



# Stormwater Action Monitoring Quarterly Report October 1 through December 31, 2020

## SAM accomplishments and key decisions reported for the quarter

- SWG recommends SAM funding for eight new projects.
- USGS completed the 2020 Puget small streams sampling successfully and started next year sampling site evaluation.
- WDFW published the second round (2017-2018) nearshore mussel monitoring report.
- Bioretention hydrology performance study is completed and multiple virtual trainings provided.

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

Table 1 shows the SAM budget for each account for the whole program. Revenue for 2020 is expected in August, and each year thru 2024. The Pooled Resources Oversight Committee (PRO-C) approves encumbrance of SAM funds. Encumbrances in excess of projected revenues are due to projects that span multiple years. Projected expenditures for the next quarter are based on anticipated approved deliverables and invoices and an estimate of Ecology’s expenses. Indirect charges are applied quarterly to the individual accounts while SAM management staff costs are applied proportionally at the end of each fiscal year.

Table 1. Quarterly summary of revenues, expenditures, encumbrances, and available funds for each SAM account.

Reported and projected income and expenditures	Puget Sound status and trends		Lower Columbia status and trends		Effectiveness studies		Source ID Projects		Admin Costs (Qtr)
	Oct-Dec 2020	Jan-Mar 2021 (anticipated)	Oct-Dec 2020	Jan-Mar 2021 (anticipated)	Oct-Dec 2020	Jan-Mar 2021 (anticipated)	Oct-Dec 2020	Jan-Mar 2021 (anticipated)	Ecology's Oct-Dec expenses
Balance at start of quarter	\$2,101,204	\$1,918,389	\$136,467	\$136,467	\$4,371,779	\$4,304,047	\$452,004	\$452,004	
Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Expenditures	\$182,815	\$146,850	\$0	\$80,541	\$67,731	\$673,539	\$0	\$134,016	\$30,616
Balance at end of quarter	\$1,918,389	\$1,771,539	\$136,467	\$55,926	\$4,304,047	\$3,630,508	\$452,004	\$317,988	
Encumbrances	\$1,045,264	\$898,414	\$469,678	\$389,137	\$2,182,223	\$1,508,684	\$145,048	\$289,977	

## SAM study solicitation process

In November 2020, the Stormwater Work Group recommended to Ecology that SAM funds eight new studies from stormwater effectiveness and source identification accounts with PRO-C approval of each scope of work. These studies and suggested timeframes for contracting are:

Winter 2020-21: (FP2) Guidance for evaluating the effectiveness of public education and outreach programs, (FP5) Developing and refining source control inspection programs for businesses, and (FP6) Mobile businesses, illicit discharges, and multi-jurisdiction coordination.

Summer 2021: (FP3) The role of ditches in pollutant management and how ditch cleaning impacts their biogeochemical function and (FP7) Stormwater BMPs maintenance conditions evaluation.

As SAM staff capacity becomes available: (FP1) Tools and strategies to determine the most effective BMP depending on pollutant type and source, (FP4) Replacement and lifecycle costs of permeable pavements compared with conventional pavements, and (FP8) Evaluation of the influence of bioretention soil infiltration performance rate and safety factors on facility sizing and maintenance.

## **SAM contracting activities**

All contract scopes of work are reviewed and approved by the PRO-C and Ecology are posted online. The following contracting activities occurred this quarter:

- Bioretention longevity contract with USFWS was amended to extend the performance period to March 31, 2022 with \$15,000 budget increase for change of toxicity test method. Subsequently due to the project leads retirement, USFWS requested early termination of the contract conducting bioretention longevity experiment in December 2020. SAM staff and PRO-C agreed to work on a new contract agreement directly with WSU to continue this study until the scheduled end date of March 31, 2022.
- The Spill hotline feasibility study was approved for a no cost extension to allow for a presentation at MuniCon in 2021.

## **SAM summary by topic**

### **Communications project**

Fact sheet finalization is underway for five projects; fungi amendments, bioretention hydrology performance, IC-ID manual update, spill hotline feasibility, and an interim status update on Redmond's paired watershed study.

### **Receiving water projects**

SAM monitors the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound small streams and nearshore environments. USGS completed the 2020 sampling successfully despite COVID and started the site evaluation and deployment of water level loggers for water year 2021 sites. The second round (2017-2018) of nearshore mussel monitoring report has been published and WDFW gave the monitoring progress presentation to SWG. Clark County completed equipment installation for all eight sites to monitor conductivity, temperature and water level, and the QAPP was published and posted in the SAM webpage for the Lower Columbia urban streams (LCUS) study. Watershed health sampling for LCUS study will be started in summer of 2021.

### **Effectiveness studies**

SAM studies determine the effectiveness of operational or structural BMPs, maintenance and management actions, and outreach efforts to reduce stormwater runoff and transport of pollutants to receiving waters. There are 6 active effectiveness studies at the end of this quarter, although the longevity study is in limbo. The bioretention fungal amendment study and the second phase of the bioretention hydrology performance study are both finished up this quarter. The WSU-led orifice control of bioretention study QAPP was published in November 2020, sampling is expected to begin immediately.

### **Source Identification Projects**

SAM projects on source control and source identification will improve illicit discharge detection and adapt our management solutions for pollutant sources in stormwater runoff. The two active source identification projects are both nearing the end of their projects. The new videos are available on the WSU Stormwater Center website for the IC-ID techniques and training. A final presentation for the spill hotline feasibility project will take place at MuniCon in April 2021.

## SAM contract deliverable activity

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

<b>Communications</b>	<b>Deliverables approved Q4 2020</b>	<b>Anticipated deliverables Q1 2021</b>
AWC	None Received	Progress report, and five new SAM Study Fact Sheets
<b>Receiving water agreements</b>	<b>Deliverables approved Q4 2020</b>	<b>Anticipated deliverables Q1 2021</b>
Marine mussels – WDFW	The second round final report, Progress report to SWG,	New Agreement and SOW, QAPP
Puget small streams – USGS, Manchester lab, Rhithron lab	Confirmation email of data completeness, DCE file submission for each site	EIM compatible spreadsheet, Email confirmation for data recording and equipment maintenance
Lower Columbia urban streams- Clark County	Semi-annual progress report, copy of receipt for probes purchase, equipment installation confirmation	Semi-annual progress report
<b>Source ID Contracts</b>	<b>Deliverables approved Q4 2020</b>	<b>Anticipated deliverables Q1 2021</b>
IC/ID Manual Update – King Co	Completed 8 online trainings and posting of new training videos	Progress report and draft fact sheet
Feasibility of regional spill hotline – King Co	Final matrix, presentation to SWG, draft and final report, and draft fact sheet	Biannual progress report and draft presentation for MuniCon
<b>Effectiveness study contracts</b>	<b>Deliverables approved Q4 2020</b>	<b>Anticipated deliverables Q1 2021</b>
Paired watershed study – Redmond	NA	Water year 2020 sediment, physical habitat monitoring data.
LID bioretention hydrology performance (current 2012+ facilities) – Olympia	Interim findings memo and presentation for SWG, draft and final report, draft fact sheet, and summary of presentations	Closed
Field test of plants and fungi on bioretention performance – USFWS	Final report	Closed
Longevity of bioretention toxicity prevention – USFWS	Progress report 2	Progress report 3 (anticipated to be under new contract with WSU)
Hydrologic benefits of individual trees - WDNR	Quarterly Report 8	Quarterly Report
Oyster shell catch basin retrofits – King County	Draft report	Final report, presentation

Mulch choices for bioretention - WSU Puyallup	None received	Semi-annual report (Q3-Q4)
Orifice control for bioretention - WSU Puyallup	Final QAPP	Installation and startup report