

United States Department of the Interior

U.S. Geological Survey

USGS Washington Water Science Center

934 Broadway, Suite 300

Tacoma, Washington 98402

(253) 552-1600. FAX (253) 552-1581

<http://wa.water.usgs.gov/>

January 10, 2022

To: Keunyea Song, SAM coordinator
Washington State Department of Ecology, Olympia, WA

From: Richard W. Sheibley
Research Hydrologist, Washington Water Science Center, Tacoma, WA

Subject: First quarter update for WY 2022 SAM small streams work

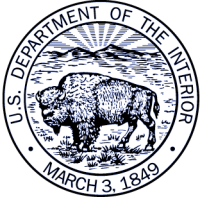
This memo summarizes and documents the continued work by USGS for the SAM small streams project. From October through December 2021.

During this time period, level loggers from all 33 of Puget Small Streams sites plus the two references sites (Dewatto and Griffin creeks) were downloaded and pulled out of the field. Data were transferred to network drives in Tacoma, WA to secure data integrity.

In addition to the retrieval of sensors from WY2021 sites, installation began for the WY2022 sites. All the sites from the original list of 33 sites have been visited. Of the original list of 33 sites, 17 had to be dropped, 16 were kept and sensors installed. Of the 15 sites dropped, 8 were replaced with back up sites. Reconnaissance is ongoing and 24 sites are collecting water level data.

Lastly, discussions on the SAM small stream budget for next year and beyond will need to take place before the current contract ends in June 2022. During this first year of reconnaissance of a full set of 33 stream sites, it became apparent that the time needed to complete this task was much more than initially planned. We had to visit over 70 stream sites to select the 33 used in 2021. This has taken a lot of time searching online and in the field for locations, access, and landowner details. We will provide an updated budget estimate to the SAM coordinator in the coming months.

Please feel free to contact me at any time with questions about this quarterly summary or any other project related issues.



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March 30, 2021

To: Keunyea Song, SAM coordinator
Washington State Department of Ecology, Olympia, WA

From: Richard W. Sheibley
Research Hydrologist, Washington Water Science Center, Tacoma, WA

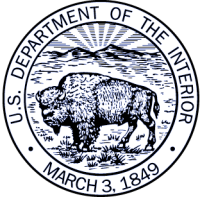
Subject: Second quarter update of USGS level logger maintenance

This memo summarizes and documents the continued site reconnaissance and selection of small stream sites for sampling in Summer 2021. The selection of the 33 SAM small streams has continued throughout the period of January to March 2021. Currently 27 of the 33 sites have been selected and instrumented with level loggers. The remaining 6 sites are either awaiting landowner permission or access due to snowy conditions. It is intended that the remaining 6 locations we be finalized by the end of April 2021. Data downloads will begin April 2021 as well because the first round of loggers will be full by early May 2021.

In addition to the 33 urban gradient sites, the SAM small stream project will sample water and sediment and install level loggers at 2 of Ecology's Puget Sound reference sites for 2021. These sites were recently selected by Ecology and include Griffin Creek, Tumwater Creek, Austin Creek, and Dewato Creek. The SAM small streams project will be sampling Griffin and Dewato creek this summer. Griffin creek is a sentinel site for Ecology's program so we intend to sample that every year as part of the reference sites and also to provide the program with a site with annual data.

Lastly, discussions on the SAM small stream budget for next year and beyond will need to take place soon. During this first year of reconnaissance of a full set of 33 stream sites, it became apparent that the time needed to complete this task was much more than initially planned. So far we have visited 70 stream sites and only have 27 sites finalized. This has taken a lot of time searching online and in the field for locations, access, and landowner details. We will provide an updated budget estimate to the SAM coordinator in the coming months.

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June 30, 2022

To: Keunyea Song, SAM coordinator
Washington State Department of Ecology, Olympia, WA

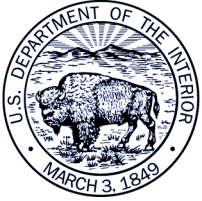
From: Richard W. Sheibley
Research Hydrologist, Washington Water Science Center, Tacoma, WA

Subject: Third quarter update for WY 2022 SAM small streams work

This memo summarizes and documents the continued work by USGS for the SAM small streams project. From April through June 2022.

During this time period, all sites for summer 2022 sampling were finalized. Site information was compiled and uploaded for inclusion in the WHM efoms for the summer. Data downloads for sites that were installed prior to April were visited and data downloaded.

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October 15, 2022

To: Brandi Lubliner, acting SAM coordinator
Washington State Department of Ecology, Olympia, WA

From: Richard W. Sheibley
Research Hydrologist, Washington Water Science Center, Tacoma, WA

Subject: Fourth quarter update for WY 2022 SAM small streams work

This memo summarizes and documents the continued work by USGS for the SAM small streams project. From July through early October 2022.

During this time period, all sites for summer 2022 were visited and WHM summer sampling took place. However, due to a dry summer, we had to drop 9 sites that went dry. Of these 9 sites, we were able to replace 3 with backups which were subsequently sampled. For the remaining 6 dry sites, we were not able to find appropriate backups before the end date allowed for sampling (October 15th, 2022). Overall, we successfully sampled 27 sites.

The main reasons for not being able to find suitable backups were landowner permissions: we either never heard back or were denied access; and simply running out of time. Many of the dry sites were first visited in late August and early September. So finding a replacement with only a few weeks in the sampling season was difficult.

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