



Stormwater Action Monitoring Quarterly Report July 1 through September 30, 2017

SAM accomplishments and key decisions reported for the quarter

- Ecology is launching a new website on December 4th 2017, this quarter the SAM Coordinator worked to carryover the highest priority Stormwater Action Monitoring (SAM) content.
- Pooled Resources Oversight Committee approved the scopes of work for the second round of SAM mussel monitoring and a new contract with City of Olympia for continued bioretention hydrological performance effectiveness monitoring.
- A final report was published for the Small Business Source Control Study, led by the City of Lakewood.
- Six different presentations at StormCon 2017 (August 29 & 30 in Seattle, WA) discussed the SAM program and individual projects.
- Keunyea Song was hired as the new SAM Scientist at the end of July.

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

Table 1 shows detail for each SAM component and for the whole program. Encumbrances in excess of projected revenues are for projects spanning multiple years. SAM program management expenses are not separately accounted for by the three 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 SAM 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)		SAM total (4-year project total: \$10,615,198)		
	Jul-Sept 2017	Oct-Dec 2017 <i>(anticipated)</i>	Jul-Sept 2017	Oct-Dec 2017 <i>(anticipated)</i>	Jul-Sept 2017	Oct-Dec 2017 <i>(anticipated)</i>	Ecology’s Jul-Sept expenses	Jul-Sept 2017	Oct-Dec 2017 <i>(anticipated)</i>
Balance at start of quarter	\$844,844	\$1,108,932	\$3,719,893	\$4,194,920	\$498,594	\$555,262	-	\$4,962,262	\$5,713,999
Revenues	\$301,924	\$0	\$527,958	\$0	\$56,668	\$0	-	\$886,550	\$0
Expenditures	\$37,836	\$123,593	\$52,931	\$325,417	\$0	\$2,218	\$44,046	\$134,813	\$516,228
Balance at end of quarter	\$1,108,932	\$985,339	\$4,194,920	\$3,869,503	\$555,262	\$553,044	-	\$5,713,999	\$5,197,771
Encumbrances	\$616,730	\$473,623	\$2,265,612	\$2,466,221	\$197	\$0	-	\$2,882,539	\$2,939,844

SAM contracting activities

Contract scopes of work and deliverables that have been reviewed and approved by the SAM Coordinator are posted online.

- A new contract with Washington State Department of Fish and Wildlife (WDFW) for a second round of SAM mussel monitoring was signed, and a QAPP addendum approved.

- A new contract with the City of Olympia to continue the bioretention hydrological performance effectiveness study was signed.

SAM issues being resolved or for which stakeholder input is desired

Ecology will launch a new agency website on December 4th, 2017 (www.ecology.wa.gov). The SAM webpages are still under construction, but will contain the highest priority content. The SAM Coordinator has maintained both the old website and built the new website content the last two quarters.

SAM summary by topic

Communications project

Association of Washington Cities (AWC) completed a short video about SAM and first three SAM fact sheets (About SAM, bioretention toxicity reduction study, and SAM bacteria compilation study). Two more factsheets are expected next quarter (paired watersheds study and SAM round 1 mussel findings).

The SAM Coordinator presented on the SAM program overall and four SAM effectiveness study leads voluntarily presented at StormCon 2017 (August 29 & 30 in Seattle, WA) on their SAM projects: bioretention hydrologic performance, retrofit of Hwy 99 along Echo Lake, retrofits in the Paired Watershed study, and the business source control survey. In addition, the SWG project manager Karen Dinicola also presented SAM in the context of Ecology's perspective on regional approaches to stormwater monitoring across the state.

Receiving water projects

SAM is monitoring and assessing the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound nearshore and small stream environments. The three active projects are Puget lowland streams, nearshore mussel, and urban nearshore sediment. WDFW published the [SAM nearshore mussel monitoring final report](#) for the first round of monitoring, and are actively working on the second round of monitoring. The SAM Scientist is working on additional spatial analyses for the urban Puget Sound shoreline mussel data. Mussels will be deployed for Round 2 at the same locations this winter.

The nearshore sediment and Puget lowland small streams projects are both submitted draft reports this quarter. SAM staff are working with both teams to finalize data analyses this quarter. We anticipate final reports next quarter. Following delivery of recommendations for all SAM receiving water studies, SWG will plan future trends monitoring.

Effectiveness study projects

SAM is monitoring the effectiveness of BMPs and management actions to reduce stormwater runoff destructive flow and transport of pollutants to receiving waters. There are nine active effectiveness monitoring projects. The City of Lakewood led business source control effectiveness study report was published. A new contract with the City of Olympia to monitor current design bioretention hydrological effectiveness was started this quarter.

Source Identification Project

The final report on the permittees' 2014 Illicit Discharge Detection and Elimination (IDDE) incident data was published and a SAM fact sheet written. The SWG Source ID subgroup solicited three new project ideas that were discussed at the SWG. Two projects were recommended for funding and full scopes of work are under development. SWG will reconsider a third study next quarter.

Table of approved SAM deliverables and next quarter anticipated activity

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

Communications	Deliverables approved Q3 2017	Anticipated deliverables Q4 2017
Association of Washington Cities	Three factsheets, 3 minute SAM promotional YouTube video.	Two factsheets, story map/GIS product outline
Receiving water agreements	Deliverables approved Q3 2017	Anticipated deliverables Q4 2017
Streams – King Co	All sections of the draft report were combined into a complete report.	The team will review the complete draft and produce a final report.
Streams – USGS		
Streams – Ecology Environmental Assessment		
Nearshore sediment - USGS	The draft report was submitted to the team for review and comments.	Laboratory analysis of microplastics from USGS. Additional analysis of the data by marine drift cell categories. Final report on the status of nearshore sediment chemistry, a comparison to Ecology’s Marine Sediment trend program and SAM trend program recommendations.
Nearshore sediment - DNR	Comments on draft report. Contract completed.	
Nearshore sediment – King County	Comments on draft report.	
Marine mussels - WDFW	Published SAM mussel final report for round 1 sampling in winter of 2015-2016. Revised QAPP published for Round 2 sampling. Reviewed draft factsheet.	Map and list of sites for Round 2 SAM mussel sampling winter of 2017-18. Mussel cages will be deployed in December.
Source ID Contract	Deliverables approved Q3 2017	Anticipated deliverables Q4 2017
IDDE Reports	Reviewed draft factsheet, project closed.	NA

SAM contracts deliverable activity

July – Sept 2017

Effectiveness studies contracts	Deliverables approved Q3 2017	Anticipated deliverables Q4 2017
Catch basin inspection and maintenance	The survey compilation results and meeting with the Technical Advisory Committee (TAC).	TAC meeting notes, and preliminary data report.
Paired urban watershed restoration	Final 2016 water year report and water year 2017 progress report.	None expected. Will review draft factsheet on project status.
Hylebos Creek bioretention retrofit	None	Toxicity lab data & semi-annual progress report.
LID Retrofit of Hwy 99 at Echo Lake	Semi-annual progress report & draft project report.	Final progress report, study findings report, data to BMP database.
Stormwater source control at small businesses	Monthly monitoring progress and data. Source control data and analysis approach memorandum. Access database and final report.	Will review draft factsheet.
LID bioretention hydrology performance – older facilities	Last of monitoring data and progress report.	Q2 Monitoring progress and data. Technical memo on performance compared to modeled expectations is expected.
LID bioretention hydrology performance – current design (2012+) facilities	Contract executed.	Site selection checklist & evaluation, progress report.
Effectiveness of bioretention soil to capture and treat PCBs	None received.	Quarterly monitoring progress and data. Validation memo on first year of monitoring data and draft database.
Field test of plants and fungi on bioretention performance	None approved.	Study baseline analyses on water, bioretention soil mix, and facility set up. Report on baseline microbiology, chemistry, toxicity testing. Yearly report on hydraulic, water quality, and toxicity monitoring.
Rain Garden and bioretention protocol and survey	Draft social science survey and interview methodology.	Version 2 training materials, tech memo, results V2 survey, plan for data, and TAC meeting.