

2014



2014 Whatcom County Stormwater Management Program

A component of the Western Washington Phase II Municipal Stormwater Permit



Whatcom County
Public Works Department
Stormwater Division



- 2014 WHATCOM COUNTY STORMWATER MANAGEMENT PROGRAM
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1. INTRODUCTION

1.1. Background

Whatcom County has developed the 2014 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.



Catch basin cleaning in Birch Bay

The 2014 SWMP highlights the accomplishments from the previous permit year (2013) and activities for the upcoming permit year (2014).

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/phaseIIww/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
- Compliance With Total Maximum Daily Load Requirements
- Monitoring

1.3. Whatcom County Implementation Responsibilities

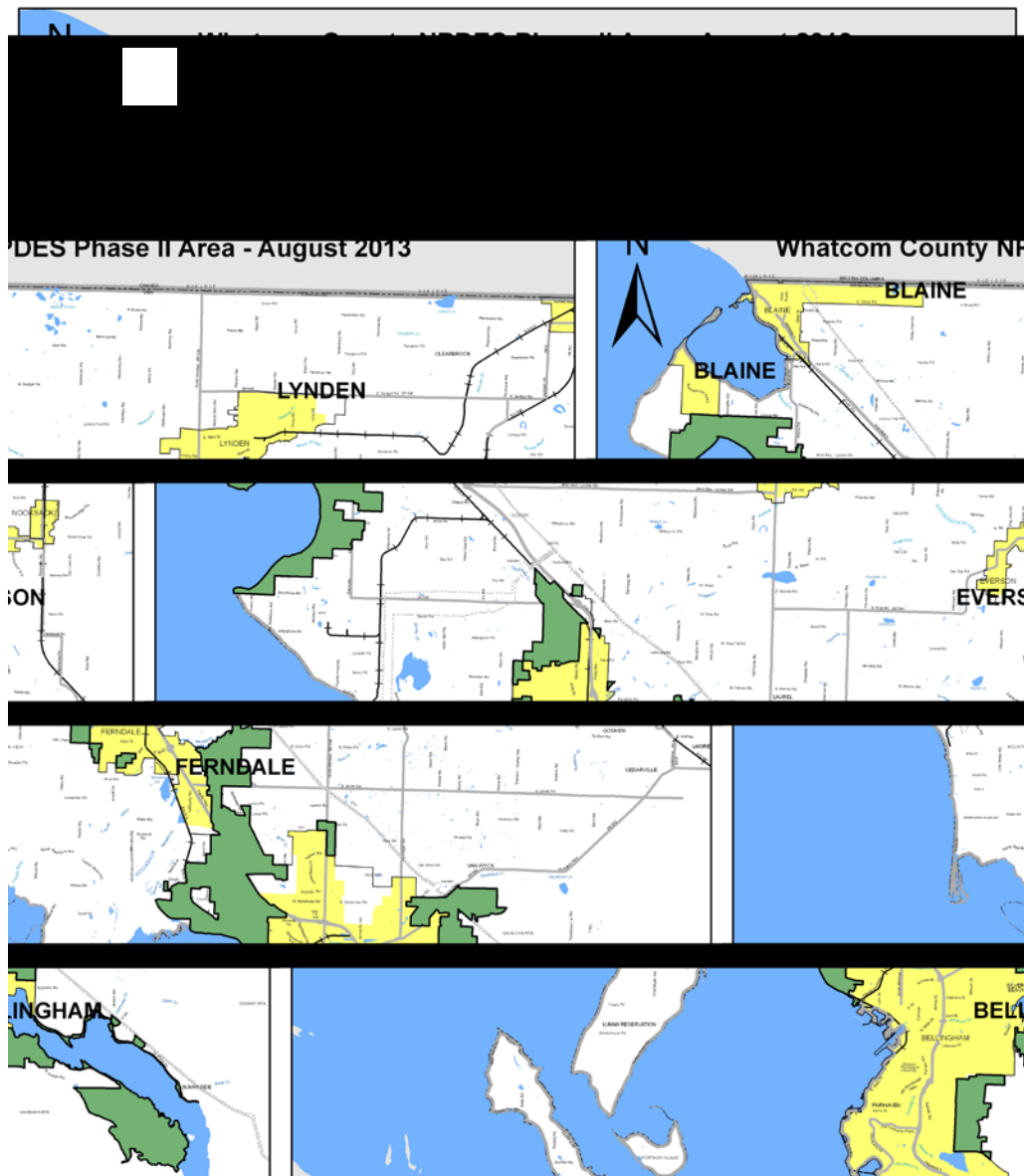
Whatcom County Public Works Stormwater Division is the lead in developing the SWMP and coordinating the administration and tracking of Permit requirements to achieve compliance. The Stormwater Division coordinates with other County departments, coordinates with other jurisdictions or agencies as necessary, 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 2013.

Table 1-1 SWMP Implementation Responsibilities		
Program Component	Contributing Department(s)	Department Responsibilities
Public Education and Outreach	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-Stormwater 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-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-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 (*Beginning August 1, 2013*)
- 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 (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 SWMP annually.
- 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 2013

- Submittal of the SWMP and Annual Compliance Report, for the calendar year 2012, by March 31, 2013.
- 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.
- Coordinate training for all departments on NPDES requirements.

2.3. Planned Activities for 2014

- Update the SWMP with 2013 accomplished activities.
- Develop Interdepartmental Agreements (IA) and Administrative Directives (AD) to formalize internal coordination mechanisms between County departments.
- 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.



Educational sign at the Silver Beach Creek Bioswale in the Hillsdale/Brownsville neighborhood

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 2013

- Hosted a “Silver Beach Creek Bioswale Tour” in June 2013 for the Lahti Drive, Brownsville to East 16th, and West Tributary stormwater facilities.
- Installed educational sign at the Lahti Drive bioinfiltration swale.
- Completed a “Program Evaluation Guidance Report” for stormwater-related education and outreach efforts in Whatcom County. (APPENDIX A)
- Contracted with WSU Extension for NPDES Phase II Community Outreach-Runoff/Phosphorus Reduction through Residential Landscape Practices. WSU provided a Sustainable Landscape session (6 classes of 25 participants) held in the fall of 2013, provided sustainable practices outreach with a diorama, 2 mini workshops during *Water Weeks*, and a post-class survey to evaluate knowledge, attitude, and confidence changes.
- Finalized an Interlocal Agreement between the City of Bellingham and Whatcom County to administer the Homeowner Incentive Program (HIP) within the County portion of the Silver Beach Creek subbasin. HIP focuses on Low Impact Development retrofit options for homeowners by providing incentives for the cost of approved materials and services. This program is funded through a grant lasting until December 31, 2014.
- 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 2014

- Continue providing the Sustainable Landscaping: Gardening Green: class series focusing on Runoff/Phosphorus Reduction through Residential Landscape Practices.
- Continue participation in administering the Homeowners' Incentive Program (HIP) through coordination with the City of Bellingham and a grant from Ecology. Additionally, provide 30 hours of technical support for HIP-approved native landscaping and rain garden projects.
- Conduct a private stormwater facility education and outreach workshop in summer 2014.
- Improve and enhance Permit updates and general stormwater education to the Whatcom County NPDES website.



*Homeowner Incentive Program (HIP) Workshop
Bloedel Donovan Park, Spring 2014*

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 2013

- Provided current and past SWMP documents, Annual Compliance Report, and all other related submittals on the Whatcom County NPDES Phase II website.
- Provided contact information on website to solicit comments from the public on the SWMP and provided opportunities for the public to learn about the Permit.
- 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 and annual Lake Whatcom Joint Councils and Commissioners meeting 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 2014

- 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.



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 training 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 2013

- Continued implementation of IDDE ordinance adopted from 2010.
- Staff from Public Works, Health, and Planning and Development Services received training on Illicit Discharge Detection and Elimination Field Screening from Herrera Environmental Consultants.
- Maintained the Whatcom County stormwater hotline.
- Coordinated on illicit discharge and spill investigation, response, and reporting with:
 - Stormwater Division
 - Maintenance and Operations
 - Health
 - Planning & Development Services
 - Washington State Department of Ecology Environmental Report Tracking System (ERTS)
- Conducted initial dry weather field assessments at the Sudden Valley Commercial Area as part of the program to address non-stormwater discharges, including spills and illicit connections.
- Whatcom County staff responded to three reports of illicit discharges within the NPDES Phase II boundary.

- Whatcom County Health Local Source Control Program conducted approximately 68 visits to businesses educating on illicit discharges, spill prevention, and waste management.
- Continue maintenance and updates of mapping of MS4 outfalls, receiving waters, and structural BMPs.

5.3. Planned Activities for 2014

- Finalize an Interdepartmental Agreement (IDA) with County Health and Planning & Development Services that will outline the roles and responsibilities for the departments and the Stormwater Division to implement the requirements of the Permit regarding IDDE.
- Conduct annual dry weather illicit discharge field assessments in the Geneva neighborhood of the Lake Whatcom watershed.
- Coordinate 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.
- Provide training on illicit discharge identification, investigation, and response for all Whatcom County field staff and the public.
- Continue to refine strategy for illicit discharge enforcement.



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 2013

- 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).
- Adopted the 2012 Stormwater Management Manual for Western Washington within the Whatcom County development codes for the NPDES Phase II area, except the Birch Bay UGA. (The adoption of the 2012 Stormwater Management Manual for Western Washington for the Birch Bay UGA will be adopted by the Permit deadline of December 31, 2016.)

- Adopted the Lake Whatcom Overlay District in the fall of 2013. The overlay district regulates development activities to not allow additional phosphorus loading beyond a forested condition. These regulations are enhanced to address phosphorus as part of the Lake Whatcom TMDL. Additional information regarding the Lake Whatcom TMDL can be found online at:
<http://www.ecy.wa.gov/programs/wq/tmdl/LkWhatcom/LkWhatcomTMDL.html>

6.3.Planned Activities for 2014

- Finalize Interdepartmental Agreement (IDA) with Planning & Development Services and Administrative Directive (AD) with Engineering Services. The IDA and AD will outline the roles and responsibilities for each department to implement the requirements of the Permit.
- Coordinate with Planning & Development Services and Engineering Services on the development and adoption of Low Impact Development (LID) provisions into code by December 31, 2016.
- Conduct 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.
- Coordinate Low Impact Development (LID) trainings and education for Whatcom County staff and the public.

7. POLLUTION PREVENTION AND OPERATION AND MAINTENANCE FOR MUNICIPAL OPERATIONS

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.



Stormwater outfall 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 2013

- Cleaned and maintained 11 pre-treatment and flow control vaults, 9 stormwater filter vaults, and 8 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. In 2013, 132 filter cartridges were replaced in these facilities. 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.

7.3. Planned Activities for 2014

- Finalize Administrative Directive (AD) with the Maintenance & Operations (M&O) Division that will outline the roles and responsibilities of M&O to implement the requirements of the Permit.

- 2014 WHATCOM COUNTY STORMWATER MANAGEMENT PROGRAM

- Add Coronado-Fremont facility to annual cleaning and maintenance schedule. (1 pre-treatment vault, 1 stormwater filter vault, and 1 treatment swale.)
- Contract for annual catch basin cleaning and maintenance.
- Coordinate with M&O to refine a comprehensive plan and schedule for catch basin maintenance based on GIS and stormwater asset management data.
- Contract for ongoing database support for NPDES asset management.
- Continue to refine strategy to implement Operations and Maintenance requirements.



M&O Street Sweeper

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 February 2013, the Washington State Department of Ecology published the ***Draft Lake Whatcom Watershed Total Phosphorus and Bacteria Total Maximum Daily Loads: Volume 2. Water Quality Improvement Report and Implementation Strategy***. The draft was open for public comment that ended on May 28, 2013. After Ecology submits the final TMDL to the Environmental Protection Agency (EPA), EPA has 60 days to approve or amend the TMDL.

The current 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*

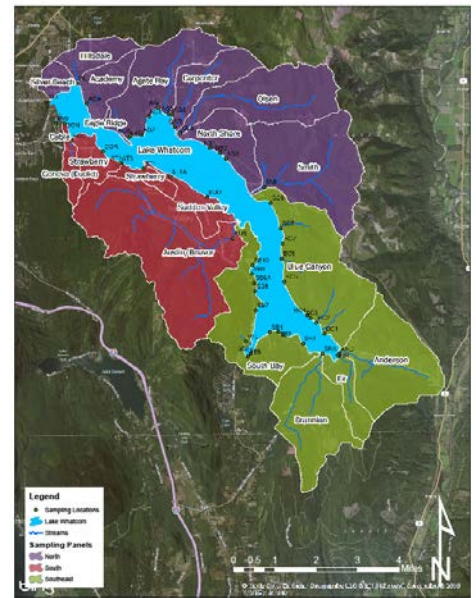
9. MONITORING

This section provides a description of the Permit requirements related to monitoring, descriptions of 2013 accomplishments, and activities planned for 2013.

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.
- Implement long-term stormwater monitoring, and identify and sample (3) outfalls or conveyances.



Map of Lake Whatcom Tributary Sampling Sites

9.2. Accomplishments in 2013

- 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 modeling efforts.
- Continued effectiveness monitoring of the Britton Road Lahti Drive bio-infiltration swale.

9.3. Planned Activities for 2014

- Continue effectiveness monitoring with Whatcom County projects on Britton Road-Lahti Drive, Geneva, and the Silver Beach Creek watershed.
- Conduct dry weather illicit discharge assessments in the Geneva neighborhood during summer 2014.
- Participate in the Regional Stormwater Monitoring Program (RSMP).