



# Stormwater Action Monitoring Quarterly Report October 1 through December 31, 2018 (Revised)

## SAM accomplishments and key decisions reported for the quarter

- Two SAM study contracts were extended: Redmond paired watershed and King County’s bioretention sequestration of PCBs.

## 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, hence the revenue this quarter, they were refunded and a correction will show in the first quarter of 2019. Table 1 is revised to correct expenditures and encumbrances, shown in blue, due to a copy error in the spreadsheet that impacted this quarter.

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)		
	Oct-Dec 2018	Jan-Mar 2019 <i>(anticipated)</i>	Oct-Dec 2018	Jan-Mar 2019 <i>(anticipated)</i>	Oct-Dec 2018	Jan-Mar 2019 <i>(anticipated)</i>	Ecology’s Oct-Dec expenses	Oct-Dec 2018	Jan-Mar 2019 <i>(anticipated)</i>
Balance at start of quarter	\$1,651,754	\$1,641,659	\$4,757,983	\$4,728,101	\$720,571	\$722,288	-	\$6,752,684	\$6,661,719
Revenues	\$11,110	\$0	\$18,511	\$0	\$1,717	\$0	-	\$31,338	\$0
Expenditures	\$21,205	\$9,242	\$48,393	\$764,118	\$0	\$10,301	\$52,706	\$122,303	\$859,771
Balance at end of quarter	\$1,641,659	\$1,632,417	\$4,728,101	\$3,963,983	\$722,288	\$711,987	-	\$6,661,719	\$5,801,948
Encumbrances	\$170,615	\$161,374	\$4,087,369	\$2,895,926	\$355,023	\$344,722	-	\$4,613,007	\$3,402,022

\*The permit extension year revenue is anticipated in August 2018, therefore these column headings reflect 5-year account totals (previous quarterly reports indicated 4-year totals). 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. Two contract extensions were signed this quarter. The Redmond paired watershed study (\$477,755) extension adds another 1.25 years of monitoring for this long-term study. King County’s sequestration study was extended and funds added (\$700) to replace electrical cords that were vandalized and allow for a couple more storm events to be captured.

Next quarter the King County Hylebos retrofit study is expected to close and unencumber approximately \$400,000 which will be returned to the SAM Effectiveness studies account. The remaining two SWG approved effectiveness studies are expected (WSU mulch and orifice studies) to encumber this entire unencumbered amount.

## **SAM summary by topic**

### **Communications project**

Association of Washington Cities (AWC) sent SAM Newsletter #6 and collected survey responses from permittees and other stakeholders about ideas for future SAM effectiveness studies and source identification projects. AWC also completed two more SAM fact sheets: FS#11 Receiving water studies synthesis and FS#12 Bioretention hydrology performance study, Phase I lead by the City of Bellingham.

### **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 team of SAM scientists finalized their recommendations on a unified study design for future SAM trends monitoring. SAM staff will present at the joint PSEMP Work Groups (Stormwater, Freshwater, Toxics, Salmon, Marine, etc.) meeting in early February and at the SAM Priorities Workshop in late February 2019. The goals are to describe the scientist team's recommendations for adjustments to the study design and gather feedback on priorities for flexible aspects of the study design such as parameters, number of sites, or index periods.

A second round of mussel sampling is ongoing; chemical analysis has been completed and the project lead provided the progress report to SWG.

### **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 12 active effectiveness studies; two contracts were extended this quarter and Phase I of the bioretention hydrology study ended (Bellingham). Next quarter two projects will end: King County's contract for the retrofit study in Federal Way and the field assessment protocol for bioretention and raingardens led by the City of Puyallup.

### **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 released registration for two feedback workshops planned for February 2019.

## SAM contract deliverable activity

Oct – Dec 2018

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

<b>Communications</b>	<b>Deliverables approved Q4 2018</b>	<b>Anticipated deliverables Q1 2019</b>
Association of Washington Cities	SAM Newsletter Survey to collect ideas for Effectiveness & Source ID topics, 2 SAM factsheets (Receiving Water Synthesis and Bioretention Hydrology Performance), Draft versions of 3 videos	SAM newsletter, 3 SAM factsheets (Hylebos, catch basins, and raingarden protocol), bioretention story map, Finalize 3 videos, SAM booklet and communications kit and Communication Advisory Committee meeting
<b>Receiving water agreements</b>	<b>Deliverables approved Q4 2018</b>	<b>Anticipated deliverables Q1 2019</b>
Marine mussels – WDFW	Copy of invoices for chemical analysis, progress report- presentation	QA/QC checked chemistry data file, Data entry to EIM, Final report outline
<b>Source ID Contracts</b>	<b>Deliverables approved Q4 2018</b>	<b>Anticipated deliverables Q1 2019</b>
ICID Manual Update – King Co	Two ICID workshop announcements for western WA	Semi-annual report, tech memo(s) summarizing workshops and survey, and IDDE query.
Feasibility of regional spill hotline – King Co	None expected	Biannual progress report, draft questionnaire
<b>Effectiveness study contracts</b>	<b>Deliverables approved Q4 2018</b>	<b>Anticipated deliverables Q1 2019</b>
Catch basin (CB) inspection and maintenance – King Co	Final Report and database	Closed
Paired watershed study – Redmond	WY2018 monthly progress reports.	All remaining WY2018 data deliverables and draft report.
Hylebos Creek in Federal Way, regional bioretention retrofit – King Co	Draft report.	Final report, stream data to EIM, King County website, and presentation to SWG
LID bioretention hydrology performance (pre2012 facilities) – Bellingham	Final report and draft fact sheet.	Closed
LID bioretention hydrology performance (current 2012+ facilities) – Olympia		Site selection and equipment checklists, QAPP, and quarterly progress report.
Effectiveness of bioretention soil to capture and treat PCBs – King Co	Contract revision.	Validation memo on first year of monitoring data

Field test of plants and fungi on bioretention performance – USFWS	None received.	Contract revision. Baseline toxicity of column conditioning. Years 1 report on hydraulic, water quality, and toxicity monitoring.
Rain Garden and bioretention protocol and survey – Puyallup	Version 2 training materials, tech memo results V2 survey & plan for data, TAC meeting, social science survey.	Final presentation to SWG, V3 final protocol, and proposal for scaled-up monitoring.
Bioretention Blends Study – King County	Final QAPP	WQ lab results with QC audits for 4 events/8 blends, WQ lab results 8 dosing events/8 blends, and saturated hydraulic conductivity results 8 blends. PAG meeting, matrix for developing specifications with QC for max 6 media components
Longevity of bioretention toxicity prevention – USFWS	Draft QAPP	Final QAPP, Report on chemistry and toxicology of bioretention soil media components
Hydrologic benefits of individual trees - WDNR	Quarterly report	Draft QAPP
Oyster shell catch basin retrofits – King County	Draft QAPP	Final QAPP