

**Snohomish County NPDES Municipal Stormwater Permit  
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**A) Annual update of Stormwater Management Program**

The updated Stormwater Management Program (SWMP) is attached to this annual report.

**B) Program evaluation and other activities narrative**

1. Changes of authorization

None

2. Summary of actions pursuant to S4F

None.

3. Assessment of appropriateness of program design and BMP selection

The stormwater program design and methods of BMP selection set forth in the permit are deemed appropriate by Snohomish County.

4. Updated information about the Structural Control Program

The updated Structural Stormwater Controls Program document is posted on the internet at:

[http://www1.co.snohomish.wa.us/Departments/Public\\_Works/Services/NPDES/default.htm](http://www1.co.snohomish.wa.us/Departments/Public_Works/Services/NPDES/default.htm)

5. Summary of actions taken to comply with applicable TMDL requirements (in response to specific information requirements posed in line 84 of annual report form)

The SWMP accompanying this report contains a detailed description of actions taken in pursuant to TMDL-related permit requirements. The following specific information requirements for this attachment are taken from line 84 of the annual report form.

Specific deadlines or milestones reached in the reporting term and associated dates: See table below.

TMDL-related activities incorporated into the SWMP or other permit requirements, such as monitoring: See table below.

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*Lists or inventories required:* The inventory of businesses for the source control inspection program contains, as required, commercial composting facilities and commercial animal handling facilities within the TMDL areas.

*Description of inspections, including total number of sites targeted and number of inspections conducted:* The inspections required by the TMDLs are inspections of commercial composting facilities and commercial animal handling facilities within the TMDL areas, under the business inspection program. A list of these businesses was compiled in 2009. Inspections were of these businesses were completed in 2011.

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**NPDES permit TMDL Requirements for 2011 - TMDLs for Snohomish Tributaries, North Creek, and Swamp Creek**

Notes: (1) The Swamp Creek TMDL did not contain deadlines. Deadlines for similar elements in the Snohomish Tributaries & North Creek TMDLS apply.  
(2) Action descriptions may vary slightly from permit, due to differences in language among the TMDL requirements in the permit.

<b>Action (deadline)</b>	<b>Comment</b>	<b>SWMP section</b>
Complete inspections of all commercial composting facilities and commercial animal handling facilities in list (12/16/11)	Completed	S5C7
Submit final Bacteria Pollution Control Plan with permit renewal application (8/16/11)	Completed	N/A
Include TMDL-related activities in intergovernmental coordination meetings between Snohomish County and other NPDES municipal permittees with which Snohomish County has interconnected storm sewers or shared waterbodies	Ongoing	S5C3

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Selected monitoring and implementation approaches, where options are described in Appendix 2: Snohomish County is implementing Strategy B, Early Action Approach, under the TMDLs for Snohomish River Tributaries and North Creek. To implement monitoring under the Swamp Creek TMDL, the County will implement Option 2, Indirect Measurement of Pollution Sources. As agreed to with Ecology, the County has followed monitoring timelines and dates for submitting the Quality Assurance Project Plan, Bacteria Pollution Control Plan and Early Action Best Management Action Plan set out in Appendix 2 for the Snohomish River Tributaries and North Creek TMDLs.

Other information necessary to provide a summary of the TMDL implementation status and any associated monitoring: As indicated in the table on page 3, Snohomish County reviewed comment and finalized the Bacteria Pollution Control Plan (BPCP) in 2011. The plan updates the status of required and recommended TMDL implementation activities. The BPCP is available for download at:

[http://www1.co.snohomish.wa.us/Departments/Public\\_Works/Services/NPDES/npdesbacteria.htm](http://www1.co.snohomish.wa.us/Departments/Public_Works/Services/NPDES/npdesbacteria.htm)

As indicated in the SWMP, Snohomish County submitted a Quality Assurance Project Plan (QAPP) to Ecology as required by Appendix 2 and option 2 under the Early Action Approach. The QAPP describes Snohomish County's approach to identifying trends and sources of fecal coliform bacteria in polluted surface waters. The QAPP is available for download at:

[http://www.co.snohomish.wa.us/documents/Departments/Public\\_Works/surfacewatermanagement/water\\_quality/snoco\\_tmdl\\_qapp\\_web\\_version.pdf](http://www.co.snohomish.wa.us/documents/Departments/Public_Works/surfacewatermanagement/water_quality/snoco_tmdl_qapp_web_version.pdf)

In accordance with the QAPP, the following 40 sites in the TMDL watersheds were sampled monthly during 2011 for fecal coliform bacteria, total suspended solids and in situ parameters.

The site selection process, included field reconnaissance which resulted in continuation of several established long term stations and dropping some long term stations due to annexations or presence within a flood or drainage district. New stations were added to address fecal coliform TMDLs or provide greater spatial coverage of a watershed. Maps of sampling locations are found in the QAPP.

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<b>WRIA</b>	<b>Waterbody</b>	<b>Site Name</b>	<b>Location</b>	<b>Latitude <sup>e</sup></b>	<b>Longitude <sup>e</sup></b>
Stillaguamish	Armstrong Creek	ARMM <sup>d</sup>	Mouth at Harvey Crk Rd.	1322648.17	446758.68
Stillaguamish	Church Creek	CCPK	Church Creek Park	1276763.00	456406.30
Stillaguamish	Fish Creek	FISH	Near Mouth on 5 <sup>th</sup> Ave	1301110.02	431863.48
Stillaguamish	Jim Creek	JIMJ <sup>d</sup>	@ Jordan Rd.	1337247.54	434271.35
Stillaguamish	Kackman Crk	KACK <sup>d</sup>	@ 55 <sup>th</sup> Ave NE	1318044.65	446808.35
Stillaguamish	Stillaguamish	MSAR	Arlington	1324529.00	441740.00
Stillaguamish	Stillaguamish	MSMD	Marine Dr.	1274008.29	445119.07
Stillaguamish	Pilchuck Creek	PILC	Near Mouth on 236 <sup>th</sup> St NE	1300909.52	444352.70
Stillaguamish	Portage Creek	PORU	43 <sup>rd</sup> Ave.	1313722.49	432762.92
Stillaguamish	Portage Creek	PORL	212 <sup>th</sup> St NE	1298907.42	436680.80
Stillaguamish	Tributary No. 30	TR30	Silvana Terrace Rd	1285305.73	442597.43
Snohomish	Allen Creek	ACLU	67 <sup>th</sup> Ave NE and 112 St. NE	1321706.76	398457.58
Snohomish	Catherine Creek	CATH	12 <sup>th</sup> St NE	1343413.26	369930.52
Snohomish	Cripple Creek	CCUS	Trombley Rd.	1357493.92	327336.87
Snohomish	Cripple Creek	CCLS	Robinhood Lane	1356435.39	320586.58
Snohomish	Dubuque Creek	DUBQ	OK Mill Road	1346289.00	362621.99
Snohomish	French Creek	FCLU	167 <sup>th</sup> Ave.	1352457.64	332337.77
Snohomish	French Creek	STABLES	Stables Creek @ 96 <sup>th</sup> St. SE	1353489.17	334340.37
Snohomish	Little Pilchuck Creek	LPIL	12 <sup>th</sup> St NE	1343480.00	370061.80
Snohomish	Pilchuck River	PILOK <sup>d</sup>	OK Mill Rd	1345904.54	362397.92
Snohomish	Quilceda Creek	QCLU	172 <sup>nd</sup> St Ave NE	1321621.00	422859.20
Snohomish	Quilceda Creek	QCMFU	67 <sup>th</sup> and 152 <sup>nd</sup>	1321121.03	416237.18
Snohomish	Quilceda Creek	QCWF2 <sup>d</sup>	140 <sup>TH</sup> St. NE	1307497.32	412632.24
Snohomish	Quilceda Creek	QCWD <sup>d</sup>	Wade Rd.	1321532.23	413962.12
Snohomish	Woods Creek	WCMS	Mainstem @ Old Owen Rd. <sup>d</sup>	1364083.31	315630.41
Snohomish	Woods Creek	WCWF	Yeager Road	1374717.33	321461.66
Snohomish	Woods Creek	WCFA <sup>c</sup>	Florence Acres Road	1380266.59	319119.38
Lake Washington	North Creek	NCLU <sup>b</sup>	McCollum Park	1298894.69	323046.66
Lake Washington	North Creek	NCLD <sup>a, b</sup>	County Line at 240 <sup>th</sup> St. SE	1307271.61	287516.32
Lake Washington	North Creek	FILBERT	Filbert at Filbert Drive	1298625.43	300088.05
Lake Washington	North Creek	NCMU	Silver Crk. at 196 <sup>th</sup> St. SE	1303061.05	302302.94
Lake Washington	North Creek	SULFUR	Sulfur Crk. at 196 <sup>th</sup> St. SE	1304326.47	300237.37
Lake Washington	Swamp Creek	SCLU	148 <sup>th</sup> St SW	1288708.69	318462.10
Lake Washington	Swamp Creek	SCLD <sup>b</sup>	County line @ Lockwood Rd.	1292081.00	286995.80
Lake Washington	Little Bear	LBLU	51 <sup>st</sup> St. SE	1313603.09	306691.65
Lake Washington	Little Bear	LBLD	228 <sup>th</sup> St. SE	1318160.87	291010.05
Lake Washington	Little Bear	LBHW	Interurban Blvd	1314135.33	310111.66

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Lake Washington	Little Bear Creek	CUTT	Cutthroat at Hwy 9	1318346.66	294215.94
Lake Washington	Little Bear Creek	DANE	Great Dane at Maltby Rd.	1316479.57	296367.14
Lake Washington	Little Bear Creek	TROT	Trout at Interurban Blvd.	1314973.32	310053.58

Notes:

- a. monitoring subject to existing ILA
- b. potential annexation by 2014
- c. additional samples required to confirm ranking
- d. new long term monitoring location
- e. latitude and longitude are provided in NAD\_1983\_StatePlane\_Washington\_North\_FIPS\_4601\_Feet

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In accordance with the QAPP, the County implemented contaminant source surveys (CSS) upstream of sites which exhibited the highest levels of fecal coliform bacteria concentrations. Wet and dry season CSS were implemented in the Portage and Little Bear Creek sub-basin during CY 2011.

Efforts in Little Bear Creek upstream of LBLU resulted in two referrals to the County water quality hotline and Snohomish Conservation District for follow up. Efforts to work with landowners for implementation of agricultural best management practices are ongoing. Additionally, the County is analyzing flow and fecal coliform data at LBLU to better characterize conditions and assist in a source isolation sample design for the study area.

A multi-agency effort to proactively identify fecal coliform bacteria sources took place in the Portage Creek sub-basin, upstream of site PORU. The effort implemented NPDES requirements and Shellfish Protection Program goals. Coordination with the Stillaguamish Clean Water District, Ecology, Snohomish Health District, Snohomish Conservation District, the City of Arlington, and Stillaguamish tribe resulted in analysis and ranking of partner data. Data were presented to stakeholders at a workshop where basins were prioritized for CSS. Wet and dry season CSS were carried out in Portage Creek where several potential sources were identified. Referrals were made to the County water quality hotline and business inspection programs. Efforts to improve conditions at agricultural sites considered having the potential to pollute are ongoing. A final project report and stakeholder workshop is scheduled for April 2012.

The County is currently analyzing all data, including fecal coliform bacteria, collected from January 2010 through December 2011. Results of the fecal coliform bacteria analysis are used to determine if locations are meeting designated Washington State Water Quality Standards. Sites are also re-ranked in accordance with the percentage of combined season results which exceed wither 100 or 200 colonies/100ml. Sites ranking poorly are prioritized for implementation of contaminant source surveys. Sites which meet standards are considered for discontinuation of monitoring. In addition, data are submitted to Ecology for assessment and potential change of listing category from impaired to not impaired.

Twelve of the 40 locations met both parts of the bacteria standard in 2010 and 2011 respectively. Seven of the 12 locations are listed as a category 4(a) or impaired for fecal coliform bacteria and having a TMDL in place. Data are submitted to EIM through study ID SNOCO\_TMDLMONITORING  
<https://fortress.wa.gov/ecy/eimreporting/Detail.asp?Type=Study&ID=66789673&RecordsPerPage=100&RecordPage=1>

Selection of new sites to monitor will occur early 2012 with ongoing monitoring expected in February. Site selection is based upon analysis, Ecology's 305(b) and 303(d) listings not currently being monitored, jurisdictional boundaries and logistics. An addendum to the QAPP, indicating program changes, will be submitted to Ecology in 2012.

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6. Description of any stormwater monitoring studies not included with Annual Stormwater Monitoring Report

None.

7. Operation and maintenance records, if applicable

No changes to these programs, such as modifications to inspection frequencies, were proposed in 2011.

No capital construction project related to drainage system maintenance cost \$25,000 or more.

8. Annexations, incorporations, or jurisdictional boundary changes in the geographic area of coverage during the reporting period, and implications for Snohomish County's Stormwater Management Program.

The table below shows the 2011 municipal annexations of area in unincorporated Snohomish County.

<b>Annexation Name</b>	<b>City</b>	<b>BRB #</b>	<b>Effective Date</b>	<b>Acres</b>
Thompson	Arlington	07-2010	7/8/11	14.0
Hilltop Sports	Arlington	06-2010	7/8/11	29.1
Marshland	Everett	N/A	7/6/11	28.0
Perrinville	Lynnwood	03-2010	4/14/11	4.7
Chain Lake West	Monroe	04-2010	1/21/11	40.5
			<b>Total Acres</b>	<b>116.3</b>

9. Information reported pursuant to permit requirements S9.E.10 and S9.E.11

a) Summary of barriers to implementation of Low Impact Development, and any actions taken to remove the barriers (S9.E.10).

The NPDES Phase 1 municipal stormwater permit defines Low Impact Development (LID) as "a stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic pre-development hydrologic functions."

This definition ranges from construction of physical objects to land use planning and regulation. There are many barriers to implementation of LID in our society. Some of the primary barriers



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at the societal level are the lack of broad agreement about the proper scope of LID, even as bounded by the definition above, and the lack of broad agreement about the proper scope of LID requirements that should be in an NPDES municipal stormwater permit. While Snohomish County is taking part in discussions in many venues about these issues, Snohomish County is not going to unilaterally solve them. There are however, some specific barriers that Snohomish County can address, and has addressed:

- Definition of specific LID best management practices (BMPs) in the Snohomish County Drainage Manual;
- Codes that set forth clear requirements for site planning processes that support the desired outcomes of LID; and
- Technical information in County codes, engineering standards, and the County Drainage Manual that facilitate LID implementation.

In 2010, Snohomish County adopted revisions to County codes, engineering standards, and the County Drainage Manual that addressed these three issues. The site planning processes set forth in Volume I of the 2005 Ecology Stormwater Management Manual were adopted into code, with supporting information in the revised Drainage Manual. The revised code also requires implementation of the "on-site stormwater management BMPs" related to Minimum Requirement 5 of Appendix 1 of the NPDES permit; these BMPs fall squarely in the definition of LID set forth in the permit. The revised Drainage Manual contains technical information needed to implement these code requirements. Finally, Appendix 1-F of the County Drainage Manual designates a set of BMPs as LID BMPs, which will facilitate use of the County's LID code (Chapter 30.63C SCC).

b) Summary of the extent to which basin or watershed planning is being conducted in the Permittee's jurisdiction, either voluntarily, or pursuant to the Growth Management Act or any other requirement (S9.E.11).

No planning as described above is currently being performed by the County. However, Snohomish County has performed extensive water resource planning in past years, including:

- numerous Watershed Management Plans prepared in accordance with Chapter 400-12 WAC;
- drainage reconnaissance mapping performed in the mid-1990s;
- Snohomish County State of the Waters reports (2000);
- Snohomish County State of the Lakes report (2003) and individual lake update reports (2008);
- Drainage Needs Report (2002); and
- State of the Stilly report (2007), related to the Stillaguamish River basin.

In addition to these documents, Snohomish County updated its Comprehensive Plan pursuant to the state Growth Management Act in 2005.

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- c) Identification of areas for potential basin or watershed planning that can incorporate development strategies as a water quality management tool to protect aquatic resources. (S9.E.12).

All of unincorporated Snohomish County fits this description, to the extent that there are no areas in which watershed or basin planning could not incorporate such strategies. The 2011 Public Review Draft NPDES municipal stormwater permit proposes required stormwater basin planning in one of several watersheds in Snohomish County.