

Pend Oreille River TMDL Watershed Advisory Group
Meeting Summary
Tuesday, March 20, 2007
1:00- 4:00
Dover, Idaho

Attendees:

Rob Annear, Portland State University; Scott Jungbloom, Pend Oreille Public Utility District; Brian Bolles, Pend Oreille Conservation District; Lori Blau, Ponderay Newsprint; Charlie Holderman and Patty Perry, Kootenai Tribe; Tom Worden, Stimson Lumber; Kevin Kinsella, Pend Oreille Mine; Karen Kensilla, JBR Environmental Consultants; David White, Idaho Dept of Parks & Recreation; Randy Curliss, City of Dover; Paul Pickett and Jon Jones, Washington Dept. of Ecology; John Gross, Kalispel Tribe; Jenna Borovansky, Robert Steed and Tyson Clyne, Idaho Department of Environmental Quality; Kent Easthouse, U S Army Corps of Engineers; Helen Rueda, EPA Region 10 (phone); Jessica Koenig and Amy King, Tetra Tech (phone); Diane Williams and Ruth Watkins, Tri-State Water Quality Council.

Welcome:

Ruth welcomed everyone to the meeting and reviewed the day's agenda. She noted the two states' websites for retrieving information about the TMDL project. The Idaho DEQ website:

http://www.deq.idaho.gov/about/regions/pend_oreille_river_tribs_wag/index.cfm

The Washington Ecology website:

www.ecy.wa.gov/programs/wq/tmdl/pend_oreille/index.html

Total Dissolved Gas TMDL, Washington:

Jon Jones reported that the TDG TMDL Implementation Strategy is currently undergoing internal agency and peer review and will soon be available for public review and comment. Jon will send an announcement out to the WAG when the public review process begins. The public comment period will be for 30 days and WAG members can let Jon know if they would like a hard copy to review.

Absolute mean error discussion (presentation available on Idaho DEQ website):

Bob Steed reviewed the discussion that began at the January 2007 WAG meeting when the group talked about how the error factor will be considered when we look at model results to develop the temperature TMDL and allocations. In January it was agreed that the information we get from the model wouldn't be exact, yet for the TMDL we have to have an exact number for a target. The standard we use for natural conditions is 0.3°C (which is the maximum increase allowed at any time when natural conditions are above the established criteria) and the average mean error from the modeling results is 0.37°C, which raises questions about how to address the error factor for the TMDL.

Bob explained that neither the computed model value nor the measured value is “true” (i.e. absolutely accurate) data. When Celsius is converted to Fahrenheit and models are run—one with the error and one without the error—the two models generate the same mathematical result. Bob noted that the use of the model to predict relative effects is consistent with standard modeling practices and that accuracy is always subject to some uncertainty. Therefore DEQ is proposing that the average mean error is not critically important when comparing scenarios because any error in the model results would be similar between scenarios; also he noted that the measured monitoring data is just as likely to be an error. Scott Jungbloom summed up the discussion by stating that when comparing scenarios the error is negligible, but when setting targets the error should be included.

Results of scenarios from temperature models for the river TMDL:

1. Idaho Segment

Paul Pickett provided an introduction to the scenario discussion, reminding everyone that at the last meeting in January we reviewed the calibration results of the three models for the Idaho, Box Canyon and Boundary segments of the river. He noted that we are working from upstream to downstream and that the Idaho (upstream) model results are ready for review today. The Idaho results have not been run through the two downstream segments yet so more detailed information on the Washington segments will be ready for the next meeting.

Rob Annear of Portland State University gave a detailed presentation on the Idaho segment scenario results (presentation available on website). The eight scenarios run through the model were:

- Current conditions (River impounded by Albeni Falls Dam, current point sources discharging, tributaries at current temperature and current vegetation along river corridor.)
- Impounded, no point sources (all other conditions current)
- Impounded, no point sources or non-point sources (all other conditions current)
- Un-impounded (all other conditions current)
- Un-impounded, no point sources (all other conditions current)
- Un-impounded, no point discharges or non-point sources (all other conditions current)
- Potential natural vegetation (all other conditions current)
- Pristine simulation (Un-impounded, no point or non-point sources, tributaries at *natural* temperature and *potential natural* vegetation along the river corridor)

Three locations were used for running the scenarios: 10km downstream from the Long Bridge, 36km downstream from the Long Bride and at Albeni Falls. Bottom, surface and volume weighted data were used to compute daily average temperatures and the daily maximum temperature was derived from surface data at 1m depth, volume weighted. Longitudinal profile comparisons were also conducted.

Rob reviewed the results of each scenario. For scenarios 1 and 8, existing (current) conditions are generally cooler and pristine conditions are generally warmer; this is due to water level and impoundment by Albeni Falls Dam—more volume is being stored so water is generally cooler with the dam in place. Other scenario runs show that there is no impact to temperature from point sources (volume is so small), non-point sources (tributaries) or vegetative bank shading. Even in un-impounded (no dam) conditions, varying densities of vegetation (0% to 70% canopy) make no difference in river temperature because the river is so wide.

The bottom line: all increases and decreases in river temperatures are caused by Albeni Falls Dam.

Bob noted that the river is more fully mixed when the water gets to the dam. John Gross asked about dissolved oxygen levels in the coldest, deepest areas; Bob said he has this data and will get it to the group. The following figure is dissolved oxygen concentrations reported in the Calibration Report. It is not of the coldest, deepest areas. When we run the model again we will make sure to have it provide dissolved oxygen outputs for these coldest deepest areas.

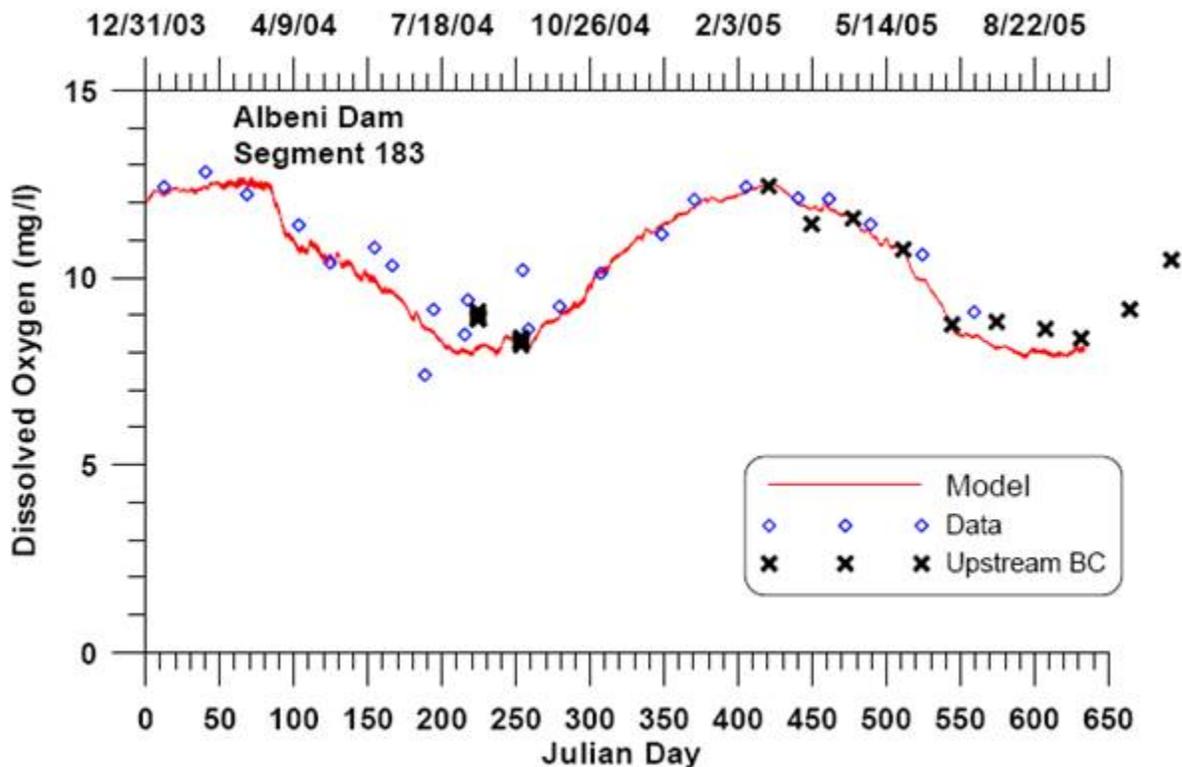


Figure 75: Comparison between model predictions and dissolved oxygen data at Albeni Dam.

Rob also showed animations of the thermal dynamic process's in the River under several scenarios. These animations are available on the Idaho DEQ Website.

2. Washington segments

Paul reported on the two Washington segments of the modeling effort. The Box Canyon portion will use results from the 2004/05 modeling for “existing” conditions, and will include flow and temperature for 15 tributaries. Mainstem vegetation will be included and other scenarios will be similar to the ones that were run for the Idaho segment. The Boundary portion will include flow and temperature for 15 tributaries and mainstem vegetation as well as an “existing with no dam” (Boundary Dam) scenario. Again, the scenarios will be similar to those run for the Idaho segment, i.e., with/without point sources and non-point sources, impounded/in-impounded and existing versus natural conditions. When the scenarios are completed, Ecology will be analyzing/comparing temperatures over time and at critical locations.

Strategy for developing the temperature TMDL:

Jenna introduced Jessica Koenig and Amy King from Tetra Tech (participating by phone). She noted that DEQ is looking for additional information for the Pend Oreille River sub-basin assessment and encouraged WAG members to let her know about any information sources they may be aware of. Ruth distributed a handout from Tetra Tech that outlines the proposed contents of the river temperature TMDL, which will take into account components as required by both states and the tribe.

Jessica gave an overview of Tetra Tech’s role, which is to coordinate with Ecology, DEQ and the Kalispel Tribe to integrate technical information and modeling results to prepare the multi-jurisdictional TMDL. The first steps in the process include coordinating with the states and tribe to obtain available information, developing background sections and participating in modeling conference calls. Bob noted that Tetra Tech would be writing the TMDL based on decisions made by the agencies, tribe and WAG.

Corps of Engineers monitoring projects:

Kent Easthouse from the Corps of Engineers reported on the agency’s monitoring to be conducted on the Pend Oreille River and Lake Pend Oreille in 2007. This year’s sampling is a continuation of work from the past few years; the 2006 report is currently going through QA/QC review. There are 3 parts to the program which include:

- TDG and temperature sampling at 2 sites at Albeni Falls Dam (forebay and tailwater), conducted April through November;
- Temperature at 11 stations on the lower Clark Fork River and the lake (Cabinet Gorge to Albeni Falls) conducted May-November; and
- Water quality (nutrients, metals, zooplankton, phytoplankton, chlorophyll a) at Contest and Anderson Points on the lake conducted monthly from February – November.

Rob noted that the COE data was very valuable for use in the model. Paul asked Kent to send him a description of the methods and QA/QC for Tetra Tech’s use. Kent noted that due to budget cuts the monitoring will not continue on an annual basis past 2007, but perhaps will be alternated in the future with sampling on the Kootenai River.

Pend Oreille River tributary TMDLs, Idaho:

Jenna gave a brief update on the Pend Oreille tributary TMDLs in Idaho and noted that the tributary sub-group is currently looking at nutrient TMDLs for Colburn Creek, Sand Creek, Trout Creek, Pack River above Rapid Lightning and Pack River at Colburn Road. These tributaries all have total phosphorus readings above 9ug/l, which is the TMDL target for Lake Pend Oreille.

John Gross asked if the tributary group was its own WAG and Jenna explained that the group is not a WAG but rather a technical sub-group of this Pend Oreille River WAG. The technical sub-group will review all the information about the tributaries, come to consensus and help Idaho DEQ make decisions on the tributary TMDLs. To meet Idaho requirements, the results of the sub-group's work will be presented to this WAG for final blessing.

Next meeting and agenda:

The following items were suggested for the agenda of the next WAG meeting:

- Results of scenarios for the two Washington segments
- Possibly show modeling scenario run for entire length of river
- Role of tributary groups in decision-making process (example of process on Kootenai/Moyie)
- Other listings for the Pend Oreille River mainstem (e.g., de-listing for sediment, TDG in tributaries)

The next meeting date was tentatively scheduled for April 26, but that date will be confirmed once the agencies and tribe are certain of the timeline for the Washington modeling results.

[Note: the next meeting date was subsequently changed to May 10.]

Meeting adjourned at 4:10.