



Receiving Water Monitoring Priorities Workshop

Wednesday, February 27, 2019 from 1:00 pm – 3:00 pm
Renton Community Center

Description: An opportunity to provide feedback to the Stormwater Work Group on priorities for the Stormwater Action Monitoring (SAM) receiving water status and trends monitoring in Puget Sound nearshore areas and lowland streams.

Come prepared: Read the SAM Fact Sheets at ecology.wa.gov/SAM. Fact sheets # 2, 4, 9, 10, and 11 describe the findings from the first round of studies.



FINAL AGENDA

- 1:00 Welcome and introductions (*Dana de Leon, SWG Chair*)
- 1:05 Regulatory context for SAM and decision making process of the Stormwater Work Group (*Karen Dinicola, SWG Project Manager*)
- 1:10 Context for SAM status and trends studies (*Brandi Lubliner, SAM Coordinator*)
- 1:25 SAM status and trends design and questions for today (*Keunyea Song, SAM Scientist*)
- 1:45 Table discussions (*all*)
 - 1. Feedback on the adjustments to the core design (10 minutes)
 - 2. Priorities for an “index period” for stream water quality sampling (15 minutes)
 - 3. Priorities for questions to answer with other receiving water studies (20 minutes)
- 2:30 Report out (*table representatives*)
- 2:55 Next steps (*Karen Dinicola and Brandi Lubliner*)
- 3:00 Adjourn

Receiving Water Monitoring Priorities Table Discussion #1:

Feedback on the status and trends design

You just heard presentations about the findings from the first round studies, and adjustments to the design to better answer our questions about the status and trends of receiving water conditions in the region.

1. **Do you agree** that the adjustments to the design will improve our understanding of the condition (status) of receiving waters in Puget Sound?
2. **Do you agree** that the adjustments to the design will improve our understanding of the changes (trends) over time in receiving water conditions in relation to urban growth and stormwater management efforts in the region?

Receiving Water Monitoring Priorities Table Discussion #2:

Stream water quality sampling during an “index period”

SAM’s core stream status and trends monitoring program focuses on integrated stream health integrators (B-IBI and sediment chemistry in summer), and only includes few water grab samples (conventionals, nutrients, and metals).

The expected budget allows for adding targeted water quality sampling during an “index period” to answer a different, more specific, question. The SAM Status and Trends Scientists Team has posed four questions about stormwater that could be answered with this type of additional monitoring, depending on the time of year it is conducted. The proposed sampling would be scheduled for field crews to conduct the sampling at pre-determined times. SAM does not have sufficient capacity to chase storms.

Rate these questions – and the option of not doing water column sampling – as high/medium/low importance. Then rank them in order from 1-5, with 1 being the most important (highest priority).

- (1) What are concentrations of PAHs and metals in fall, during and following the first storms of the season?
- (2) What are concentrations of PAHs and metals during the peak, ongoing storm season in fall-winter?
- (3) What are concentrations of pesticides in streams during storms in spring, during peak application season?
- (4) What are conditions of key B-IBI stressors during the one to two months prior to B-IBI sampling?
- (5) If these questions are not answered by sampling during actual storm events, then sampling water quality in streams is not worth doing.

Receiving Water Monitoring Priorities Table Discussion #3:

Answering other questions with additional SAM Receiving Water Studies

If funding is available, what are the most important investments, including added sites or parameters, and special to enhance SAM receiving water monitoring and assessment? Note that it is unlikely more than 1 or 2 studies will be done.

Rate each study as high, medium, or low interest. Select your table's top 3 from the list below.

Add your own idea if the group agrees it is important.

- 1) Conduct a comparison of SAM toxics data in streams, nearshore sediments, and mussels (among media), and with Puget Sound Partnership vital sign indicator data for fish and marine sediments.
- 2) Conduct a regional investigation of microplastics and rubber particles in stream sediments.
- 3) Conduct drift cell analysis of SAM data in preparation for the next nearshore sediment sampling round in ~2026, which would be useful in gaging drift cell influence on mussel contaminant concentrations.
- 4) Analyze mussels and stream water from select sites for a class of chemicals associated with tire wear and linked to Urban Stormwater Mortality Syndrome (URMS) in Coho salmon; we would use this study to determine whether those chemicals are useful markers of roadway-associated stormwater contamination to track in future SAM surveys.
- 5) Place passive samplers alongside select mussel cages during a regular nearshore mussel survey to determine whether SAM can replace mussels with passive samplers in the future.
- 6) Place passive samplers in streams to answer the index period question ranked in Discussion #1.
- 7) Conduct further assessment of the relationship between sediment concentrations and land use/land cover, including relationship to IDDE incident data.
- 8) Conduct further assessment of the relationship between receiving water conditions and the proportion of the contributing watershed area that is covered by the MS4 permits.
- 9) Conduct bacteria monitoring (water quality grabs) during the summer stream sampling.
- 10) Assess the presence, extent, and magnitude of (select one, or assign High-Medium-Low interest):
 - a) pesticides in stream sediments
 - b) PCBs in stream sediments
 - c) endocrine disrupting chemicals in mussels
 - d) the class of surfactants in windshield wiper fluid, carwashes, industrial cleaners, and paints (i.e., alkylphenol ethoxylates) in mussels
 - e) agricultural pharmaceuticals in mussels
 - f) perfluorinated chemicals (PFCs - fire retardant foam) in mussels
 - g) eDNA (marker for fish abundance) in stream water
- 11) add your own idea and include it in the report-out if the table agrees it is an important question for SAM