



Regional Stormwater Monitoring Program / Stormwater Action Monitoring

Quarterly Report for January 1 through March 31, 2017

RSMP/SAM accomplishments and key decisions reported for the quarter

- The Regional Stormwater Monitoring Program (RSMP) is changing its name to Stormwater Action Monitoring (SAM) in 2017, in recognition of SAM’s broader role – using the results of monitoring and studies to inform policy decisions and identify the most effective management actions. The first two quarters of this year are a “soft rollout” of the new name. Final adoption is planned for July 1, 2017.
- The Stormwater Work Group (SWG) Effectiveness Subgroup and Ecology’s stormwater engineering team conducted technical reviews by the ten full proposals for a second round of effectiveness studies. Eight proposals were asked to present at the Effectiveness Studies Workshop planned for April.
- The four receiving waters studies and nine effectiveness studies continue to produce study designs, progress reports, monitoring results and findings, and recommendations for future actions and monitoring.

RSMP/SAM budget for the previous quarter and anticipated in the coming quarter

Table 1 shows detail for each RSMP/SAM component and for the whole program. Encumbrances in excess of projected revenues are for projects spanning multiple years. RSMP/SAM program management expenses are not separately accounted for by the three RSMP/SAM components; indirect charges are applied quarterly. The total balance and anticipated expenditures for the coming quarter include Ecology’s expenses. Revenue is expected in the 3rd quarter (August) of each calendar year.

Table 1. Summary of revenues, expenditures, encumbrances, and available funds for each RSMP component

Reported and projected income and expenditures	Status and trends (4-year project total: \$3,638,710)		Effectiveness studies (4-year project total: \$6,299,238)		SIDIR (4-year project total: \$677,250)		RSMP total (4-year project total: \$10,615,198)		
	Jan-Mar 2017	Apr-June 2017 <i>(anticipated)</i>	Jan-Mar 2017	Apr-June 2017 <i>(anticipated)</i>	Jan-Mar 2017	Apr-June 2017 <i>(anticipated)</i>	Ecology's Jan-Mar expenses	Jan-Mar 2017	Apr-June 2017 <i>(anticipated)</i>
Balance at start of quarter	\$540,665	\$464,895	\$3,654,114	\$3,405,065	\$421,468	\$421,468	-	\$4,627,165	\$3,704,875
Revenues	\$0	\$0	\$0	\$0	\$0	\$0	-	\$0	\$0
Expenditures	\$75,771	\$261,661	\$249,049	\$681,132	\$17,325	\$6,344	\$46,506	\$388,651	\$989,137
Balance at end of quarter	\$464,895	\$203,234	\$3,405,065	\$2,723,933	\$404,143	\$397,799	-	\$4,238,514	\$3,249,377
Encumbrances	\$635,919	\$374,258	\$3,050,565	\$2,423,805	\$18,391	\$12,047	-	\$3,704,875	\$2,810,110

RSMP/SAM contracting activities

All contract scopes of work and deliverables that have been reviewed and approved by the RSMP/SAM Coordinator are posted to the RSMP website:

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp/rsmp.html>.

Two contracting actions were initiated this quarter by the RSMP/SAM Coordinator with the Pooled Resources Oversight Committee (PRO-C). One action extended the timeline for the Washington State Department of Fish and Wildlife (WDFW) to write the final mussels study report and give presentations. The other action authorized the U.S. Geological Survey (USGS) to redefine stream monitoring work under the two optional tasks in their contract, and reallocated funds from one task to another.

RSMP issues that need to be resolved or for which stakeholder input is desired

Ecology is revamping their website this calendar year and the internet address and RSMP/SAM webpages will change. The RSMP/SAM Coordinator anticipates new content limits (amount of text), new requirements (ADA accessible pdfs), and a delay in posting approved deliverable for a couple month period next quarter while Ecology transitions to the new internet software.

The new website is anticipated to 'go-live' in July 2017. The PRO-C and SWG will be kept abreast of website changes and issues that may come up with the new website.

RSMP/SAM project summaries

Project activities, contracting actions and meetings are summarized under each RSMP/SAM category in this section.

Communications project

Association of Washington Cities (AWC) developed a RSMP/SAM communication strategy with the SWG Communication Subgroup. The target audience are stormwater managers, public works directors/agency managers, and city/county elected officials. AWC is working on an outreach survey, templates, and RSMP/SAM communication products. AWC will also organize the first RSMP/SAM findings symposium on June 1, 2017.

Receiving water projects

RSMP/SAM is monitoring and assessing the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound and contributing watersheds. All four receiving water projects were active this quarter.

Puget lowland streams

The stream analysis team [King County, USGS, Ecology, and Puget Sound Partnership] continue to discuss and analyze data. Analysis approach and early findings were presented with SWG on the lowland stream condition. Work this quarter was focused on comparing SAM data to other small stream programs monitored by Ecology, counties, and USGS. Recommendations for future stream monitoring will be developed in the coming quarter

Marine nearshore

- *Shoreline bacteria:* A final review was conducted on the compilation report this quarter. The Beach Environmental Assessment Communication and Health (BEACH) manager with Ecology is expected to publish the final report early next quarter. Also next quarter the SWG will consider recommendations for future bacteria in the nearshore efforts for RSMP/SAM.
- *Mussel contaminant monitoring:* WDFW loaded mussel tissue concentration results to EIM and developed an outline for the report. WDFW will present findings at PSEMP Toxics and SWG meetings, and provide a draft report in the coming quarter.
- *Nearshore sediment:* USGS and King County reported that marine sediment samples are being processed at laboratories this quarter.

Effectiveness study projects

RSMP/SAM is monitoring the effectiveness of BMPs and management actions to reduce stormwater runoff destructive flow and transport of pollutants to receiving waters. All nine of the projects are in an active monitoring stage this quarter.

The RSMP/SAM Coordinator organized technical reviews of all 10 proposals by the SWG Effectiveness Subgroup and Ecology's stormwater engineers. Proposals were scored by at least four of the reviewers and the RSMP/SAM Coordinator. Eight proposals are moving on to the Effectiveness Studies workshop in April.

Operation and maintenance

- *Catch basin cleaning effectiveness:* King County convened the technical advisory committee and sent out the survey and data request in February 2017 to all city/county/port municipal stormwater permittees in western Washington. King County documented work in a quarterly progress report.

Source Control

- *Business inspection source control:* The City of Lakewood and sub-consultant submitted the compiled survey data and technical advisory committee notes for data analysis and report structure.

Low Impact Development

- *Bioretention hydrologic performance:* Ten bioretention sites were actively monitored for hydrologic performance. The City of Bellingham documented work in a quarterly progress report.
- *Bioretention amendment with fungi and plants:* U.S. Fish and Wildlife Service and Washington State University are actively monitoring bioretention mesocosms with fungal amendments at the Washington State Department of Transportation Ship Canal test location.
- *Bioretention reduction of PCBs:* King County's polychlorinated biphenyl (PCB) treatment/sequestration in bioretention project is active and using the same mesocosms as the fungi amendment study.
- *Rain garden and bioretention assessment protocol:* The literature review and first round assessment protocol training materials and vetting were approved this quarter. This Puyallup lead project is working to revise the assessment protocol to gather the most important BMP information. The technical advisory committee met several times to refine the protocol and begin work on the social acceptance survey. The RSMP/SAM Coordinator attended one of the team meetings to assure adherence with the contract. This project has a 6 month delay and the project team is working to improve the pace of the second draft of the protocol.

Retrofits

- *Watershed scale retrofit and restoration:* Redmond's paired watershed retrofit and restoration study is actively monitoring at all seven sites.
- *Highway 99 retrofits along Echo Lake:* This is the last quarter of monitoring for King County's project looking at water quality improvements using detention, raingardens, and Filterra.
- *Regional stormwater facility retrofit at Hylebos Creek:* King County is monitoring the retrofitted detention ponds and bioretention cells at all sites at the regional treatment facility in Federal Way.

Source Identification Project

The final report on the permittees' 2014 Illicit Discharge Detection and Elimination (IDDE) incident data was received and a review by the RSMP/SAM Coordinator is underway. The SWG Source ID subgroup continued to meet to finalize IDDE incident tracking and reporting data fields and to make other recommendations to the SWG based on the project's findings.

SAM contracts deliverable activity

Jan – Mar 2017

Communications	Deliverables approved Q1 2017	Anticipated deliverables Q2 2017
Association of Washington Cities	SAM communications strategy	Logo, templates (Word document factsheets, PowerPoint talks), and SAM symposium agenda and registration.
Receiving water agreements	Deliverables approved Q1 2017	Anticipated deliverables Q2 2017
Streams – King Co	All team members participated on weekly calls to present or review statistical analyses and draft conclusions and recommendations on the findings of the SAM streams data.	Continue to work together and shift focus to comparing SAM streams data to other local monitoring efforts such as Kitsap, King, and Pierce County, City of Redmond, Ecology’s watershed health, and USGS 2015 NAQWA effort. Presentation at SAM Symposium
Streams – USGS		
Streams – EAP		
Nearshore sediment - USGS	None	Laboratory analysis, quality assurance review and data usability statement. Presentation at SAM Symposium
Nearshore sediment - DNR	QAPP review comments.	Sampling phase expenses for labor, travel, equipment and sample shipping. Presentation at SAM Symposium
Nearshore sediment – King County	SAM nearshore sediment data quality assurance assessment for samples that went to King County lab. Inter-laboratory evaluation for samples split between King County lab and Manchester lab.	Evaluation of potential changes to reporting using EPA update V recommendations for SW-846 methods. Presentation at SAM Symposium
Marine mussels - WDFW	SAM mussel data uploaded into EIM, and draft outline of report.	Final SAM mussel report for sampling done in winter of 2015-2016. Presentation at SAM Symposium
Puget Sound bacteria compilation - EAP	Final report and draft factsheet.	Presentation at SAM Symposium
Source ID Contract	Deliverables approved Q1 2017	Anticipated deliverables Q2 2017
IDDE Reports	None	Final report on the 2014 IDDE data and final database. Presentation at SAM Symposium

SAM contracts deliverable activity

Jan – Mar 2017

Effectiveness studies contracts	Deliverables approved Q1 2017	Anticipated deliverables Q2 2017
Catch basin inspection and maintenance	Advisory committee notes for survey development and solicitation survey. First study progress report.	Survey compilation results and advisory committee notes. Presentation at SAM Symposium
Paired urban watershed restoration	Water year 2016 data deliverables and progress reports.	Draft water year annual report that includes many incremental deliverables such as quality assurance. Presentation at SAM Symposium.
Hylebos Creek bioretention retrofit	Quarterly monitoring progress and data.	Quarterly monitoring progress and data. Presentation at SAM Symposium.
LID Retrofit of Hwy 99 at Echo Lake	Quarterly monitoring progress and data. Data quality assurance review on ½ of the data.	Data quality assurance review on second ½ of the data. Presentation at SAM Symposium.
Stormwater source control at small businesses	None	Source control data and analysis approach memorandum. Presentation at SAM Symposium.
LID bioretention hydrology performance	Quarterly monitoring progress and data.	Quarterly monitoring progress and data. Presentation at SAM Symposium.
Field test of plants and fungi on bioretention performance	None	Study baseline analyses on water, bioretention soil mix, and facility set up. Presentation at SAM Symposium.
Rain Garden and bioretention protocol and survey	None	First quarterly progress report. Presentation at SAM Symposium.