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DEPARTMENT OF ECOLOGY
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RE: Comments on the Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology ((May 2008)

Dear Mr. Moore,

These comments are submitted on behalf of our clients, Sierra Club, Upper Columbia River Group, and the Center for Environmental Law and Policy (CELP), on Ecology's 2007 Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report. The Sierra Club Upper Columbia River Group is a membership organization dedicated to protection of natural resources. The Upper Columbia River Group works on multiple issues related to restoring water quality and quantity in the Spokane River and aquifer. There are approximately 1600 Upper Columbia River members in the Spokane watershed many of whom fish, swim, boat, paddle, hike and otherwise enjoy the Spokane River and Lake Spokane

The Center for Law and Environmental Policy is a non-profit membership organization that works to defend and develop ecologically and socially responsible water laws and policies. CELP speaks for the overall public interest in the public's water; its mission is to leave a legacy of clean, flowing water for rivers and aquifers of the Pacific Northwest. CELP's members live, work, recreate, and use waters in and along Washington's lakes, rivers, and streams, including the Spokane River. CELP and its members are knowledgeable, interested, and significant stakeholders in the outcome of this TMDL process and other water management actions on the Spokane River.

These comments are intended to address the modifications made by the Department of Ecology to the September 2007 report and incorporated into the May 2008 Draft Report. Because this latest draft failed to address many of our concerns, these comments incorporate by reference in their

entirety the Sierra Club/CELP Comments on the September 2007 Draft, dated November 13, 2007, tendered to Dave Knight, Department of Ecology Water Quality Program.

Once again, we appreciate the time and effort Ecology has dedicated to the Dissolved Oxygen TMDL process since 1998, and the many opportunities for the Sierra Club and other members of the public to participate in that process. Unfortunately, we are still unable to support this third iteration. As set forth in detail in the attached comments, the May 2008 DO TMDL falls short of meeting the legal requirements of the Clean Water Act in a number of ways and does not provide adequate assurance that the water quality standards for dissolved oxygen will be met. First and foremost among these is the political decision to utilize a degraded boundary condition at the border between Washington and Idaho which essentially permits Washington to double the allowable amount of pollution in Lake Spokane in violation of state law.

The Sierra Club and CELP appreciate the opportunity to comment on this TMDL and hope that Ecology will reexamine its approach and redraft the plan to conform to the requirements of the Clean Water Act and state law.

Sincerely,

CENTER FOR JUSTICE

Bonne Beavers

Bonne Beavers
On behalf of the Sierra Club, Upper Columbia Group, and CELP

cc: Mike Gearheard, U.S. Environmental Protection Agency

Comments on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (May 2008)

Submitted on behalf of the Sierra Club, Upper Columbia River Group
And the Center for Law and Environmental Policy

INTRODUCTION

The Sierra Club and CELP previously tendered comments on the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (September 2007) (Hereinafter "2007 Draft"). The comments below are intended to address modifications to the 2007 Draft as reflected in the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (May 2008)(Hereinafter "2008 Draft"). Unfortunately, the 2008 Draft suffers from the same basic flaw as the 2007 – it assumes a degraded background condition at the Idaho/Washington border which seriously undermines restoration efforts. In addition, the 2008 Draft fails to adequately address other concerns identified by the Sierra Club and CELP in their comments on the September 2007 Draft as to the following issues:

- Application of the water quality standard for dissolved oxygen in Lake Spokane
- Wasteload and load allocations calculations and their translation into NPDES permit limits
- Groundwater characterization
- Compliance Schedules
- Permitting new discharges into 303(d) listed waters (e.g. Spokane County's proposed wastewater treatment plant)
- Margin of Safety
- Reasonable assurance of necessary nonpoint source reductions
- Potential off-ramp to a UAA
- Avista dam's contribution to low dissolved oxygen

Consequently, the Sierra Club and CELP herein incorporate by reference in their entirety the groups' comments on the 2007 Draft, with exhibits and attachments, previously tendered to Ecology by letter dated November 13, 2007.[1]

[1] Any reference to specific comments from our 2007 Draft Comments does not indicate an intent to limit incorporation of that document herein. As stated above, that entire document is retendered by incorporation and is to be included in the administrative record.

COMMENTS

1. The 2008 Draft DO TMDL increases WLAs for ammonia but fails to provide sufficient scientific rationale to support these changes.

p. 5: "This TMDL addresses low dissolved oxygen in the Spokane River and Lake Spokane. Dissolved oxygen in this system is affected by nutrients; therefore this TMDL establishes limits for ammonia (NH3), total phosphorus (TP), and carbonaceous biochemical oxygen demand (CBOD.)
p. 20: "Recent modeling to specifically assess ammonia impacts on dissolved oxygen under the NO-SOURCE scenario was conducted in August 2007. Results indicate the revised waste load allocations for ammonia that are greater than in-stream concentrations, will decrease dissolved oxygen by less than 0.2 mg/L. The incremental decrease in dissolved oxygen that occurs when the ammonia waste load allocations are increased from the background conditions to the waste load allocations in Table 5 is estimated to be less than 0.01 mg/L, or within the limits of the water quality standard.
p. 30: Table 5

The September 2007 Draft DO TMDL, p. 23, states: "Ecology examined the sensitivity of dissolved oxygen in Lake Spokane to varying ammonia loads from dischargers. The waste load allocations in Table 6 are predicted to result in less than a 0.01 mg/L decrease in dissolved oxygen in Lake Spokane. Therefore, dissolved oxygen appears to be less sensitive to ammonia."

These concentrations were as follows:

- Liberty Lake - 0.25mg/L
- Kaiser - 0.1 mg/L
- Inland Empire Paper - 1.0 mg/L
- City of Spokane - 0.25 mg/L
- Proposed County plant - 25 mg/L

The 2008 Draft increased the limits for Liberty Lake, City of Spokane and the proposed County plant as follows:

- Liberty Lake, City of Spokane, and the proposed County plant:
  - April 1 – May 30: 1.0 mg/L
  - June 1 – Sept. 30: .25 mg/L,
  - Oct. 1 – Oct. 31: 1 mg/L.

It appears the modeling used to support increases in ammonia allocations was done by consultants for Spokane County and adopted by Ecology without any technical memorandum describing the simulations. According to emails provided by Ecology, the modeling consisted of the following: a) a run with three 1-day slugs from the Spokane County facility with no other point source ammonia loads; 2) a run with no point source ammonia loads, and 3) a run with three 1-day slugs from the County and all point sources discharging at seasonally varying

ammonia limits.[2] The standard for dissolved oxygen in Lake Spokane requires a cumulative analysis of all oxygen depleting pollutants and loads. In general, increases in one oxygen-depleting pollutant must be balanced by decreases in the others to avoid increasing oxygen demand. Here, it appears the reduction was modeled in isolation without CBOD and phosphorus loading and without nonpoint source loading. This approach is inappropriate and makes it less likely the TMDL will result in meeting the Washington and Spokane Tribe water quality standards for dissolved oxygen.

At the least, before unilateral changes such as these are made, the model should be recalibrated using the new data including corrected flows and newly redefined natural background concentrations and run in a manner that gauges the cumulative effect on Lake Spokane.

2. <u>The 2008 Draft fails to provide a legally or scientifically defensible basis for the upstream boundary condition.</u>

p. 21: "Generally, upstream boundary conditions for TMDLs can vary depending on the information available for upstream waters and the circumstances of the TMDL. Some of the options include setting the boundary condition at the current condition, at the water quality standard at that location, or at an expected future condition after upstream water quality improvements are implemented."

This TMDL, as did the 2007 Draft, chose the latter option and set the boundary condition at the predicted condition of the river corresponding to the proposed NPDES limits for the three Idaho wastewater dischargers at full implementation – ten years after the permits are issued. This choice ignores the voluminous scientific studies and information available for the upstream waters as well all other sources of oxygen depleting pollutants in this watershed. These studies show that at the proposed permit limits, the Idaho discharge from these three plants alone will use up almost all the allowable loading in Lake Spokane. These limits violate state and federal law. Moreover, using this degraded border condition results in doubling the amount of allowable oxygen depleting pollutants in Lake Spokane and precludes restoration of the lake and achievement of the Spokane Tribe's water quality standards.

For complete comments on this issue, see 1) Sierra Club/CELP's 2007 Draft Comments, in particular the Introduction, Conclusion and Comments 4, 5, 6, 7, 8, 9, with attached exhibits and referenced documents, all of which are incorporated by reference herein; 2) Comment 6 below, and 3) the Sierra Club/CELP's replies to Ecology's Responses, Comment 13, Part C below.

3. <u>Table 3 is confusing and potentially misleading and should be removed.</u>

p. 16: Table 3. Monthly net change in phosphorus load from groundwater inflow and surface water outflow estimates to the Spokane River and Lake Spokane. River phosphorus values are the balance remaining after accounting for inflows and outflows.

[2] <u>Ex. .01</u>: Email exchange between Ecology, Spokane County and consultants re: ammonia modeling.

This chart is a modification of Table 3 in the 2007 Draft which showed the average monthly concentration of phosphorus and loading in pounds for the Spokane River. The concentrations were quite low – from .001 to .009 mg/L. The purpose of this new chart is unclear.

In an attempt to explain the table, David Moore (ECY) explained:

> [T]he "table is only trying to show the P inputs of groundwater, primarily so folks can see what the model is showing is coming into the river and especially the lake during the critical months. Part of the intent of this current table was to give some idea of what the groundwater load is so that if one of the dischargers wants to pursue delta elimination of controlled sources, they would have a starting point but by no means the entire answer without more detailed technical studies (what portion of the load is controllable is probably the first question.) Looking at the section as a whole, I'm thinking perhaps we should but a new section heading of "Groundwater" in the preceding paragraphs so readers know we're not talking about the entire P load to the lake, just the groundwater."[3]

Bob Cusimano (ECY) further explained:

> We put the table into the report to show how much of the load going into Lake Spokane from the Spokane River "**might be**" attributed to groundwater that enters the river between the Stateline with ID and NineMileDam. However, since there are inflows and outflows along the length of the river (and we also have to do waterbalance calculations because of the error associated with measuring flow and water elevation) the values in the table for the river represent the "estimated "net" change in loading that **could be** attributed to groundwater at the point the river enters the lake."*Id.* (emphasis added)

As David Moore (ECY) admits, Ecology's intent was to provide guidance to dischargers, particularly the County, hoping for offsets from removal of controllable groundwater pollutants. But, as noted by Cusimano, the table is at the very least imprecise. After reviewing Table 3, the accompanying text, and the available data supporting the chart, Joel Massman, Ph.D., P.E., found the data relied upon not only imprecise, but insufficient to support Ecology's assumptions.[4]

> Table 3 and the accompanying explanation provided in the Draft TMDL are confusing and potentially misleading. The table could be construed to suggest that significant reductions in phosphorus loads could be accomplished through reductions in groundwater loads. Data and model results are not available to support this suggestion.

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[3] Ex. .02: May and June 2008 emails between Bonne Beavers, David Moore and Bob Cusimano.

[4] Ex. .03: Massman, Technical Memorandum, Phosphorus Loads from Groundwater (June 20, 2008) incorporated by reference herein. Dr. Massman conducted reviews of the 2004 and 2007 Drafts for the Sierra Club. For Dr. Massman's resume, *see* 2007 Draft Comments, Appendix B:7.

> The groundwater loads to the river and the lake listed in Table 3 of the TMDL are directly dependent upon a relatively small amount of groundwater data. The sampling protocols used to collect these data have not been described and no quality assurance or quality control procedures have been presented for this groundwater data.
>
> It is important to note that the sources of the phosphorus that enters the river and lake via groundwater flow are not known and cannot be known without additional significant data collection and modeling efforts. It is not known at this point how much of this phosphorus is natural and how much may be derived from anthropogenic sources.[5]

Part of the problem is the "model that was used to develop the TMDL does not simulate or describe water movement or nutrient transport within the groundwater aquifer adjacent to the river – the model only simulates processes that occur within the river channel. The groundwater and surface water systems are decoupled in the model in that the phosphorus loads to the river from the groundwater do not depend upon conditions in the river. Because of this "disconnect" in the TMDL model, groundwater concentrations do not depend upon the amount of phosphorus that leaves the river and enters the aquifer."[6] In fact, the concentration of phosphorus in the groundwater is assumed to be constant in the model and is quite low – equal to 0.0074 mg/L. Because phosphorus concentrations in certain stretches of the river are higher, this results in what appears to be a loss of phosphorus for which there is no "obvious or easy 'fix.'"[7] And thus the loads included in Table 3, are "not derived from model simulations, but are largely the result of assumptions that were made in developing data input files for the model. These assumptions, which include estimates of phosphorus concentrations in the groundwater aquifer, are based on a very limited amount of data ..."[8]

As of this date, the model and data are insufficient to draw the assumptions suggested by this table. Further, by focusing on pounds only and excluding an analysis of groundwater concentration, the chart exaggerates the loading to the river from groundwater even on the limited data available. Given the uncertainty in groundwater data reliability, the disconnect between groundwater and surface water phosphorus concentrations, and the unknowns regarding the sources of groundwater phosphorus, Table 3 is misleading and should be removed.

4. <u>By utilizing a degraded background, the 2008 Draft TMDL overestimates the nutrient loading capacity in Lake Spokane.</u>

pp. 25-26: "The maximum loading capacity for the TMDL segment of the Spokane River and Lake Spokane is the amount of nutrient load (phosphorus, CBOD, and ammonia) above the 'starting point' of estimated baseline conditions that does not cause a violation of the dissolved

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[5] *Id* at 1.
[6] *Id* at 1-2.
[7] *Id* at 4.
[8] *Id* at 2

oxygen criteria (Figure 5) " "... the average phosphorus loading capacity in Lake Spokane is approximately 470 lbs/day during the critical period from April to October."

The loading capacity is the amount of pollutant a water body can accept without violating water quality standards. The 2007 Draft defined the maximum loading capacity for the upper Spokane River and Lake Spokane as "the amount of allowable increase in the nutrient load (phosphorus, carbonaceous biochemical oxygen demand, and ammonia) above the estimated natural and background conditions without causing a violation of the dissolved oxygen criteria." (2007 Draft at 20) This draft defines it as the allowable loading above the "starting point." Either way, Ecology has impermissibly lowered the bar by excluding Idaho loads

The TMDL confuses the "loading capacity" with the "current loading." The loading capacity as shown in Figure 5 (p. 27, 2008 Draft) shows the loading capacity as around 250 pounds for the critical period, not 470 lbs/day as stated on page 25. But the loading capacity in the 2007 Draft (Figure 5, p. 28, 2007 Draft) is less than 150 pounds – a difference of nearly 100 pounds. As both drafts presumably included the loading from the Idaho point sources in the "starting point," this difference is confusing and should be explained

5 <u>The 2008 Draft TMDL overestimates the instream concentrations resulting in WLAs that are not protective of water quality.</u>

p. 21: "Predicted phosphorus levels at the state line are influenced by the estimated current condition in the Lake Coeur d'Alene outlet (which is not pristine but is low in phosphorus), and the phosphorus inputs from the three municipalities after the imposition of final effluent limits in the Idaho NPDES permits
p. 30: "The wasteload allocations for phosphorus and CBOD correspond to the instream concentration values as determined by the CE-QUAL-W2 model." By contrast, ammonia loads were "based on modeling using CE-QUAL-W2 in August of 2007."
p. 40: "After the Dischargers meet the mass equivalent of 50 ug/L of phosphorus through technology upgrades, they will need to reduce an additional 26.6 pounds of phosphorus per day (based on a seasonal average using the concentration of 10 ug/L) through target pursuit actions."

Given that Ecology has raised the allowable loading by including human sources from Idaho, precise estimates of natural conditions are extremely important. As noted above, allowable loading is determined as a percentage increase of the estimated natural condition. As a result, the loading capacity decreases if the natural condition is actually better (lower TP) than presumed. The 2008 Draft TMDL relies on instream phosphorus concentrations determined through modeling and data collected around 2000 and 2001. However, Ecology has been collecting data on the instream concentration of phosphorus at the mouth of Lake Coeur d'Alene from October 2007 through May 2008. This information is available on Ecology's website at http://www.ecy.wa.gov/apps/watersheds/riv/station.asp?theyear=&tab=prelim_data&scrolly=575&wria=57&sta=57A240&docextension=.xls&docextension=.xls

This data shows concentrations of TP at Lake Coeur d'Alene are significantly lower (better) than that input into the model for natural conditions – .005 to .006 mg/L as opposed to .008 mg/L.

The modeling shows there is no assimilative capacity for point source pollutant loading that would increase river concentrations of pollutants during the critical period without overcontrolling the nonpoint source load. Therefore, granting WLAs above instream concentrations, either by using dated data or rounding up (as allowed in the Managed Implementation Plan), will result in further degradation of the waters.[9]

In fact the MIP is at odds with the TMDL on this issue. The Draft 2008 Table 5 sets wasteload allocations for phosphorus at instream concentrations of .007 to .008 mg/L. By contrast, the MIP's Table 9 uses 10 ug/L which allows discharges above background concentrations. This will result in allowable loading from 2.44 pounds of phosphorus to 3.46 pounds for the City of Spokane. According to EPA, "[t]here are no state or federal provisions in the NPDES of TMDL programs to allow even very small (insignificant, deminimus, 'nearly equivalent to removal, etc.) discharges to a receiving water if there is no loading capacity to assimilate the pollutant loading w/o degrading water quality."[10] In order to avoid further degradation, Ecology must utilize the latest data in calculating WLAs based on instream concentrations of phosphorus.

6. <u>Modeling conducted by Ecology on the Hangman Creek TMDL shows that the load allocations at the mouth of the tributary are highly unlikely to be met in April and May.</u>

p. 28: The load allocations assigned to the mouth of the tributaries "are comprised of the estimated natural load and the allowable increase in nonpoint pollution that would not cause an oxygen depletion to exceed 0.2 mg/L from the baseline condition. TMDLs for the Little Spokane and Hangman Creek remain under development. They may better differentiate the amount of nutrient loading in these tributaries that is naturally-occurring from that which is human-caused."

All drafts of the Spokane River DO TMDL have relied on the Hangman Creek TMDL as reasonable assurance for nonpoint source reductions in that watershed necessary to meet the loading at the tributary mouth. Unfortunately, the Hangman Creek TMDL is not a nutrient TMDL and will not be approved by EPA as such. Although the Hangman Creek TMDL was originally entitled the "Hangman (Latah) Creek Fecal Coliform, Temperature, Total Phosphorus and Turbidity Total Maximum Daily Load," in its review, EPA stated:

> "This is not a TMDL for nutrients in Hangman Creek. Rather it contains a proposed plan to implement the P target in Hangman Creek by the Spokane D.O. TMDL. Even lower levels of nutrients are likely to be necessary to address existing water quality problems in Hangman. The water quality analyses

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[9] <u>Ex. 1</u>: 2/14/08 e-mail from EPA's David Ragsdale, who was reviewing the Draft Hangman Creek TMDL, to Elaine Snouwaert (ECY), "As you know, the Spokane analyses determined there is no P loading capacity for the point sources (WLA= zero). To avoid saying 'no discharge' to the Spokane permittees, Ken [Merrill] and I developed the approach under which discharges at the estimated natural conditions (concentration) were assumed to not cause or contribute to violation of water quality standards. Under this presumption, discharge(s) of any volume at the natural condition concentration should not contribute to increasing the in-stream concentrations. However applying that concentration as a fixed number of pounds of loading is not always protective of water quality because of variation in the volume of discharge flow."

[10] <u>Ex. 2</u>: Hangman (Latah) Creek Fecal Coliform, Temperature, Total Phosphorus, and Turbidity Total Maximum Daily Load with comments by EPA reviewer Dave Ragsdale at 131 (Feb. 2008 – DRAFT).

> conducted in association with developing a P implement plan for Hangman determined that the previously estimated natural condition loading of nutrients during April/May-June are too low. The result is that the Spokane River TMDL loading targets for nutrients are not likely to be met during this period."[11]

Because the TMDL did not propose nutrient limits protective of water quality in the creek, EPA will not approve it for these nutrients. More importantly, the data shows that "Hangman Creek cannot meet the TP load allocations set by the Spokane River TMDL for April and May even with extraordinary BMP application and removal of all point sources in the watershed (including significant cross-border improvements on the Coeur d'Alene Reservation)."[12]

Nevertheless, Ecology intends to use the information collected to date as the basis for a Phosphorus Implementation Plan and has tendered a funding request for a facilitator.[13] Such a plan faces numerous challenges, not the least of which is the border issue. "Approximately 35% of the land area of Hangman Creek lies within the Coeur d'Alene Reservation and Idaho, and 60% of the average annual streamflow comes from there."[14] EPA and Ecology communications clearly show that staff were worried about the precedent being set by the Spokane River DO TMDL and how that might affect allocations and public perception. Melissa Gildersleeve, Watershed Management, Headquarters, stated: "My biggest worries: how to coordinate this TMDL, its recommendations and messages with the Spokane TMDL. I am specifically worried about communication about cross border issues. Who is your EPA reviewer? This should get coordinated EPA review with Spokane TMDL." [15]

Dave Ragsdale, the EPA reviewer, presumed cross-border loading would be allocated in a equitable manner, unlike the Spokane TMDL. "I presume that this available loading will be distributed between the Idaho, Coeur d'Alene Tribe and Washington portions of the watershed."[16] Elaine Snouwaert, ECY, stated:

> "I was told we should not let the Spokane border situation set precedence for the Hangman TMDL. One of our big public concerns in the Spokane was that we weren't addressing the whole watershed, we were accepting boundary conditions as natural and that this could set precedence. In addition, EPA originally asked us to model the whole watershed and work collaboratively with the Coeur d'Alene

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[11] Id. at 5; Ex. 2.1: 2/21/08 e-mail Dave Ragsdale to Elaine Snouwaert, Water Quality Program, Eastern Regional Office regarding EPA comments on the Hangman TMDL.

[12] Ex. 3: 11/1/07 e-mail from Ecology staff Joe Joy, Environmental Assessment Program, Eastern Regional Office to Elaine Snouwaert, Water Quality Program, "It appears Hangman Creek cannot meet the TP load allocations set by the Spokane River TMDL for April and May even with extraordinary BMP application and removal of all point sources in the watershed (including significant cross-border improvements on the Coeur d'Alene Reservation)

[13] Ex. 4: 3/25/08 and 3/27/08 e-mails from Snouwaert regarding formation of a Hangman Creek Phosphorus Reduction Plan "similar to the collaboration."

[14] Ex. 2: Hangmen Creek TMDL (February 2008 Draft) at 17.

[15] Ex. 5: 2/13/08 Gildersleeve (ECY) "My biggest worries: how to coordinate this TMDL, its recommendations and messages with the Spokane TMDL. I am specifically worried about communication about cross border issues. Who is your EPA reviewer? This should get coordinated EPA review with Spokane TMDL."

[16] Ex. 6: 1/8/07 Ragsdale email.

> Tribe. They will also be using the WARMF model for their TMDL. EPA paid for the model development for the whole watershed and we have been continuously working with the Tribe."[17] Ms. Snouwaert also noted several other cross-border TMDLs and stated that this "policy question needs to be resolved for multiple issues." *Id.*

As shown by these emails, Ecology, the Coeur d'Alene Tribe, and other stakeholders/agencies in Idaho must work together to formulate an equitable plan that can be memorialized by a signed binding agreement. As stated by Ragsdale, "Perhaps I should clarify that the agreement I suggested be achieved between Washington and the Coeur d'Alene Tribe was about determining a reasonable estimate of pollutant loading reduction which might be used as the boundary condition in your TMDL.... [S]ince the Tribe is interested in restoring Hangman Creek and has been a collaborating participant in your TMDL development process, it made sense that we might be able to make a reasonable estimate of future reductions that might be achieved in these upstream waters..... We must have a solid defensible basis for presuming that the future quality of upstream waters will change from existing conditions... " or, in other words, "reasonable assurance."[18] Ecology envisions not only an agreement with the Tribe, but also a Memorandum of Agreement "with many stakeholders including the Tribe."[19]

It is unclear how long this process will take. Moreover, it is unclear how this group intends to proceed in the absence of a binding TMDL for the basin with established load and wasteload allocations. Nor is it certain that Ecology will not follow the precedent being set her and utilize a degraded background as the border condition

Although the Hangman Creek TMDL is not a DO or phosphorus TMDL, the modeling so far provides important information about the ability to meet the allocations at the mouth. Based on the modeling to date, the load allocations for the mouth as set by this TMDL have almost never been met and are not likely to be met under the best potential scenario, ie. implementation of "best case" BMPs identified by the TMDL Advisory Committee.[20] As EPA found, "[t]here is little likelihood (reasonable assurance) that implementation of 'best case' BMP scenario will occur as this has not been accomplished in any watershed in the United States. Also, loading targets for P at the mouth of Hangman will not be met during the April/May period (partially because the recently determined estimated natural condition for Hangman was not input into the Spokane modeling.)"[21]

Additionally, the Draft Hangman Creek TMDL dealt only with phosphorus and did not address the corresponding CBOD and ammonia reductions. As reductions in all three pollutants are

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[17] Ex. 7: 2/14/08 Snouwaert email
[18] Ex. 8: 6/5/08 Ragsdale/Snouwaert emails
[19] Ex. 9: 3/19/08 Snouwaert email; 11/1/07 email from Jim Bellatty to Joe Joy discussing the political fallout from the data showing the inability to meet the Spokane River TMDL allocations. "I was hoping that the Spokane and Hangman Creek TMDL's [sic] would mesh together in a common sense manner. No such luck. An now, we have to develop a regional strategy ..Do you or your colleagues have any thoughts or ideas on how we are going to successfully manage these projects in the future?"
[20] Ex. 2: Hangman Creek TMDL at 16 (February 2008)
[21] *Id.* at 131

required to meet the load allocations at the mouth, more work must be done to define the actions necessary to reduce these pollutant loadings

Given the lack of data to support a phosphorus or DO TMDL in Hangman Creek, the expectations for meeting NPS tributary reductions in this TMDL, especially for Delta purposes, should be realistically adjusted downward. The model should also be recalibrated to include the new background condition for Hangman Creek and load allocations revised. The current data confirms that the natural background condition used in the DO TMDL was underestimated by about 30%. This means that the portion of the loading attributed to nonpoint sources is actually less than that assigned in the TMDL. Unless the model is recalibrated and load allocations revised, the potential exists for offsets or trading based on nonexistent loading. The starting point needs to be based on the best data for characterizing existing conditions in all tributaries.

7. <u>There can be no wasteload allocation for the proposed Spokane County Plant as there is no assimilative capacity in the river for additional loading</u>.

As discussed extensively in the Sierra Club/CELP comments on the 2007 Draft, as currently designed, the proposed Spokane County plant will not meet the WLA upon commencement of discharge and, despite the addition in allowable loading due to the border changes, large reductions in NPS loading must be accomplished to create capacity in the river for the existing discharges. A TMDL for phosphorus in Hangman Creek for dissolved oxygen and pH will determine there is no seasonal loading capacity for the six Washington dischargers in that watershed as well (plus two or three on the Idaho side).[22] As it is unlikely these reductions will occur, there is no legitimacy in allowing more loading from a new discharger, especially one that intends to expand over time. There are no offset regulations in Washington water quality standards for new discharges and no new capacity will be created until NPS are overcontrolled. (*See* Sierra Club/CELP 2007 Draft Comments, comment 26.)

As evidenced by Table 3 in the 2008 Draft, Ecology appears eager to help Spokane County obtain credit based on phosphorus reductions in groundwater from its septic elimination program. Credits for offsets cannot be given unless the source is over-controlled, i.e. reduced below the amount necessary to meet water quality standards. Until the model is recalibrated to include that portion of groundwater loading attributed to human causes, there is no baseline for offset credits.

8. <u>The TMDL and corresponding NPDES permits must prohibit increased loading prior to installing treatment to avoid further degradation of water quality.</u>

p. 31: "The NPDES permits will require calculations using actual, not projected flows to determine compliance with the wasteload allocations."

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[22] <u>Ex. 2</u>: EPA review, Draft Hangman TMDL at 131(I strongly advise Ecology to clarify to these municipal dischargers that meeting 50 ug/l is very likely to be subsequently determined as inadequate to protect water quality in the Creek. .and they may have to achieve lower or even no loading of pollutants that affect pH and D.O. FYI. Modeling by Butkus, Ecology-WQP documented this lack of assimilative capacity in Hangman years ago.)

The 2008 Draft gives the dischargers ten years to install treatment. This grace period allows the dischargers to continue to discharge at current levels while upgrading. It does not, however, allow increases unless these meet the wasteload allocations in Table 5. As EPA clarified in a March letter to Ecology, "Chapter VI of Ecology's 'Water quality Program Permit Writer's Manual' states that where there is an excursion of the water quality criteria for 303(d) listing, the permit writer should develop interim effluent limits based on existing performance (**no increase in loading**) for placement in the permit. ...Increasing loading prior to installing treatment will contribute to further degradation of water quality. . ." (*emphasis added*).[23] And, as EPA stated in its comments on the Draft Hangman Creek TMDL, "There are no state or federal provisions in the NPDES of TMDL programs to allow even very small (deminimus, 'nearly equivalent to removal, etc.) discharges to a receiving water if there is no loading capacity to assimilate the pollutant loading w/o degrading water quality."[24]

The 2008 Draft and MIP should be revised to clarify that loading limits will be based on existing performance and any increased loading must meet final wasteload allocations.

9. <u>The TMDL does not contain either a WLA for the NPDES-permitted stormwater systems (City of Spokane, Spokane County, Liberty Lake, and Millwood) and lacks a LA for the unpermitted systems</u>.

p. 31: "All other surface water discharges, including stormwater, should receive the concentrations representing the area at the point of discharge or an average of these concentrations. There are many small direct and indirect discharges to the Spokane River that may result from rainfall and snowmelt events. These stormwater discharges are considered both point and nonpoint sources (diffuse pollution that is collected and conveyed to a discharge location) and are addressed in the Managed Implementation Plan."

While the actions described on pages 44-46 of the 2008 TMDL represent an improvement from the previous draft, the document still lacks specified WLA for the permitted stormwater systems and LA for remaining systems.

The Clean Water Act specifically requires Ecology to address stormwater by means of a WLA or LA in the TMDL. In a November 22, 2002 memorandum from EPA, EPA specifically provided that "NPDES-regulated storm water discharges must be addressed by the wasteload allocation component of a TMDL. *See* 40 C.F.R. § 130.2(h)."[25] Moreover, EPA states:

> EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). It may be reasonable to quantify the allocations through estimates or extrapolations, based either on knowledge of land use patterns and associated literature values for pollutant loadings or on actual, albeit limited, loading information.

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[23] <u>Ex. 10</u>: EPA Region 10 letter to Ecology at 3, 4 (March26, 2008).
[24] <u>Ex. 2</u>: EPA review, Draft Hangman TMDL at 131.
[25] Available at: http://www.epa.gov/npdes/pubs/final-wwtmdl.pdf.

This simply did not occur for in this TMDL. The TMDL does not contain a WLA for the NPDES-permitted stormwater systems (City of Spokane, Spokane County, Liberty Lake, and Millwood) and lacks a LA for the unpermitted systems. The final should contain specific WLA and LA for stormwater.

Moreover, the legal sufficiency of the Phase II permit, to which this draft of the TMDL references, is in question. The Pollution Control Hearings Board recent concluded that permits for municipal stormwater must "prohibit[] discharges that violate water quality." *PSA et al v. Ecology et al*, PCHB NO. 07-021, et. seq., Final Summary Judgment Order (Phase I & II Special Condition S.4)(April 2, 2008). Accordingly, the TMDL must provide specific WLA for permitted sources to ensure that stormwater discharges will not violate water quality standards.

10. <u>The TMDL fails to assess the Avista dams as a contributing factor to the dissolved oxygen problem and to allocate responsibility for water quality violations as deemed appropriate.</u>

p. 5: "Issues concerning the affects on dissolved oxygen caused by the hydroelectric dams operated by Avista Utilities are being addressed through the 401 Certification permit process described earlier."

The 2008 TMDL completely defers consideration of the impacts of Avista's Long Lake dam on dissolved oxygen to the §401 Certification process. However, the §401 issued by Ecology defers consideration to a study outside of public review and contains poorly defined requirements to address the yet-to-be-identified contribution to the problem.[26] This approach makes no sense, defers and potentially ignores Avista's responsibilities, and is inconsistent with Ecology's own guidance. As described in Ecology's §401 Guidance Manual:

> If total daily maximum load (TMDL) allocation of pollutants to a hydropower facility can provide information that helps make these water quality certification decisions, Ecology will use them. Total maximum daily loads are not separate enforceable requirements, but are used as a tool to make regulatory decisions. A TMDL may be useful to the applicants. It allocates the portion of the pollution that is the responsibility of applicants where there is more than one source. [W]e will expect applicants to determine their contribution to the pollution.

Guidance Manual at 26.

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[26] A copy of the Final §401 Certification for Avista is available at: http://www.ecy.wa.gov/programs/wq/ferc/existing_certs/SpokRvr401AvistaFinalCert061008.pdf. Sierra Club and CELP's comments pointing out the shortcoming of this approach are available at: http://www.ecy.wa.gov/programs/wq/ferc/draft_certs/spokaneriverhydroproject/CtrforEnviroLawandPolicyandSierraClub/SierraClub-CELP.pdf. Inland Empire Paper and the City of Spokane similarly addressed the shortcomings of this approach. *See generally,* http://www.ecy.wa.gov/programs/wq/ferc/draft_certs/spokaneriverhydroproject/spokanerivercomments.html. The Final §401 and comments submitted by these parties are incorporated by reference into these comments.

The impacts of Avista's dam to low dissolved oxygen have been long recognized The construction of the dam and the filling of the Reservoir and its operations create a nutrient sink thus reducing transport of organic materials and nutrients originating from above and within Long Lake Reservoir to below the dam. In other words, nutrients in various forms are being retained and metabolized in Long Lake Reservoir due to Long Lake Dam. Long Lake Dam also creates a reservoir where riverine habitat, habitat that assimilates nutrients with different results, once existed. The Reservoir is long and deep and thermally stratifies each summer. These temperature-verses-depth gradients exist each summer in the Reservoir. Because of the rich supply and biological processing of nutrients received from above the dam, the hypolimnion (the isolated bottom waters) of the Reservoir becomes depleted of dissolved oxygen once the Reservoir has stratified

Oxygen-depleted water in the Reservoir is not meeting Washington's water quality standards in the Reservoir. Proposed operations would not remedy this problem:

> [T]he Proposed Action would be expected to continue to result in Long Lake HED discharges that frequently have DO concentrations of less than the 8.0-mg/l criterion during the summer and fall

PDEA at 5-131. Sierra Club/CELP expert, Dr Massmann, similarly found that Long Lake Dam has a significant impact on dissolved oxygen stating:

> Long Lake dam affects water quality through physical changes caused by converting the Spokane River into a reservoir or lake. The dam causes changes in pH, dissolved oxygen concentrations, nutrient concentrations, and algae concentrations. The flow conditions that result from the dam cause algal blooms and higher concentrations of algae at the upper end of the reservoir, as compared with conditions in the Spokane River upstream of Lake Spokane. The algae within the reservoir in turn cause lowered DO concentrations in the bottom of the reservoir. Although the sources of algal nutrients to the reservoir are not the direct result of the Project, the Long Lake dam contributes to water quality degradation related to DO, pH, and algae due to the hydraulic changes brought about by the presence of the impoundment (HDR, 2005, page 7-45).

Massmann Review at 3 (this report is included in Sierra Club/CELP's §401 Comments and incorporated by reference herein).

While Avista may not be completely responsible for decreased dissolved oxygen in Long Lake Reservoir, the company is at least partially responsible and must address its share of the problem. For example, the States of Oregon and Idaho addressed a mix of point, non-point, and dam-related impacts when examining the impacts of Idaho Power's Hells Canyon Complex to water quality of the Snake River.[27] Similarly, the State of Maine

[27] Available at:
http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/snake_river_hells_canyon/snake_river_hells_canyon.cfm

has required a hydropower operator to specifically address its contribution to low dissolved:[28]

> The evidence in the record indicates that the non-attainment of dissolved oxygen standards (both modeled and monitored) in Gulf Island Pond is the result of (1) the impact of point source discharges of pollutants, (2) the settling and decomposition of algae, (3) the hydrologic conditions created by Gulf Island Dam, and (4) the impact of natural conditions and non-point sources of pollution. Were it not for the presence and hydrologic impacts of Gulf Island Dam, and with point source discharges operating at current licensed limits, the Androscoggin River in the almost 15 mile-long river reach impounded by the dam would meet Class C dissolved oxygen standards, particularly under dry weather conditions when the effect of non-point source pollution on dissolved oxygen levels is minimal. It therefore follows that the dam causes or contributes to the violation of dissolved oxygen standards in the river, and that appropriate mitigation measures must be taken to eliminate the dam's continuing contribution to the violation of standards.

FPL Energy Maine Hydro LLC 401 Certification at 9

Avista has a legal obligation to address its portion of the dissolved oxygen problem. Failure to recognize this obligation passes the entire responsibility on upstream pollution sources, including municipal ratepayers. Accordingly, the TMDL should be revised now to specifically acknowledge Avista's responsibility to address its in-reservoir water quality impacts.

11. <u>The 2008 Draft fails to provide an adequate margin of safety.</u>

p. 31: Final wasteload allocations for phosphorus and CBOD will be equal to instream concentrations (Table 5), thereby providing a margin of safety by not allowing increased concentrations of these pollutants. Further, the TMDL load and wasteload allocations are conservative because they are based on meeting the allowable 0.2 mg/L decrease on the one day during the modeling period with the greatest impact.

The only change in this draft supporting a margin of safety is the claim that final wasteload allocations based on instream concentrations are conservative, especially where these were designed to meet allowable loading on the day of greatest impact. To the contrary, the WLAs are not conservative where they are 1) based on outdated data, 2) rounded up which, when translated into pounds, results in more loading, 3) not enforceable until 2028, and 4) reliant on other strategies than end-of-pipe reductions. This is not a conservative implicit MOS.

Reducing waste load allocations to instream concentrations provides no margin of safety where these are not expected to be achieved through end-of-pipe reductions. According to the 2004 Draft TMDL, "the total nutrient loading capacity of Lake Spokane is consumed by just a portion

[28] *See* http://mainegov-images.informe.org/dep/blwq/topic/gip/finalpermits/gulfisland_deerrips.pdf.

of the existing nonpoint pollutant source load combined with the natural condition load. There is no reasonable assurance that NPS can or will be reduced to achieve the load allocation. Therefore, no assimilative capacity is left for point source pollutant loading that would cause or contribute to an increase in river concentrations of pollutants during the critical period (April 1 – October 31.)"[29] Not only are nonpoint source reductions difficult to achieve, the percentage of reductions required to meet the standard has been grossly underestimated. (See 2007 Draft Comments, comment 9 at 21-25).

Finally, there is no reserve capacity in this TMDL which could provide not only some margin of safety, but also room for growth.[30]

Thus, for these reasons and those stated in Sierra Club/CELP's 2007 comments, the margin of safety remains inadequate. (*See* Sierra Club/CELP Comments, September 2007 Draft DO TMDL, comment 14, incorporated by reference herein.)

12 <u>There is no reasonable assurance that nonpoint loads will be reduced to their allocated amount under the 2008 Draft TMDL.</u>

In addition to the comments on reasonable assurance in Sierra Club/CELP's Comments 2007 Draft TMDL, incorporated by reference herein, the Sierra Club/CELP maintain the following activities listed at **page 32** of the 2008 Draft TMDL do not provide reasonable assurance that the required nonpoint source reductions will be achieved:

- <u>The Memorandum of Agreement</u>: Ecology signed on to the MOA with full knowledge that Foundational Concepts and MOA were inconsistent with the TMDL and/or the law in that they fail to require reductions in ammonia and CBOD, fail to provide enforceable benchmarks for required reductions, set loading at levels greater than the instream concentrations for phosphorus, fail to provide enforceable water quality based effluent limits for 20 years, allow a UAA before sufficient reduction activities have taken place, and were endorsed only by the dischargers and not the other collaboration participants or the public.

- <u>Local restoration programs</u>: It is unreasonable to assume that unspecified activities by unnamed groups and organizations provide assurance of meeting load allocations.

- <u>Delta Elimination Plans</u>: Ecology admits the inherent uncertainty in reducing nonpoint source loading. (See Appendix G-161 ¶ 1; G-166, # 34.) Thus, to the extent a delta plan relies on NPS reductions, these provide little assurance primarily because there is no reasonable assurance of overcontrolling NPS loading to the level necessary to provide assimilative capacity for point sources, especially where the TMDL calls for reductions below that shown to be necessary by modeling. Further, there is little to no opportunity to accomplish any reduction from NPS loading in Hangman Creek during the critical low-

[29] Sierra Club/CELP 2007 Draft Comments, Appendix A: (1) 2004 Draft TMDL at 24. See also Appendix D: (22)
[30] <u>Ex. 11</u>: Email between Ecology staff Patrick Hallinan and Ginny Darrell (March 10, 2008)

flow period because NPS loading is very small during this time of year. (See Comment 6 above.)

To the extent these plans rely on septic elimination programs, credit would first require extensive groundwater studies. Groundwater input from the Spokane aquifer were assumed to be naturally occurring and used in the modeling scenarios for this TMDL. Allowing a "credit" for phosphorus in this groundwater from septics presumes that the groundwater levels are elevated by human sources and hence not "natural." WLAs and trading schemes based on reducing groundwater contamination would require that model scenarios be rerun with a revised, presumably lower, phosphorus concentration. If this is the case, then the TMDL analyses must be revised to include an estimate of what the natural concentration of phosphorus is in the groundwater. As groundwater comprises a very large percentage of river flow during the critical period, this change would have a huge influence on loading targets and undoubtedly reduce further the instream concentrations needed to be met by the dischargers.

As stated by the 2008 Draft TMDL, "The Spokane River and aquifer interactions are a very complex system (Bartolino, 2007). If monitoring indicates that groundwater characteristics have changed significantly from what was used in the original model scenarios, Ecology will use the CE-QUAL-W2 model to analyze the river with the current groundwater conditions. If necessary, load and wasteload allocations will be adjusted according [sic] the model predictions." (2008 Draft at 16.) And in the Responses to Public Comments at G-155, "In the modeling effort, groundwater (either to the mainstem of the river or the tributaries) was not identified as a controllable source. Total net phosphorus loads to the river and lake are broadly identified in Table 3 but the nonpoint source portion of the load is not distinguished. To do so is complicated and would require a detailed technical study similar to that conducted for this TMDL to separate the individual source (septic systems for example) from natural background. Hopefully this will be determined through the work of the regional Nonpoint Source Committee by the ten-year assessment so that Dischargers may have opportunities to reduce their delta by reducing nonpoint sources not currently identified in this TMDL."

This work has not been done and hence does not provide reasonable assurance regarding delta elimination programs predicted on septic removal. (*See also* Sierra Club/CELP 2007 Draft TMDL Comments, comment 26.)

- NPDES permits: The proposed NPDES permits put out for public comment did not contain enforceable WQBELs for dissolved oxygen depleting pollutants consistent with the 2007 Draft TMDL nor did they contain compliance schedules consistent with state and federal law. State regulations require compliance with water quality standards within the shortest time possible but no later than ten years. Federal regulations require compliance within the shortest time possible. The 2008 Draft TMDL purports to require compliance within 10 years, but also states "This TMDL contemplates that final waste load allocations are met no later than 2028." (2008 Draft TMDL at ix.) An email exchange between Ecology staff indicates the same "Basically, we won't be taking

enforcement on anything until year 20 . . . "[31] However, in response to an email from Ecology regarding a proposed compliance schedule for IEP which allowed construction of phosphorus technology during the first 10 years and construction of CBOD and ammonia during the second ten years, Ecology's legal staff responded that the plan was "not a defensible compliance schedule "[32] As stated before, the interim and final WLA are predicted on allocations derived from a degraded background and are not expected to be met by end-of-pipe reductions alone. Without modifications to the TMDL and the MIP, NPDES permits based on this TMDL can not be characterized as providing reasonable assurance.

- Conservation plans: The plan relies on Spokane County's conservation program. Unfortunately, Spokane County does not intent to proceed with the plan unless the "TMDL [is] consistent with the Foundational Concepts, that EPA will approve the TMDL, and that we will receive an NPDES permit for the plant "[33] Given the dischargers' concerns regarding the alleged conflicts between the TMDL and the Foundational Concepts in addition to the legal hurtles regarding offsets for new dischargers, the County's conservation plan can not be viewed as "reasonable assurance."

- Spokane County's comprehensive reuse plan – Sierra Club/CELP applaud the County for its efforts in analyzing the potential for reuse in the County, especially given the legal and technical barriers to river discharge from its proposed plant during the critical low-flow period. (See Sierra Club/CELP 2007 Draft TMDL Comments, comment 26 at 44-48.) The County's plan identifies cost as the main barrier to implementation. Reasonable assurance requires a commitment to reuse by the County Commissioners and identification of appropriate funding sources.

- Funding – Reasonable assurance requires, at the least, that the document identify potential sources of funding and the probability of success.

- Nonpoint Source Advisory Committee – *See* Sierra Club/CELP 2007 Draft TMDL Comments, comment 28 at 51-52.

- Hangman Creek TMDL – (See Comment 6 above.) Nonpoint source loading for phosphorus, CBOD and ammonia necessary to meet the load allocations at the tributary mouth will not be addressed by the Hangman Creek TMDL. Data so far show that the allocations for the tributary mouth will not be met in April or May even with all point sources in the watershed at no discharge and BMPs in place. Moreover, there appears to be no written agreement among the watershed's jurisdictions and stakeholders necessary to provide reasonable assurance that a cross-border implementation plan will be formulated and implemented. Without a binding TMDL, that implementation plan may be much harder to enforce. Finally, the Draft Hangman Creek TMDL found that the "very low stream flows that occur in the late summer (below one cubic foot per second) can limit the benefits that would normally occur with the implementation of many of the

[31] Ex. 12: David Moore email (Feb. 21 2008).
[32] Ex. 13: Ron Lavigne email to Pat Hallinan (Feb. 2008).
[33] Ex. 14: Bruce Rawls email (Feb. 22, 2008).

identified BMPs," thus, as EPA found, this "is a very important point relative to imaginary Spokane River pollutant loading 'delta.'"[34] At this point, the Hangman Creek TMDL fails to provide reasonable assurance

- Liberty Lake "no-use" policy for phosphorus: Voluntary policies provide no reasonable assurance.

- Local watershed efforts – Unnamed and unspecified efforts to address instream flows, groundwater supply, and water conservation do not provide reasonable assurance of "mimimal low flow years and reductions in nonpoint sources of phosphorus."

- Stevens County WWTP – In the absence of any loading analysis from septics in Stevens County, it is impossible to determine the effect on Lake Spokane. Although one would assume removal would have an effect, a feasibility study lacking supporting data cannot provide reasonable assurance of meeting water quality standards.

- Lake Management Plan – The Lake Management Plan is currently in draft form and funding for implementation of the Plan is far from certain. Moreover, the focus of that plan is to address nutrients into the Lake and does not purport to address nutrients into the Spokane River. Moreover, given the low concentrations of phosphorus coming out of Lake Coeur d'Alene, any phosphorus reduction activities included in the plan are unlikely to provide much relief to the D.O. problems in Lake Spokane.

- Avista §401 Certification – The 401 Certification fails to provide any reasonable assurance. The §401 Certification fails to acknowledge that Long Lake dam contributes to DO problems, fails to assess Avista's contribution, and lacks any specific measures to address Avista's impacts. Given the uncertainty in Ecology's approach, the §401 cannot be characterized as providing any reasonable assurance.

13. For the reasons stated herein and in the Sierra Club/CELP 2007 Draft TMDL Comments, there is no reasonable assurance that this TMDL will lead to achievement of the Spokane Tribe's water quality standards for dissolved oxygen.

14 The model should be recalibrated and the wasteload and load allocations revised in conformity therewith to account for new information regarding the natural condition in Hangman Creek, the lower instream phosphorus concentrations from Lake Coeur d'Alene, human-caused pollutants in groundwater, and the assumptions relied upon for allocations in the Little Spokane.

For the most part, the data relied upon to devise wasteload and load allocations is almost seven years old. Although the TMDL relies on adaptive management and changes will be made based on later monitoring, the TMDL sets the baseline for all loading allocations. It is bad science and bad policy to predicate a long-term clean-up plan and NPDES permit limits on assumptions from data that is no longer accurate.

[34] Ex. 2: Draft Hangman Creek TMDL at 46

15. Ecology failed to adequately respond to the following issues raised by Sierra Club and CELP in their 2007 Comments.

In its responses, Ecology must respond by modifying the TMDL or providing a good faith, reasoned explanation for its rejection. 40 CFR, part 25.8. *See also Silva v. Lynn,* 482 F.2d 1282, 1285 (1st Cir.1973) (agency is not duty-bound to resolve conflicts raised by opposing viewpoints, but must provide a "good faith, reasoned analysis" in response).

Part B

- Page G-161, vi: Several commenters challenged the likelihood of achieving the required nonpoint source reductions. When asked for examples and documentation of successful NPS reductions similar to these, Ecology did not respond.

- Page G-163, # 21: In response to concerns about the reduced loading requirements for the tributaries in the 2007 Draft, Ecology did not attempt to explain the disparity between the 2004 and 2007 Draft load allocations. Instead, Ecology responded: "The goal of the TMDL is to prevent a decrease greater than 0.2 mg/L in dissolved oxygen in Lake Spokane at the critical segment. The revised load and wasteload allocations are intended to, and based on modeling will, meet this goal." This is non-responsive

- Page G-164, # 25: Sierra Club raised numerous concerns regarding wasteload allocations and NPDES permitting for Spokane County's proposed plant, particularly the legality of granting offsets to a new discharger where there is no assimilative capacity in the river. Ecology did not respond to these concerns.

- Page G-164, # 26: In response to concerns regarding credit for nonpoint sources, Ecology states, "Credit may be given for reductions in nonpoint sources to the mainstem Spokane River not previously identified in the TMDL." As noted above, if these credits come from alleged "controllable" groundwater contamination by septics, then the wasteload allocations will of necessity need to be recalculated based on a lower phosphorus (better) concentration in the natural background condition. You have to redefine it by modeling.

- Page G-166, # 35: Sierra Club/CELP argue that benchmarks for nonpoint source reduction activities are necessary to provide reasonable assurance that there will be progress to assess, not simply monitoring to determine whether load allocations are being met.

- Page G-167, # 41: Although Ecology maintains it has clearly stated that Ecology retains the right to determine credits for offsets pursuant to WAC 173-201A-450, this reviewer was unable to find the language cited to by Ecology, "Function # 5 on pg. 109," in either the 2007 or 2008 Drafts.

Part C

- Page G-170, # 3: "Waters entering WA from ID are not natural background." Ecology essentially responds that the model established the natural background by including the Idaho

discharges at the proposed permit levels. This is non-responsive "'Natural conditions' or 'natural background levels' means surface water quality that was present before any human-caused pollution " WAC 173-201A-020. Instead, Ecology should simply admit that the border or boundary condition is not the natural background

- Page G-179 180, # 5 and 6: Washington worked closely with EPA in developing this TMDL and adopted EPA Region 10's strategy of considering the Idaho and Washington discharges in isolation. EPA Region 10 issues the Idaho permits and approves the Washington permits and TMDL. It is entirely within both agencies' authority to have worked together to draft a watershed-based TMDL and watershed-based permits consistent therewith. It was entirely within their authority together to apportion the loading between the states in a fair and equitable manner. It was EPA's duty to condition the Idaho permits so they would not contribute to violations of Washington standards. Washington had the authority to object to EPA's permits on this basis. And Ecology had the authority to proceed with a natural background as it had done in the 2004 Draft TMDL and to reduce the allowable loading accordingly. Indeed, communications from Ecology and EPA staff working on other TMDLS show that these agencies often work together on a watershed basis to solve cross-border issues. Finally, U.S. EPA has adopted a policy of watershed-based permitting and TMDL development. It is disingenuous for Ecology to continue to claim it had no option or authority to proceed otherwise. (See Comment 6 above. See also Sierra Club/CELP 2008 Draft Comments, Appendix N1, Comment 7.)

- Page G-173, # 20: "The upstream boundary natural background conditions are represented by the output of EPA's calibrated CE-QUAL-W2 model for the Idaho section of the Spokane River, and include point source loads corresponding to the proposed Idaho permit loads." (2008 Draft at 20.) "The same model was used by EPA to determine the Idaho limits, which have Lake Spokane as the compliance point. Methods used to link the Washington and Idaho modeling segments are described in Appendix C of the TMDL." (Responses, Page G-215 # 11.)

Ecology utilized EPA's modeling and thus knew that the permit limits set by EPA would result in the Idaho discharges utilizing almost the entire allowable load. Ecology has a duty to enforce its own water quality standards which require that human sources may not cause more than a 0.2 mg/L decrease below natural conditions in Lake Spokane. Thus, armed with this knowledge, Ecology had only two legal and scientifically defensible options. It could challenge the EPA permits under the CWA or simply construct a TMDL that reflects the loading realities instead of doubling the loading. Claiming that it has no authority to act differently is non-responsive to the issue.

- Page G-172-176, ## 14, 21, 25, 27, 29, 32: See replies above to numbers 5, 6 and 20.

Part D

- Page G-178, Summary Response: The existing dischargers should be required to meet the wasteload allocations within the shortest time possible, not to exceed ten years. Instead, the 2008 Draft and MIP state that the *final* WLAs are enforceable by 2028, twenty years from now. The summary also misstates the WLAs. These are not 50 ug/L as stated in

the summary. As shown by Table 5, they are the instream phosphorus concentrations of either 7 or 8 ug/L (or lower per recent data) However, Table 9 in the MIP shows 10 ug/L for phosphorus. These inconsistencies will result in further degradation if uncorrected. Additionally, as the "dischargers are committed to purchasing and installing new treatment technologies now upon EPA acceptance of the TMDL," why do they need ten years for installation?

- Page G-182, # 21: There are no changes in the 2008 Draft that indicate Ecology intends to use its authority to require plant modifications as necessary to meet WQS and WLAs

Part E

- Page G-190, # 7: Although changes were made to the 2008 Draft indicated that only the Dischargers and Ecology agreed that the Foundational Concepts would guide implementation of the TMDL, the Draft states five different times that the document was developed by the TMDL Collaboration. As stated in our previous comments, the document was not a consensus document and not a product of the group as a whole. The modifications made are insufficient.

Part H

- Page G-196, # 4: Although the 2008 Draft clarifies that WLAs will be based on actual, not projected flows, it does not address increased flows prior to 2017. In fact, Response # 11, G-238 states, "Nutrients are capped at the concentration of the final wasteload allocation, despite any increases in flow. Therefore, there is no allowance for increased loading." The final wasteload allocation in 2017 is based on increased flows in the next ten years. The TMDL and NPDES should be modified as necessary to clarify that the compliance schedule applies to current loading to avoid further degradation.

- Page G-196, # 5: Under federal regulations, no permit may issue to a new discharger if the discharge will cause or contribute to water quality violations. In addition, where the proposed discharge is to impaired waters under § 303(d), no permit may issue unless there are sufficient remaining load allocations for the discharge Here, the river is overassimilated and will continue to be under this TMDL for 20 years. Until nonpoint sources are overcontrolled and all existing dischargers are at background, there is no capacity for new loading. The response in H(1) is nonresponsive as it addresses the issue of offsets, not assimilative capacity under 40 CFR 122.4.

- Page G-196, # 7: The response is nonresponsive to the issue of allocations for Kaiser's cooling water.

Part J

- Page G-203, # 6: Simply saying that point sources using biological nutrient removal plus filtration will likely control CBOD and ammonia does not qualify as a sufficient scientific basis. The 2008 Draft should provide support for this statement.

Part O

- Page G-219, Ecology Summary Response: Washington's water quality standard for lakes reads: "For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions. WAC 173-201A-200(1)(d)(2)." Not, as stated in the summary response, "no measurable decrease in

dissolved oxygen greater than 0.2 mg/L " Ecology is required to use the best data available in enforcing this standard. If all states ignored known loading contributing to water quality violations, especially that coming across state lines, and considered it background instead, our nation's interstate waters would remain impaired. For extreme examples, look at the Dead Zone in the Gulf of Mexico, a direct result of nutrient pollution from the 31 states and tribes upstream. The standard requires a cumulative analysis and there is nothing in this standard or the criteria that prohibit Ecology from considering pollution upstream as a "human source," even if it comes from Idaho.

- Page G-220, # 2: The response is non-responsive to the Tribe's request to remove references to a UAA.

- Page G-221, # 7,9 : Saying that Ecology accounted for the Idaho loading in the background scenario is non-responsive to the concerns about failing to consider the impacts of this loading combined with that given to Washington sources which essentially allows a 0.4 mg/L decrease below natural conditions.

Part P

- Page G-224, # 5: Implementation of this TMDL will hardly have begun ten years after approval of this TMDL. The dischargers do not have to have their new treatment technologies up and running until that date, yet this draft removed the language requiring at least three years of data from these upgrades and there is no timeframe in which nonpoint source implementation plans must be developed, much less implemented. Implementation can take years. In the Chesapeake Bay, only 50% of the required nonpoint source reductions have occurred since 1985.[35] That's twenty-three years. Ten years is ridiculously short to throw in the towel.

Part Q

- Page – 225, Summary Response: See Sierra Club/CELP's 2007 Comments at 36, fn 154.

- Page G-227, # 11: (i)The reasonable assurance section relies in part on undocumented and unspecified source correction reduction activities. (iii) It would appear that the link provided does not provide information regarding the results, costs, etc., of pilot testing conducted by Inland Empire, City of Spokane, Coeur d'Alene, or the Hayden Regional Water and Sewage District, all of which conducted pilot testing of phosphorus removing technology. (iv) The intent is for the discharger to provide documentation to Ecology showing the efforts by that plant to find the best solution under the unique circumstances of that plant. (vii) This comment applies equally to Inland Empire Paper Company. IEP appears to have taken the stance that it will not consider any strategy other than end-of-pipe reduction. Given IEP's difficulties in meeting end-of-pipe limits, it is incumbent upon Ecology to require IEP to document its efforts to utilize other strategies to meet its Delta. (viii) The law requires compliance within the shortest time possible. The ten-year compliance schedule is merely the outside limit for situations in which a discharger can show why compliance cannot be met in a shorter timeframe. Given the size of all

[35]Chesapeake Bay Program, reducing pollution at
http://www.chesapeakebay.net/status_reducingpollution.aspx?menuitem=19691

Spokane River dischargers other than the City, it is unclear why these need two NPDES permit cycles for upgrades. All dischargers should be required to justify the time needed to install advanced treatment.

- G-230, # 15: The answer is unresponsive to the issues regarding Kaiser's cooling water As to basing limits on actual flow, the TMDL provides wasteload allocations for 2017 and does not expressly state that discharges in excess of current limits must meet final WLAs. While compliance based on actual flow rather than projected flow is appropriate, allowing the dischargers to increase flow through 2017 without having to meet in-stream concentrations for expanded flows will cause further degradation. The TMDL and NPDES permits should expressly state that compliance schedules apply to current flow (not current design flow) only

Part R

- Page G-231: This section makes several incorrect or legally flawed statements First, this section states, "The 401 certification, through its 'Findings' section, describes the affects of the dams on dissolved oxygen." This is untrue. Ecology has made <u>no findings</u> regarding the impacts or allocation of responsibility of Avista in the §401 Certification. No specific finding has been made in the §401 Second, this section states, "The end of the 401 Certification ten-year compliance schedule coincides with the TMDL's ten-year assessment. It is at this point in both processes when the determination will be made as to whether or not additional steps need to be taken to improve dissolved oxygen levels in the reservoir, and the appropriate mechanism to achieve this." This appears to imply that Avista is not required to take actions to address its contribution until the end of ten years or after other parties have implemented millions of dollars in treatment upgrades and other measures. Avista has a legal obligation to address its portion of the dissolved oxygen. Failure to recognize this obligation and require timely implementation of mitigation measures passes the entire responsibility on upstream pollution sources, including municipal ratepayers. Accordingly, the TMDL should be revised now to specifically acknowledge Avista's responsibility to address its in-reservoir water quality impacts.

Part S

- Page G-234: As stated above, Ecology cannot defer the creation of WLA and LA for stormwater inputs in the TMDL. Moreover, the PCHB has made it clear that NPDES permits for municipal stormwater must meet water quality standards.

Part T

- Page G-236, Summary Response: "Ecology has changed the phosphorus wasteload allocations to the original instream value (not rounded up to 10 ug/l) as shown in Table 5 of the TMDL These wasteload allocations will be included in the NPDES permits However, the 10 ug/L wasteload allocation is retained in the Management Implementation Plan since that is the value agreed to by the Dischargers and Ecology as detailed in the Foundational Concepts. An explanation for this discrepancy in wasteload allocations is provided in the Managed Implementation Plan."

The MIP's explanation for the difference is not consistent with the scientific work on which this TMDL is based which shows that point source discharges must equal

background concentrations to avoid further degradation The standard requires a cumulative analysis, not just an analysis of the City's impact alone Thus, the fact that the difference between .007 and .01 mg/L may cause a less-than-measurable impact only becomes relevant after NPS have been overcontrolled and there is documented assimilative capacity in the Lake for point source discharge above background (*See* Comment 5 above)

Part W

- Page G-247, # 11: The answer is nonresponsive. The County is not a new source but is a new discharger under federal regulations.

CONCLUSION

There are improvements in this TMDL and many positive and important strategies that will undoubtedly lead to water quality improvement. Unfortunately, this Draft retains fundamental defects which make attainment of water quality standards unlikely. Despite language to the contrary, this draft once more delays enforcement of waste load allocations for yet another twenty years. And, it retains the illusory numbers of a degraded boundary condition that ensure standards will not be met. To cure the defects in this draft, we ask that Ecology do the following:

1. Revert to the natural boundary conditions.
2. Recalibrate the model using the latest information and revise allocations accordingly.
3. Require hard targets/benchmarks for nonpoint source reduction actions
4. Require a reassessment only after appropriate upgrades have been made and other actions in place long enough to see changes.
5. Prohibit increased or new discharges except where these meet background concentrations.

The Sierra Club, as well as all the participants in the TMDL Collaboration, invested an enormous amount of time and financial resources in this TMDL process. No doubt all wish to reach a solution that has reasonable assurance of success. Unfortunately, the Sierra Club and CELP cannot support a TMDL that blatantly disregards the realities of the watershed and sets a dangerous precedent for this region and the nation at large.

Sincerely,

Bonne W. Beavers
On behalf of the Sierra Club, Upper Columbia River Group and CELP