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*Delivered by email to:* [dbil461@ecy.wa.gov](mailto:dbil461@ecy.wa.gov)

**RE: Kalispel Tribe's Comments on Pend Oreille River Temperature TMDL Issues Presented for Dispute Resolution**

Dear Mr. Bilhimer:

The Kalispel Tribe of Indians ("Tribe") submits the following comments in response to the issues raised by Seattle City Light ("SCL") and Public Utility District No. 1 of Pend Oreille County ("PUD") in their requests for dispute resolution related to the Pend Oreille River Temperature TMDL. Having been an active participant in this TMDL process, the Tribe is well versed in these issues and believes that altering the TMDL to accommodate these entities' primary interests would lead to further impairment of the Pend Oreille River. Questions presented for dispute resolution are identified in bold below, followed by the Tribe's response.

**1. Whether flow-weighted average temperatures, rather than maximum surface temperatures, should be used to assess compliance with water quality criteria? (SCL & PUD DR Issue 1.A)**

The Tribe does not support the use of flow-weighted average temperatures to assess compliance with the special temperature criteria for the Pend Oreille River. *See* SCL & PUD DR Request § 1(A). These criteria require that compliance determinations be based on a 1-day maximum temperature ("1-DMax"), which is defined as the measure of "the highest water temperature reached on any given day." WAC 173-201A-020, 602. Although this definition speaks only of the single, highest water temperature on a particular day, flow-weighted averaging introduces spatial and temporal variables into the equation. These variables are likely to mask the highest temperature reached, especially during summer dam operations when late afternoon conditions (i.e. lower flows and warmer temperatures) may be offset by early morning conditions (i.e.

higher flows and cooler temperatures). The resulting average could therefore indicate that no temperature violation occurred even where the highest temperature exceeds permissible levels. Even where temperature violations are detected, the resulting level of protection will only be adequate during average conditions and not protective for water quality conditions that are worse than the average at any given time or location in the river. Ecology should therefore reject flow-weighted averaging as an appropriate statistical methodology in this TMDL.

It is not clear why WAC 173-201A-200 (1)(c)(vi)'s "dominant aquatic habitat" requirement—if it is indeed a requirement as SCL and the PUD contend, *compare id.* ("Temperature measurements *should* be taken to represent the dominant aquatic habitat of the monitoring site.") (emphasis added) *with id.* § 200 (using the terms "shall" and "must" collectively in twenty-five other instances); *cf.* WAC 173-340-210(6) & (7) (noting that in the context of MTCA regulations, use of the term "'shall,' 'must,' or 'will' means the provision is mandatory," whereas "'may' or 'should' means the provision is optional and permissive, and does not impose a requirement")—supports the use of flow-weighted averaging. Regardless of what "dominant aquatic habitat" means, the regulations specify that compliance should be assessed in terms of the maximum temperature on any given day. Flow-weighted averaging would likely mask some temperature violations within the dominant aquatic habitat, dilute documented temperature violations, and ensure that subsequent allocations would not be sufficient to address the temperature impairment in the Pend Oreille River. By contrast, determining compliance within the dominant aquatic habitat based on the maximum temperature therein would detect all temperature violations and protect all of that habitat against temperature impairment.

## **2. Whether the "Part 2" formula of the Pend Oreille River special temperature criteria may be appropriately applied in this TMDL? (SCL DR Issue 1.B)**

SCL contends that the formula ( $t=34/(T+9)$ ) set forth in the second part of the Pend Oreille River special temperature criteria is not applicable in the TMDL context. Though not styled as such, this argument seems to turn on the fact that Boundary Dam is not a point source. Even assuming that Boundary Dam is not a point source, the formula still applies for the reasons set forth in the Washington State Attorney General's December 28, 2009 memorandum from Ron Lavigne to Susan Braley re "Pend Oreille Temp." As explained on page 2 of this memorandum, "'t' represents the cumulative allowable temperature increase in the Pend Oreille River from all point and *nonpoint* sources subject to the TMDL." (emphasis added). According to the AG, this means:

If natural conditions exceed 20°C Ecology must develop LAs and WLAs that insure the cumulative temperature increase does not raise the temperature in the River by more than 0.3°C. When the temperature of the River is below 20°C, the LAs and WLAs must also insure that cumulative temperature increases will not raise the temperature in the River by more than  $t=34/(T+9)$ .

**3. Whether load allocations for Boundary Dam should acknowledge the cumulative effect of Box Canyon in the Boundary forebay? (SCL DR Issue 1.C)**

The Tribe agrees that all upstream temperature contributions by human-caused activities should be accounted for in any subsequent load allocations downstream for all reaches of the river including those coming from Idaho. The calculations and tracking of heat contributions as actual heat load should be included similar to the original 2007 draft of TMDL.

In the Box Canyon reach there is no accounting of the anthropogenic heat load contributing to downstream violations in Washington and Kalispel waters evident when using daily comparisons. *See* Kalispel Tribe's November 30, 2010 Comments on the Draft Pend Oreille River Temperature TMDL (incorporated herein by reference). This failure to account for upstream heat load is a direct result of inappropriate use of the cumulative frequency method of comparing data from the natural and impounded river. Cumulative frequency analysis masks the heat load coming from Idaho, which enables the erroneous and misleading conclusions that existing river temperatures are equal to natural conditions at the Stateline, and additional heat can be added to the system without further contributing to downstream temperature violations.

**4. Whether the TMDL has a clear plan for judging success of future implementation measures employed toward meeting water temperature load allocations? (PUD DR Issue 1.B)**

The Tribe agrees that the TMDL lacks any measurable goals for judging the success of implementation measures. However, it is the Tribe's understanding that a monitoring strategy to measure implementation activities and achievement of target temperatures will be developed as part of the Implementation Plan, which will be developed if and after EPA approves the TMDL. For present purposes, the Tribe is most concerned that the TMDL itself only has marginal value as a tool to ensure that Pend Oreille River special temperature criteria will be met under critical conditions because it is not using a trackable thermal mass loading for each river reach.

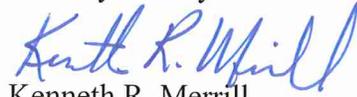
**5. Whether the TMDL establishes temperature goals that are unachievable by any reasonable means? (PUD DR Issue 1.C)**

This concern is premature. There is no way of determining whether the TMDL's temperature goals are unachievable by any reasonable means because the TMDL lacks any conceptual plan to achieve restoration of the thermal regime in the river. A conceptual plan that describes how target water temperatures will be met under critical conditions must be integrated into the TMDL before the PUD's concern can be addressed.

**6. Whether the TMDL properly accounts for normal water temperatures, flow rates, seasonal variation, and existing sources of heat input as required by 33 U.S.C. § 1313(d)(1)(D)? (PUD DR Issue 1.D)**

The Tribe believes that the TMDL does not accurately account for temporal variation due to the use of cumulative frequency analysis, which inappropriately assumes that timing of thermal variations in the river can be ignored and compared equally regardless of when they occur. However, where output data are analyzed in a temporally appropriate manner, predictive models offer an acceptable method of accounting for the variables cited in the statute above.

Thank you for your consideration,



Kenneth R. Merrill  
Water Resources Manager  
Kalispel Natural Resources

Cc: via email Don Martin, EPA