

## SRRTTF Technical Track Work Group (TTWG)

DRAFT Meeting Summary

December 3, 2014 | 10:00am – 12:00pm

Department of Ecology

4601 North Monroe Street | Spokane, WA 99205-1295

### Attendees:

BiJay Adams, Liberty Lake Sewer & Water District

John Beacham, City of Post Falls

Adriane Borgias, Ecology

Galen Buterbaugh, Lake Spokane Association  
(on phone)

Dave Dilks, LimnoTech (on phone)

Jeff Donavan, Ecology

Will Hobbs, Ecology (on phone)

Kris Holm, City of Coeur d'Alene (on phone)

Bud Leber, Kaiser Aluminum

Rob Lindsay, Spokane County

Dave Moss, Spokane County

Dale Norton, Ecology (on phone)

Chris Page, Ruckelshaus Center (video  
conference)

Sandy Phillips, Spokane Regional Health District

Kara Whitman, Ruckelshaus Center

Lisa Dally Wilson, Dally Environmental (phone)

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### Introduction and Agenda:

Chris Page went over the agenda. No changes were made to the agenda.

Will Hobbs said that new project requests for the Department of Ecology (Ecology) Environmental Assessment Program (EAP) are due at the end of January, 2015. In February, 2015 EAP staff will be estimating the resources involved in the project that are requested, followed by selection of preliminary options by March. EAP will finalize new projects in May, 2015.

### LimnoTech Topics:

There is nothing new to report on synoptic sampling analysis and results.

*Presentation (Dave Dilks):* David Dilks gave a draft presentation on Uncertainty Analysis of the Synoptic Survey Mass Balance Assessment. At the workshop, this will be up for discussion with the invited experts. This presentation contains example data; the final version will have real data.

To calculate Mass Balance, we need a measured flow (Q) and a total PCB concentration (C) at paired upstream (u) and downstream (d) stations ( $Q_u$  and  $C_u$ ,  $Q_d$  and  $C_d$ ). From this data we can look for significant load between the stations, which can be back-calculated by subtracting the upstream load from the downstream load.

The load (W) can be calculated by multiplying the concentration (C) by the flow (Q). Therefore the unmonitored load is equal to  $[Q_d \times C_d - Q_u \times C_u]$ . The unmonitored flow is calculated as  $[Q_d - Q_u]$ . The unmonitored concentration can then be calculated with the following equation:  $[C_? = (Q_d C - Q_u \times C_u) / Q_?]$ . The equation can be expanded to consider point sources and tributaries. This approach assumes that PCB loss processes in-stream is small.

Uncertainty analysis has two components: day-to-day variability at each station, and uncertainty due to contamination in the laboratory and the field. Each of these components will be calculated separately, and then combined. The day-to-day variability at each station can be calculated using the blank correction method defined in the Quality Assurance Project Plan (QAPP). The uncertainty from contamination will be characterized by calculated concentrations using a range of blank correction

methods that will then be expressed as a difference from the QAPP method. Finally, the uncertainty can be characterized by developing a best-fit statistical frequency distribution for each parameter that will be input into a Monte Carlo Simulation (there will be a correlation between upstream and downstream flow, and the Monte Carlo method can be used when there is such correlation). The Monte Carlo requires that the uncertainty in the flows and the concentrations are completely characterized. The uncertainty characterization can be used to look at the “unmonitored load” and the “excess unmonitored load” (incremental load above what is expected). The excess load can be calculated by  $[C_d \times Q_d - Q_u \times C_u - (Q_d - Q_u) \times C_u]$ . There are three potential outcomes from this analysis:

- Uncertain, but insignificant. In this case they would rule it out as a potential source
- Uncertain, but significant. This would require a more detailed study of the sources
- Uncertain, unclear significance. This would require more exploration.

The Task Force and LimnoTech will need to define what “significant” means. This may change as time goes on, cleanup occurs, and smaller sources are looked at. The Task Force will need to reach consensus on a level of significance. Dave noted that this method is not set in stone at this point, and is open for changes if needed. The numbers from this analysis will be available at the January 2015 Workshop.

Question: There are 7 samples of water from the River, and a set of samples called blanks. Wouldn't we want to do an analysis on the blanks, and then take those numbers and use the range of blank correction methods? Answer: Different methods are used; either using blanks from the same day or using the range of variability from the blank corrections.

Question: Pertaining to the evaluation of individual values; did the Task Force agree on a summation method in the QAPP to be held constant throughout this process? Answer: Blank correction values will be congener-specific. All congeners will be summed, while some of the blank correction techniques will set a congener value at zero. LimnoTech will follow the QAPP for the baseline, but do other methods (keeping all the congener data).

Question: How many iterations of the Monte Carlo method does it take to get a smooth curve?

Answer: It depends on the spread of values. This simple mass balance calculation will allow for 100,000+ iterations to be run with no problem.

Question: Can we draw a conclusion from the incremental load if the values are not “significant”? If so, then can we say all of the sources are quantified? (E.g. if no significance is found for the unmonitored load at low flow.) Answer: Yes, however this would only correspond to low flow conditions.

Question: There will be hundreds of probability tables from this analysis; will there be an interim report before the workshop? Answer: LimnoTech can do a presentation at the January TTWG meeting, and there will be a report put together after receiving feedback from the workshop.

**ACTION ITEM:** Task Force members to send any questions about the uncertainty and mass balance calculations to Dave Dilks before the January 7<sup>th</sup> Technical Track Work Group meeting.

**ACTION ITEM:** Dave Dilks to present at the January 7<sup>th</sup>, 2015 Tech Track Work Group Meeting prior to the workshop.

## EAP Projects

Adriane Borgias provided a summary of past Ecology Environmental Assessment Program (EAP) projects and the group discussed potential future EAP requests. These will be due in January, reviewed and prioritized by EAP in February and March, with the goal of finalizing the EAP list in May. The Ecology water quality program should call for projects and review/prioritization in December.

Dale Norton explained the process of selecting EAP projects. Time and funds along with lab and human resources are needed for projects. Other factors to consider are in-kind contributions and priorities of the clients. EAP projects will be prioritized based on these factors. EAP will consider previously submitted projects as well as new projects.

EAP projects underway or completed:

- Atmospheric deposition of PCB: Spokane River-specific project was not funded, but EAP has prepared a statewide project on this topic. It has a broader work plan that ties into water quality, looking at both local and regional scales.
- Assistance with Synoptic sampling (complete)
- PCBs in groundwater survey (underway)
- PCBs in Lake Spokane Carp (underway)
- Listing Confirmation for Little Spokane River (underway). This project has some PCB testing of: water, fish from the river, and sediment in areas bracketing the reaches on the river; however, they are not testing hatchery fish in this study.

Question: Is there a similar environmental assessment program in Idaho?

Comments on potential future EAP or Ecology projects:

- Testing for PCBs in products: coordinate with waste-to-resource program, City of Spokane, and the work that Keri Hornbuckle is doing.
- PCBs in 2, 4-D: awaiting results from City of Spokane testing
- PCBs in hatchery fish: This is not a Spokane River issue but there is concern that lakes with stocked fish have PCB listings.
- Evaluation of water sampling systems: EAP is interested in this topic with respect to testing the techniques in the field. This would probably not include doing controlled laboratory samples. The Task Force has a proposal/work plan from AXYS labs to do some controlled laboratory testing, but that is not funded yet. The Task Force is waiting for the results of the synoptic sampling to determine if it is worth pursuing.

Project suggestions received during the meeting:

- Evaluation of PCBs in hatchery fish. The Spokane River was not stocked with hatchery fish in 2014 according to the fish and wildlife website. EAP is already looking at the PCBs in the Little Spokane River water column, and sampling upstream and downstream of hatchery. The report on this should be out May 2015. There is data about PCBs in hatchery fish; however, it is 10 years old. The 2006 study on organic pollutants in hatchery feed and hatchery rainbow trout is on the Task Force website.
- Explore potential PCB exposure pathways for fish in the Spokane River that may result from sediment within interstitial spaces on the river bottom.
- Market basket survey on staple whole foods including fish, dairy, meats, nuts and vegetables.
- Connection between PCB's in building materials and how it impacts foods.

**ACTION ITEM:** EAP to provide work plan for posting on the Task Force website. (COMPLETE)

**ACTION ITEM:** John Beacham to investigate if there is a program in Idaho similar to EAP. (COMPLETE)

**ACTION ITEM:** TTWG to send ideas with supporting summary to Adriane Borgias who will prepare a list of proposed projects and bring to December SRRTTF meeting. (COMPLETE)

### **January Workshop Planning:**

Chris Page and Bud Leber reviewed the status of the workshop planning including draft letters to the Workshop speakers and experts. Invitee packets to include session documents, meeting agenda, link to registration, cover letter. Attendees funded by the Task Force also received an expense report form. Attendees were also given hotel information.

#### Tasks Completed:

- CenterPlace is booked for two full days.

#### Needs completed

- Catering (11 /person), \$1000 dollars down. Full payment 15 days prior to the event (End of December) 5 business days ahead of event need full count of people.
- Registration
- Announcement with packet and registration information for the specific types of information

Lynn Schmidt volunteered to manage the registration, which is the only major detail outstanding.

**ACTION ITEM:** Lynn Schmidt to set up the registration for the January Workshop. (COMPLETE)

**ACTION ITEM:** Kara Whitman to post registration and hotel information on the Task Force website and send out announcement for the January workshop. (COMPLETE)

**ACTION ITEM:** Bud Leber to talk to Oxford Suites about a group rate. (COMPLETE)

**ACTION ITEM:** Kara to call Twigs and reserve space for evening gathering on day one of workshop. (COMPLETE)

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- The next Full Task Force meeting is December 17, 2014 | 9 a.m. – 12:30 p.m. at Liberty Lake Sewer and Water.
  - The next Technical Track Work Group meeting is January 7, 2015 | 10 a.m. - 12 p.m. at the Department of Ecology, Spokane.
  - The next Memorandum of Agreement Work Group meeting is December 18, 2015 | 10 a.m. – 12 p.m. at the Department of Ecology, Spokane.