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David Moore
Washington State 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 (September 2009)

Dear Mr. Moore,

These comments are submitted on behalf of Kootenai Environmental Alliance (“KEA”), Galen Buterbaugh, Corrie Bollie, and Scott Chaney, regarding Ecology’s 2009 Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report (“2009 Draft TMDL”).

KEA is a non-profit membership organization dedicated to conserving, protecting, and restoring the environment. Corrie Bollie, Galen Buterbaugh, and Scott Chaney all live along Lake Spokane, recreate in and around, and otherwise enjoy, Lake Spokane. The members of KEA also live, recreate, and/or use and enjoy the waters impacted by the blue-green algae blooms and the low dissolved oxygen in Lake Spokane.

These comments address the modifications made by the Department of Ecology to the May 2008 Draft TMDL report and incorporated into the September 2009 Draft TMDL report. We appreciate the time and effort Ecology has dedicated to the Dissolved Oxygen TMDL process since 1998, and the opportunity for KEA, and other members of the public to participate in that process.

However, as currently constructed KEA, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney are unable to support the 2009 Draft TMDL. As set forth in detail in the attached comments, the 2009 Draft TMDL falls short of meeting the legal requirements of the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 *et seq.* (“Clean Water Act” or “CWA”) in a number of ways and does not provide reasonable assurance that the water quality standards for oxygen-depleting pollutants will be met. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

KEA, Galen Buterbaugh, Corrie Bollie, and Scott Chaney 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 Washington State law.

Sincerely,

/s/ Michael J. Chappell

Michael J. Chappell
Director, Gonzaga Environmental Law Clinic
On behalf of Kootenai Environmental Alliance, Galen Buterbaugh,
Corrie Bollie, and Scott Chaney

**Comments on the Draft Spokane River and Lake Spokane Dissolved Oxygen
Total Maximum Daily Load, Water Quality Improvement Report,
Washington State Department of Ecology (September 2009)**

Submitted on behalf of the KEA, Corrie Bollie, Galen Buterbaugh, and Scott Chaney.

INTRODUCTION

The comments below address modifications to the Draft 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 TMDL”) as reflected in the Draft Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load, Water Quality Improvement Report, Washington State Department of Ecology (September 2009) (hereinafter “2009 Draft TMDL”).

GENERAL COMMENTS

KEA, Corrie Bollie, Galen Buterbaugh, and Scott Chaney share the concern that the 2009 Draft TMDL as presently drafted does not provide sufficient guarantees that elevated levels of phosphorous will not continue to cause serious problems in Lake Spokane. As Ecology is aware, blue-green algae blooms sampled by Mr. Chaney in September 2009, indicated toxins in the water approximately 3,000 times the level of concern for microcystin, the toxin released as algae blooms decompose. Further, Mr. Bollie reported a severe rash to the State Department of Health as a result of ingesting and contacting water while swimming and kayaking in Lake Spokane during this past summer. The literature on microcystin poisoning lists skin, gastrointestinal, and respiratory effects among the symptoms.

The presence of toxic algae is of utmost concern to KEA because its members use and enjoy the waters in the Coeur d'Alene watershed, including the Spokane River and Lake Spokane. As residents that live and recreate on Lake Spokane, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney each have a direct interest in ensuring that Ecology adopts a TMDL that will finally protect the water quality in Lake Spokane and protect beneficial uses.

Unfortunately, the 2009 Draft TMDL still demonstrates a disturbing pattern of backsliding since the 2004 Draft TMDL was circulated for public comment. In 2004, the Draft TMDL required point source dischargers to meet a phosphorous standard of 10 ug/L, with interim limits of 50 ug/L during the ten-year compliance schedule. Apparently, fear of a lawsuit by the point source dischargers forced Ecology to backtrack and begin a 5-year cycle that has seen each subsequent iteration of the TMDL lessen the end-of-pipe limits for the point source dischargers, and increase the load allocated to non-point sources and Avista. The outcome for people that use the Spokane River and Lake Spokane is that five years later the 2009 Draft TMDL does not provide reasonable assurances that in ten years, or 20 years if dischargers and State regulators have their way, Lake Spokane will meet water quality standards, a basic tenant of TMDL drafting. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

SPECIFIC COMMENTS

1. The 2009 Draft TMDL does not contain the required pollutant loading capacity

Incredibly, the 2009 Draft TMDL does not identify the pollutant loading capacity (“LC”) for Lake Spokane. Perhaps Ecology is purposely leaving this required TMDL element out of the 2009 Draft TMDL because the agency does not know what equivalent pollutant reduction Avista might accomplish. Avista is not a source of pollutant loading but is nevertheless being assigned “responsibility” for resolving Dissolved Oxygen (“D.O.”) problems caused by pollutant loading from upstream sources. The 2009 Draft TMDL, however, does not provide any information to indicate how or if Avista could possibly achieve the humongous Load Allocation (“LA”) being assigned.

Despite the great uncertainty about Avista achieving its significant “responsibility”, the TMDL excludes the loading assigned to Avista from the proposed LAs and Waste Load Allocations (“WLAs”). LC is supposed to equal the sum of LAs + WLA + the margin of safety (“MOS”). The MOS should balance the uncertainty in the TMDL assessment. The 2009 Draft TMDL proposes WLAs and LA, which are much greater than the actual loading capacity of Lake Spokane. The proposed WLAs allow more pollutant loading from new discharges and increased pollutant loading from existing point sources. The uncertainty about Avista being able to reduce pollutant loading or its effect in Lake Spokane is equivalent to there being no *reasonable assurance*. See 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i).

In situations where there are no reasonable assurances, WLAs cannot be predicated on achieving unattainable LAs. Although there is a two-year timeframe for Avista to develop a feasibility plan, the TMDL would allow point source dischargers to proceed with planning and building facilities, which will discharge at levels detrimental to restoring water quality. Regardless of what Avista presents as a plan, the TMDL and National Pollution Discharge Elimination System (“NPDES”) permits will almost certainly not be revised once planning and construction has begun by the point source dischargers. Until the uncertainty for achieving the LAs (including Avista’s responsibility) is resolved, there is no reasonable assurance and therefore no seasonal loading capacity for the point sources. This was the same conclusion of the TMDL proposed for Lake Spokane in 2004 and 2007.

Recommendation: Ecology should not adopt any new NPDES permits based on the 2009 Draft TMDL until Avista develops a technically and economically feasible plan, which clearly identifies the pollutant load reduction the dam operator could/will achieve. The adopted TMDL should be appropriately conservative with regard to water quality protection and not presume that Avista can reduce pollutant loading into Lake Spokane. If Avista subsequently determines they can actually reduce pollutant loading, then the TMDL could be revised after this determination is evaluated.

2. The 2009 Draft TMDL should adopt the 2004 loading capacity for Lake Spokane

The LC in Lake Spokane changed significantly in the 2007 Draft TMDL versus the 2004 Draft TMDL because of resetting the “Natural Load” at the Stateline. Ecology rightly eliminated

the fiction that polluted water crossing the Stateline was “natural” in the 2009 Draft TMDL but does not explain why it does not merely return to the 2004 Draft TMDL LC for Lake Spokane.

Recommendation: Adopt the 2004 Draft TMDL LC for Lake Spokane as follows and make the appropriate corrections throughout the 2009 Draft TMDL:

	v.2004
MAR	ND
APR	311
MAY	635
JUN	241
JUL	106
AUG	71
SEPT	86
OCT	130
TOTAL LOAD	
MAR - OCT	1580

3. **The 2009 Draft TMDL as drafted will not meet water quality standards on the Spokane Indian Reservation**

The Tribe has modeled two scenarios for the lower arm of the Spokane River. The existing conditions were modeled with 2001 flow data and 2006 water quality data. Scenario number one modeled the 2009 Draft TMDL and reset the D.O. levels to 8 mg/L at the tailrace of Lake Spokane Dam. Scenario number two again used the 2009 Draft TMDL, but reduced the tributary reductions to the 2001 levels and reset the D.O. levels to 8 mg/L at the tailrace of Lake Spokane Dam. 8 mg/L of D.O. was used based on Avista’s assurances that it would meet that level. The second scenario used 2001 tributary numbers because the proposed reductions in tributary loading appear unachievable at this time.

The results indicate dissolved oxygen levels far below the Tribe’s 8 mg/L standard for a sustained period.

Recommendation: Ecology must meet the Tribes downstream water quality standards and the 2009 Draft TMDL does not provide reasonable assurances that it will meet the 8 mg/L

standard. Ecology should rework the 2009 Draft TMDL to ensure that it meets water quality standards throughout the Spokane River reaches, including the downstream arm.

4. The 2009 Draft TMDL does not contain tested and accurate monitoring methods to measure non-point source reductions

p. 40: “TMDLs (and related action plans) must show “reasonable assurance” that these sources will be reduced to their allocated amount and meet their responsibility.”

p. 41: “As part of the non-point source reduction program, a Non-point Source Advisory Committee was formed. This committee will oversee a bi-state non-point source study. ... The study’s purposes are to: Identify and quantify non-point sources into the Spokane River and Lake Spokane; Identify best management practices (“BMPs”) to address non-point sources; evaluate the cost-effectiveness and longevity of the BMPs; and prepare an implementation plan for reduction of phosphorous from non-point sources based on selected BMPs, approved by Ecology.”

p. 53: “The preferred method of pollutant reduction is to [for Avista to] reduce non-point source contributions to the reservoir by implementing BMPs and pollutant controls on lands that would otherwise directly contribute to the reservoir pollutants to the reservoir.”

The 2009 Draft TMDL refers to non-point source reduction as the “preferred method of pollutant reduction” for Avista and point source dischargers may utilize delta management to achieve wasteload levels. This delta management amounts to a nutrient trading program. Additionally, the Reasonable Assurance section of the 2009 Draft TMDL and the Non-point Sources section of the Managed Implementation Plan discuss plans and funding for present and future non-point source reduction studies, and the purposes of those studies. Nowhere does the 2009 Draft TMDL provide, however, any reasonable assurances that such non-point reductions can be achieved or measured. This is particularly important in light of Avista’s huge “responsibility” to reduce DO in Lake Spokane, and considering that Avista has few other options to achieve its responsibilities.

There are zero examples of success in the United States for removing great amounts of phosphorous from non-point sources, particularly in the context of a nutrient trading program such as is proposed in this TMDL. Absent reasonable assurance that the loading targets for non-point source or Avista’s responsibility can be achieved means there is no loading capacity for the existing dischargers. This was the conclusion from the 2004 TMDL.

Moreover, it is unclear whether Washington law actually allows for nutrient offsets for existing dischargers, such is provided in the TMDL. WAC 173-201A-450 specifically provides for water quality offsets for “any proposed new or expanded actions.” Neither this regulation nor any other regulation provides for any offsets for existing discharges. Moreover, the Ninth Circuit’s decision in *Friends of Pinto Creek v. United States Environmental Protection Agency* 504 F.3d 1007 (9th Cir. 2007) calls into question whether any sort of water quality offsets are allowable, particularly for new dischargers such as Spokane County. Specifically, the Court stated, “However, there is nothing in the Clean Water Act or the regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging

pollution into that impaired water.”

Accordingly, with minor fixes, the 2004 TMDL provided a much better water quality analyses and clearly presented loading capacity, LAs and WLAs.

Recommendation: Dischargers and Ecology have consistently parroted that the WLAs in the TMDL are the “most stringent in the Country, if not the world.” However, if the 2009 Draft TMDL does not have enforceable load allocations, and does not have a tested method for measuring non-point source reductions, this claim is inaccurate and specious.

The 2009 Draft TMDL must provide more than plans and studies insofar as it accepts non-point source reduction methods as sufficient to satisfy the responsibilities of Avista and dischargers. Tested and proven methods of monitoring non-point source reductions are necessary to guarantee that such methods will comply with the 2009 Draft TMDL as planned, and should be specified and supported with analysis prior to adoption of the 2009 Draft TMDL. Proper monitoring of non-point sources will require attaining solid numeric results to be compared to LA and WLAs.

5. Avista’s “responsibility” is improperly identified as mg/L D.O.

Avista’s role in the River/Lake system is operation of a dam, which creates a reservoir where water quality problems exist. Those problems are due to excess pollutant loading from upstream human activities. Avista does not contribute the *pollutants*, which cause the water quality problems. Rather, the Avista dam created *pollution* by changing the Spokane River from its natural free flowing condition. In simplest terms, TMDLs determine the pollutant loading capacity of a water body and allocate that loading among sources so that if achieved, water quality standards would be achieved. TMDLs have no jurisdiction over *pollution*, such as changing rivers to Lakes or human activities that change stream flow regimes.

D.O. is not a pollutant and this LA is not appropriately expressed as a daily load in lbs/day of a pollutant as is required in TMDLs. Since the actual pollutant causing the D.O. problems is phosphorous, Avista’s responsibility (LA) must be expressed as lb/day of phosphorous as it is for the other sources of pollutant loading.

There is very little that Avista can do to resolve D.O. issues in the reservoir via changes in operation. Aeration of the lake (in-situ treatment) is an option. Contributions to non-point source controls in the tributaries is also an option for Avista, however it is unrealistic to believe that the enormous reductions in non-point source loading necessary to create capacity for the existing (and now proposed) discharges can ever be achieved. Therefore, Avista is left an option of subsidizing better phosphorous removal by the point source dischargers. Relationships of this type of a kind of pollutant trading have worked successfully in other watersheds such as the Delaware River.

Although the loading capacity for phosphorous entering Lake Spokane is not identified in the 2009 Draft TMDL in terms of lbs/day, the 2009 Draft TMDL does state (page 40) that the current (2001) condition averages about 350 lbs/day of total phosphorous and that a 66%

reduction will be accomplished in 10 years (94% from point sources). If achieving 66% reduction from 350 lbs/day is the phosphorous loading capacity for Lake Spokane, then it is 231 lbs/day. Adding the total LAs (87.1 lbs/day from Table 5) and total WLAs (32.55 lbs/day from Table 4) for the July to Oct period equals 119.65 lbs/day. For purpose of comparison, the TMDL proposed in 2004 (Cusimano, Merrill) identified the average phosphorous loading capacity to Lake Spokane for the June to October period as being 126.7 lbs/day (Table 1, page 22), which is 104.3 lb/day less than identified in the 2009 TMDL for the July to October period. So, the 2009 TMDL proposes that Avista's "responsibility" is to reduce the equivalent affect on D.O. in the Lake that is caused by 111.35 lbs/day of phosphorous loading during the July to October timeframe.

Recommendation: Expressing Avista's responsibility as lbs/day of phosphorous provides clear guidance for the implementing this option.

6. **Delta reductions are difficult to measure and may not provide reasonable assurances required by the Clean Water Act**

There is no reasonable assurance that the non-point source Delta reductions discussed on page 40 of the 2009 Draft TMDL is achievable or measurable.

No accurate or tested monitoring methods to measure non-point source reductions are present in the 2009 Draft TMDL (*see* Comment 4). The Managed Implementation Plan provides a description of a Delta Elimination Plan and the subsequent assertion that "Ecology will expeditiously review and decide on ... delta elimination actions" (*see* 2009 Draft TMDL page 48). The Delta Elimination Plan includes phosphorous removal actions such as (1) conservation, (2) source control through support of regional phosphorus reduction efforts (such as limiting use of fertilizers and dishwasher detergents), and (3) supporting regional non-point source control efforts to be established.

It appears that an imaginary "delta" is being used to grant relaxed WLAs for the point source dischargers. The relaxed WLAs establish the targets that these dischargers will design treatment to meet, thereby locking-in their ability to reduce phosphorous to those levels. Despite the language used in the Reasonable Assurance section, there is no reasonable assurance that non-point loading can or will be reduced. Since the reward (higher WLAs) are being awarded in advance of any showing that non-point reductions will occur, what incentive remains for the point sources to actually spend money to reduce their discharge of phosphorous?

Recommendation: Return to the 2004 Draft TMDL levels for the point source dischargers and eliminate the delta reductions/non-point source element from the 2009 Draft TMDL *unless* Ecology and the dischargers can measurably demonstrate that the reductions are reasonably assured to meet water quality standards.

7. **Avista is being held responsible for a disproportional level of pollution in the Spokane River and Lake Spokane when compared to dischargers**

p. 36: "A water quality goal at the benchmark location is being used to confirm that when the Spokane River enters the reservoir upstream sources of dissolved oxygen impairment have been

reduced to a point where remaining dissolved oxygen impairments in the reservoir is caused by Long Lake Dam and is Avista's responsibility to address."

While the 2008 Draft failed to assess Avista's dams as a contributing factor to the dissolved oxygen problem and to allocate responsibility for water quality violations, the 2009 Draft TMDL over-allocates responsibility to Avista to address these issues. Avista's Long Lake dam does not discharge pollutants. The substantial focus on Avista's responsibilities under the 2009 Draft TMDL serves to reduce the focus on the actual dischargers, and should be partially redirected towards reducing the wasteloads allocated to each of the dischargers. Continuing the substantial focus on Avista discourages focusing on the actual discharging sources of dissolved oxygen-depleting nutrients. While the 2009 Draft TMDL should be applauded for recognizing Avista's role in the levels of dissolved oxygen in the Spokane River and Lake Spokane, it should not do so in a manner providing further leeway for dischargers to avoid increasing their own responsibility.

Recommendation: The 2009 Draft TMDL should be revised to more appropriately allocate Avista's role in light of the fact that dischargers are now being held less responsible for their levels of D.O.-depleting nutrients contributed.

8. The 2009 Draft TMDL fails to provide any supporting data demonstrating a nutrient-trading program would contribute to meeting lower phosphorous discharges into the Spokane River and Lake Spokane

p. 52: "Stakeholders in the Spokane River watershed expressed interest in exploring the suitability of water quality trading to meet the needed phosphorus reduction required to restore dissolved oxygen levels. A trading program of the Dischargers' demonstrated surplus of removed phosphorus may be implemented, consistent with EPA guidelines and Washington's water quality standards, pending Ecology's verification of any surplus removed phosphorus offset pounds."

p. F-4: "The Oversight Committee will oversee the development and implementation of a phosphorus trading program or exchange program consistent with the Environmental Protection Agency rules and regulations guiding trading programs."

The 2009 Draft TMDL anticipates a possible nutrient- / pollutant-trading program to minimize phosphorous, to be overseen by the Oversight Committee. The Draft provides no further information on how such a trading program will work, whether similar programs have worked in the past, or how such a program will be created, administered, and monitored. Without such information, there is no reason to think that this type of program would work, or that it would contribute to meeting the goals of the 2009 Draft TMDL.

Recommendation: The 2009 Draft TMDL should be revised to provide this information and demonstrate with reasonable assurance that a program of this type would contribute to the end-goals of this Draft.

9. WLAs are too high for Combined Sewer Overflows and storm water

p. E-7: “The proposed TMDL allocates the existing loading from CSOs. Like storm water, CSO flow is highly variable and has a unique flow pattern each year, and the TMDL scenario includes the daily mean flow (scaled to the March to October period from the city’s annual estimates). The mean is used under the assumption that an average precipitation year could occur during a low base flow year like 2001.”

2001 is the critical condition year and WLAs for CSO and storm water should be based on the discharges that occurred that year, not the mean value as was done in the TMDL.

Recommendation: These WLAs are too high, and the 2009 Draft TMDL should be revised to include accurate WLAs for CSO and storm water.

10. Storm water discharges are not addressed in a manner reasonably assured to achieve measurable results in accordance with the 2009 Draft TMDL

The 2009 Draft TMDL acknowledges that storm water discharges from the City of Spokane (“Spokane”) are contributing to the pollution problem, but does little to resolve the issue. The 2009 Draft TMDL relies on the Eastern Washington Phase II National Pollution Discharge Elimination System (“NPDES”) permit (hereinafter “Phase II Permit”) to reduce pollutants from storm water. The 2009 Draft TMDL does not contain specific dates for Spokane to implement the requirements of the TMDL pertaining to storm water. The TMDL merely restates language from the Phase II Permit. Requiring compliance with specific elements of the Phase II Permit might be effective if Ecology had not already extended several deadlines in the Phase II Permit, including submittal of Spokane’s Storm Water Management Plan, because of the downturn in the economy. Based on those extensions, Spokane does not currently have a plan in place to prevent polluted storm water from entering the Spokane River. The 2009 Draft TMDL should not rely upon Phase II Permit compliance by Spokane to control storm water, when at the same time Ecology is relaxing the Phase II requirements. .

Recommendation: The 2009 Draft TMDL should be revised to provide exact dates by which Spokane must comply with the storm water requirements in the 2009 Draft TMDL, and should describe methods by which such compliance is to be met and monitored.

11. The Hangman Creek and Little Spokane River TMDLs are inappropriately relied upon when calculating percent reduction in human loads

p. 29-30: The percent reductions identified in Table 3 “are what can reasonably be expected upon full implementation of TMDLs for Hangman Creek and the Little Spokane River as determined through analysis of sediment loading over multiple years for the Hangman TMDL and best professional judgment. The Hangman Creek TMDL for temperature, turbidity, and sediment is recently completed while a TMDL for the Little Spokane River remains under development. These TMDLs may further differentiate the amount of nutrient loading in these tributaries that is naturally-occurring from that which is human-caused.”

The 2009 Draft TMDL relies upon the use of the Hangman Creek and Little Spokane River TMDLs for the percent reduction in human contribution of nutrients used in Table 3. The 2009 Draft TMDL fails, however, to provide reasonable assurances that the Hangman Creek and Little Spokane River TMDLs will arrive at those percent reductions used in Table 3. The Hangman Creek TMDL is for temperature, turbidity, and sediment, and does not address nutrients, including phosphorous. Additionally, the Little Spokane River TMDL remains “under development.” It is inappropriate to rely on two TMDLs, one of which that does not address phosphorous and the other of which is incomplete, in reaching conclusions in the 2009 Draft TMDL. The Hangman Creek TMDL is not a nutrient TMDL and will not be approved by EPA as such. Furthermore, it is unclear when the Little Spokane River TMDL will be completed. Given the lack of data to support either of these TMDLs, accurately representing in the future what has already been presumed in the 2009 Draft TMDL, the Draft should be revised to account for this lack of hard data, and should no longer make assumptions based on potential future activities.

Recommendation: The assumptions used in the modeling scenarios are not conservative or realistic for the LAs assigned to the tributaries and should be reevaluated. The WLAs must be water quality-based, not technology-based.

12. Insufficient data to support the value of 0.006 mg/L for background or natural concentrations of phosphate in groundwater

The 2009 Draft TMDL assigns a value of 0.006 mg/L for the concentration of phosphate (“PO₄”) under natural conditions. According to the 2009 Draft TMDL, the basis for this value is a database provided by Spokane County. However, examination of this database has failed to present any analysis of that data to support the value of 0.006 mg/L for background or natural conditions.

Recommendation: Ecology must analyze if the value of 0.006 mg/L is to be relied upon as accurate, and is to be used as a basis of determining load and wasteload allocations. That analysis should be detailed in the 2009 Draft TMDL.

13. The data included in the Spokane County database used to arrive at the 0.006 mg/L value for background or natural concentrations of PO₄ is outdated, and therefore unreliable

Much of the data in the Spokane County database is older and was analyzed with detection limits quite higher than 0.006 mg/L. This older data is outdated as far as it can provide accurate information about the current PO₄ concentrations in clean groundwater. In analyzing the data from the Spokane County database, it was observed that about one-half of the 1,679 phosphorus data points collected after January 1, 2000, or 849 data points, yielded PO₄ concentrations less than 0.006 mg/L. The average concentration for the 849 samples with PO₄ data less than 0.006 mg/L was 0.003 mg/L. This implies that many of the wells have PO₄ concentrations significantly less than the 0.006 mg/L value assumed in the 2009 Draft TMDL for background or natural groundwater. Consequently, the TMDL may over-estimate the PO₄ loads to Spokane Lake under natural conditions, and therefore underestimate the effect of anthropogenic impacts.

Recommendation: The information provided in the Spokane County database is outdated, and should be removed from the 2009 Draft TMDL and replaced with accurate, current information.

14. The 2009 Draft TMDL fails to provide data to support the difference between the CBOD decay level value of 0.076 day-1 for the Current Condition scenario and the CBOD decay level value of 0.050 day-1 for the TMDL scenario

The 2009 Draft TMDL provides no data to account for the difference in the CBOD decay level value assigned in the Current Condition scenario (0.076 day-1) and the CBOD decay level value assigned in the TMDL scenario (0.050 day-1). The lower decay rate used in the TMDL scenario represents a lessened impact on D.O., and would result in less stringent wasteload limits assigned to dischargers.

Recommendation: Ecology must provide a reason for the difference in this value between the Current Condition scenario, and the TMDL scenario should be provided.

15. There is no reason provided for the 2009 Draft TMDL to include the month of March when making Tributary Estimates in Table M4

Much of the data in the Spokane County database is older and was analyzed with detection limits quite higher than 0.006 mg/L. This older data is outdated as far as it can provide accurate information about the current PO₄ concentrations in clean groundwater. In analyzing the data from the Spokane County database, it was observed that more than one-half of the 1,678 phosphorus data points collected after January 1, 2000, or 892 data points, yielded PO₄ concentrations less than or equal to 0.006 mg/L. The average concentration for the samples with PO₄ data less than 0.006 mg/L was 0.003 mg/L. These data show that many of the wells have PO₄ concentrations significantly less than the 0.006 mg/L value assumed in the 2009 Draft TMDL for background or natural groundwater. Consequently, the TMDL may over-estimate the PO₄ loads to Spokane Lake under natural conditions, and therefore underestimate the effect of anthropogenic impacts.

Recommendation: Much of the information provided in the Spokane County database is outdated, and should be removed from the 2009 Draft TMDL and replaced with more accurate, current information.

16. The 2009 Draft TMDL fails to provide data to support differences between the CBOD decay levels for the Current Condition scenario and the CBOD decay levels for the TMDL scenario

The 2009 Draft TMDL provides no data to account for the differences in the CBOD decay levels value assigned to the waste water treatment plants in the Current Condition scenario and the CBOD decay level values assigned in the TMDL scenario. These differences are listed in the table below. The 2009 Draft TMDL indicates that these rates “are based on lowest current municipal rate.” Data supporting these rates and the rationale for using the “lowest current rates” are not provided. The lower decay rates used in the TMDL scenario represents a lessened impact on D.O., and would likely result in less stringent wasteload limits assigned to dischargers.

Point source	CBOD decay rate (day ⁻¹)		% Change
	Existing conditions	Future conditions	
Spokane WTP	0.0736	0.05	-32.1%
CDA WWTP	0.0792	0.05	-36.9%
Hayden POTW	0.0838	0.05	-40.3%
Post Falls STP	0.066	0.05	-24.2%

Recommendation: Ecology must provide the rationale and data supporting the differences in these values between the Current Condition scenario and the TMDL scenario.

17. The 2009 Draft TMDL uses a different method than previous drafts in calculating average loadings for periods

In previous TMDL drafts, the concentrations and flows for each month were used to calculate the monthly tributary load allocations, and were subsequently used to calculate the average for the periods. The 2009 Draft TMDL departs from the method previously used: it averages the total phosphorous concentrations over the period, it averages the flows over the period, and subsequently the averages over the period were used to calculate the average loading for the period.

Recommendation: Ecology's change in methodology results in different final average loadings for the periods, and the reasons for this change and its effect on the 2009 Draft TMDL should be explained and accounted for.

18. The Natural Load has significantly increased from the 2004 Draft TMDL

The natural load at the Stateline remains increased despite the requirement that polluted water crossing the Stateline is not background. The following table demonstrates how little the values have changed from the 2007 Draft TMDL and the present TMDL.

Table 2.

	<u>Natural Load Stateline</u>			
	v.2004	v.2007	v.2009	Difference 2009 - 2007
APR	179	213	171	-42
MAY	415	463	435	-28
JUN	119	110	142	32
JUL	28	23	43	21

AUG	7	6	13	8
SEPT	21	23	44	22
OCT	64	136	120	-16
ANNUAL	834	973	969	-4

Recommendation: Ecology must explain why the natural load crossing the Stateline continues to mirror the 2007 Draft TMDL values instead of the 2004 Draft TMDL values, given the lack of substantive changes in the water.

19. How can there be increased trading opportunity and higher WLAs?

The following table demonstrates that non-point source reductions in the 2009 Draft TMDL for Hangman Creek have fallen significantly, as much as 70% in some months, despite a lack of on the water changes in the tributary.

Table 3.

	<u>% NPS Reduction Hangman</u>		
	v.2004	v.2007	v.2009
MAR	ND	ND	64%
APR	97%	45%	38%
MAY	96%	56%	28%
JUN	95%	38%	25%
JUL	94%	37%	45%
AUG	90%	23%	59%
SEPT	90%	14%	44%
OCT	90%	0%	54%
MAR-MAY	ND	ND	43%
JUN	95%	38%	25%
JUL-OCT	91%	18%	51%

It appears that Ecology changed its methodology for calculating tributary load allocations from the previous two TMDL drafts. Prior modeling was conducted using the tributary load allocations and then Ecology calculated the % load reductions. Ecology seems to have arbitrarily set the non-point source reduction values and that has drastically reduced the non-

point source load allocations for the tributaries.

Recommendation: Ecology must explain and demonstrate why the 2009 Draft TMDL utilizes a different methodology for calculating load allocations for the tributaries. Further, Ecology must demonstrate how it calculated the reduction values for the tributaries and explain the rationale for what appears to be completely arbitrary load reductions.

20. No loading allowances granted for the Idaho dischargers are provided

Recommendation: The loading allowances granted for the Idaho discharger should be clearly presented in the TMDL as it provides important information about boundary conditions for developing the 2009 Draft TMDL.

21. Methods by which proposed WLAs for CBOD and N-NH3 are not present

The proposed WLAs for CBOD and N-NH₃ are much higher than identified as necessary in previous TMDLs, but the methods by which additional loading capacity for these oxygen demanding pollutants were created are not present. The N-NH₃ targets of 0.83 and 0.21 mg/L do not represent performance of a well-operated nitrifying Waste Water Treatment Plant. The LOTT Budd Inlet WWTP routinely achieves 0.1 mg/L N-NH₃. Other examples of similar performance are available.

Recommendation: Ecology should explain the methods for determining the WLAs for CBOD and N-NH₃ and why limits that are more stringent were not required given the results at other WWTP.

22. The use of year-round performance from wastewater treatment plants is inappropriate

EPA's conclusion (2009 Draft TMDL Appendix J. Brian Nickel, EPA memo to David Moore, Ecology) about WWTP performance was used to identify a phosphorous concentration produced by the "most effective feasible wastewater removal treatment technology" (2009 Draft TMDL page vii). EPA's analysis in the memo is flawed by its use of year-round performance from the plants evaluated. Winter period performance from plants in cold and/or wet climates is more variable and typically not as good as during summer months and should have been excluded from the analyses. In contrast, the Spokane area dischargers only have to provide treatment for phosphorous removal on a seasonal basis. Much of the treatment performance data is less-than values, which EPA arbitrarily assigned a value.

Recommendation: Ecology should analyze WWTP using the critical period and adjust the WWTP performance data accordingly.

23. There is no evidence that phosphorus in groundwater is reaching the Spokane River

Phosphorus is well documented as not moving through soils via subsurface flow. Monitoring of near-river groundwater by Ecology did not identify it to contain more phosphorous than considered natural. The outflow from Lake Coeur d'Alene is documented as containing about 6.7 ug/L total phosphorous, which is very similar concentration to the

Ecology's measurements of phosphorous in near-river groundwater. If the Spokane aquifer actually contained even a fraction of the high phosphorous concentrations reported in Spokane County's non-point source report, these high levels of phosphorous should be evident in the river as it enters Lake Spokane. Since the lower Spokane River flow consists of about 90% groundwater during the critical period, phosphorous concentrations in the river should be the same as groundwater concentrations. Absent the point source discharges to the Spokane River during the summer critical period, groundwater and River water concentrations of phosphorous would be the same.

Recommendation: Ecology must justify the inclusion of phosphorous in groundwater in its calculations, or remove that load and recalculate the WLAs..

24. Septic tank treatment by the 2009 Draft TMDL is not adequately explained

p. vii: "The wasteload allocations will be achieved by the installation of the most effective feasible wastewater removal treatment technology and implementation of target pursuit actions, such as reusing wastewater, eliminating septic tanks, and other methods of controlling non-point sources of pollution."

The above statement indicates there is a belief that septic tanks are contributing pollutants to surface water via groundwater. This connection makes septic tanks subject to regulation under the NPDES program. It also begs asking the question about why a ban on the installation of additional septic tanks over the aquifer has not been imposed. Negotiating such a ban should have been part of the settlement for fabricating a WLA for the County's proposed new discharge into the River and should be a part of the County's Shoreline Master Plan.

25. The Spokane River and Lake Spokane have no assimilative capacity

The 2009 Draft TMDL fails to mention the appropriate MOS or how to attain the non-point source reductions or the feasibility of Avista achieving its "responsibility". Reasonable assurances for non-point source reductions should be applied in the same way as responsibility. If there is no reasonable assurance, then loading must be taken out of WLAs. An honest evaluation of reasonable assurance should bring the 2009 Draft TMDL back to the 2004 findings that there is no capacity for the existing discharges and therefore they cannot discharge greater concentrations than the estimated natural condition. The natural concentration of phosphorous in the river increases as water moves downstream in the River but never exceeds 10 ug/L.

Recommendation: The 2004 Draft TMDL is legally and scientifically defensible, something the 2009 Draft TMDL is not. Ecology should defend the results of the 2004 Draft TMDL requiring a point source discharge of no more than 10 ug/L.

26. California Creek should not be the sole source of characterizing Hangman Creek

Baseline conditions (*see* 2009 Draft TMDL page 32) states phosphorous concentrations from California Creek were used to characterize natural conditions for Hangman Creek. California Creek is located in one of the four Ecoregions that comprise the Hangman Creek

watershed. Since most of the sediment and phosphorous comes from the upper Hangman watershed, it would be more appropriate to use data from an upstream area rather than California Creek. IDEQ, which regulates the upper portion of the watershed identified a natural condition concentration of 30 ug/L for total phosphorous.

Because the flow in Little Hangman during the critical summer period is mostly groundwater inflow containing phosphorous at low concentrations (= natural condition absent proof it is contaminated) there is no way a 36% reduction in phosphorous loading from 2001 conditions can possibly be achieved. Although higher phosphorous concentration have been measured in Little Spokane during the wintertime (non critical period) the range of PO₄ measured in 2001 during the critical period ranged from 7 to 11 ug/L (see Cusimano, 2004, Table B3). So, why does the TMDL (Table 5) use 19 ug/L as the P target for Little Spokane in the July to October period?

For Hangman Creek, monitoring has demonstrated that loading into and transport of sediment AND P through its watershed is dependent on high flows (see recently approved FC, Temperature and Sediment TMDL for Hangman). During the late summer critical period, there is little flow in the River and there is no way a 50% reduction in loading can possibly be achieved. For the springtime and June part of the critical season, Ecology determined that under “best potential conditions” the best TSS reduction is 26 percent. The average best potential TSS reduction is less than 20 percent. Best potential conditions after applying all potential BMPs and riparian improvements throughout the entire watershed are identified in the Hangman TMDL (Table ES8, page 29. There is little likelihood such ambitious implementation will ever be realized in the Hangman watershed as NPS controls have not been successfully installed at these levels anywhere else in the US. Therefore, the LAs (% reductions) assumed in the Spokane TMDL are incorrect and need to be revised to represent lower, realistic loading reductions.

Recommendation: Idaho Department of Environmental Quality, which regulates the upper portion of the watershed, identified a natural condition concentration of 30 ug/L for total phosphorous in Hangman Creek. Ecology should use the more representative 30ug/L in determining baseline phosphorous levels in Hangman Creek.

27. Springs at the State hatchery should be used to determine natural conditions of the Little Spokane

Flow in the Little Spokane River during the critical summer period is comprised almost entirely of groundwater inflow, which enters in the lower part of this, tributary. Using headwater concentrations of phosphorous upstream of the large volume of groundwater inflow into this tributary may not be representative of the natural condition. Monitored (by Ecology) concentrations of phosphorous in the groundwater flowing from springs at the State hatchery into the Little Spokane are more representative of natural conditions in the Little Spokane during summertime critical seasons.

Similarly, flow in the Little Spokane River during the critical summer period is comprised almost entirely of groundwater inflow which enters in the lower part of this tributary. Using headwater concentrations of phosphorous upstream of the large volume of groundwater inflow into this tributary may not be representative of the natural condition. Monitored (by

Ecology) concentrations of phosphorous in the groundwater flowing from springs at the state hatchery into the Little Spokane are more representative of natural conditions in the Little Spokane during summertime critical seasons. The phosphorous measured by Ecology was approximately 8 ug/L total phosphorous, which is very similar to Spokane aquifer concentrations documented by Patmont and al nearly 30 years ago.).

Recommendation: The phosphorous measured by Ecology was approximately 8 ug/L total phosphorous, which is very similar to Spokane aquifer concentrations documented by nearly 30 years ago, and should be used to determine natural conditions for the Little Spokane.

28. The 2009 Draft TMDL should not authorize additional loading without adequate loading capacity in the receiving water

Table 3 incorrectly lists Spokane's WWTP discharge as 50.8 mgd and the County of Spokane at 8 mgd. The County currently has no plant and no discharge. The 2009 Draft TMDL fails to explain how additional loading can be authorized for plant expansion (City of Spokane) or building a new plant (Spokane County) without adequate loading capacity in the receiving water. Expecting Avista to remove massive amounts of nutrients, or relying on nebulous nutrient trading or delta reductions does not provide the reasonable assurances required by the Clean Water Act. *See* 33 U.S.C. § 303(d)(1)(C); 40 C.F.R. § 130.7(c)(1)(i). Avista is provided two years to draft a plan to comply with the 2009 Draft TMDL requirements and in the meantime, additional pollutant loading that would be allowed per the proposed WLAs for the existing dischargers and proposed Spokane County WWTP will make water quality worse. This is a fundamental flaw in the approach of the TMDL.

Recommendation: Ecology should properly determine the WLAs based on current conditions, given that the Spokane River and Lake Spokane are already not meeting water quality standards. Allowing an additional discharger into the River will only continue to degrade water quality and delay compliance with water quality standards.

29. Concentrations of nutrients in the tributaries are estimated at natural background based on headwater concentrations for the baseline scenarios

The following percent reductions in nutrients are applied to the TMDL scenarios:

Hangman/Coulee:
20% (March – May)
40% (June)
50% (July – October)

Little Spokane:
36% (Same timeframe as Hangman/Coulee)

Because the flow in Little Hangman during the critical summer period is mostly groundwater inflow containing phosphorous at low concentrations (= natural condition absent proof it is contaminated) there is no way a 36% reduction in phosphorous loading from 2001 conditions can possibly be achieved. Although higher phosphorous concentrations have been

measured in Little Spokane during the wintertime (non critical period) the range of PO₄ measured in 2001 during the critical period ranged from 7 to 11 ug/L (see Cusimano, 2004, Table B3).

For Hangman Creek, monitoring has demonstrated that loading into and transport of sediment AND phosphorous through its watershed is dependent on high flows (see recently approved FC, Temperature and Sediment TMDL for Hangman). During the late summer critical period, there is little flow in the River and there is no way a 50% reduction in loading can possibly be achieved. For the springtime and June part of the critical season, Ecology determined that under “best potential conditions” the best TSS reduction is 26 percent. The average best potential TSS reduction is less than 20 percent. Best potential conditions after applying all potential BMPs and riparian improvements throughout the entire watershed are identified in the Hangman TMDL (Table ES8, page 29). There is little likelihood such ambitious implementation will ever be realized in the Hangman watershed as non-point source controls have not been successfully installed at these levels anywhere else in the United States.

Recommendation: The 2009 Draft TMDL should use the 7 ug/L – 11 ug/L in Table 5, and not the unexplained 19 ug/L as the phosphorous target for Little Spokane in the July to October period. Further, the LAs (% reductions) assumed in the 2009 Draft TMDL for Hangman Creek are incorrect and need to be revised to represent lower, realistic loading reductions.

30. Offsets are inappropriately granted prior to pollution reductions being accomplished

Offsets cannot be granted prior to the pollutant reductions being accomplished. *See* WAC 173-201A-320. LAs, including those for non-point source and Avista, will not be accomplished for many years, if ever. Avista is not required to even submit a plan for accomplishing its LA for two years. It is illegal for the TMDL to provide WLAs for a new discharge (Spokane County) and to also increase loading from existing dischargers (based on projected 2027 treatment capacity at the City of Spokane WWTP) prior to the creation of loading capacity for this additional pollutant loading. There are provisions in State water quality standards for compliance schedules for the existing permitted discharges. Further, offsets for new dischargers have been held to be inappropriate under the Clean Water Act by the Ninth Circuit in *Friends of Pinto Creek*.

Recommendation: Ecology should comply with the offset rules and the decision of the Ninth Circuit and refuse to allow additional loading until loading capacity exists in the receiving water.

31. Model predictions being “averaged” is not adequately explained

p. 36: “In order to evaluate the overall quality of the river inputs to the reservoir under proposed TMDL conditions, model predictions for segment 154 were averaged (flow-weighted) with the estimated inflow from the Little Spokane River.”

Ecology changed the methodology for averaging the loading for specific periods. The

result has been a drastic reduction in the non-point source reduction values, from approximately 96% in the 2004 version, to 50% in the 2007 version to 36 in the 2009 draft TMDL, yet conditions on the ground haven't changed that drastically

Recommendation: The TMDL states that model input parameters were averaged, but fail to provide an explanation, and should be revised to do so.

32. The TMDL lacks an adequate margin of safety

p. 40: "Federal regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between loads and water quality. For this TMDL, Ecology used an implicit margin of safety. The flow conditions used to establish the TMDL would be expected to be lower only about 10 times every 100 years. By using a critical low flow year like 2001 that has seasonal and August low flows that correspond to about a 0.10 exceedance probability to establish pollutant allocations, the water quality in Lake Spokane and the Spokane River should be adequately protected. "

Only critical condition river flow is offered as a margin of safety. This is not conservative given that River flows are declining (1700 down to 600 cfs over the past 100 years. Cusimano 2004) and are likely to continue to decline with development over (withdrawal from) the aquifer.

Recommendation: The 2009 Draft TMDL should include an MOS that provides reasonable assurance that water quality standards will be met.

33. The 2009 Draft TMDL Fails to Integrate with Other Regulatory Processes such as the City of Spokane's and Spokane County's Shoreline Master Plan

Despite ample claims that phosphorus can be "offset" through non-point source control measures, the 2009 Draft TMDL fails to integrate with other regulatory processes that could actually implement phosphorus reduction or, at the very least, lessen any potential increases. Both Master Plans are currently under review with the Department of Ecology. These plans have shortcomings that could impact the ability to meet phosphorus reduction goals. For example, the City of Spokane's Master Plan has inappropriate buffers along portions of property along Latah Creek and Spokane County's Master Plan significantly reduces the septic offset requirements from 10 feet to 3 feet, despite ample evidence that this will increase break-thru time.

Recommendation: Ecology should integrate the TMDL with the City of Spokane and Spokane County Shoreline Master Plans to ensure that all appropriate actions are taken to reduce and prevent further discharge of phosphorus into the Spokane River.

CONCLUSION

The Clean Water Act requires, and the citizens that utilize the water deserve, a TMDL that contains reasonable assurances that water quality standards will be achieved if the TMDL is properly implemented. For the reasons listed above KEA, Mr. Bollie, Mr. Buterbaugh, and Mr.

Chaney are unable to support the 2009 Draft TMDL because it does not meet the legal requirements of the Clean Water Act. None of the parties signing onto this comment letter wants to unnecessarily extend the implementation of a TMDL on the Spokane River and Lake Spokane. However, given that dischargers are provided with a minimum of 10 years to meet the TMDL requirements, the parties do not want to wait another 10 years to properly address the phosphorous/D.O. issue on Lake Spokane. Further, KEA, Mr. Bollie, Mr. Buterbaugh, and Mr. Chaney also do not want the dischargers to spend millions of dollars on technology that will not result in a clean Lake free from toxic algae blooms.

The parties hereby request that Ecology implement the changes outlined in this comment letter and circulate a new draft TMDL for public comment.

Sincerely,

/s/ Michael J. Chappell

Michael J. Chappell
Director, Gonzaga Environmental Law Clinic
On behalf of Kootenai Environmental Alliance, Galen Buterbaugh,
Corrie Bollie, and Scott Chaney