

SRRTTF Technical Track Work Group (TTWG)

DRAFT Meeting Notes
October 1, 2014 | 10:00-12:00 pm
Department of Ecology
4601 North Monroe Street | Spokane, WA 99205-1295

Attendees:

John Beacham –City of Post Falls
Galen Butterbaugh –Lake Spokane Association
Bud Leber –Kaiser Aluminum
Doug Krapas –Inland Empire Paper Co
Lynn Schmidt –City of Spokane
Adriane Borgias –Dept of Ecology
Chris Page –Ruckelshaus Center (*video conference*)
Kara Whitman –Ruckelshaus Center

Dave McBride – Dept of Health (*on phone*)
Paul Klatt and Jim Kimball –JUB Engineering (*on phone*)
Dave Dilks – Limnotech (*on phone*)
Lisa Dally Wilson –Dally Environmental (*on phone*)
Brian Nickel –Environmental Protection Agency (*on phone*)
Rob Lindsey (*on phone*)

Introductions:

Chris Page welcomed everyone to the meeting and went over the agenda. No changes were made to the agenda.

Blank Correction Factors

Adriane Borgias has been looking into blank correction procedures. Technically it is called blank censoring. A congener value either meets criteria as acceptable or it is censored. The background value is not subtracted from the analytical result (which is how it is done in most types of analyses). There are no specific procedures for doing blank correction factors. The EPA has “Contract Laboratory Program National Functional Guidelines” for Dioxins; this is the standard method that is used for evaluating data.

The level of censoring depends on what the goal is for the information. This is a topic of conversation within Ecology since consistency is important. At Ecology different project managers will censor data differently depending on the specific QAPP for that project. This is why there are differences in data sets between projects and also programs. In addition programs may have different requirements/ standards that require a specific way to censor and/or manage the data.

As an example: if the goal is to look for sources, the data can be more qualitative and there is less of a need for an accurate number. So the blank censoring could mean that data is reported as is, or minimally censored.

A 5x level means that a concentration of 5 times the sample is believed to contain PCB with a 20% margin of error. A 10x level is removing anything less than an order of magnitude from the

calculation. This might be used in a situation where the desire is to have a greater level of assurance that the number indicates that PCB is present. Blank censoring is more important if the concentrations are very low, close to the detection limit, and close to the levels of PCB that are normally found in the environment. If the concentrations are significantly higher than the blanks, then censoring is a moot point.

Labs that are used by Ecology are required to participate in an international round robin testing program. This is very expensive and so labs have a vested interest in managing blank contamination. Labs will maintain data about their blank contamination over time. When contamination is found, they try to identify if it is systemic or sporadic and what needs to be done. If there is a congener in a blank but not in the sample, then it is not an issue to worry about. It is possible to address blank contamination by asking labs to do special things, but this can get expensive. The need for this level of certainty needs to be weighed with respect to the project objectives.

10x level may be used when you need to do specific calculations because this reduces uncertainty about the presence of a specific congener. Using 10x could result in a low bias (lower number of PCBs than is actually there) for concentration. If all that is needed is to look for a source then 3x level may be best; however it may not be a precise numerical number and will give you more qualitative information. A 3x level could result in a high bias (higher level of PCBs than is actually there) in the concentration. The taskforce needs to determine what they are looking for, what is the data quality objective, and what are they looking to achieve in order to make a decision on blank censoring.

Related Discussion:

Dave Dilks mentioned that they are considering treating each measurement as a probability distribution with an expected value and standard deviation for each measurement relative to the blank concentration. This would be different than what is in the QAPP. That way we may be able to glean more information out of the dataset. If we are seeing a lot of signals close to the noise, then we may be able to see more information by looking at it this way. The project data would still be censored as specified in the QAPP for archiving purposes.

Paul Klatt asked about the June sampling data management and how the QA/QC data is carried forward with the dataset. Because the ECY EIM data doesn't have a narrative with it, the data qualification is lost. It may be necessary to find a repository where we can keep this data with the data qualification narrative. There were also concerns that the calibration points were way above the minimum levels specified in Method 1668. Questions for future thought: How does this fit with the laboratory procedures? What data are facilities putting into the PARIS system and the DMRs? If it is very different this would make it difficult for those using the data for research purposes.

ACTION ITEM: Kara Whitman (Ruckelshaus Center) will post the handout on blanks from Ecology and Manchester Labs that Adriane Borgias provided. (COMPLETE)

January Workshop Planning:

Adriane Borgias and Bud Leber put together a purpose statement and session overviews for the 4 proposed workshop sessions (Analytical, Sampling, Mass Balance & Statistical Results, and Where do we go from here) as discussed during the planning call on September 30th. Bud Leber went over the purpose statement of the workshop. It was noted that the date needs to be changed to 2015 (instead of 2014) throughout the document.

The purpose of the workshop is to be a check in point for the taskforce activities and to discover the following: what did we learn, what do we still not know, where do we go from here? The purpose is stated as:

“Provide a forum for the open exchange of information on the results of the 2015 confidence and synoptic sampling events and the establishment of “where do we go from here” for further understanding source contribution of PCB to the Spokane River as well as identifying any appropriate near term source reduction efforts”

Feedback on the purpose statement:

- Suggestion that we also recap Workshops 1 and 2 so that we establish what we have done and where we are starting at for this workshop
- Start the conversation about dioxin, perhaps in the last session.

Analytical Session:

The focus of this session is to discuss the acceptance of laboratory data and the meaning and use of method blanks. The proposed topics of discussion for the session include:

- What is the purpose of method blanks?
- How are method blanks determined for Method 1668C?
- What are the laboratory criteria for comparison with the method blanks and acceptance of data?
- How does sample size impact method blank levels?
- Why is data "flagged" and what does it mean to the usability of the data?
- How should analytical results be "censored" for blank contamination levels?
- What SOPs are used to interpret laboratory data?
- What does this mean for data that is entered into Ecology's EIM?
- Method blanks for this work versus their standard blank distribution.

Bud explained the format of the workshop. The workshop is more of an informal workshop rather than only presentations. Discussion oriented, but guided by presentations and questions.

Feedback on the Analytical Session:

- The session should stick to a laboratory focus
- How does this data compare nationwide?
- Method blanks for this work and what the standard distribution is for other labs
- Reporting results below the calibration point
- Paul Klatt suggested including Dave Hope from Pacific Rim

- The topics can be given to presenters ahead of time to address, and others can also address these issues in a roundtable during the session.
- Other invitees could include IDEQ and Jeff Louch (NCASI)
- Congener evaluation of Ecology data (blank censoring)
- General presentations can be given about the analytical side and our data and how the data and the blanks compared to others.
- Doug added that the attendee/invitee list will be important. Need to have the expertise in the room. (Dr. Rodenburg)
- Experts could listen to the presentations and give recommendations/opinions

Question: Is the essence of the session to determine the confidence limit? Answer: Yes, but also to determine quality of the information that is needed based on the task force data objectives and how information will be used. Doug emphasized that this needs to be stated in the session description.

It was suggested that this session cover the broad topic of Blanks and then get into the specifics of data statistics in the third session.

Paul Klatt added that the workshop framework should include a description/frame of the where we were, and where we are now from the earlier workshops. Re-iterate where the taskforce started and where the taskforce wants to go. Sampling and analysis is 10 fold below PCB targets. Paul would like to see dioxin get some air time at the workshop. Currently dioxin is looked for in effluent but not in the river. Brian Nickel explained that there is a big gap between water quality standards and the method that has the lowest limit of detection.. He does not think we would get anything out of the sampling this unless we use high volume sampling, and he did not want to go to that extreme.

Sampling:

This session will discuss the field work and sampling techniques regarding the results of the data. It will focus is on what was learned from the sampling that occurred in the river and point sources and what impacts with respect to sampling might there be when sampling is executed in high flow conditions. It will address how the sampling went this time and what might this mean for future sampling events (high Flow, Coeur d'Alene Lake outlet etc). The sampling session will focus on the physical sampling and how it works and the sampling events.

Key terms to discuss in the session include: ***precision, reproducibility, comparison and bias.***

Feedback on Session:

- Sampling -- what went well, what did not, what was tweaked, suggestions etc.
- Trip/Field/transfer blank contamination, are there things we can do differently for future sampling?
- Bring sampling devices for a "show and tell"
 - Grab, PUFF, CLAM, XAD resin (Gravity, CLAM mfg, AXYS, Limnotech)

- Feedback from San Francisco and Delaware on sampling methods
- Need to compare the precision, reproducibility, of the different sampling methods. This is something that Limnotech can take a look at.
 - CLAM: pros, cons, what we get out (have other data to look at)
 - PUFF: pros, cons, what we get out (will have data for this)
 - Grab: # (will have our own data)
 - XAD-2 Resin: Has anyone used it and have experience with it? San Francisco or Delaware? (Update: Gravity has used this system before)
- Method Blanks: what are the limits of the sampling volume?

Question: Paul Klatt asked if there a chance to get the sampling equipment at the workshop as a demonstration. Bud explained that this is the plan with the PUFF system, but they will need to identify others who could come and discuss the methods.

Mass Balance and Statistical Results:

Adriane Borgias went over the session. The session focus will be a statistical discussion of the results including: QAPP objectives and the data quality needed to achieve the objectives, statistical meaning and confidence levels, data quality analysis, mass balance analysis by river section, statistical relevance of data relative to mass balance determination and identification of sources, and other techniques for data mining.

Paul Klatt suggested that the other techniques or mining data such as Positive Matrix Factorization be moved to final “where from here” session.

- A general statistical introduction could help those who are not familiar with these methods. Dave Dilks will explain any statistical methods that he has uses in his presentation.
- Move Positive Matrix Factorization to the last session since this will not be completed before the workshop.
- Remove Gravity and Lisa Rodenburg from this session? Add someone from Duwamish, San Francisco Bay, and Puget Sound etc.

Where do we go from here session:

Bud Leber gave a general overview of the session. The session focus is the Identification of next steps related to sampling or other actions that can/should be taken based upon the data generated for the August 2014 sampling event.

Feedback on Session:

- Fish tissue data: Some work being done at this point, but we can discuss what it takes to do this. Is there value in the data that has been obtained (data mining questions). Did we see anything by looking at each segment, do they line up with hot spots for fish. Are they related? Gravity: are they collecting the data of fish tissue from the Columbia

River? Has anyone looked at this and could they advise us on the value of this kind of comparison?

- Fingerprinting: pushed to a year 2 scope of work. Is there any preliminary data? (Columbia and Portland).
- List of data mining questions? Could come from each session (positive matrix factorization, fish tissue, etc.)
- Invitees share experiences at the beginning of the session
- Other media and university research (air, data mining, statistical analysis, Positive Matrix Factorization, other?)
- What about our data? Is it robust enough to (do what?), can we make conclusions from congener analysis of fish tissue? Have someone who is doing this in the Columbia River (Ecology, Gravity?) present on how this could be used.
- At the end of the session have the experts provide their opinion as to what the three most important things we need to do to move forward and do the same around the room.
- Lay out the data we have, what are the questions, what is the data analysis, what new data is needed?

ACTION ITEM: Lisa Dally Wilson to check with Gravity, and Adriane Borgias to check with Ecology and EPA on Columbia River sampling (fish tissue, etc)

The group did some restructuring of the session. Experts present at the beginning of the session and then go into the questions including:

- What did we find out?
- What is the quality of what we found out and what can it be used for?
- What do we need to do next-path forward – multiple pronged (fined tuned, targeted actions)?

Workshop general discussion:

The group discussed putting together a list of who we would like to invite and send them updated workshop overview and session overview. It was discussed that if the taskforce invites someone they should have the opportunity to present (or they may not have as much motivation to attend). We may want to sponsor participation for those who are really needed in the room. The invitation needs to explain what the purpose of the workshop is, how it will be organized and what the invitees would like to talk about.

A white board will be provided in each session to take down pertinent points from each session. These points will be brought back in the final session to re-iterate everything in order to plan for the continuing scope of work. The last session could be a highly facilitated session (Chris and

or Lisa) with the purpose of putting together the 2015+ plan. This session will evaluate what the data means, layer the information and help prioritize future scope of work for the taskforce.

Chris asked the group to clarify the structure of expert's presentations and open discussion. Lisa suggested that we ask the attendees to do a focused task: list what the 3 most important things that the taskforce should do moving forward. A lot of ideas will come out of this session and the taskforce will need a way to set priorities. The experts could provide guidance for this priority setting.

Lisa suggested that we lay out the data that we have and then ask:

- what are the questions?
- what is the data analysis?
- what new data or analysis is needed?

These question could jump start this conversation. We need to have the "bones" of the scope of work for the next year or so based on what comes out of this session.

Bud added that some of the invitees could give their perspective after they have heard presentations; time could be set aside time in each session for them to speak.

The group agreed that Lisa Dally Wilson and Chris Page should serve as facilitators for the workshop.

Workshop Logistics:

Proposed date – January 13-14 or January 14-15, 2015

Proposed locations - WA DOT, WSU facility, GU Moot Court, Tribal facility (Coeur d'Alene Casino, Kalispell Casino), Convention Center, Center Place. Location needs to have adequate parking and seat up to 80 people.

ACTION ITEM: Bud and Adriane will redraft the session overview and worksheet document based on the feedback from the meeting. (COMPLETED)

ACTION ITEM: Chris Page will draft the overall agenda and timing for the workshop. (COMPLETED)

ACION ITEM: Chris Page/Kara Whitman to review locations and identify preferred location (COMPLETED)

ACTION ITEM: TTWG to provide comments by Wednesday October 5, 2014. (COMPLETE)

ACTION ITEM: Adriane and Bud will finalize and prepare for SRRTTF posting on the taskforce website by October 12, 2014. (COMPLETE)

ACTION ITEM: SRRTTF will review and approve workshop planning materials, invitees/attendees, and budget.

ACTION ITEM: TTWG to contact potential invitees after SRRTTF approval.

- Bud Leber (Richard Grace, Shawn Hinz, Dave Hope, Greg Covallo)
- Adriane Borgias (Lisa Rodenburg, and specialists from MEL, EAP, Duwamish, and San Francisco)
- Doug Krapas (Jeff Louch, NCASI)
- Chris Page other attendees: CEREO, Joel Baker, John Starks (WA Stormwater Center)
- Lisa Dally Wilson: Gravity regarding Columbia River Fish sampling

The meeting concluded at 12:20pm.

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- The next full task force meeting is October 22, 2014 | 9am-12:30pm at Liberty Lake Sewer and Water District
 - The next Technical Track Work Group meeting is November 5, 2014 | 10am-12pm at the Department of Ecology