

Regional Stormwater Monitoring Program Quarterly Report

For October 1 through December 31, 2016

RSMP accomplishments and key decisions reported for the quarter

- Puget Lowland Stream monitoring findings presented to SWG.
- Marine nearshore sediment monitoring completed; mussel laboratory analyses completed; bacteria draft findings shared with SWG and final tech memo submitted to RSMP Coordinator.
- Illicit Discharge Data Detection and Elimination (IDDE) subgroup discussed data fields for a revised form.
- Nine effectiveness studies continue to produce study designs, progress reports, and monitoring results. Ten full proposals (from 21 letters of interest) were submitted for consideration for a second round of effectiveness studies.

RSMP budget for the previous quarter and anticipated for the coming quarter

Table 1 shows detail for each RSMP component and for the whole program. Encumbrances in excess of projected revenues are for projects spanning multiple years. Ecology's program administration expenses are limited to 5% of the total RSMP revenue and are not separately accounted for by the three RSMP components; indirect charges are applied quarterly. The total balance and anticipated expenditures for the coming quarter include Ecology's administrative 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 RSMP 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)		RSMP total (4-year project total: \$10,615,198)		
	Oct-Dec 2016	Jan-Mar 2017 <i>(anticipated)</i>	Oct-Dec 2016	Jan-Mar 2017 <i>(anticipated)</i>	Oct-Dec 2016	Jan-Mar 2017 <i>(anticipated)</i>	Ecology's Oct-Dec administration expenses	Oct-Dec 2016	Jan-Mar 2017 <i>(anticipated)</i>
Balance at start of quarter	\$715,269	\$567,665 ^b	\$3,984,262	\$3,654,114	\$439,720	\$421,468	-	\$5,190,638	\$4,654,165 ^b
Revenues	\$90 ^a	\$0	\$0	\$0	\$(90) ^a	\$0	-	\$0	\$0
Expenditures	\$147,694 ^b	\$309,061	\$330,147	\$738,797	\$18,162	\$17,325	\$40,469	\$536,473 ^b	\$1,105,183
Balance at end of quarter	\$567,665 ^b	\$258,604 ^b	\$3,654,114	\$2,915,317	\$421,468	\$404,143	-	\$4,654,165 ^b	\$3,548,982 ^b
Encumbrances	\$738,690 ^b	\$429,629 ^b	\$3,299,615	\$2,615,190	\$35,716	\$18,391	-	\$4,074,020 ^b	\$3,063,209 ^b

a = Correction applied this quarter on an overpayment by \$90 to SIDIR and underpayment by \$90 to Status and Trends.

B = Status and trend expenditures October-December 2016 were corrected to \$147,694 from \$174,694. All impacted fields were corrected

RSMP Activities

Status and Trends Monitoring

A multi-agency team of scientists [King County, U.S. Geological Survey (USGS), Ecology, and Puget Sound Partnership] are analyzing the streams data. Washington State Department of Fish and Wildlife (WDFW) is managing the nearshore marine monitoring project. USGS is leading the nearshore sediment monitoring project. The Beach Environmental Assessment Communication and Health (BEACH) Program Manager with the WA State Departments of Ecology and Health led the marine nearshore bacteria data compilation project.

Small streams water quality and watershed health

The RSMP stream analysis team continues to analyze data, and shared early findings this quarter. USGS completed a GIS analysis of the watershed draining to each stream site. Short presentations were given to SWG and PSEMP Freshwater Work Group to hear feedback on data analysis approaches. Recommendations for future stream monitoring will be developed in the coming quarter

Marine mussel contaminant monitoring

The mussel tissue concentration results from the labs were received, reviewed for quality assurance and are being analyzed by WDFW. The results will be uploaded into EIM and the draft report writing will begin in the coming quarter.

Marine nearshore sediment chemistry

Marine sediment sampling was completed this quarter. A total of 43 sites were sampled. Field data and photos delivered. The lab data are expected back in the coming quarter.

Nearshore bacteria

The final compilation technical report was submitted this quarter and was reviewed by the RSMP coordinator. The final report will publish next quarter. In the coming quarter the SWG will consider recommendations for future RSMP work on this topic.

Effectiveness Studies

The RSMP Coordinator received 10 full proposals in December following review and feedback on 21 letters of interest. Ecology engineers will provide technical reviews and the SWG Effectiveness Studies Subgroup will assist with scoring the proposals in the coming quarter.

Monitoring was active on the following studies:

- Bellingham's Low Impact Development (LID) hydrologic performance study has ten bioretention sites.
- USFWS/WSU are actively monitoring the bioretention mesocosms with fungal amendments at the WSDOT Ship Canal test location. King County's polychlorinated biphenyl (PCB) treatment/sequestration in bioretention project is active and using the same mesocosms.
- King County's two retrofit projects Hwy 99 bioretention and Filterra retrofits at Echo Lake and Federal Way regional treatment using ponds and bioretention are actively monitoring.
- Redmond's Paired urban watershed retrofit study is actively monitoring at all sites.

Non-monitoring activities included:

- King County's catch basin inspection project's technical advisory committee is active, and a draft survey was completed.
- Puyallup's raingarden and bioretention protocol project is experiencing some delays, and second draft of the literature review was received and is under review.

Source Identification

The SWG Source ID Subgroup met November 28 to discuss the draft final report and database, and recommendations for future data fields and analyses. The revised final report is expected to be delivered early next quarter. This subgroup will continue to meet to finalize data fields and make recommendations to the SWG after the project is completed.

RSMP contracts and agreements

The agreement with the Association of Washington Cities (AWC) was finalized this quarter. AWC will develop a RSMP communication strategy, templates, communication products and host a findings conference in 2017.

Subcontractor staffing changes presented some challenges to several studies but no formal changes were made to the schedules of Bellingham's bioretention project, King County's catch basin study, and Lakewood's business source control study. The delays were relatively minor for the remaining project deliverables.

In the coming quarter, Ecology expects to complete/modify agreements with:

No new agreements are expected next quarter. Modifications may be developed next quarter for the Puyallup rain garden assessment protocol development project.

RSMP deliverables received in the previous quarter

All contract scopes of work and deliverables that have been reviewed and approved by the RSMP Coordinator are posted to the RSMP website: <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp/rsmp.html>

Status and Trends

- RSMP small streams :
 - USGS: final GIS landscape metrics, compiled NAWQA data for comparison to RSMP, and a review of the site and parameter selection process used in the Lower Columbia HSTM.
 - King County: progress report and cumulative frequency curves for water parameters.
 - Ecology EAP: technical memo summarizing work on probabilistic spatial weighting, habitat, benthic and periphyton quality assurance review, and metric calculation.
- A quality assurance review of the mussels chemistry results.
- Marine nearshore sediment monitoring
 - EIM spreadsheets of field site locations and field collected data from DNR, King County and USGS.
 - A lab data status report from King County's environmental laboratory.

Effectiveness Studies

- USFWS plant and fungi performance study in bioretention soil mix final QAPP.
- King County PCB treatment/sequestration in bioretention soil mix study draft and final QAPPs.
- Semiannual and progress reports for King County's study monitoring BMP retrofits along Highway 99 at Echo Lake.
- Redmond paired basin retrofit study year end (2015) reports, team meeting, and monthly data reports for water year 2016.
- Bellingham LID hydrologic study documented the equipment procurement process, and completed preliminary field site assessments for each site that included geotechnical, hydrologic, and vegetation evaluations.
- Lakewood business source control study Technical Advisory Committee meeting notes, survey response data, and progress reports.
- A revised draft literature review to identify needed metrics for the protocol and draft protocol for Puyallup's raingarden/bioretention project.
- King County catch basin cleaning effectiveness study Technical Advisory Committee meeting notes and draft survey.

Source Identification

- Meeting with SWG Source ID Subgroup to discuss draft final report and recommendations for future data fields.

Communication

- No deliverables received or approved this quarter. The SWG Communication Subgroup will meet with AWC staff next quarter to devise: a communication strategy for RSMP findings; an identity for the RSMP; and personas and messages for targeted audiences.

RSMP deliverables expected in the coming quarter

Status and Trends

- RSMP small streams :
 - USGS: draft report sections on comparisons to NAWQA data collected in this region in 2015.
 - King County: progress report and draft report sections on comparisons to King County, Ecology, Kitsap, Pierce County and Redmond's ambient streams data.
 - Ecology EAP: technical memo comparing RSMP data to the state's programs.
- Marine nearshore caged mussels chemistry results in EIM and draft report outline.
- Marine nearshore sediment monitoring quality assurance review of chemistry data from laboratories; data from King County and USGS loaded into EIM.
- Marine bacteria indicator data analysis revised final technical report, GIS maps and fact sheets.

Effectiveness Studies

- King County catch basin cleaning effectiveness survey and data request will go out to permittees.
- Redmond paired basin retrofit study field site photos.
- Bellingham LID hydrologic study quarterly reports including field measurement data.
- Lakewood business source control study draft tech memo, database, and progress reports.
- USFWS plant and fungi performance study, pre-study soil mix water retention curve, chemistry and design drawings of the test site.
- King County PCB treatment/sequestration in bioretention soil mix sampling progress report.
- Puyallup revised literature review and draft protocol for raingarden/bioretention assessment.
- Semiannual and progress reports for King County regional bioretention site retrofits in Federal Way.

Source Identification

- Standardized IDDE incident database and final report.

Communication

- AWC will organize the RSMP Communication Advisory Committee at least twice next quarter to develop a draft survey, logo, and communication strategy document.

RSMP issues that need to be resolved or for which stakeholder input is desired

No issues were identified this quarter.