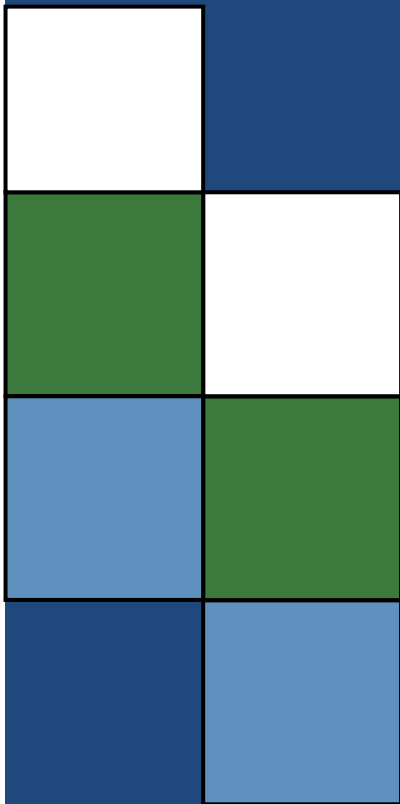




WHATCOM COUNTY
Washington



2015 STORMWATER MANAGEMENT PROGRAM PLAN

*A COMPONENT OF THE WESTERN WASHINGTON PHASE II
MUNICIPAL STORMWATER PERMIT*



PUBLIC WORKS
DEPARTMENT



- 2015 STORMWATER MANAGEMENT PROGRAM PLAN
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1. INTRODUCTION

1.1. Background

Whatcom County has developed the 2015 Stormwater Management Program (SWMP) to meet the conditions of its Western Washington Phase II Municipal Stormwater Permit (Permit) under the National Pollutant Discharge and Elimination System (NPDES). The SWMP is the set of actions and activities to meet the requirements of each component of the Permit. The document is intended to be a planning and implementation document for the public, elected officials, and Whatcom County staff.

The 2015 SWMP highlights the accomplishments from 2014 permit year and activities planned for 2015.

The Permit (frequently referred to as the NPDES Phase II Permit) applies to the operators of regulated small municipal separate stormwater sewer systems (MS4s). A small MS4 is a municipality having a population less than 100,000 according to the U.S. census that are:

- Owned and operated by a public entity that discharge to waters of the U.S.;
- Designed or used to collect or convey stormwater (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).

Whatcom County was issued its first NPDES Phase II Permit in 2007. The current Permit is effective from August 1, 2013-July 31, 2018. The NPDES Phase II Permit can viewed be on the Department of Ecology's website at: www.ecy.wa.gov/programs/wq/stormwater/municipal/phasellww/wwphiipermit.html

Additional information on Whatcom County's NPDES Phase II Program and associated documents can be found at: www.npdes.whatcomcounty.org

1.2. Components of the SWMP

The Permit includes the following components that address management of the MS4:

- Public Education & Outreach
- Public Involvement & Participation
- Illicit Discharge Detection & Elimination (IDDE)
- Controlling Runoff From New Development, Redevelopment, and Construction Sites
- Pollution Prevention, Good Housekeeping, and Operation and Maintenance
- Monitoring and Assessment
- **Compliance With Total Maximum Daily Load Requirements**

1.3. Whatcom County Implementation Responsibilities

Whatcom County Public Works Special Programs Division is the lead in developing the SWMP and coordinating the administration and tracking of Permit requirements to achieve compliance. Special Programs coordinates with other County departments, coordinates with other jurisdictions or agencies as necessary, contracts for specific tasks related to the Permit, and seeks funding opportunities to assist in implementation of Permit requirements and compliance. Table 1-1 summarizes the County departments' participation and responsibilities related to the Permit's program components for 2014.

• **2015 STORMWATER MANAGEMENT PROGRAM PLAN**

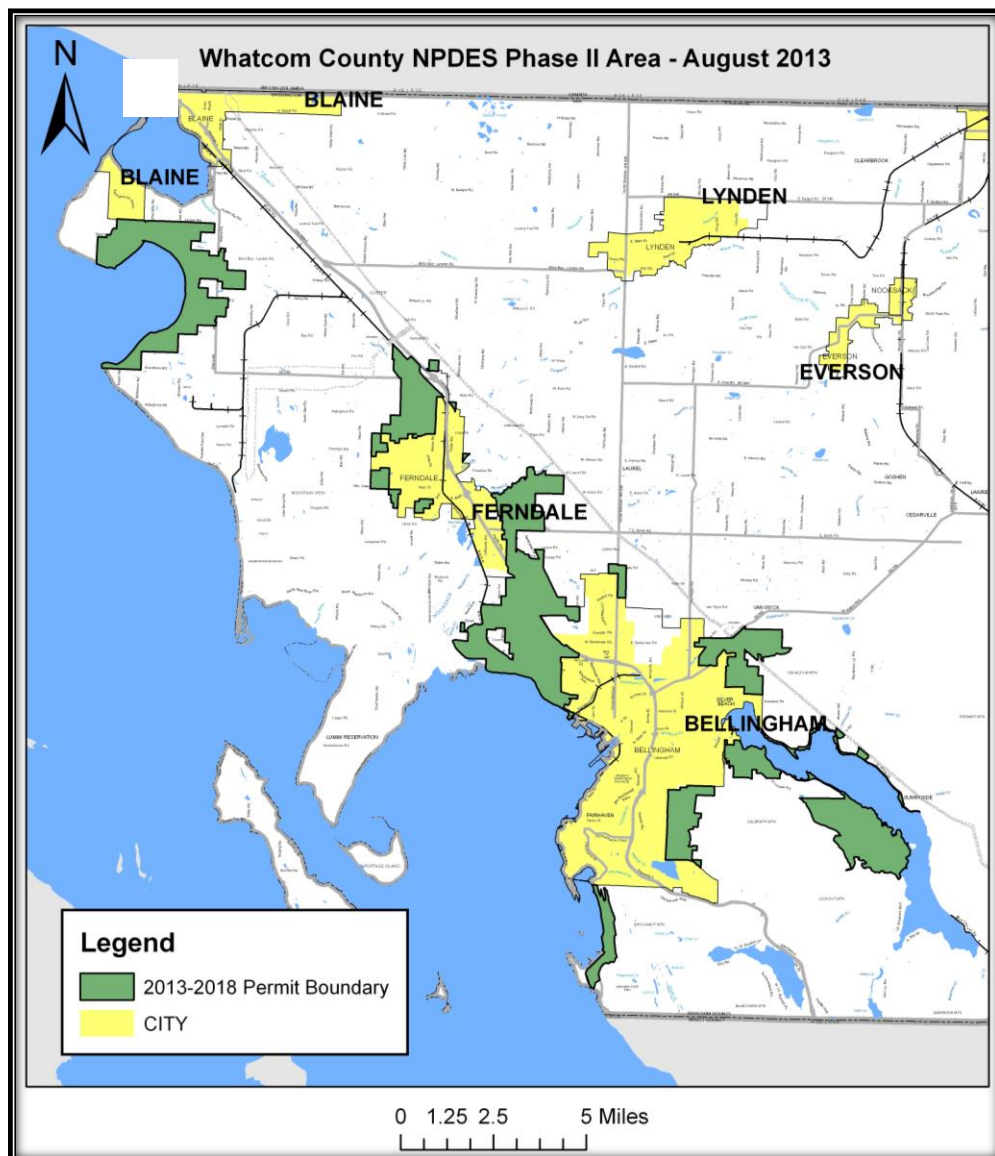
Table 1-1 SWMP Implementation Responsibilities

Program Component	Contributing Department(s)	Department Responsibilities
Public Education and Outreach	Public Works-Special Programs Public Works-Stormwater Planning & Development Services Health	<ul style="list-style-type: none"> ▪ Create outreach opportunities and develop materials for the public.
Public Involvement and Participation	Public Works Planning & Development Services Health	<ul style="list-style-type: none"> ▪ Provide opportunities for the public to participate in the development, implementation, and update of the County's SWMP.
Illicit Discharge Detection and Elimination (IDDE)	Public Works-Maintenance & Operations Public Works-Special Programs Public Works-Stormwater Planning & Development Services Health	<ul style="list-style-type: none"> ▪ Respond and investigate illicit discharge reports. ▪ Provide education to staff and public on IDDE. ▪ Conduct IDDE assessments on County's MS4.
Controlling Runoff from New Development, Redevelopment, and Construction Sites	Public Works-Engineering Services Planning & Development Services	<ul style="list-style-type: none"> ▪ Provide site plan review and construction inspections for stormwater permits. ▪ Conduct/coordinate private stormwater facility inspections.
Pollution Prevention and Operation and Maintenance for Municipal Operators	Facilities Parks Public Works-Maintenance & Operations	<ul style="list-style-type: none"> ▪ Implement adopted maintenance standards for municipally-owned facilities. ▪ Maintain publicly-owned stormwater facilities.
Monitoring	Public Works-Special Programs Public Works-Stormwater Public Works-Natural Resources	<ul style="list-style-type: none"> ▪ Conduct water quality monitoring of outfalls, water bodies, and streams in Phase II area.

1.4. Whatcom County Regulated Area

The NPDES Phase II Permit boundary covers approximately 15,000 acres and generally includes the following areas:

- Bellingham Urban Growth Area
- Sudden Valley
- Portions of the Hillsdale and Emerald Lake area
- Portions along North Shore Drive on Lake Whatcom and Lake Whatcom Boulevard
- Ferndale Urban Growth Area
- Portions along Chuckanut Drive and Chuckanut Bay
- Birch Bay Urban Growth Area (UGA)
- The entire Lake Whatcom watershed is subject to illicit discharge detection and elimination requirements of the Permit.



1.5. Document Organization

Sections of this document are organized in order by the program area components found in the Permit. The program components reference the associated Permit section in parentheses.

- **Section 2.0** addresses Stormwater Management Program Administration (S5.A & B)
- **Section 3.0** addresses Public Education and Outreach (S5.C.1)
- **Section 4.0** addresses Public Involvement (S5.C.2)
- **Section 5.0** addresses Illicit Discharge, Detection, and Elimination (S5.C.3)
- **Section 6.0** addresses Controlling Runoff from New Development, Redevelopment, and Construction Sites (S5.C.4)
- **Section 7.0** addresses Pollution Prevention and Operation of Maintenance for Municipal Operations (S5.C.5)
- **Section 8.0** addresses Compliance with Total Maximum Daily Load Requirements (S7)
- **Section 9.0** addresses Monitoring and Assessment (S8)

2. STORMWATER MANAGEMENT PROGRAM ADMINISTRATION

Stormwater Management Program Administration activities include the coordination, compilation, and tracking of all tasks of the Permit, and the overall administration of the programs to meet NPDES requirements.

2.1. Permit Requirements

The Permit (Section S5.A, B, & C) requires the County to perform the following tasks:

- Update the Stormwater Management Program (SWMP) annually.
- Submit SWMP and annual compliance reports by March 31st of each year.
- Track cost estimates for implementation of tasks for continued evaluation of SWMP development.
- Track the number of inspections, official enforcement actions, and types of public education activities required by the program component.
- Develop coordination mechanisms between departments of the County.
- Develop coordination mechanisms between jurisdictions with shared waterbodies covered under the respective MS4s on stormwater-related policies, programs, and projects
- Design SWMP to achieve reduction of the discharge of pollutants from Whatcom County's MS4 to the maximum extent possible (MEP), meet all known and reasonable methods of prevention, control, and treatment (AKART) requirements of the State Water Pollution Control Act (RCW Chapter 90.48), and to protect water quality.

2.2. Accomplishments in 2014

- Continued coordination mechanisms within Whatcom County departments and with other jurisdictions to achieve compliance with the Permit.
- Continued participation in NPDES Coordinator's Forum for both North and South Sound jurisdictions.
- Finalized Interdepartmental Agreement terms that outline the roles and responsibilities for each department to implement the requirements of the Permit.
- Acquired expanded budget authority for 2015-2016 to implement and expand the NPDES Program

2.3. Planned Activities for 2015

- Refine and standardize cost estimate tracking for implementation of tasks for each department.
- Convene quarterly meetings with departments on NPDES task tracking and reporting.
- Continue and update necessary process, procedures, and amendments to incorporate AKART requirements set for the by the State Water Pollution Control Act.

3. PUBLIC EDUCATION AND OUTREACH

Public Education and Outreach activities focus on providing information regarding permit requirements and stormwater management to the general public, elected officials, and those working or residing in the NPDES Phase II areas.



Private Stormwater Facility Maintenance and Inspection Workshop, October 2014

3.1. Permit Requirements

The Permit (Section S5.C.1) requires the County to perform the following tasks:

- Provide an education and outreach program with prioritized audiences.
- Measure the understanding and adoption of target behaviors for at least one subject area.
- Track and maintain records of public education and outreach activities.

3.2. Accomplishments in 2014

- Contracted with Kulshan Services to conduct 2 workshops on private stormwater facility maintenance that included inspection reports for all participating participants.
- Contracted with WSU Cooperative Extension for NPDES Phase II Community Outreach-Runoff/Phosphorus Reduction through Residential Landscape Practices. WSU provided a Sustainable Landscape series (6 classes of 25 participants) held in the fall of 2014, provided sustainable practices outreach with a diorama, participated during *Water Weeks*, and conducted a post-class survey to evaluate knowledge, attitude, and confidence changes in landscaping practices.
- Provided technical support for the Homeowner Incentive Program (HIP) by assisting in native planting design for HIP-approved projects.
- Staff provided contractors and builders information and education on Permit requirements and general stormwater management BMPs through the building permit application process.
- Staff provided education and outreach materials to businesses regarding source control BMPs and stewardship actions as part of the Health Department's Local Source Control Program.
- Staff participated in workshops for contractors, designers, and suppliers regarding the implementation of Low Impact Development techniques.
- Continued education and outreach opportunities through mailers, workshops, and website updates.
- Continued program and permit updates to elected officials.

3.3. Planned Activities for 2015

- Continue providing the Sustainable Landscaping: Gardening Green class series focusing on Runoff/Phosphorus Reduction through Residential Landscape Practices.
- Continue with private stormwater facility education and outreach workshop in fall of 2015.
- Expand education efforts through additional outreach events and programming.

4. PUBLIC INVOLVEMENT AND PARTICIPATION

Public involvement and participation activities focus on providing opportunities for the public to share input on program development and implementation of the SWMP through various committees and venues of the County.

4.1. Permit Requirements

The Permit (Section S5.C.2) requires the County to perform the following tasks:

- Provide ongoing opportunities for public involvement through advisory councils, watershed committees, and participation in developing rate structures, stewardship programs, environmental activities, or other similar activities.
- Complete the SWMP, Annual Report, with all other related submittals, and make those documents and Permit available to the public.



Whatcom County Courthouse

4.2. Accomplishments in 2014

- Provided current and past SWMP documents, Annual Compliance Report, and all other related submittals on the Whatcom County NPDES Phase II website.
- Provided updates to the public and elected officials on the NPDES Phase II Permit for the County Council and Joint Lake Whatcom Policy Group.
- Provided opportunities for the public to submit comments at all Whatcom County Council meetings, the annual Lake Whatcom Joint Councils and Commissioners meeting, and the NPDES website regarding the SWMP and/or NPDES Phase II Permit.
- Provided a form on the NPDES Phase II website for the public to submit comments on the program or permit electronically.

4.3. Planned Activities for 2015

- Continue providing current and past SWMP, Annual Compliance Report, and other related submittals on the Whatcom County NPDES Phase II website.
- Continue with public meeting announcements for opportunities to comment on the SWMP through the website and submit press releases for major updates.

5. ILLICIT DISCHARGE DETECTION, AND ELIMINATION (IDDE)

The IDDE program focusses on the identification, investigation, termination, cleanup, and reporting of illicit discharges. These activities address both municipal staff and the general public.



Soapy water entering catch basin

5.1. Permit Requirements

The Permit (Section S5.C.3) requires the County to perform the following tasks:

- Implement an ongoing program to detect, report, and remove illicit discharges, connections, or spills that includes storm sewer mapping, implementing ordinances, and a local hotline for reporting.
- By December 31, 2017, complete field screening of outfalls during dry weather conditions on at least 40% of the county's MS4 and average of 12% each year thereafter to detect illicit discharges during dry weather conditions.
- Provide staff and the public ongoing education on IDDE response processes and procedures.
- Track and summarize illicit discharge reporting, responses, and enforcement actions for the Annual Compliance Report and SWMP.

5.2. Accomplishments in 2014

- Continued implementation of IDDE ordinance adopted from 2010.
- Coordinated on illicit discharge and spill investigation, response, and reporting with:
 - Public Works Stormwater Division
 - Public Works Maintenance & Operations Division
 - Health Department
 - Planning & Development Services Department
 - Washington State Department of Ecology Environmental Report Tracking System (ERTS)
- Conducted dry weather field assessments in the Geneva Urban Growth Area (UGA) as part of the program to address non-stormwater discharges, including spills and illicit connections.
- Whatcom County staff responded to 11 of illicit discharges within the NPDES Phase II boundary.
- Whatcom County Health Local Source Control Program conducted approximately 58 visits to businesses educating on illicit discharges, spill prevention, and waste management.
- Continued maintenance and updates of mapping of MS4 outfalls, receiving waters, and structural BMPs.
- Maintained a stormwater drainage and illicit discharge hotline for the public to report spills. The number is published in the phone book and available on the NPDES website.

5.3. Planned Activities for 2015

- Continue coordination with all departments to refine Whatcom County Illicit Discharge Detection and Elimination Program Policy and Procedures Manual.
- Continue to expand and enhance educational opportunities on prevention and reporting of illicit discharges through programs, website updates, and public meeting presentations and outreach.
- Continue to provide education on illicit discharge identification, investigation, and response for all Whatcom County field staff and the public.
- Conduct field screening for illicit discharges for at least 40% of the MS4 to be completed by December 31, 2017.



6. CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT AND CONSTRUCTION SITES

Through the permitting process, stormwater runoff related to development activities can be managed through permit review, inspections, and regulatory mechanisms.

6.1. Permit Requirements

The Permit (Section S5.C.4) requires the County to perform the following tasks:

- Develop, implement, and enforce a program to reduce pollutants in stormwater runoff to a regulated MS4 from new development, redevelopment, and construction site activities.
- Adopt regulations to address runoff from new development, redevelopment, and construction site projects from both public and private projects utilizing the Minimum Requirements, technical thresholds, and definitions of Appendix 1 of the Permit.
- By December 31, 2016, provide provisions to allow for non-structural preventative actions and source reduction approaches, such as Low Impact Development techniques, measures to minimize the creation of impervious surfaces, and measures to minimize the disturbance of native soils and vegetation.
- By December 31, 2016, conduct annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4.



Triangular Silt Dike

6.2. Accomplishments in 2014

- Continued implementation of regulations adopted in 2010 to address runoff from new development, redevelopment, and construction site projects from both public and private projects utilizing the Minimum Requirements, technical thresholds, and definitions in Appendix 1 of the Permit. (ORD 2010-003)
- Continued review of all stormwater site plans and inspections for sediment and erosion control per Permit requirements.
- Required recertification of all site inspection staff for Certified Erosion and Sediment Control Leads (CESCL).
- Continued program for annual inspections of stormwater treatment and flow control BMPs/facilities on parcels greater than 1 acre or are part of a larger development that discharge to the MS4 built from August 2009-present.
- Continued refinement of inspection and enforcement process and procedures regarding the implementation of NPDES-related development regulations.

6.3. Planned Activities for 2015

- Hire consultant for the development and adoption of Low Impact Development (LID) provisions into code by December 31, 2016.
- Continue with program of annual inspections of all stormwater treatment and flow control BMPs/facilities on parcels greater than 1 acre or are part of a larger development that discharge to the MS4 built from August 2009-present.

7. Municipal Operations and Maintenance

Pollution prevention and operation and maintenance for municipal operations include the maintenance of publicly-owned catch basins, ditches, swales, drainage systems, etc. that are part of the County's MS4.



Catch Basin Cleaning in Birch Bay

7.1. Permit Requirements

The Permit (Section S5.C.5) requires the County to perform the following tasks:

- Develop and implement an operations and maintenance (O&M) program to prevent and reduce pollutant runoff from municipal operations.
- Establish maintenance standards as, or more, protective than specified in the 2012 Stormwater Management Manual for Western Washington.
- Conduct inspections of stormwater flow control and treatment facilities (other than catch basins) on an annual basis and implement appropriate maintenance actions.
- Spot check publicly-owned permanent treatment and flow control facilities (other than catch basins) after major storm events.
- Inspect all catch basins and inlets owned and operated by Whatcom County at least once by August 1, 2017, and every two years thereafter.
- Train staff to implement appropriate standards and procedures to protect water quality for Permittee construction, operations, or maintenance activities.

7.2. Accomplishments in 2014

- Cleaned and maintained 11 pre-treatment and flow control vaults, 11 stormwater filter vaults, and 12 bioinfiltration or treatment swales in the NPDES Phase II area. Sediment accumulation is vacuumed out in the pre-treatment and flow control vaults twice a year. The stormwater filter vaults are vacuumed out and have their filter cartridges replaced annually. Swales are mowed and maintained twice a year.
- Conducted ongoing catch basin inspection and cleaning.
- Conducted spot checks on publicly-owned permanent treatment and flow control facilities (other than catch basins) after major storm events.
- Refined and updated asset management database for public and privately-owned stormwater facilities.
- Created specialty Maintenance & Operations crew designated for NPDES activities.

7.3. Planned Activities for 2015

- Continue ongoing database support for NPDES asset management.
- Hire a Stormwater Inspector and associated Maintenance & Operations crew for the NPDES Program.
- Purchase an NPDES vacor truck and crew vehicles for the NPDES designated crew.

8. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS

The NPDES Phase II Permit contains provisions regarding Total Maximum Daily Loads (TMDL) for water bodies listed on the State's 303(d) list of impaired water bodies within the Permit boundaries. Lake Whatcom has been listed for below accepted levels of dissolved oxygen and above accepted levels of bacteria in its tributaries.

Additional information regarding the Lake Whatcom TMDL can be found online at:
<http://www.ecy.wa.gov/programs/wq/tmdl/LkWhatcom/LkWhatcomTMDL.html>

8.1. Status of Lake Whatcom TMDL

In November 2014, the Washington State Department of Ecology submitted the final TMDL to the Environmental Protection Agency (EPA). EPA will have up to 3 months to review the TMDL.

The current NPDES Permit only applies to the more urban areas in the Lake Whatcom watershed. Per Section S7 of the Permit, when the Lake Whatcom TMDL is approved Whatcom County should demonstrate reasonable assurances to manage stormwater from the county-owned and operated MS4 regulated by the Permit that discharges into Lake Whatcom.



Lake Whatcom
View from Basin 1, Bloedel Donovan Park

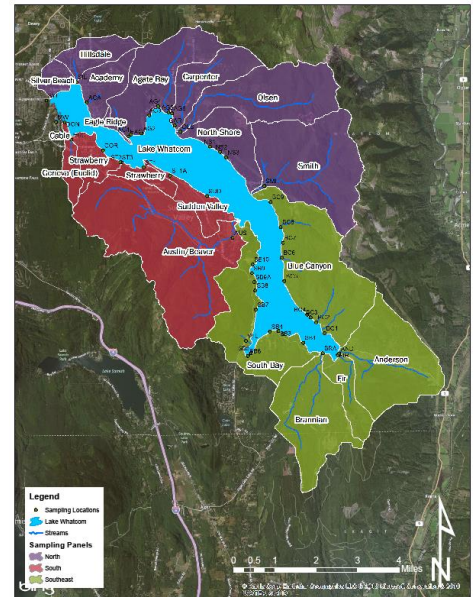
9. MONITORING

This section provides a description of the Permit requirements related to monitoring, descriptions of 2014 accomplishments, and activities planned for 2015.

9.1. Permit Requirements

The Permit (Section S8) requires the County to perform the following tasks:

- Conduct water quality sampling within the NPDES Phase II areas to characterize illicit discharges.
- In the Annual Compliance Report, provide a description of any stormwater monitoring studies conducted, or contracted by, Whatcom County.
- In the Annual Compliance Report, provide an assessment of the appropriateness of BMPs identified by Whatcom County for each component of the SMWP.



Map of Lake Whatcom Tributary Sampling Sites

9.2. Accomplishments in 2014

- Continued contract for the Lake Whatcom Tributary Monitoring Project. The County, City of Bellingham, and Lake Whatcom Water and Sewer District partner in the project for storm event sampling occurring at 24 locations on tributaries within the Lake Whatcom watershed. The data collected is utilized in Lake Whatcom TMDL modeling efforts.
- Completed effectiveness monitoring of the Britton Road Lahti Drive bio-infiltration swale per the Washington State Department of Ecology grant requirements.
- Opted into the Regional Stormwater Monitoring Program (RSMP) as part of NPDES requirements

9.3. Planned Activities for 2015

- Continue the Lake Whatcom Tributary Monitoring Project
- Continue and expand effectiveness monitoring for projects within the NPDES Phase II boundary.
- Participate in the Regional Stormwater Monitoring Program (RSMP).