

Regional Stormwater Monitoring Program

2015 Annual Report

April 2016



This is the first annual report from the Washington State Department of Ecology (Ecology) on implementation of the Regional Stormwater Monitoring Program (RSMP). The RSMP is a collaborative monitoring program formed by municipal stormwater permittees, state and federal agencies, and other stakeholders. Ecology serves as the program administrator at the request and oversight of the Stormwater Work Group (SWG). Ecology's administration of the program includes managing revenue and expenditures, contracts and projects, and communication of findings.

Why it matters

Local governments in Western Washington spend more than \$250 million per year managing stormwater. Most of these expenditures are driven by Clean Water Act permits issued by Ecology.

The RSMP is designed to provide adaptive management feedback information to improve the permits and help local governments implement the permit requirements as effectively as possible.

Until late 2014, there was no system in place to assess whether our collective approach to managing stormwater was working. The RSMP, designed and overseen by the Stormwater Work Group (SWG), is that system. The SWG is a formal group of stakeholders that has been meeting since 2008 to develop this program, set priorities, and oversee implementation.

Special accommodations

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RSMP launched

The RSMP is funded mainly by cities, counties, large ports, and Washington Department of Transportation through their municipal stormwater permits. In 2014, 91 of the 94 permittees chose to fund all three RSMP components. RSMP activities began in earnest in 2015. U.S. Geological Survey (USGS), Washington Department of Agriculture, and Ecology made direct financial contributions. Many others provided staff and additional resources to enhance RSMP activities.

The RSMP has three broad strategic categories where monitoring is targeted to answer important questions.

Status and trends monitoring

Small streams in the Puget Lowlands were sampled monthly in 2015. Marine nearshore mussel monitoring began in October. Preparations for nearshore sediment sampling in summer 2016 are underway.

Effectiveness studies

Six stormwater management program effectiveness studies focused on Low Impact Development (LID), bioretention, retrofits, and business inspection source control began in 2015. More studies will start in 2016.

Source identification

Permittees' information about their illicit discharge investigations in 2014 was compiled. Analysis in 2016 will inform future studies and source control efforts.

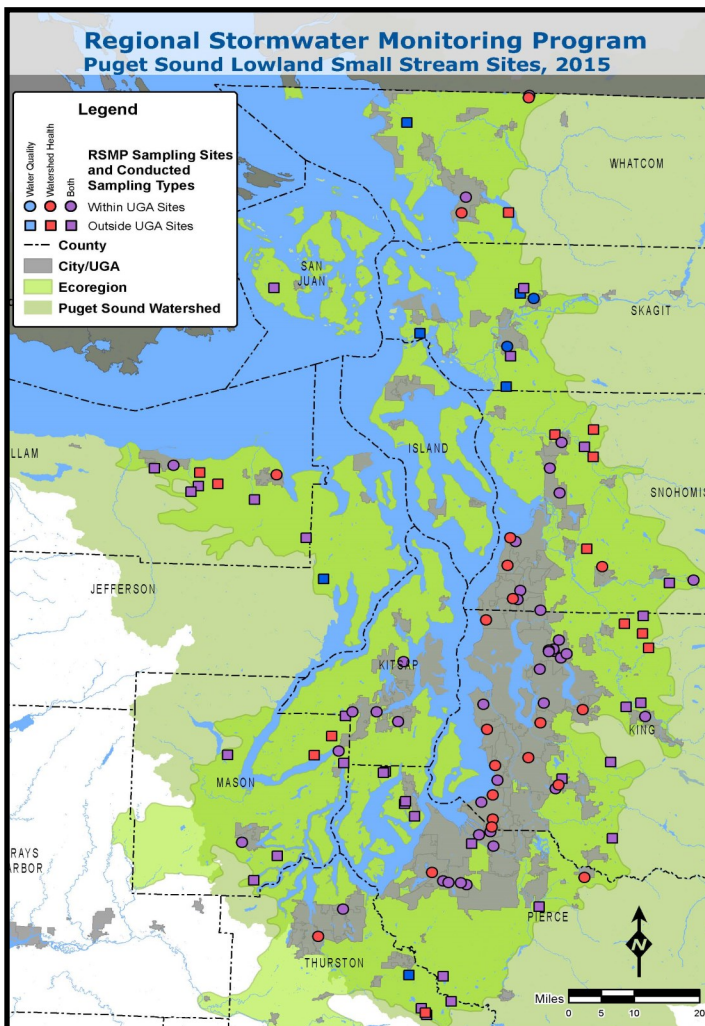


Status and trends monitoring in Puget Sound

Puget Sound Lowland Streams

Ecology was the lead for this RSMP study and managed 12 agreements to accomplish an immense small stream monitoring effort in 2015. Water quality was monitored monthly at 30 sites inside Urban Growth Areas (UGAs) and at another 30 sites outside of UGAs. These 60 sites and an additional 33 sites were sampled in the summer for stream benthos, watershed health, and sediment chemistry.

A total of seven labs conducted the various analyses. Most of the lab data was entered into Ecology's EIM database by the end of 2015. The stream benthos data are expected from the lab in late spring 2016. Formal agreements for interpretation of the results and findings were under negotiation. The final report is expected in early 2017.



Puget Sound marine nearshore mussels

Washington Department of Fish and Wildlife is managing the RSMP caged mussels study.

Mussel cages were deployed in November 2015 and collected in February 2016 at 40 UGA Puget Sound shoreline sites. The tissue will be analyzed in 2016 and a report is expected in early 2017.



Marine nearshore sediment chemistry

USGS will be the project lead on the RSMP Puget Sound marine nearshore sediment sampling study. Three laboratories will be involved with this project. Sampling will be conducted at 40 UGA nearshore sites during the summer of 2016. A report is expected in late 2017.

Nearshore bacteria data analysis

The BEACH coordinator started a bacteria data compilation effort in fall 2015. 103 entities were contacted to provide bacterial indicator data. Analysis of the data and a final report are expected to be completed in late 2016.

Effectiveness studies



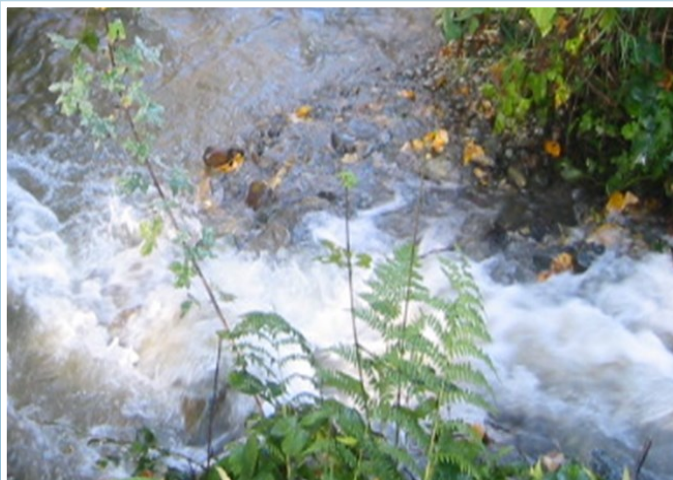
Ecology hosted two workshops in 2014 to facilitate selection of RSMP effectiveness studies, and the SWG approved ten projects. In 2015, Ecology and project proponents developed contract scopes of work for all ten studies. In 2015, contracts for six studies were fully executed; six contract amendments were needed as these projects progressed to further phases.

The scope of work, amendments, and a list of the expected deliverables for each effectiveness study are presented on the RSMP webpage. Project deliverables are posted once approved by the SWG project liaison and Ecology's RSMP Coordinator.

Source identification

The City of Lakewood is leading the project to compile and analyze Illicit Discharge Detection and Elimination information from the permittees' 2015 Annual Reports. 93 cities, counties, and ports in western Washington reported responding to a total of 2,849 potential illicit discharges to their systems in 2014. More than a quarter of these incidents were in Tacoma, and nearly an eighth were in Bellevue.

The goal of this project is to learn which incidents and pollution sources are most common; how the different municipalities handle source identification activities; and which techniques are most effective. Another goal is to identify regional opportunities to reduce common illicit discharges and pollution sources.



Effectiveness study highlights from 2015

1. Highway runoff filtered through the "60/40" compost mix removes toxicity to Coho salmon adults and embryos (U.S. Fish & Wildlife Service).
2. Baseline flow monitoring began in the paired watershed study to assess whether intensive stormwater retrofitting and instream restoration efforts succeed in improving water quality in small streams (City of Redmond).
3. Flow monitoring began as highway stormwater retrofits are made along the Echo Lake shoreline (King County).
4. Flow monitoring began at the Federal Way regional stormwater facility retrofit project. Changes in the headwaters of Hylebos Creek will be tracked (King County).
5. A technical committee, study plan, and draft permittee survey were completed for the business inspection source control study (City of Lakewood).
6. Ten bioretention installations around Puget Sound were selected for hydrologic performance monitoring and evaluation (City of Bellingham).

More effectiveness studies coming

The remaining four projects approved by the SWG in 2014 will begin in early 2016. All remaining RSMP effectiveness study funds will be allocated to new studies to be identified by the SWG in 2016. Planning for this proposal request process began in 2015.



Stormwater Work Group

The SWG sets the priorities for RSMP monitoring activities. The Pooled Resources Oversight Committee (PRO-C) oversees contracting decisions, contractor selection, scope, schedule, and budget; and ensures that all RSMP expenditures follow SWG recommendations.

Both the SWG and the PRO-C have formal charters. The committee members represent stakeholder groups. All meetings are open to the public. Agendas and summaries are posted at the SWG webpage (link below).

Program administration

Ecology hired an RSMP Coordinator in 2014 to manage contracts, meet regularly with the Pooled Resources Oversight Committee, provide quarterly budget and progress reports, and write annual reports.

The permittees' funding contributions toward RSMP for the 2013-2018 permits are maintained in three separate private/local accounts. The budget for status and trends monitoring in Puget Sound is about \$3.5 million; effectiveness studies is about \$6.5 million; and source identification is about \$600,000.

Since inception of the RSMP in March of 2014, a total of \$5,300,491 was encumbered for RSMP projects. A total of \$1,758,790 was spent in 2014-2015.

Five percent of the total 2013-2018 RSMP budget, or \$530,760, is set aside to cover Ecology's costs administering the program. Ecology is committed to the success of the RSMP and has contributed over \$675,000 since 2010 to launch the program.

This Annual Report and the quarterly budget reports written by the RSMP Coordinator are posted at Ecology's RSMP webpage (link below).

Get information and get involved

All RSMP contracts, scopes of work, deliverables, quarterly budget reports, and annual reports are posted at Ecology's RSMP webpage <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp/rsmp.html>. A fact sheet for each project will be published after the scientific work is completed.

The Stormwater Work Group meets five times per year. The meeting schedule and additional information are posted at <http://www.ecy.wa.gov/programs/wq/psmonitoring/swworkgroup.html>.

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