

# Pend Oreille River Draft TMDL Comments

Ponderay Newsprint Co.

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# A TMDL is not needed for the Idaho Segment

1. Modeling has shown that the temperature differences between existing and natural conditions in the river are driven by Albeni Falls dam.
2. The modeling has shown that the effect of Albeni Falls dam is that the existing conditions in the summer months are cooler than natural conditions.

3. In 11 out of 12 scenarios evaluated by IDEQ, the existing temperatures are cooler than natural conditions. In other words, in 11 out of the 12 scenarios, Albeni Falls Dam is providing cooler temperatures in the river than would exist under natural conditions (i.e. Albeni Falls Dam is not there).

4. In one of the 12 modeled scenarios, the initial modeling indicated that the existing temperature would be greater than natural conditions.
5. If, as concluded earlier by the model, the temperatures are driven by Albeni Falls Dam, then a “solution” would be to remove the dam. While this would provide a lower temperature for one scenario, eleven others would experience warmer temperatures.

6. The modeling indicates that, in the summer, the effect of Albeni Falls Dam is to make the temperatures experienced in the river cooler than natural conditions.
7. This modeling result is a demonstration of compliance with Idaho, Washington, and the Kalispel Tribe's temperature standards.

# Idaho Conclusions

- IDEQ should declare the Pend Oreille River meets the temperature standards, remove it from the 303(d) list, and move on to other water bodies.
- This is consistent with 40 CFR 130.7(b)(6)(iv):  
“...each State must demonstrate good cause for not including a water or waters on the list. Good cause includes, but is not limited to, more recent or accurate data; **more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed** in the categories in §130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.” (emphasis added)

# Washington: May 2004

1. The model runs indicate that in the first week of May 2004, the existing conditions are more than a degree Celsius **warmer** than natural conditions.
2. Before declaring this a violation, WDOE, the agencies, and the modelers need to provide an explanation for the model results.

3. These questionable and unexplained results for May 2004 are presented as an exceedance of the 1.68° C allowable standard.

- How is the allowable 1.68° C calculated?  
WAC 173-201A-602(2) includes the formula

$$t = 34 / (T + 9)$$

- What is **T**? You have to go back through the present and past regulations to understand the formula and its terms. In the current regulations, at WAC 173-201A-200(1)(c)(ii):

- “Incremental temperature increases resulting from individual **point source activities** must not, at any time, exceed  $28/(T+7)$  as measured at the edge of a mixing zone boundary (where “**T**” represents the **background temperature** as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge);” (emphasis added) *WAC 173-201A-200(1)(c)(ii)*

- What about  $t$ ? To find the definition of  $t$ , you have to go back to the 1997 version of the water quality standards for Class B waters which describes the same  $t = 34 / (T + 9)$  formula as applies to the Pend Oreille River in WAC 173-201A-030-(3)(c)(iv):

“For purposes hereof, “ $t$ ” represents the maximum permissible temperature increase measured at a **mixing zone** boundary; and “ $T$ ” represents the **background temperature** as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.” (emphasis added)

- The “ $t = 34 / (T + 9)$ ” formula is applicable for evaluation of maximum allowable temperature increases at the edge of a **mixing zone**, resulting from a **point source**. It is based on a comparison with background temperatures, and not a comparison with natural conditions.
- This formula, used to assert a problem in May 2004, is not applicable to a dam.
- The formula applies to point sources and mixing zones and comparisons with the highest background temperatures.

- The provision of the water quality temperature standards that should be used is found in WAC 173-201A-200(1)(c)(iii) and states:

“Incremental temperature increases resulting from the combined effect of all **nonpoint source activities** in the water body must not, at any time, exceed **2.8<sup>0</sup> C (5.04<sup>0</sup> F)**.”

- Figures 25 and 26 in the draft TMDL present loading capacity based on the  $t = 34 / (T + 9)$  formula, and need to be corrected to reflect the 2.8<sup>0</sup> C allowance.

# Conclusions – May 2004

1. WDOE, the modelers, and agencies need to provide an explanation for the model results.
2. The correct temperature allowances need to be applied, *before* declaring a violation.

# Washington Allowable Temperatures

1. The TMDL incorrectly asserts that the allowable temperatures for the Pend Oreille River in Washington are essentially the numeric criteria in the summer, and therefore sets incorrect reduction requirements.

- Table 23 asserts that the allowable temperature at river mile 34.6 for August 24, 2004 is 20<sup>0</sup> C. The table similarly allows even slightly lower temperature allowances for river miles 17.7 and 16.8.
  - This table ignores the *natural provisions of the water quality standards*, and ignores the reality that the natural condition of the river is going to be warmer than 20<sup>0</sup> C for most of the summer.
  - The prescribed temperature reductions are unattainable by any form of allocation.

# Conclusions – Allowable Temperatures

1. The natural temperature conditions have inexplicably vanished from the TMDL considerations.
2. The tables and figures (such as Table 23) in the TMDL need to be corrected to show the correct temperature allowances.

# Summary

1. The Idaho portion of the Pend Oreille River has been demonstrated to meet water quality standards.
2. The modeling meets the requirement of “...*more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed*” in 40 CFR 130.7(b)(6)(iv) to allow the river to be delisted.
3. IDEQ should remove the river from their 303(d) list, consider it a TMDL/evaluation that has been accomplished, and move on to other water bodies.

4. WDOE, the modelers, and agencies need to provide an explanation for the model results for May, 2004.
5. The correct temperature allowances ( $2.8^{\circ}\text{C}$ ) and the correct application of the equation “ $t=34/(T+9)$ ” (“ $T$ ” = *background* not natural) need to be applied, *before* declaring a violation.

6. The natural temperature component of the regulations must be considered and allowed.
7. The figures and tables in the TMDL need to be corrected to show the proper information after these steps have been taken.

# Questions?

