase II jurisdiction’s compliance with the stormwater permit’s education and outreach requirements:

1. How were target audiences determined and what efforts were made to reach out to them?
2. What specific local pollution problems does the outreach program address?
3. Was there measureable change of behavior and increasing knowledge and awareness? If not, how was the information measured to help improve the program?
4. How does the program build on past education and outreach efforts?

Ecology takes into account a community’s size and demographics as well as whether it is a new or existing program.<sup>3</sup> Ecology may also consider the kinds of resources (staff time, materials, etc.) that have been devoted to developing, implementing, and evaluating programs. Whatcom County is responsible for reporting outreach efforts in the form of a written report and question/answer table.

## II. Approach

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In order to determine where opportunities exist to strengthen current stormwater outreach and education efforts, a complete review of Whatcom County’s stormwater education and outreach programs was undertaken. This review included both past and current programs, and spanned all County departments.

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<sup>1</sup> <http://www.ecy.wa.gov/pubs/0710092.pdf>

<sup>2</sup> <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/5YR/WWAPhaseIIPermit2013.pdf>

<sup>3</sup> <http://www.ecy.wa.gov/pubs/0710092.pdf>

Four specific activities were undertaken, including:

1. **Materials review:** Reviewed reports, websites, and outreach materials available through Whatcom County's Stormwater Program.
2. **Interviews:** Interviewed County staff, contractors, and other individuals connected to current or past education and outreach programs to collect additional program details and information such as target audience, duration of program, funding, and any foreseeable gaps.
3. **Additional resources and tools review:** Reviewed EPA's stormwater outreach digital toolkit and other resources to identify existing tools and resources utilized by other jurisdictions throughout the country that will be useful for Whatcom County's efforts.
4. **Synthesis and reporting:** Based on review of programs and interviews, developed recommendations for strengthening the County's ongoing stormwater education and outreach programs.

### **III. Summary of Whatcom County's Education and Outreach Efforts**

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This section includes a brief overview of the eight geographic areas that are covered by the Phase II permit, as well as a synopsis of Whatcom County's stormwater education and outreach programs to date.

#### **Permitted Areas**

Whatcom County has implemented a variety of public education and outreach programs, including targeted presentations and outreach efforts to homeowners, businesses, and elected officials. These efforts have included an array of subjects including residential storm drain maintenance, responsible landscaping practices and Lake Whatcom Total Maximum Daily Load (TMDL) education. Whatcom County conducts these programs within the eight areas that are regulated under the Phase II stormwater permit. These eight areas include:

1. Chuckanut Bay
2. Chuckanut/Padden Watershed
3. Lake Whatcom
4. Hillsdale/Emerald Lake
5. North Bellingham/King Mountain
6. Northwest Bellingham/Airport
7. Silver Creek & Barrett Lake Watershed UA
8. Ferndale East and West UGA

A more detailed description of each of these eight areas, including land use and water quality issues, is included in the *Whatcom County Phase II NPDES Stormwater Management Program* available at [www.npdes.whatcomcounty.org](http://www.npdes.whatcomcounty.org).

Whatcom County also conducts significant stormwater education and outreach efforts in the Birch Bay watershed through the Birch Bay Watershed and Aquatic Resources Management (BBWARM) District stormwater program. This is due to the fact that Birch Bay is a sensitive water body, an important recreational shellfish area, and recently went through a period of rapid growth. These factors led the local community to work with Whatcom County to create a stormwater management plan and stormwater management district for the Birch Bay watershed. Although it is currently outside of the County's permitted area, the Birch Bay UGA will be included in the next permit effective August 2013. For more information on the BBWARM program visit [www.bbwarm.whatcomcounty.org](http://www.bbwarm.whatcomcounty.org).

### Past and Current Programs and Efforts

Table 1 lists the various stormwater education and outreach activities that have been undertaken by Whatcom County since 2009. Table 2 shows how these various activities are organized by NPDES Phase II regulated areas, audiences, and issues. Table 2 is intended to show exactly how Whatcom County's suite of stormwater outreach programs addresses each of the audiences and issues identified in the NPDES Phase II Stormwater permit (see Appendix I). This table also shows where efforts have been focused in each of the eight regulated areas within Whatcom County plus Birch Bay.

Appendix III contains more detailed information on Whatcom County's stormwater related education and outreach activities. To date, these efforts have not been compiled in one place; Appendix III is designed to address this need. Appendix III, which also exists as an excel spreadsheet, is intended to provide Whatcom County staff the ability to easily record and update stormwater education activities that meet Phase II permit requirements, making end-of-year reporting simpler. It should also allow staff to identify where additional efforts are needed.

The programs and efforts included in Table 1, Table 2, and Appendix III are divided into five categories:

1. Programs (e.g. Sustainable Landscaping Educational Program)
2. Coordination Efforts (e.g. Lake Whatcom Education Team)
3. Presentations
4. Events (e.g. outreach booths at Nooksack Salmon Enhancement Association's annual summit)
5. Trainings

Many of these programs are accompanied by relevant outreach materials in the form of brochures, booklets, posters, or letters. Some of these outreach materials are sent out to specific audiences, while others are given away at events or workshops.

**Table 1. List of Whatcom County Education and Outreach Activities**

| Code                        | Name  |
|-----------------------------|---|
| <b>PROGRAMS</b>             |   |
| a                           | Birch Bay Watershed & Aquatic Resources Management District (BBWARM)      |
| b                           | Local Source Control Program/EnviroStars                                  |
| c                           | On-site Sewage Systems (OSS) Homeowner Certification Training             |
| d                           | Private Stormwater Facilities Maintenance and Operation Education Program |
| e                           | Silver Beach Creek Watershed Outreach Pilot Program                       |
| f                           | Sustainable Landscaping Educational Program                               |
| <b>COORDINATION EFFORTS</b> |   |
| g                           | Birch Bay Education Coordination  |
| h                           | Lake Whatcom Education Team   |
| <b>PRESENTATIONS</b>        |   |
| i                           | Geneva Neighborhood Association   |
| j                           | Geneva Neighborhood Association   |
| k                           | Lake Whatcom Joint Policy Group   |
| l                           | Sudden Valley Community Association                                       |
| m                           | Whatcom County Council  |
| n                           | Whatcom County Flood Control Zone Advisory Board                          |
| o                           | Whatcom County Utility Coordinating Council                               |
| <b>EVENTS</b>               |   |
| p                           | Birch Bay Discovery Days  |
| q                           | Salmon Summit   |
| r                           | Silver Beach Creek Bioswale Outreach                                      |
| s                           | Water Week  |
| <b>TRAININGS</b>            |   |
| t                           | Staff trainings   |
| u                           | Staff trainings   |

**Table 2. Whatcom County Stormwater Related Education and Outreach Activities Summary**

| AUDIENCE*   | ISSUES*  | OUTREACH ACTIVITY SUMMARY BY AREA |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|---|--|-----------------------------------|---------------|------------------|------------------|------------------------|-------------------|------------------|---------------------------------------|--------------------------|-----------|--------------|
|   |  | County-wide                       | Chuckanut Bay | Chuckanut/Padden | Lake Whatcom     | Hillsdale/Emerald Lake | N. B'ham/King Mtn | NW B'ham/Airport | Silver Creek/Barret Lake Watershed UA | Ferndale East & West UGA | Birch Bay | County Staff |
| *Audiences and issues as identified in the NPDES Phase II Stormwater Permit. Please see Appendix I. |  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
| <b>General public</b>   | General impacts of stormwater flows into surface waters.   | f                                 |               |                  | e, f, h          |                        |                   |                  |                                       |                          | a, f, p   |              |
|   | Impacts from impervious surfaces.  | f                                 |               |                  | e, f, h          |                        |                   |                  |                                       |                          | a, f, p   |              |
|   | Source control BMPs & environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers. | f                                 |               |                  | e, f, h, j, r, s |                        |                   |                  |                                       |                          | a, f, p   |              |
| <b>General public, businesses, including home-based and mobile businesses</b>                       | BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.                        | b                                 |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | Impacts of illicit discharges and how to report them.  |                                   |               |                  |                  |                        |                   |                  |                                       |                          | a         |              |
| <b>Homeowners, landscapers and property managers</b>  | Yard care techniques protective of water quality.  | f                                 |               |                  | e, f, h, r, s    |                        |                   |                  |                                       |                          | a, f      |              |
|   | BMPs for use and storage of pesticides and fertilizers.  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | BMPs for carpet cleaning and auto repair and maintenance.  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.                                  | f                                 |               |                  | e, f             |                        |                   |                  |                                       |                          | a, f      |              |
|   | Stormwater pond maintenance.   |                                   |               |                  | d                |                        |                   |                  |                                       | d                        | d         | u            |
|   | <b>Other:</b> Septic system maintenance.   | c                                 |               |                  | c                |                        |                   |                  |                                       |                          | c         |              |
|   | <b>Other:</b> Funding issues.  |                                   |               |                  | i, j, l          |                        |                   |                  |                                       |                          |           |              |
| <b>Engineers, contractors, developers, review staff and land use planners</b>                       | Technical standards for stormwater site and erosion control plans.   |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.                                  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | Stormwater treatment and flow control BMPs.  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | <b>Other:</b> Phase II Permit requirements   |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           | t            |
| <b>Elected Officials</b>  | Funding issues.  |                                   |               |                  |                  |                        |                   |                  |                                       |                          |           |              |
|   | Phase II Permit issues.  |                                   | m, n, o       | m, n, o          | k, m, n, o       | m, n, o                | m, n, o           | m, n, o          | m, n, o                               | m, n, o                  |           | u            |

## IV. Summary of Interview Results

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### Overview

Six in-person interviews were conducted as part of the research for this report. Five interviewees were either County staff involved directly with stormwater outreach and education in Whatcom County, or were contracted by the County to conduct outreach. One interviewee is an Ecology staff member involved in stormwater outreach/education compliance. A complete list of interviewees and interview questions is included in Appendix II. The following is a summary of the information gathered from these interviews.

### What Is Working Well

- Whatcom County is very supportive of other entities' stormwater outreach and education efforts and takes steps to support them. This is an efficient way to stretch resources. For example:
  - WSU Whatcom County Extension's work on the Sustainable Landscaping Program.
- Several Whatcom County staff are in the field, talking directly with homeowners and businesses about a variety of issues on a (nearly) daily basis. These issues include:
  - Septic maintenance/repair
  - Stormwater management
  - Hazardous material handling, storage, and disposal
- Whatcom County staff are doing a good job of leveraging existing efforts. For example, bringing septic maintenance materials to the County fair and the Salmon Summit.
- There has been a fair degree of cooperation and coordination with the City of Bellingham on stormwater issues, particularly in the Lake Whatcom watershed. For example:
  - Interlocal agreements for septic outreach, with quarterly workshops in the Lake Whatcom watershed.

### Challenges for Outreach

- There is a lack of consistent documentation of outreach efforts (numbers reached, evaluation of program, follow-up, materials handed out).
- Inconsistent funding negatively affects outreach efforts. For example, the Sustainable Landscaping program needs to have a predictable offering of classes, with consistent follow-up.
- There is a need to go "beyond the classroom" to web-based education. This has not yet occurred. For example, notebooks created for the Sustainable Landscaping program could easily be online but are not.
- There is a need for getting a better handle on existing conditions.
- Demonstration sites are needed, particularly for Low Impact Development/Green Stormwater Infrastructure practices.

- Many different departments and people are doing outreach so information is scattered and not always reported completely or accurately.
- Incentive programs are still in their infancy; they need to be explored further and expanded.
- Programs need to be targeted more effectively. Some efforts are being targeted in areas where issues are not as dire as in others.
- Attendance at events can be challenging. A lot of organizers expressed disappointment by low turnout. Better use of social and other media is needed to spread the word.
- There needs to be a comprehensive program aimed at businesses. It is currently “scattered.”
- A stormwater hero program should be created as incentive to change behaviors.
- Outreach conducted in Birch Bay has too many target audiences; staff are spread too thin.
- Sudden Valley, a private community association located within the Lake Whatcom Watershed, is the most populated area of the County’s portion of the watershed and has unique problems. These have been extremely difficult to address and will require a targeted approach.

## V. Relevant Resources

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There is an abundance of educational materials and tools relating to stormwater and nonpoint pollution that have been created and made available for public use. Many of these can be found through EPA’s resources although some information is spread across multiple pages within EPA’s massive website and can be difficult to locate.

Individual states have also created custom outreach materials for their programs and there are dozens of websites offering free tools for engaging communities on stormwater pollution. The following section provides a summary of many of the outreach tools and resources available and may allow for customization by municipalities that wish to use the materials in their outreach efforts. While not an exhaustive list, it includes several of the essential EPA and Ecology outreach resources available, and many of the sites listed offer links to additional tools, manuals, and materials.

### WA Department of Ecology

#### 1. **Focus on Stormwater Public Education and Outreach**

This document provides general guidance on important elements of an outreach program including linking the program to permit requirements, customizing to reach target audience, and the importance of evaluation. The document also provides links to other resources including EPA, Puget Sound Partnership, and Ecology’s stormwater outreach pages.

<http://www.ecy.wa.gov/biblio/0710092.html>

2. **Washington Waters — Ours to Protect Campaign**

Ecology offers a set of materials for outreach use including posters, bookmarks, a video, and posters. Also included are interactive products (stormwater quiz, stormwater survey, and color-in bookmarks) and directions for how to customize the materials for your organization and events.

<http://www.ecy.wa.gov/biblio/0710058.html>

3. **Other**

Ecology provides some resources for municipalities regarding developing a Public Education and Outreach program. A list of resources is available at

[http://www.ecy.wa.gov/programs/wq/stormwater/municipal/public\\_outreach\\_resources.html](http://www.ecy.wa.gov/programs/wq/stormwater/municipal/public_outreach_resources.html)

## US Environmental Protection Agency

1. **EPA Nonpoint Source Outreach Toolbox**

This toolbox is a comprehensive collection of information for outreach including guide books (see **Getting in Step** below); templates for educational materials; a searchable catalog of campaign, website, and other outreach materials; sample surveys; and more. The tool allows users to search by state for materials created by other organizations that are available for use.

<http://cfpub.epa.gov/npstbx/index.html>

2. **Getting In Step: Outreach Series**

This guide offers a wide range of tools to help engage stakeholders including how to develop messages for the community, deliver outreach, use social media, and evaluate programs. It includes a comprehensive start-to-finish manual for developing and implementing an outreach program.

[www.epa.gov/nps/toolbox](http://www.epa.gov/nps/toolbox)

3. **Community Culture and the Environment: A Guide to Understanding a Sense of Place**

Understanding the community culture is essential for implementing effective outreach. This guide provides in-depth guidance on targeting the audience, setting goals, collecting and analyzing data, and utilizing appropriate outreach materials.

[http://www.epa.gov/care/library/community\\_culture.pdf](http://www.epa.gov/care/library/community_culture.pdf)

4. **Stormwater Outreach Materials**

There are numerous resources developed by EPA related to stormwater education. This site provides links to information for developers, landscapers, and homeowners. Products such as door hangers, posters, brochures, bookmarks, and placemats can be customized by the local government.

<http://cfpub.epa.gov/npdes/stormwatermonth.cfm>

## 5. **Surf Your Watershed**

This online service allows users to locate their watershed and learn about its condition. It also points users to the partnerships working to protect it. The site includes information on population, area, land use, environmental issues, watershed groups, and water quality. There is also a tool to map the watershed.

[www.epa.gov/surf](http://www.epa.gov/surf).

## **Other States**

### 1. **California Storm Water Toolbox**

California's Environmental Protection Agency developed a set of educational and outreach tools as part of their "Erase the Waste" campaign. This campaign is focused on reducing pollution from stormwater throughout the coastal and inland communities. The toolbox contains multilingual electronic materials including ads, posters, radio PSAs, and collateral materials free of charge.

[http://www.waterboards.ca.gov/water\\_issues/programs/outreach/erase\\_waste/](http://www.waterboards.ca.gov/water_issues/programs/outreach/erase_waste/)

### 2. **South Carolina Polluted Runoff Outreach Toolbox**

Outreach materials on a variety of non-point pollution and stormwater topics are available through South Carolina's Environmental Protection Agency. Also provided, are tips on developing an outreach program, and additional resources.

[www.scdhec.gov/environ-ment/water/npstoolbox](http://www.scdhec.gov/environ-ment/water/npstoolbox)

### 3. **Florida Department of Environmental Protection Stormwater Educational Toolkit**

The Florida DEP has developed this resource of publications and outreach materials that can be adapted to a local jurisdiction's needs. The documents include flyers, bookmarks, posters, stickers, and other outreach materials that have been created to address everything from pet waste and yard care to septic systems and composting. Information on how to obtain and revise the flyers is provided. The toolkit is in three volumes targeting households (Volume 1), businesses (Volume 2) and youth (Volume 3).

<http://www.stormwater.cecs.ucf.edu/toolkit/index.htm>

## **OTHER**

### 1. **Enviroscapes**

Enviroscapes is a small business based in Washington D.C. that creates and sells models that are used as learning tools. Scale models demonstrate in a hands-on fashion how water pollution is generated and where it flows. The company has created a suite of models that address wetlands functions, hazardous waste, nonpoint pollution, waste management, and more.

<http://www.enviroscapes.com>

## VI. Gaps, Opportunities, and Recommendations

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### Overall Gaps in Whatcom County Public Outreach on Stormwater

The following list is a summary of the overall gaps and challenges found in Whatcom County's stormwater education and outreach programs. These gaps and challenges are a synthesis of findings from all phases of the research associated with this report (interviews, on-line research, and review of materials) and reflect the consultant team's opinion.

1. There is no centralized repository for outreach materials that have been created and used in various programs and initiatives. Most of this knowledge is linked to a specific person/individual who was working on the project at the time.
2. There is no archive of past events and/or a description of what happened at them. It is very difficult to find information on past neighborhood outreach efforts.
3. In some programs, staff rely on their own judgment to determine how best to conduct outreach/who to target their focus.

### Opportunities and Recommendations

The following opportunities and recommendations reflect the consultant team's own opinion based on interviews and research associated with this report.

- 1. Create an inventory of outreach events**

Create an inventory of outreach events that includes details on dates; number of participants; audience type; location within Whatcom's watersheds and the regulated NPDES permit areas; materials and resources utilized; funding support; evaluation of effectiveness of the outreach; partners and/or contractors; and any updates made or tracking used to follow-up post outreach.

- 2. Create a NPDES Phase II area funding mechanism**

In 2009, Whatcom County staff began preliminary outreach to the Sudden Valley Community Association and the Geneva Neighborhood Association about the need to create a stable funding mechanism to combat stormwater related runoff problems.<sup>4</sup> Interviews with County staff reinforced the need to create a stable funding mechanism. In 2010, CH2MHill did a study looking at options for a stormwater service area. The report for this study should be re-visited given the 2013 Phase II permit requirements regarding Low Impact Development requirements for new development and other additional permit requirements.

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<sup>4</sup> Whatcom County NPDES Phase II Stormwater Management Program: 2010 Compliance Report.

- 3. Fund a position that provides overall coordinated outreach**  
Fund a position to coordinate stormwater related outreach in the Phase II regulated areas of Whatcom County. A report analyzing funding options by CH2MHill should be revisited.
- 4. Create an interlocal agreement with the City of Bellingham to support an outreach position**  
Partner with the City of Bellingham to support an outreach position focused on targeted outreach in the Lake Whatcom watershed.
- 5. Build on opportunities to coordinate with other local entities**  
Build on current opportunities to coordinate with other local entities on stormwater related outreach including non-profits and other government entities such as the City of Bellingham and WSU Whatcom County Extension.
- 6. Expand outreach tracking**  
Expand on the many opportunities for continued tracking to determine if outreach efforts have been effective at achieving behavior changes.
- 7. Improve web-based tools for outreach and data sharing and education**
  - 75% of people say they use on-line tools for learning (Sue Blake, personal communication).
  - Create online learning opportunities for current programs so that there is an option for those who are not able to participate (green gardening program, for example).
  - The Whatcom Conservation District has set up a clickable map with water quality monitoring data. They would like to pool resources and efficiently provide water quality data.
  - Continue support for effort to coordinate water quality data across entities and jurisdictions.
  - Explore ways to make changes in how people use the County's website. Develop a method to communicate trends in fecal coliform data and other important data and relate it to simple clear actions people can implement.
- 8. Create demonstration sites and associated programs**  
People need to see what is being talked about, especially around LID for landscaping.
- 9. Get back to basics**  
Create basic stewardship messages identifying problems and link them to specific data.
- 10. Create an education and outreach program reporting template**  
Create a template that addresses the four questions that Ecology uses for evaluating stormwater education programs and is inclusive of the language from the NPDES permit (Appendix I).

**11. Procure and use staff training materials from other jurisdictions**

Utilize staff training from similar jurisdictions that have been successful, such as Skagit County.

**12. Interview additional key people to further refine gaps and opportunities contained in this report**

- Kyle Dodd, Environmental Health Supervisor with the Whatcom County Health Department OSS program
- Joe Rutan, Assistant Director of Whatcom County Public Works/County Engineer regarding O&M
- Julia McHugh with Ecology’s local source control program regarding guidance to local government source control people on prioritization of efforts
- Sylvia Graham and Mindy Collins (source control specialists at the City of Bellingham)
- Erika Douglas, Senior Planner with Whatcom County Public Works Natural Resources regarding water quality data coordination efforts

## Appendices

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## Appendix I: NPDES Phase II Permit Requirements for Public Education and Outreach

### Section S5.C.1 Public Education and Outreach

The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee. The goal of the education program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. An education program may be developed locally or regionally. The minimum measures are:

a. No later than two years after the effective date of this Permit, the Permittee shall provide an education and outreach program for the area served by the MS4. The outreach program shall be designed to achieve measurable improvements in the target audience's understanding of the problem and what they can do to solve it. Education and outreach efforts shall be prioritized to target the following audiences and subject areas:

i. General public

- General impacts of stormwater flows into surface waters.
- Impacts from impervious surfaces.
- Source control BMPs and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping and buffers.

ii. General public, businesses, including home-based and mobile businesses

- BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps and other hazardous materials.
- Impacts of illicit discharges and how to report them.

iii. Homeowners, landscapers and property managers

- Yard care techniques protective of water quality.
- BMPs for use and storage of pesticides and fertilizers.
- BMPs for carpet cleaning and auto repair and maintenance.
- Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.
- Stormwater pond maintenance.

iv. Engineers, contractors, developers, review staff and land use planners

- Technical standards for stormwater site and erosion control plans.
- Low Impact Development techniques, including site design, pervious paving, retention of forests and mature trees.

- Stormwater treatment and flow control BMPs.
- b. Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one targeted audience in at least one subject area. The resulting measurements shall be used to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.
- c. Each Permittee shall track and maintain records of public education and outreach activities.

The entire NPDES Phase II permit is available at <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/MODIFIEDpermitDOCS/WWpermitMODsigned.pdf>.

## Appendix II: Interviewees and questions

### Interview questions:

1. Please provide an overview of the stormwater outreach and education efforts that you are involved in. What are the strengths? What are the gaps?
2. What are your big picture thoughts about public outreach and education efforts in Whatcom County related to stormwater? Is it working? What could be improved?
3. Please give examples of materials that have been developed that you think are helpful in achieving outreach goals.
4. Are there programs or efforts beyond Whatcom County that you think we should look at?

### Interviewees:

1. Sue Blake, WSU Whatcom County Extension
2. Lee First, RE Sources for Sustainable Communities
3. Ingrid Enschede, Whatcom County Public Works
4. Ed Halasz, Whatcom County Health Department
5. Christina Maginnis, Ecology
6. Catherine Craver, Whatcom County Planning and Development Services

Appendix III: Whatcom County Stormwater Related Education and Outreach Activities

| PROGRAMS |  |  |   |   |  |                                  |   |  |                                       |   |   |
|----------|--|--|---|---|--|----------------------------------|---|--|---------------------------------------|---|---|
| Code     | Name   | Description  | Audience<br>(reflects audiences identified in NPDES Phase II permit language) | Geographic Focus<br>(includes 8 permitted areas plus Birch Bay)   | Issues addressed<br>(reflects issues covered in NPDES Phase II permit)                                 | Lead Agency/<br>Entity           | Partners  | Contact Name                                 | Contact email or phone #              | Related products and materials  | Timeframe   |
| a        | Birch Bay Watershed & Aquatic Resources Management District (BBWARM) | BBWARM has a stormwater outreach program in the following areas: general stormwater education, pet waste, landowner stewardship, private stormwater systems maintenance, and LID for homeowners with various associated outreach materials. BBWARM has a dedicated funding source from a sub flood zone service charge.                          | Homeowners; General Public; Businesses  | Birch Bay   | Stormwater flows; impacts of impervious surface; pet waste; landscaping and yard care techniques; LID  | Whatcom County Public Works      | various: Birch Bay Water & Sewer Dist., Shellfish Protection Dist., MRC, NSEA, WCD, WSU Extension | Ingrid Enschede, Whatcom County Public Works | iensched@co.whatcom.wa.us<br>715-7450 | 1. BBWARM Brochure (WCPW)<br>2. Fact Sheets on OSS, Conservation Planning, & Riparian Areas (WCD)<br>3. Birch Bay & Terrell Creek State of the Watershed Report 2007, 2013 (NSEA)<br>4. Pet Waste Brochure (WCPW/SPD) | 2010-present  |
| b        | Local Source Control Program/EnviroStars                             | Part of Ecology's Local Source Control Partnership. Whatcom County has one local source control inspector in the Health Department who works with businesses to reduce toxic runoff. Businesses with toxic waste on-site are targeted, and approximately 10 are contacted per month. Local EnviroStars program is also run through this program. | Businesses  | All areas. This program targets businesses in all areas of Whatcom County outside of the City of Bellingham including other cities. | impacts of illicit discharges; use and storage of hazardous materials; stormwater facility maintenance | Whatcom County Health Department | Department of Ecology   | Ed Halasz, Whatcom County Health Department  | ehalasz@co.whatcom.wa.us<br>676-6724  | 1. Letter to businesses<br>2. Program brochure<br>3. EnviroStars brochure   | 2008 - present Ecology grant funding ends July 2013 (funding renewal is expected) |

|   |   |   |                            |   |   |                                  |  |  |                                       |  |  |
|---|---|---|----------------------------|---|---|----------------------------------|--|--|---------------------------------------|--|--|
| c | On-site Sewage Systems (OSS) Homeowner Certification Training             | These workshops train homeowners how to evaluate their OSS and meet inspection requirements. An interlocal contract between the City of Bellingham and Whatcom County exists that requires quarterly septic maintenance workshops in the Lake Whatcom watershed. Health also offers a homeowner on-line training options through their website.   | Homeowners                 | Lake Whatcom; all areas   | Septic system maintenance                               | Whatcom County Health Department | City of Bellingham   | Kyle Dodd, Whatcom County Health Department    | kdodd@co.whatcom.wa.us<br>676-6724    |  | 2002 - present; COB funding ends December 2012; current proposal for continued funding pending Whatcom County Council approval |
| d | Private Stormwater Facilities Maintenance and Operation Education Program | A program targeting owners of private stormwater ponds. Included developing and distributing the Stormwater Facilities Inspection and Maintenance Handbook and conducting stormwater pond inspection and maintenance workshops.   | Homeowners; General Public | Lake Whatcom; Birch Bay; Ferndale East and West UGA                       | Stormwater treatment facilities maintenance             | Whatcom County Public Works      | Work contracted to RE Sources for Sustainable Communities  | Ingrid Enschede, Whatcom County Public Works   | iensched@co.whatcom.wa.us<br>715-7450 | 1. Stormwater Facilities Inspection and Maintenance Handbook (NPDES focus)<br>2. Stormwater Facilities Inspection and Maintenance Handbook for Private Community Stormwater Systems (Birch Bay focus)<br>3. Final Reports for Stormwater Pond Education and Outreach Program | 2010 - 2011  |
| e | Silver Beach Creek Watershed Outreach Pilot Program                       | A City of Bellingham-led PSP grant funded program in cooperation with partners. This program included a review of other phosphorus reduction programs, a survey of Silver Beach Creek watershed residents, a focus group, and the development and purchase of education and incentive materials. Efforts have also included public presentations, meetings and presentations to Home Owners Associations. | General Public; Homeowners | Lake Whatcom Watershed residents (within the Silver Beach Creek Watrshed) | Low Impact Development techniques; yard care techniques | City of Bellingham               | Whatcom County Public Works; Lake Whatcom Water and Sewer District; WSU Whatcom County Extension | Emily Johnson, City of Bellingham Public Works | eejohnson@cob.org 778-7970            | 1. Silver Beach Creek Outreach Program: Final Report<br>2. Native Plant Gift Certificates<br>3. P-free Fertilizer Gift Certificates<br>4. Dog Leash Scoop Lights<br>5. Car Wash Coupons<br>6. Rain Barrels (95 gallon)<br>7. Dog Waste Bags and Dispensers                   | 2009   |

|   |   |   |                               |   |  |   |   |                          |                            |  |                 |
|---|---|---|-------------------------------|---|--|---|---|--------------------------|----------------------------|--|-----------------|
| f | Sustainable Landscaping Educational Program | An education program started in 2010 to educate Lake Whatcom Watershed residents about responsible landscaping practices to protect water quality. The program was expanded in 2011 to include all Whatcom County residents. Participants are required to sign a pledge agreement to make sustainable changes in their landscape and to "Pay Forward" the knowledge and experience they gained from the program. Program also includes outreach to elected officials and developing on-line community training opportunities. | Homeowners; Elected Officials | Initially Lake Whatcom watershed residents; then all Whatcom County residents | Yard care techniques; stormwater flows; impacts from impervious surfaces; source control and environmental stewardship | WSU-Whatcom County Extension (under contract from Whatcom County) | Whatcom County Public Works; City of Bellingham | Sue Blake, WSU Extension | sblake@wsu.edu<br>676-6736 | 1. Gardening Green Notebook<br>2. 2011 Technical Memorandum: <i>Lake Whatcom Community Outreach - Runoff/Phosphorus Reduction through Residential Landscape Practices</i><br>3. On-line training materials (website & newsletters)<br>4. Sustainable practices diorama<br>5. 2013 Technical Memorandum | 2010 to present |
|---|---|---|-------------------------------|---|--|---|---|--------------------------|----------------------------|--|-----------------|

**COORDINATION EFFORTS**

| Code | Name                             | Description  | Audience                   | Geographic Focus | Issues addressed   | Lead Agency/Entity              | Partners   | Contact Name                                   | Contact #                             | Related products and materials  | Time-frame |
|------|----------------------------------|--|----------------------------|------------------|--|---------------------------------|--|--|---------------------------------------|---|------------|
| g    | Birch Bay Education Coordination | A group of agencies and organizations doing water related education in the Birch Bay watershed that meets annually to plan joint education projects.             | General Public; Homeowners | Birch Bay        | General impacts of stormwater flows; impacts from impervious surfaces; source control BMPs; yard care techniques | N/A                             | BBWARM, BBWSD, Birch Bay State Park, NSEA, MRC   | Ingrid Enschede, Whatcom County Public Works   | iensched@co.whatcom.wa.us<br>715-7450 |   |            |
| h    | Lake Whatcom Education Team      | A sub-group under the Lake Whatcom Management Program that meets regularly to develop, coordinate and review outreach efforts within the Lake Whatcom Watershed. | Homeowners; General Public | Lake Whatcom     | General impacts of stormwater flows; impacts from impervious surfaces; source control BMPs; yard care techniques | Lake Whatcom Management Program | Whatcom County, City of Bellingham, WSU Extension, Sudden Valley Community Association | Emily Johnson, City of Bellingham Public Works | eejohnson@cob.org<br>778-7970         | 1. Phosphorus Brochure<br>2. TMDL Brochure<br>3. Car Wash Brochure<br>4. Lake Whatcom Watershed Residents' Guide<br>5. e-Newsletter<br>6. Website (lakewhatcom.whatcomcounty.org) | Ongoing    |

## PRESENTATIONS

| Code | Name   | Description  | Audience                           | Geographic Focus | Issues addressed                          | Lead Agency/Entity          | Partners | Contact Name | Contact # | Related products and materials | Time-frame |
|------|--|--|------------------------------------|------------------|---|-----------------------------|----------|--------------|-----------|--------------------------------|------------|
| i    | Geneva Neighborhood Association                  | Continued outreach on the issue of creating a stable funding mechanism.      | Homeowners; General Public         | Lake Whatcom     | Funding issues                            | Whatcom County Public Works | N/A      |              |           |                                | 2010       |
| j    | Geneva Neighborhood Association                  | Outreach on NPDES Phase II permit requirements and Lake Whatcom TMDL issues. | Homeowners; General Public         | Lake Whatcom     | Phase II permit issues; TMDL requirements | Whatcom County Public Works | N/A      |              |           |                                | 2011       |
| k    | Lake Whatcom Joint Policy Group                  | Several presentations regarding NPDES Phase II permit requirements.          | Elected Officials and Policymakers | Lake Whatcom     | Phase II permit issues                    | Whatcom County Public Works | N/A      |              |           |                                | 2011       |
| l    | Sudden Valley Community Association              | Continued outreach on the issue of creating a stable funding mechanism.      | Homeowners; General Public         | Lake Whatcom     | Funding issues                            | Whatcom County Public Works | N/A      |              |           |                                | 2011       |
| m    | Whatcom County Council                           | Two presentations regarding NPDES Phase II permit requirements.              | Elected Officials                  | All areas        | Phase II permit issues                    | Whatcom County Public Works | N/A      |              |           |                                | 2010       |
| n    | Whatcom County Flood Control Zone Advisory Board | Presentation in July 2012 regarding NPDES Phase II Permit requirements.      | Elected Officials                  | All areas        | Phase II permit issues                    | Whatcom County Public Works | N/A      |              |           |                                | 2010       |
| o    | Whatcom County Utility Coordinating Council      | Two presentations on NPDES Phase II permit requirements.                     | Business and Industry              | All areas        | Phase II permit issues                    | Whatcom County Public Works | N/A      |              |           |                                | 2010       |

## EVENTS

|   | Name                     | Description  | Audience       | Geographic Focus | Issues addressed   | Lead Agency/Entity                                  | Partners                                    | Contact Name                                 | Contact #                             | Related products and materials | Time-frame            |
|---|--------------------------|--|----------------|------------------|--|---|---|--|---------------------------------------|--------------------------------|-----------------------|
| p | Birch Bay Discovery Days | Joint outreach booth at annual event in Birch Bay.   | General Public | Birch Bay        | Yard care techniques; source control BMPS; environmental stewardship actions | Whatcom County Public Works                         | MRC, NSEA, Birch Bay Water & Sewer District | Ingrid Enschede, Whatcom County Public Works | iensched@co.whatcom.wa.us<br>715-7450 |                                | Annual event - July   |
| q | Salmon Summit            | Past County-wide annual outreach event that showcased restoration projects and built community support for salmon recovery. There are no plans to hold this event again. | General Public | All areas        | Septic maintenance; pet waste; landscaping; yard care techniques             | Nooksack Recovery Team (original); NSEA (last year) | various                                     | N/A  | N/A                                   |                                | mid-90s to about 2000 |

|   |                                      |  |                |                         |  |                                       |        |   |   |   |              |
|---|--------------------------------------|--|----------------|-------------------------|--|---------------------------------------|--------|---|---|---|--------------|
| r | Silver Beach Creek Bioswale Outreach | An outreach program targeted specifically at residents of the Silver Beach Creek neighborhood adjacent to or near the Silver Beach Creek Bioswale. This program included a half-day workshop that engaged residents in becoming long-term stewards of the bioswale . The event included a bioswale tour and hands-on learning opportunities regarding lawn care and pet waste practices. | Homeowners     | Lake Whatcom            | Yard care techniques; source control BMPS; enviornmental stewardship actions | Whatcom County Public Works           | N/A    | Cathy Craver, Whatcom County Public Works | ccraver@co.whatcom.wa.us<br>715-7450                                | Silver Beach Creek Outreach: Final Report | June 2012    |
| s | Water Week                           | An annual county-wide event sponsored by the Whatcom Watershed Information Network. Whatcom County has participated by scheduling education events (e.g., Birch Bay rain barrel workshop, Sustainable Landscaping tour) to fall during water week.   | General Public | Lake Whatcom; Birch Bay | varies   | Whatcom Watershed Information Network | varies | N/A                                       | <a href="http://www.whatcomwin.org/">http://www.whatcomwin.org/</a> |   | Annual event |

**TRAININGS**

| Code | Name            | Description   | Audience     | Geographic Focus | Issues addressed             | Lead Agency/Entity          | Partners | Contact Name | Contact # | Related products and materials | Time-frame |
|------|-----------------|---|--------------|------------------|------------------------------|-----------------------------|----------|--------------|-----------|--------------------------------|------------|
| t    | Staff trainings | NPDES Phase II Permit training sessions for Whatcom County Planning and Development Services and Public Works Engineering Services staff. | County staff | All areas        | NPDES Phase II permit issues | Whatcom County Public Works |          |              |           |                                | 2009       |
| u    | Staff trainings | Conducted two field stormwater treatment vault maintenance training sessions for county staff.  | County staff | All areas        | Maintenance                  | Whatcom County Public Works |          |              |           |                                | 2010       |