

Spokane River Regional Toxics Task Force Technical Track Work Group (TTWG) Meeting

DRAFT Meeting Summary

February 3, 2016

Washington Department of Ecology | N. 4601 Monroe St. | Spokane WA 99205

Attendees:

Adriane Borgias – Department of Ecology (Ecology)
Galen Buterbaugh – Lake Spokane Association
Lisa Dally-Wilson (phone) – Dally Environmental
Dave Dilks (phone) – LimnoTech
Jeff Donovan – City of Spokane
Brandee Era-Miller (phone) – WA Dept. of Ecology
Michael Friese (phone) – WA Dept. of Ecology
Ted Hamlin – WA Dept. of Ecology

Mike Hermanson – Spokane County
Kris Holm (phone) – City of Coeur d'Alene
Doug Krapas – Inland Empire Paper
Greg Lahti – WA Dept. of Transportation (WDOT)
Dave Moss – Spokane County
Sandy Phillips – Spokane Regional Health District
Kara Whitman – Ruckelshaus Center

Introductions and Agenda review:

No changes were made to the agenda.

Announcement: Ecology requests feedback on how it assesses water quality. Ecology posted the announcement on January 29th, 2016. Water Quality Policy 1-11 deals with the procedure to list waters on the 303d list, toxics.

Also, Ecology just published the Human Health water quality criterion and requests comments by April 22nd, 2016. There will be several workshops coming up (one in Spokane, April 6th). PCBs will be held at 170 picograms/liter and fish consumption will remain at 175grams per day, (with a one in a million cancer risk). Kris Holm said this is the scoping period for a longer process to look at the policy, so not all this has to be done by April 22.

Sources and Pathways Memo by LimnoTech

Dave Dilks summarized comments received on the sources and pathways memo. He has received a set of comments from Dan Redline of Idaho Department of Environmental Quality about adding additional items to sources/pathways (example: submersible well pumps).

Other comments/question:

- The memo is very general. Needs to be more specific to the Spokane River Watershed.
- Graphics used in memo: pathways and sinks (more holistic). Adriane provided some other conceptual ideas posted to the meeting announcement.
- Perhaps include a map of the system (maps put together by Jeff Donovan/City of Spokane).

Fate and transport Model: Dave Dilks likes this conceptual model and will use the concept for the final memo.

- Spokane-specific: the group would like the model to be very specific to the Spokane River, including delivery to the river. Dave explained that things will be as site-specific as possible.
- The group discussed different conceptual models. There is a need to have a complicated schematic to show sources and pathways (perhaps through a fate and transport diagram), but a more visual, less technical image could help (e.g. a cartoon based on generalizations about the watershed). Dave said LimnoTech can produce a diagram like this, and completed it by the Spokane River Forum for use in their presentation. Dave will look into access to the original graphic used in the Aquifer Atlas (Amanda Hest – Pg. 13 of Atlas).

ACTION ITEM: Dave will have a fate and transport depiction of the system put together by the next TTWG meeting and a pictorial graphic for ready for the Spokane River Forum presentation.

Q&A/Comments:

- **C.** This memo is an interim product. Task 1 will put numbers on each of the “arrows” and identify if any major arrows are missing. Finalizing the memo is not a key task, but determining the pathways is important.
- **Q.** Kris Holm asked if there is a place where we can add “fish” in the diagram (caught and eaten, or died and PCBs released). PCB-contaminated fish may be a source. **A.** This will be included (look at Avista work for Lake Spokane, on Carp from the perspective of removing phosphorus and PCB levels).
 - Lisa Dally-Wilson: should calculate a mass load for Lake Spokane of PCBs from Carp and Carp carcasses
- **C.** Source assessment for Puget Sound identified returning Salmon as a large source (via nutrient/chemical recycling)
- **C.** Add dry wells to inputs from wastewater sources. Compiling a list of inadvertent sources to treatment plants.
- **C.** FYI: Tech memo “PCBs in Spokane Groundwater” linked to meeting announcement: pg 5 includes a section that discusses the PCBs in supply well pumps.

Urban Waters Projects (Ted Hamlin)

Ted Hamlin explained that there is lab money available between now and June of 2017 to do some work and he is looking at useful ways to spend this money. Ted would like to do some well and spring sampling. Ted would like to answer the following questions:

- What is coming from all of the outfalls?
- How many outfalls are there, and how many are contributors of PCBs and to what level?

The City of Spokane plans to do renovation around Riverfront Park, and Ted would like to see if combining multiple outfalls into larger single outfalls, if beneficial, could be done during this renovation. He will sample outfalls that they may combine, looking for significant sources. He had a meeting with the City, they think this is a good idea.

Q&A/Comments

- **Q.** Are they stormwater-only? **A.** Yes
- **Q.** Will the study focus on downtown only? **A.** No, but it is a priority. They want to characterize all outfalls and identify those with little or no discharge, then find the identifiable impacts and work up the pipes.
- **Q.** If some have higher concentrations, would they get plumbed to a treatment system? **A.** This may be an option, depending on City rules. Some sort of treatment mechanism would be applied.
- **Q.** How many outfalls were sampled in the Parsons study? **A.** That covered most of the major contributors, but there could be more.
- **C.** Ted said they need to observe: when it rains, is water coming out?
- **C.** Kristen Carmac (Environmental Information Management (EIM) coordinator) is now getting around to putting 2009-2013 data into that system.
- **C.** WDOT has an outfall from the viaduct into Hangman Creek. There is also a City outfall from west end of South Hill into Hangman. Greg Lahti would like to get theirs into a swale, working with City.
- **C.** Sandy Phillips: this study could identify places for local source control.
- Need visual inspection during storm events. Gonzaga students might help (senior projects start August 2016)
- **C.** How about an exploration of the “smoking guns” up-gradient of Kaiser? Could we look up-gradient more, and pick a distribution that would help to clear this up? Between Mirabeau and Trent there is a signal.

Groundwater Loading (Where to from here?)

The group discussed investigation into groundwater sources of PCBs to the river. Groundwater samples collected by Ecology in collaboration with Spokane County did not reveal much above the noise but may show some areas of concern that could be looked into further. There are more samples set to be collected.

The group also considered the work done by Martha Maggi and Pam Marti (2015) in identifying cleanup sites that may contribute to the groundwater PCB flow into the river and locations of wells that may be appropriate to sample, based on toxics found on the site before cleanup. The question is, what is the next step? Where to from here? Could Ted Hamlin and the Urban Waters program do some groundtruthing of these cleanup sites?

Note: Adriane Borgias had conversation with Edgar Scott of Kaiser. They talked about delaying the conversation about Kaiser and Groundwater until Bud Leber is back. The group agreed.

Q&A/Comments:

- **C.** Historical data may point to areas of concern. Depends on whether it is gaining or losing reaches. Does it correlate with high readings of fish?
- **C.** Look at Pg. 7 (Martha Maggie/Pam Marti study). Up-gradient GE Sullivan, Industrial Park
 - Toxics Cleanup Program (TCP) uses a different method (8082, 608).
- **C.** Groundwater data from Kaiser. Detectable PCBs up-gradient of Kaiser: June 2015 TTWG presentation said Kaiser was not all groundwater loading; an unknown source is coming through from up-gradient of Kaiser.
 - How can we identify this up-gradient source? Look through Martha and Pam's study and identify places where it would be good to focus.
- **C.** TCP cleanup sites get cleaned to a different standard. The Task Force could look at the sites using 1668 method. Perhaps the cleanup level is not enough to meet the water quality standard/fish.
- **C.** The GE mission site still gets hits in the 8082 range.
- At the Spokane Community College well, samples show lower than the blank using 1668 (huge gaining reach). Looking far from the reach may not be the most useful use of funds.
- Is there a contribution from the industrial park? Is there a place to do this sampling?
- **C.** Spokane County is doing some sampling of their stormwater collection system.

Ted Hamlin: Recently completed a stormwater pollution chemistry class which he says is outstanding. He is trying to setup a class in Spokane (cost: \$395/person).

Suggested Study: Urban Waters or Task Force sample the wells up-gradient to Kaiser at known cleanup sites to check the level of contamination using 1668 method.

Blank Correction

Blank correction has been an item of discussion for the Task Force for some time. There are multiple methods being used. The chosen method depends on the purpose of the study in question. The Task Force should agree on a protocol and standardize its data management procedures (agreed on 3x in the Quality Assurance Project Plan (QAPP) for the synoptic survey). Questions to consider: How do raw data sets compare, what blank correction to use, what is the purpose of the study, how do we compare.

Dave Dilks explained that at low concentrations, there is a lot of uncertainty around the estimate. There is no "right" blank correction method that will tell us the exact concentration, there will always be a haze around it. Ultimately want to avoid false positives, but it may not necessarily be the best estimate of the actual

concentration. This is why Dave suggests blank correcting all congeners and subtract out the blank concentrations, being cognizant of the noise.

Uncertainty analysis can help explain the range of uncertainty in the data. Dave thinks 3x exclusion currently in the QAPP is probably the best option for source identification. For Mass Balance calculations, 3x exclusion seems to give the best unbiased number but it is not perfect. There is clearly a signal near the Kaiser reach and there is an increase as they move downstream, however the data is very noisy, so these caveats need to be included.

Q&A/Comments:

- **Q.** Mike Hermanson noted that differences in loading from the County facility range from 11 mg to .2 mg depending on the method. Do you show a range of magnitude? **A.** uncertainty of loading estimate will include band of values, frequency distribution, etc.
- **C.** Base the method on whether you can make a management decision with it.

Data management work group to look at:

- Data availability/management
- Protocols for blank correction and discussion of uncertainty expression

ACTION ITEM: Data Management work group take on the discussion of making data available and protocols for blank correction. Resurrect the data management group.

Environmental Assessment Program (EAP) Updates:

Brandee Era-Miller gave an update on the Atmospheric Deposition study, which will look at bulk deposition (wet and dry), collected at Turnbull (regional background) and Monroe street (sample at two urban locations). They will use passive sampling in a stainless steel bowl (30 cm bowl on top of the roofs at the urban locations with other air quality sampling stations). They will use refrigerators to deal with extreme temperatures and to help preserve samples during the sampling period. The study will occur over three months, matching proven methods for bulk deposition (mass per unit of area per day). Ultimately the data can be put into a model. Monroe is in the same catchment basin as where the PCB monitoring in stormwater is being conducted (Cochran Basin). This will allow for direct comparison. The QAPP will be out for external review soon. Also doing a dry deposition study at August Ave where they have a pm 10, doing some compositing of those filters (unsure how it will work). They are currently doing a preliminary study with archived samples. Sampling starts April 15th.

Michael Friese gave an update on the proposed "Little Spokane River - PCB in Fish Tissue Verification Study," presented at the January 27th, 2016 Task Force meeting. Since original study, the Washington Department of Fish and Wildlife (WDFW) has been working to purchase low PCB fish feed, so they expect numbers to be lower. Chris Donley suggested they do a load calculation of fish removed. EAP has decided to add the analysis of two composites from the lake, this project will produce data to do a creel study and provide age class information.

Q&A/Comments:

- **Q.** The 2006 report noted significant transfer of PCBs between mother and egg. Is this something the study will consider? **A.** Fish are sterilized so this should not be an issue. With a hatchery, the trout has their own brood stock - internal recycling. There are some unknown inputs, not only trout. Michael noted there are other trout that they raise and plant all over the state; the only fish in Lake Spokane is the Rainbow trout.
- **Q.** How about input from the physical structure such as painted troughs, caulking? It depends on the outcome of this study. **A.** This is a study to see if the hatchery is a source of PCBs to the river, if it found that it is, then a more in depth study could be done. However, they are sampling fish food and doing seasonal effluent sampling; fish food during the months preceding the effluent sampling.

The draft proposal will be ready for Task Force review in the next week or so.

ACTION ITEM: Ruckelshaus Center send proposal for Task Force Review after it is received from EAP. (Complete)

ACTION ITEM: Ruckelshaus Center contact Andy Dunau about potential for SRRTTF to meet with Lisa Rodenburg and Dave Dilks during Spokane River Forum.

No Public Comment

The next meeting of the Task Force is February 24, 2016 from 9:00 a.m. to 12:30 p.m. at the Liberty Lake Sewer and Water District

The next meeting of the Technical Track Work Group is March 23, 2016 from 10:00 a.m. to 12:00 p.m. at the Department of Ecology

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