



# Stormwater Action Monitoring Quarterly Report January 1 through March 31, 2022

## SAM accomplishments and key decisions reported for the quarter

- PRO-C approved BMP maintenance conditions evaluation study SOW and the contract is fully executed in March
- The mulch study findings were presented to SWG and the Green Stormwater Infrastructure Summit. The project will be completed next quarter.

## 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)          |
|--|-------------------------------|-----------------------------|----------------------------------|-----------------------------|-----------------------|-----------------------------|--------------------|-----------------------------|----------------------------|
|  | Jan-Mar 2022                  | Apr-June 2022 (anticipated) | Jan-Mar 2022                     | Apr-June 2022 (anticipated) | Jan-Mar 2022          | Apr-June 2022 (anticipated) | Jan-Mar 2022       | Apr-June 2022 (anticipated) | Ecology’s Jan-Mar expenses |
| Balance at start of quarter                    | 2,124,904                     | 1,993,671                   | 140,437                          | 74,661                      | 4,823,798             | 4,503,585                   | 303,631            | 260,696                     |                            |
| Revenues                                       | 0                             | 0                           | 0                                | 0                           | 0                     | 0                           | 0                  | 0                           |                            |
| Expenditures                                   | 131,233                       | 96,273                      | 65,777                           | 17,685                      | 320,213               | 356,898                     | 42,935             | 83,227                      | 50,561                     |
| Balance at end of quarter                      | 1,993,671                     | 1,897,398                   | 74,661                           | 56,976                      | 4,503,585             | 4,146,687                   | 260,696            | 177,469                     |                            |
| Encumbrances                                   | 1,780,845                     | 2,739,673                   | 276,143                          | 258,458                     | 2,750,405             | 2,735,317                   | 240,960            | 157,733                     |                            |

## 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:

- Signed new or amended in Jan-Mar
  - WSU’s orifice control of bioretention project was amended in January for \$141,858 to add WWHM model simulation task which was left out in the original contracting process and extend monitoring until December 2022.
  - The City of Bellevue’s BMP maintenance condition evaluation study was signed in February for \$193,106.

- WSC's Longevity of bioretention soil media study was amended in February to have three month time extension with no budget change. New performance end date is June 30, 2022.

## Summary by topic

### Communications

Routine deliverable and contracting updates to SAM website. No projects were completed this quarter and no new fact sheets this quarter.

### SAM's [Receiving water studies](#)

SAM monitors the impacts of stormwater runoff in urban and urbanizing areas in the Western Washington small streams and nearshore environments. There are two active stormwater receiving water monitoring in Puget Sound region and one stream monitoring in Lower Columbia region.

The deployed caged mussels at 33 sites throughout the Puget Sound nearshore this winter were successfully retrieved.

USGS retrieved water level loggers from all 33 and two reference sites. After completing the data download, installation of sensors for this water year's sites began. USGS will amend the contract soon to cover the next 3 years of sampling within this permit cycle.

Both the streams studies (Puget Small Streams and Lower Columbia Urban Streams) have annual surveys with annual status reports expected each fall.

### SAM's [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. A new SAM project (led by Bellevue) to provide a white paper (survey + data review) and recommendations for permittees to improve BMP maintenance efforts is under review with an anticipated start in early 2022.

A new contract with City of Bellevue will evaluate the maintenance thresholds or conditions for stormwater Best Management Practices (BMPs). They will provide their findings in a white paper for permittees on how to adjust BMP maintenance efforts to maximize overall environmental outcomes to meet permit requirements.

Orifice control effectiveness for bioretention, amendment 1 for \$142K. This adds the tasks that were left unfunded when PRO-C approved splitting the project into phases for affordability at the end of the last permit cycle. The amendment makes the project whole again, updated the timeline, and adds a few more communication items.

Scope of work development is underway on the last two Round 3 SAM projects: (FP 1) Effect of particle size distribution on stormwater characterization and BMP effectiveness with Washington Department of Natural Resources (DNR); and (FP8) Evaluation of the influence of bioretention soil infiltration performance rate and safety factors on facility sizing and maintenance (Olympia).

### SAM's [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. Two projects are active projects. King County's Mobile Business project survey had a decent response rate. WSU's Business Source Control final online guidance manual is anticipated next quarter.

## SAM contract deliverable activity

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

| <b>Receiving water agreements</b>                            | <b>Deliverables approved Q1 2022</b>  | <b>Anticipated deliverables Q2 2022</b>  |
|--|---|--|
| Marine mussels – WDFW  | QAPP for new design   | Confirmation of mussel retrieval   |
| Marine mussels (older design) – WDFW                         | None received   | QA QC'd dataset, final report outline and report, presentation to SWG  |
| Puget small streams – USGS, Manchester lab, Rhithron lab     | Confirmation of 2021 sampling, Quarterly report   | Quarterly report, Annual status report   |
| Lower Columbia urban streams- Clark County                   | Quarterly report, Continuous data upload, flow metrics calculation from continuous data   | Quarterly report, Continuous data upload, flow metrics calculation from continuous data  |
| <b>Source ID Contracts</b>                                   | <b>Deliverables approved Q1 2022</b>  | <b>Anticipated deliverables Q2 2022</b>  |
| Improving business source control programs – WSU             | Draft online guidance manual, and quarterly report.   | Final online guidance manual and quarterly report  |
| Mobile business source control – King Co                     | project schedule, TAC meeting notes, final survey, quarterly report   | TAC meeting notes, quarterly report, tech memo of survey results, draft and final tech memo of business listings, draft and final IDDE mobile businesses data analysis report and database |
| <b>Effectiveness study contracts</b>                         | <b>Deliverables approved Q1 2022</b>  | <b>Anticipated deliverables Q2 2022</b>  |
| Paired watershed study – City of Redmond                     | TAC notes and early WY2021 monthly progress reports and hydrologic data. Sediment, biological, physical habitat data and final WY 2021 report.              | Final WY 2021 report.  |
| Longevity of bioretention toxicity prevention – WSU Puyallup | Progress report 5 draft   | Progress report 5, Final report  |
| Hydrologic benefits of individual trees - WDNR               | None received   | Final report on bigger trees and data file.  |
| Mulch choices for bioretention - WSU Puyallup                | Draft and final analysis of WQ data, GI Summit and SWG presentations, and draft project report.   | Draft SAM fact sheet   |
| Orifice control for bioretention - WSU Puyallup              | None received   | Progress report 4 and 5  |
| Evaluating stormwater education and outreach program - WSU   | Quarterly status report, TAC #3 meeting notes, Summary of guidance vision (D5.2), summary of data analysis and interview questions (D5.3), final web survey | Quarterly status report, TAC#4, annotated bibliography, revised synthesis of nationwide tools, website tool operational, survey of testing web tool, and transition plan, draft            |

|  |                 |   |
|--|-----------------|---|
|  |                 | checklist and report template for guidance, findings white paper, SAM fact sheet, and training manual |
| Improving ditches and maintenance – WSU-Puyallup | None received   | Semi-annual report  |
| BMP maintenance condition-City of Bellevue       | Contract signed | TAC meeting notes, progress report, permittee survey  |