

**Meeting to respond to questions about the
Pend Oreille River Temperature TMDL
Dec. 13, 2007 11:30 a.m. to 1:30 p.m.
SeaTac Marriott, Seattle, WA**

Participants at the meeting:

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| Dave Knight, Ecology | Pat Buckley, Pend Oreille PUD |
| Susan Braley, Ecology | Laurie Mann, EPA |
| Jim Bellatty, Ecology | Deane Osterman, Kalispel Tribe |
| Dave Peeler, Ecology | Michele Wingert, Kalispel Tribe |
| Tarang Khangaonkar, PNNL | Joe Maroney, Kalispel Tribe |
| Christine Pratt, Seattle City Light | Jenna Borovansky, Long View Associates |
| Lynn Best, Seattle City Light | Lincoln Loehr, Heller Ehrman |
| Melissa Gildersleeve, Ecology | Robert Steed, Idaho DEQ |
| Kent Doughty, EES Consulting | Karin Baldwin, Ecology |

Participants on the phone:

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| Helen Rueda, EPA | Barry Burnell, Idaho DEQ |
| Lee Woodruff, EPA | Kent Easthouse, USACE |
| Tom Herron, Idaho DEQ | Lori Blau, Ponderay Newsprint |
| Kristin Keith, Idaho DEQ | Scott Jungbloom, Pend Oreille PUD |
| Don Essig, Idaho DEQ | Mike Schneider, USACE |
| Michael McIntyre, Idaho DEQ | Diane Williams, Tri-State Water Quality Council |

Agenda:

- Review of the MOA for this Interstate TMDL
- TMDL process overview & schedule
- Washington Water Quality Standards issues:
 - Lag time
 - Volume weighted average
 - Natural conditions provision [application of $t = 34/(T+9)$]
- TMDL and 401 Certification interaction
- Next steps

The meeting began by everyone introducing themselves and explaining their role in their organization and with the Pend Oreille TMDL. We then heard the participants' purpose for attending the meeting. Reasons for attending the meeting included reaffirming the MOA and the interstate and tribal cooperation, clarifying the TMDL process and roles, and solving the three common issues among Seattle City Light, the Pend Oreille PUD and Ponderay Newsprint.

Review of the MOA for this Interstate TMDL:

Jim Bellatty spoke about how the memorandum of agreement laid the framework for how the Pend Oreille TMDL would be developed and reflect the agencies' and Tribe's desire to address the Pend Oreille River as a whole. The MOA also discusses the roles of the Tribe and regulators.

The MOA was signed in May 2005. The MOA was not meant to solve all the problems or preclude people from meeting with one another.

People then began expressing their concerns and thoughts on how the process has been working so far:

- When an entity pushes for a standards policy change, every one on the river can be affected and it can impact the waters under another regulator's jurisdiction.
- Comments were submitted during the appropriate review period, but also seem to continue to be submitted. This does not give the agencies and Tribe adequate time to address the comments already received.
- Seattle City Light and others had common concerns and they wanted to speak with their regulators. In addition, Ecology advised Seattle City Light to speak with headquarters personnel about Washington's water quality standards.
- In Washington the regulator could be Ecology or the Tribe.
- This meeting should help define the process and timelines to alleviate process jumping which appears to be happening.
- There appears to be a need to have a better way to work through the process and resolve questions as quickly as possible.
- There was a perception that the agencies and Tribe were moving forward to meet a timeline without adequately addressing the complex issues. This rush to finish caused concern because regulatees think there are outstanding technical issues that need to be resolved before the final draft TMDL is released for public comment.
- While the model is technically sound, there are questions on how Washington's water quality standards were applied to the modeling results to create the load allocations in the draft TMDL.

TMDL process overview & schedule:

Karin mentioned that the three issues we would be discussing today were questions submitted during the WAG's opportunity to comment on the first draft of the temperature TMDL dated August 2007. The Agency Team (Ecology, Idaho DEQ, the Kalispel Tribe, and EPA) is currently working on responding to the comments and will present their responses at the next WAG meeting in January. After the WAG meeting, the agencies will provide Tetra Tech with updates for the next draft. Tetra Tech will then produce another draft which will be released to the WAG for comments. After this review, the Agency Team will ask the WAG if the TMDL can go to public comment. If the WAG agrees, the TMDL will undergo a 30-day public comment period. Ecology and Idaho DEQ will respond to comments and update the TMDL. Each agency will then put on their cover on the report and submit it to EPA. When EPA approves the TMDL, they will issue the TMDL for Tribal waters. The exact timing is not known, but we are hoping to submit the TMDL to EPA no later than June 30, 2008.

The Agency Team did acknowledge that there was a time crunch because they wanted to submit the TMDL to EPA before Idaho DEQ's Settlement Agreement timeline at the end of 2007. Now that Idaho DEQ agreed to submit the TMDL after the timeline, the grant and contract with Tetra Tech (who is writing the TMDL report) is partially responsible for the short timeline. (Funding in the grant is running low and the grant expiration date is nearing. The Tri-State Water Quality Council and EPA have extended the grant several times.)

Washington Water Quality Standards issues – Lag Time:

Seattle City Light, Ponderay Newsprint, and Pend Oreille PUD believe that the method chosen by Ecology to determine impairment exaggerates the heating that occurs in the river. The dams slow the water in the river by an estimated zero to four days; there is a time lag or a delay when peak temperatures occur under existing conditions compared to natural conditions (the condition without dams). The chosen method was to take the hottest water temperature at a specific time on a summer day, and compare parcel of water A under natural conditions with parcel of water B in existing conditions, instead of comparing parcel of water “A” in natural to parcel of water “A” in existing. What happens with the former method is that the temperature difference between the two is greater than the temperature difference between the latter method. Therefore, when lag time is not addressed we end up with a higher temperature difference which is used to determine the level of impairment.

When Tarang and Ben Cope, EPA, discussed the lag time issue before this meeting, they concluded that short lag times may not cause problems for fish and the frequency analysis methodology may be appropriate to use in the Pend Oreille River. SCL and Tarang proposed the frequency analysis method to Ecology (at a meeting on 11-20-07) and subsequently to EPA (via WebEx conference on 11-30-07.) EPA and Ecology questioned whether a 1 to 4 day lag in peak temperature occurrence has any impact on aquatic life beneficial uses. Information to determine if the lag time is causing a biological impact in the Pend Oreille River does not exist. Seattle City Light offered to retain a scientist to study the issue, but would like input from the Agency Team on what information would be needed. This biological effects question was considered and discussed with no clear answer at this time.

Ecology is looking at various ways to account for the lag time. Options are a frequency analysis and a statistical pooling of the maximum temperatures. However, other methods may also be considered. Ecology will evaluate what makes the most sense given that Idaho, Washington and the Tribe all have a different standard. (The Kalispel Tribe has a 7-day average daily rolling temperature standard for their waters.) The Agency Team will need to ensure all standards are considered and addressed. At this time, no final decisions have been made on how to address lag time.

Bob Steed pointed out that lag time is not just speed of water. Water depth and width issues and other processes are also involved. So, there isn't necessarily a straight across application to address lag time. Also the data to do a frequency analysis does not exist for Idaho DEQ. Lincoln Loehr and US Army Corps of Engineers (USACE) staff pointed out that whisker plots created by the USACE could be used to initiate a frequency distribution for Idaho DEQ. The USACE used a volume weighted average; however, the Corps says the plots can be calculated without using volume weighted average. The agencies and Tribe will discuss this issue and get back to the group.

Washington Water Quality Standards issues – Volume Weighted Average:

Ecology and Idaho will not do a volume weighted average. Ecology's water quality standards are not set up to allow such an average. Ecology would consider averaging across a layer but not

up and down a layer. Ecology has not used volume weighted averaging in other TMDLs and they do not want to set a precedent by using one now.

Ponderay Newsprint asked how protecting the upper meter of water protects the beneficial uses throughout the water column.

Tarang stated that he is pleased with the model itself. Tarang stated the model is calibrated with a high level of accuracy and the error statistics are low. How the results of the model were used to determine impairment and how the load allocations have been developed are not clear. The method used to develop the load allocations should have the same level of quality assurance that the model development received. In addition, Seattle City Light, Pend Oreille PUD and Ponderay Newsprint expressed concerns that the load allocations in the draft TMDL assume the peak temperature measured at a single location is applied throughout the entire water column and throughout the entire reservoir reaches.

If the agencies are not able to use the volume-weighted average method, SCL recommends that an accurate calculation of heat flux or loading be done. EPA stated that they are working internally on this issue.

The states told Tetra Tech what to write and will be providing them with an update for the next draft.

Washington Water Quality Standards issues – Natural conditions provision [application of $t = 34/(T+9)$]:

Participants asked if the natural condition provision was used in the draft TMDL, i.e. was the 0.3°C provision in the water quality standard used? Seattle City Light commented that the draft TMDL was not clear on what “natural condition number” was applied in the TMDL. Further, the draft TMDL does not present what the natural conditions temperatures were modeled to be. Table B and Table 23 are confusing when it comes to the temperature provision. [The target temperature in Box Canyon reservoir is 19.99 C and the target temperature in Boundary reservoir is 19.97 C (both of which are below the numeric standard of 20 °C and do not appear to include the natural condition provision)].

Susan Braley stated that the next draft TMDL will be changed to reflect that only natural conditions plus 0.3 °C will be used. The equation $t = 34/(T+9)$ is typically used for permitting point sources and does not really apply in this case.

TMDL and 401 Certification interaction:

Dave Knight stated that Tetra Tech did not address implementation in the draft TMDL. The suite of possible actions people can use to reduce temperatures is not included. (Karin will be contacting stakeholders to write the implementation strategy before the next draft.)

Lori Blau wanted clarification that the study could indicate the river is cooler than natural conditions and if so, no TMDL was necessary and therefore why we were talking about TMDL implementation. Ecology and Idaho responded by saying that there are areas of the river which

are above the standard. The next draft will do a better job of clarifying where and when the water is warmer and where the TMDL allocations apply. People then asked if they could get thermal credits since the dams are cooling the water. Ecology, Idaho DEQ, Kalispel Tribe and EPA staff were not sure how this would work, and the Tribe does not consider this an option to address the temperature impairments.

Washington will provide 401 certification to Boundary and Box Canyon Dams. 401 certifications are more detailed than TMDLs and take a look at the feasibility of strategies. Implementation plans for temperature TMDLs can consider all strategies. In addition, implementing temperature TMDLs is more straight forward than implementing TMDLs for other parameters because humans have control over a limited number of factors (shading and width to depth ratios) that can decrease temperature.

Some felt that there was a disconnect in coming up with an implementation strategy when we don't know the extent of the problem and what is appropriate to address the problem. Groups implementing the TMDL want to make sure the money invested in the resource is effective and makes a difference.

Next Steps:

Karin reported that the next step is for the Agency Team to work on responding to comments from the WAG on the draft TMDL. The Agency Team will talk about their responses at the all-day WAG meeting in January. Bob Steed clarified that the Agency Team will respond to as many comments as they are able to address; the team can not guarantee a response to all the comments received at that time.

Karin then asked if the group could email Ruth Watkins with their preference for a January meeting date. However, it was pointed out that the WAG had not received the email request for dates, so Diane Williams said she would ask Ruth to resend the email. The next WAG meeting dates were either mid-January or Jan. 30th.

The group then discussed the Tetra Tech contract. The contract may be an issue and restrict how much time we have to complete the TMDL. Diane mentioned that the Tri-State Water Quality Council may need to competitively apply for more money or see if the agencies could contribute additional funds.

Jim Bellatty urged the group to stay in touch with Karin as the process proceeds. Karin's phone number is 509-329-3472.

Meeting was adjourned at 1:35 p.m.

>>> "Baldwin, Karin K. (ECY)" <KBAL461@ECY.WA.GOV> 12/6/2007 12:04 PM >>>
Hello everyone.

Our meeting on Dec. 13, 2007 from 11:30 am until 1:30 pm will be held at the SeaTac Marriott. I have attached directions if you need them. Please check in with the front desk of the hotel for the location of the meeting room.

For those of you participating by phone, here is the conference call line: (360) 357-2903 PIN: 1793#

The agenda for the meeting is:

- Review of the MOA for this Interstate TMDL (see attached copy of electronic version)
- Process overview & schedule
- Washington Water Quality Standards issues:
 - Lag time
 - Volume weighted average
 - Special conditions standard for the Pend Oreille River and application of $t = 34/(T+9)$
- TMDL and 401 Certification interaction
- Next steps

Please give me a call or send me an email if you have any questions about this meeting or have additional agenda items.

Safe travels to everyone coming to the meeting!
Karin

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