



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/>

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

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

Subject: First quarter report of USGS activities for RSMP small streams monitoring

Included with this memo are documents required under the Joint Funding Agreement (JFA) between the USGS and Ecology for the RSMP small streams status and trends monitoring. According to the JFA, the USGS is required to submit a short narrative update of the progress of this work during each quarter in 2015 including copies of all field sheets, meter calibration records, and a spreadsheet containing all field measurements in an EIM compatible format. This memo and associated files satisfies the first quarter deliverable A2.1 and A3.1 as stated in the JFA dated January 9th, 2015. This memo will outline the general activities and known problems with sampling that took place this first quarter of 2015.

The USGS has been sampling 33 to 34 sites monthly in Whatcom, Snohomish, Pierce, Mason, Thurston, Kitsap, Jefferson, and Clallam counties during the January 1st through March 31st 2015 time period. Initial site visits and data collection in January resulted in one site being dropped (020-WUGA) in Thurston county due to a lack of flow at the site. This brought the USGS total down from 33 to 34 water quality sites. This site was replaced by a site in Snohomish (071-OUGA; Church Creek) which, after talking to land owners, was determined to go dry for several months in the summer. After searching for other suitable sites downstream of the original coordinates, this site was dropped. In addition to these cases of no flow, we could not access one site in January, Tumwater Creek (026-OUGA) in Clallam county due to safety issues. Access to the site as originally proposed was down a very steep ravine. By February 2015, we contacted land owners on the opposite side of the drainage and were able to sample in February and March. Currently, the USGS is sampling 33 water quality sites, and is expected to pick up an additional site in Skagit county beginning in April. As a result, the USGS will be back to its original 34 site total outlined in the JFA.

Field data collection during this first quarter was highly successful. We have been able to get a flow measurement at every site each month for a total of about 99 miscellaneous discharge measurements. On the water quality side, we have only had 4 cases where a bottle was lost or sample procedure had to be modified on the fly. First, at site 016-WUGA we were missing the DOC bottle for February's sample. We called MEL and decided to have them take a split from the dissolved metals bottle for the DOC sample after it got to the lab. This parameter was then flagged for not being acidified within 10 minutes as recommended by the DOC method. Second, in March, the dissolved metals bottle collected from 004-WUGA went missing. It was collected

by the field crew, but never made it to MEL. It was not in the USGS lab fridge and the crew went back to the site to look for it but nothing was found. By this time, several days had past and most parameters were already measured by MEL, so we decided to just log it as a missing bottle. Third, the bottle set for 026-OUGA was received at MEL with an empty PAH bottle, it was never filled. So USGS had to go back and collect a backup PAH bottle the following week. For this PAH bottle, it was not collected at the same time as the rest of the parameters and this should be noted. Lastly, in March 2015, the water quality meter stopped working at one of the sites (050-OUGA) so the field crew got an extra liter of water and measured the some of the field parameters (specific conductance, pH and dissolved oxygen) back in the lab. In the lab, the sample was within 5 degrees C of the value in the field so it is likely that the lab pH and specific conductance were close to the values from the field. For dissolved oxygen, care was taken to minimize error from the field value by overfilling the bottle and sealing it underwater with no headspace. The resultant lab dissolved oxygen concentration was comparable to field values from the previous months. This should be flagged, but we do not expect that it was too far off from the true value.

In the second quarter, the USGS will continue to monitor at the original 33 sites as well as adding 075-OUGA in Skagit County, for a total of 34 water quality sites. This quarter will also involve doing reconnaissance at about 10 sites for a few additional habitat sites as we prepare for the summer WHM field trips.

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

Enclosure