Stormwater Action Monitoring Quarterly Report January 1 through March 31, 2019

SAM accomplishments and key decisions reported for the quarter

- SAM Priorities Workshop was held February 27th for stakeholders to help prioritize topics for SAM studies
- Two SAM Effectiveness studies were completed; Retrofit in Federal Way and the Raingarden and Bioretention Protocol development project.
- Three new videos on How SAM works, scope of receiving water studies, and a bioretention study synopsis. A SAM communications presentation for stakeholder use to describe SAM.

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

Table 1 shows the SAM budget for each account and for the whole program. Encumbrances in excess of projected revenues are for projects spanning multiple years. The total balance and anticipated expenditures for the coming quarter include Ecology's expenses. SAM program management charges and indirect are applied quarterly. Revenue is expected in the 3rd quarter (August) of each calendar year, but in 2019 revenue is expected in December instead of August for the first year of the new permit. One permittee paid twice in 2018, they were refunded this quarter which is shown as returned revenue.

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

Reported and projected income and expenditures	**Status and trends** (*5-year total: $4,530,880)		**Effectiveness studies** (*5-year project total: $7,874,040)		**SIDIR** (*5-year project total: $846,570)		**SAM total** (*5-year project total: $13,251,670)		
	Jan-Mar 2019	Apr-Jun 2019 *(anticipated)*	Jan-Mar 2019	Apr-Jun 2019 *(anticipated)*	Jan-Mar 2019	Apr-Jun 2019 *(anticipated)*	Ecology's Jan-Mar expenses	Jan-Mar 2019	Apr-Jun 2019 *(anticipated)*
Balance at start of quarter	$1,641,659	$1,610,603	$4,728,101	$3,894,979	$722,288	$710,380	-	$6,661,719	$5,745,089
Revenues	($11,110)	*$0*	($18,511)	*$0*	($1,717)	*$0*	-	($31,338)	*$0*
Expenditures	$19,946	*$54,984*	$814,610	*$603,014*	$10,190	*$60,713*	$40,545	$885,291	*$783,711*
Balance at end of quarter	$1,610,603	*$1,555,619*	$3,894,979	*$3,291,965*	$710,380	*$649,667*	-	$5,745,089	*$4,961,378*
Encumbrances	$150,669	*$127,686*	$2,845,434	*$2,434,420*	$344,832	*$284,119*	-	$3,340,936	*$2,846,224*

*These column headings reflect 5-year account totals for the 2013-2019 permit cycle. The Pooled Resources Oversight Committee (PRO-C) approved encumbrance of these funds.

SAM contracting activities

Contract scopes of work reviewed and approved by the PRO-C and Ecology are posted online. The King County regional stormwater facility retrofit effectiveness study contract was closed this quarter and $427,325 of unspent funds were returned to the SAM effectiveness studies account. This will be used to fund the two remaining SWG approved bioretention studies; mulch and orifice controls. This quarter, the bioretention protocol development project was completed and the contract closed, all funds were spent. The catch basin cleaning effectiveness study is anticipated to be completed next quarter.

The cost for the facility for the SAM Priorities Workshop on February 27th was $720. This charge and the cost of assistance provided by AWC (per their contract) were split proportionally across the three SAM fund accounts. Ecology paid for the workshop beverages and snacks.

SAM summary by topic

Communications project

The SAM Priorities Workshop on February 27th was attended by more than 75 people. AWC assisted with workshop planning logistics and on-site registration. Participants worked in small groups to identify priority topics for SAM studies in the 2019 permit term.

Association of Washington Cities (AWC) completed three new SAM videos: How SAM Works, SAM Bioretention, and SAM Receiving Waters. They also completed a new "Communications Kit" which is a short PowerPoint slide show on SAM and example findings for use at council meetings or other presentations. AWC also completed SAM Newsletter #7 and SAM Fact Sheet #013 on the Regional stormwater facility retrofit in Federal Way.

Next quarter two more communication products will be available: a "booklet" that binds all the fact sheets to date in one document; and a GIS data story to summarize SAM bioretention study findings. SAM Fact Sheets for more completed projects are also expected.

The SAM Communication Advisory met to view the videos, review the bioretention data story and communication kit, and discuss priorities. In March, SWG approved up to $30K for a contract extension for July 2019-June 2020.

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. A second round of mussel sampling is ongoing, conducting data analysis and preparing the final report.

Stakeholders were given two additional opportunities to provide input to the study design: at a February 6 joint PSEMP workgroup meeting; and at the February 27 SAM Priorities Workshop. Stakeholders endorsed adjustments to the core study design and suggested priorities for additional studies to support our understanding of stormwater impacts.

Effectiveness studies

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 10 active effectiveness studies. The PRO-C approved a timeline only extension for USFWS's fungal amendments in bioretention soils effectiveness study this quarter. Two new scopes of work for bioretention effectiveness, mulch choices and orifice controls, are anticipated for PRO-C review next quarter.

At the February 27 SAM Priorities Workshop, the SAM Coordinator presented a brief summary of effectiveness studies and key findings. Stakeholders ranked study ideas within topics and the Stormwater Work Group is considering the input in making final recommendations next quarter.

Source Identification Projects

SAM projects on source control and source identification will improve detection and adapt our management solutions for pollutant sources in stormwater runoff. King County's project to update the Illicit Connection and Illicit Detection (IC/ID) Manual held two feedback workshops and an online survey to gather new techniques for field screening and tracing sources.

Stakeholders ranked SAM Source Identification project ideas along with ideas for SAM Effectiveness Studies at the February 27 workshop and SWG is considering the input in making final recommendations next quarter.

SAM contract deliverable activity — Jan – Apr 2019

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

Communications	Deliverables approved Q1 2019	Anticipated deliverables Q2 2019
AWC	3 videos, Fact Sheet for regional facility retrofit performance, Newsletter #7, Communication Advisory Committee meeting, Communication Kit, and assistance with Priorities Workshop.	SAM Newsletter #8, 3 factsheets (catch basin cleaning, raingarden protocol, and CDF curve explanation), bioretention data story, and booklet of completed projects.
Receiving water agreements	**Deliverables approved Q1 2019**	**Anticipated deliverables Q2 2019**
Marine mussels – WDFW	QA/QC checked chemistry data file, and progress report-presentation	Summary results document, data submittal to EIM, Draft report on 2017/2018 monitoring
Source ID Contracts	**Deliverables approved Q1 2019**	**Anticipated deliverables Q2 2019**
ICID Manual Update – King Co	None expected	Semi-annual report, memo summary of two workshops and survey, and memo summary of IDDE query.
Feasibility of regional spill hotline – King Co	None received	Biannual progress report, draft questionnaire, survey
Effectiveness study contracts	**Deliverables approved Q1 2019**	**Anticipated deliverables Q2 2019**
Catch basin (CB) inspection and maintenance – King Co	Final report and fact sheet	Closed
Paired watershed study – Redmond	None received	All remaining WY2018 data deliverables and draft report.
Hylebos Creek in Federal Way, regional bioretention retrofit – King Co	Draft and final report, stream data to EIM, KC website update and presentation to SWG.	Closed
LID bioretention hydrology performance (pre2012 facilities) – Bellingham	Final report and draft fact sheet.	Closed
LID bioretention hydrology performance (current 2012+ facilities) – Olympia	Site selection checklist and progress report and QAPP.	Site condition memos; geotechnical, vegetation, and hydrology designs. Quarterly progress report.
Effectiveness of bioretention soil to capture and treat PCBs – King Co	None expected.	None expected.

Field test of plants and fungi on bioretention performance – USFWS	None received.	Baseline toxicity of column conditioning. Year 1 report on hydraulic, water quality, and toxicity monitoring.
Rain Garden and bioretention protocol and survey – Puyallup	All outstanding Version 2 deliverables and final version materials, social science survey, presentation to SWG, and proposal for scaled-up monitoring.	Closed.
Bioretention Blends Study – King County	Semi-annual progress report.	Project Advisor Group meeting notes, 3 tech memos describing tests of the media blends (Task 4), and acute toxicity tests.
Longevity of bioretention toxicity prevention – USFWS	None received.	Final QAPP, Progress Report 1, Report on chemistry and toxicology of bioretention soil media
Hydrologic benefits of individual trees - WDNR	Quarterly report2	Draft QAPP
Oyster shell catch basin retrofits – King County	Semi-annual report, draft QAPP	Final QAPP