



Spokane River Lake Spokane DO TMDL Dispute Resolution Oral Presentation

April 5, 2010



CITY OF COEUR D'ALENE

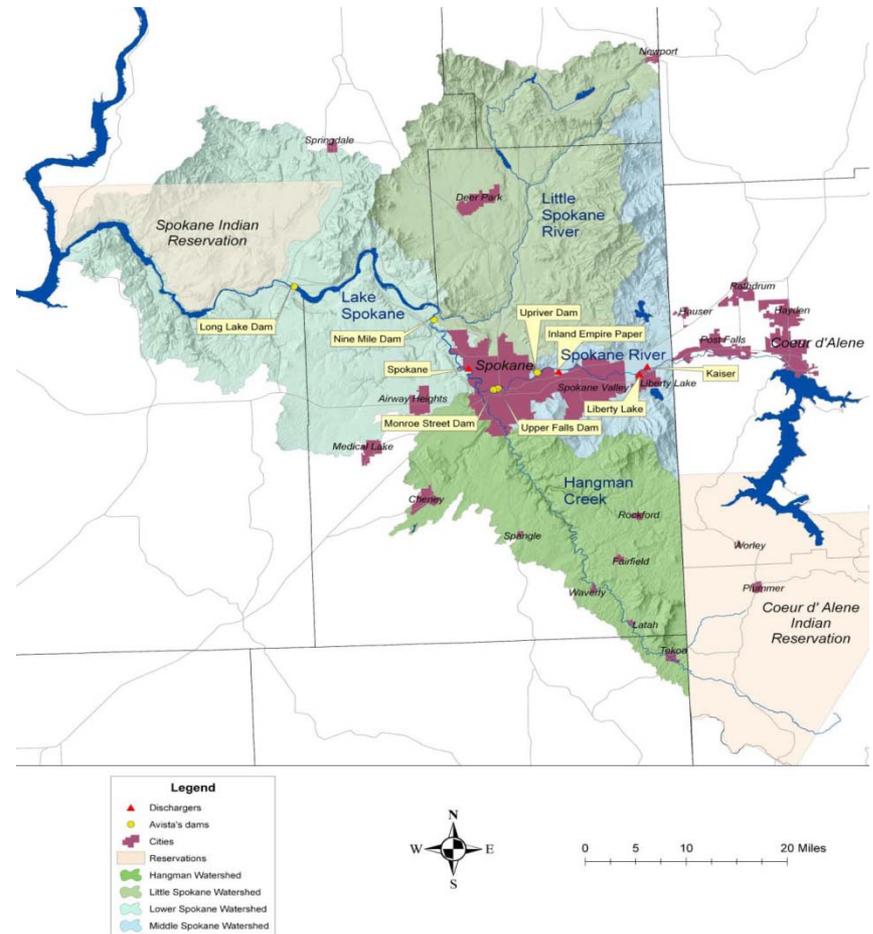
Tupper|Mack|Brower PLLC

Request for Dispute Resolution

- CDA requests that its wasteload allocation in the TMDL be based on Scenario 2
 - 50 $\mu\text{g}/\text{L}$ seasonal or long-term TP average

Applicable Water Quality Standards

- WAC 173-201A-200(1)(d)
Aquatic Life Dissolved Oxygen Criteria
- Table 200(1)(d)
- “For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 below **natural** conditions.”



Lake Spokane is a Reservoir

- “The model indicates that 8.0 mg/L [DO] concentrations would be met under unimpounded conditions..” Ecology 3/2/2007
- “The dam and the lake behind it are not natural since they were created by human action. This means that Ecology cannot treat the effects of dams on water quality as natural.” TMDL App. I, at I-4

The Applicable Water Quality Criteria is Narrative Not Numeric

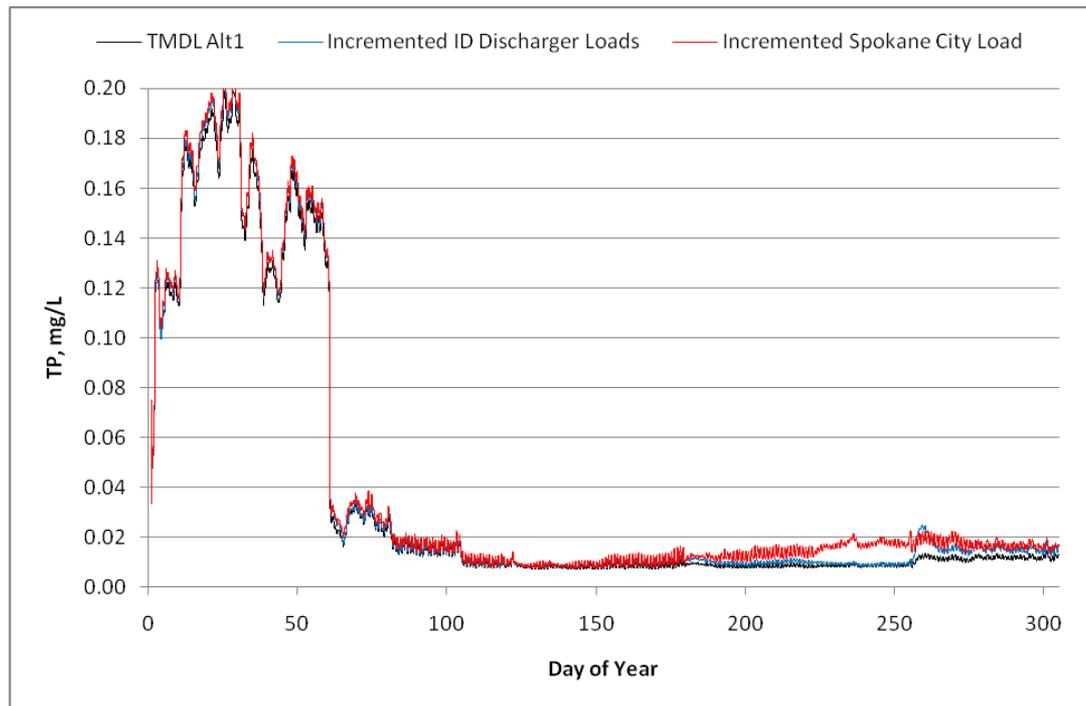
- Compliance is based on implementing reasonable and feasible measures to improve water quality
- The same standard applies to Avista, as well as all point and non-point sources in the TMDL

Reasonable and Feasible for Coeur d'Alene

- Spokane River Collaborative Process
- Technology Work Group – initial pilot testing
- Able to achieve seasonal average of 50 $\mu\text{g/L}$
- Technology Workgroup report 9/14/2005
App. L
- On going pilot testing

Coeur d'Alene Impact on DO

- The amount of TP attributed to Idaho at the riverine compliance point is virtually the same as “no source” modeling conditions
- Limnotech 2010



CDA will not contribute significant TP to Lake

Scenario	Total Phosphorus (mg/l)	Increase in Total Phosphorus over TMDL (mg/l)
TMDL	0.0086	-
Incremental Idaho	0.0098	0.0012
Incremental Spokane	0.0132	0.0045

Coeur d'Alene WLA

- Assumed treatment capability to achieve maximum monthly average of 50 $\mu\text{g/L}$ converted to 36 $\mu\text{g/L}$ long-term average
- Treatment technology assumptions factored by “future flows” and converted to mass average pounds per day WLA
- 2027 Effluent Flow (*MGD*) \times Seasonal Avg. Conc. in Table 5 (*ppm*) \times 8.3454 lbs/gal. TMDL, at 33.

Table 2. Technical specifications for TMDL Alternative#1 (EPA).

		Scenario name: TMDL Alternative #1													
Description:		This is a TMDL alternative scenario for comparison to the NO SOURCE baseline. Point sources set at 50 ppb TP (maximum monthly average) and nonpoint sources are set to achievable reductions.													
		MUNICIPAL AND INDUSTRIAL POINT SOURCES								SW & CSO		NONPOINT SOURCES			
Parameter	Descriptor for NPDES sources	Coeur d'Alene	HARSB	Post Falls	Liberty Lake	Inland Empire Paper	Kaiser Aluminum	Spokane	Spokane County	Storm Water	CSO	Ground Water	Little Spokane River	Hangman/Coulee Creek	Upstream Boundary
		Shaded cells are user-input values that are used to calculate other values in this table													
		Design Flow and Estimated Permit Limits								WLAs		Nonpoint Source Load Allocations			
Discharge (MGD) F2	design flow	7.6	3.2	5.0	1.5	4.1	15.4	50.8	8.0	WA 2.36 / ID 0.93	0.12	2001	2001	2001	2001
Estimated TP Limit (mg/l)	F8	0.050	0.050	0.050	0.050	0.050	0.035	0.050	0.050	0.31	0.95	2001	% of 2001	% of 2001	2001
Estimated CBOD5 Limit (mg/l)	F8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0	30.0	2001	% of 2001	% of 2001	2001
Estimated Spring NH4 Limit (mg/l)	March-May; Oct. F8	1.00	1.00	1.00	1.00	1.00	0.10	1.00	1.00	0.05	1.0	2001	% of 2001	% of 2001	2001
Estimated Summer NH4 Limit (mg/l)	June-Sept. F8	1.00	1.00	1.00	0.25	1.00	0.10	0.25	0.25	0.05	1.0	2001	% of 2001	% of 2001	2001
		Model Input Values = Wasteload Allocations = Long Term Average Discharge								Model Inputs		Model Inputs			
TP WLA (mg/l)	Avg Performance	0.036	0.036	0.036	0.036	0.036	0.025	0.042	0.042	0.310	0.950	same as above	same as above	same as above	same as above
PO4 (mg/L) F4	calculated	0.013	0.013	0.013	0.013	0.025	0.005	0.015	0.015	0.062	0.190	same as above	same as above	same as above	same as above
Estimated Limit Factor F7	UP, CBOD TSD method; CV=0.6	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.2	1.0	1.0	na	na	na	na
NOTES															
hydraulic:		River flows are 2001 conditions (critical TMDL design year). They are characteristic of a 1-in-10 low flow year. WWTF flows are set to design flows.													

TMDL Scenario 1 is Inequitable

- CDA cannot achieve seasonal average of 36 $\mu\text{g}/\text{L}$ with technology and source control
- There is no “delta elimination” credit available to Coeur d’Alene

Treatment Technology

- Other than Appendix J – Ecology has not provided any basis for the limits of technology assumptions
- Any reliance on Appendix J renders the TMDL arbitrary and capricious

Appendix J

- Misuses data
- Selectively uses data
- Misrepresents statements in other documents
- Relies on flawed 2008 Region 10 report
- Relies on “guarantee” from treatment vendor

Misuse of Data

- Response to Comments at C-128
- *“However, it is important to note that the average phosphorus concentration from the City of Coeur d’Alene’s pilot testing...which range from 19.2 to 39.6 $\mu\text{g/L}$, are within the range of average concentrations observed at facilities in Appendix J.”*
- Is this intellectually honest?

Treatment Technology

- What information does the Director rely on to support the treatment technology assumptions?
- Where is that information located in the TMDL documents?
- What is the equitable basis for selection of Scenario 1 for determining WLAs?

Post-hoc rationalizations

- The point source reductions resulted in an average total phosphorus concentration in the riverine portion of Lake Spokane (model segment 154) of 10 µg/L from June through September.
- TMDL Scenario #1 reduced the average total phosphorus concentration entering Lake Spokane from the mainstem (model segment 154) by approximately 66 percent from March to October under TMDL Scenario #1 (equivalent to 85% reduction of the human caused load).
- TMDL Scenario #1 represented an average of approximately 6 lbs/day less total phosphorus entering Lake Spokane (model segment 154) compared to TMDL Scenario #2 from June through September considering sources in both Washington and Idaho. Lower phosphorus levels benefit dissolved oxygen in Lake Spokane and Tribal waters downstream.
- TMDL Scenario #1 results in an average of approximately 0.04 mg/L more dissolved oxygen in Lake Spokane than TMDL Scenario #2 from June through September.

TMDL, at 27; see EPA E-mail 9/9/2009 Tab 1

Eco-Region Criteria

- Ecology rejected Eco-region Criteria in last review of the state WQS
- Selection of Eco-Region II ignores guidance document recommendations
- Riverine compliance point probably straddles two eco-regions
- Spokane River historically has been considered by Ecology as mesotrophic. (Patmount (1987); Cusimano (2004))

Eco-Region Criteria Does not Justify Tech Based WLA

- The results for Scenario 2 meet 10 µg/L TP between four and five days less than the results for Scenario 1
- Scenario 1 meets 10 µg/L 65% of the time versus 62% of the time for Scenario 2
- How can the Director justify an inequitable allocation to CDA where both Scenarios 1 & 2 meet an arbitrary criteria on essentially the same basis?
- A difference without any distinction

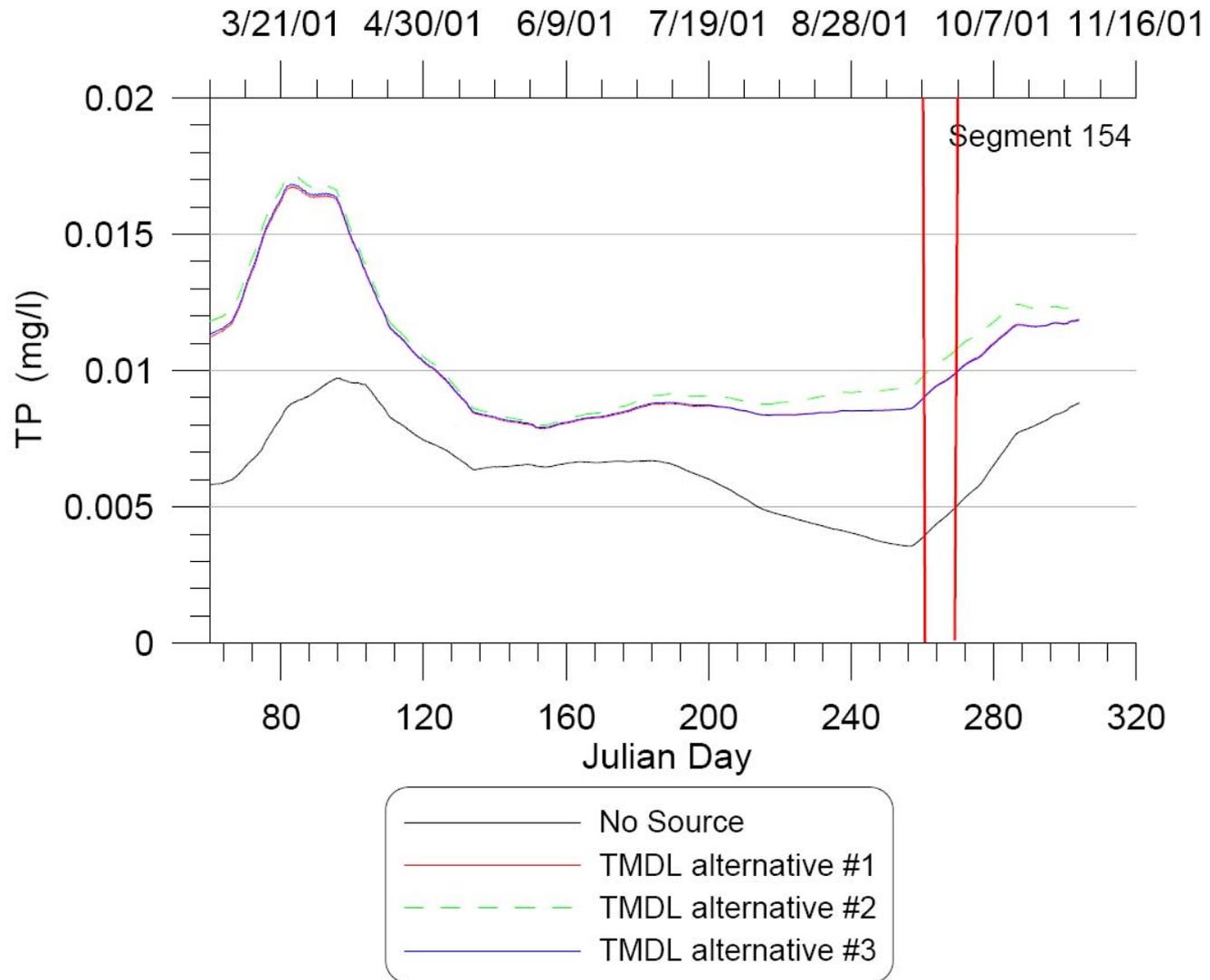


Figure 2. 30-day running average total phosphorus concentrations of the no source scenario and the TMDL alternatives at segment 154 in Long Lake.

Phosphorus Removal

- Scenario 1 reduces the average total phosphorus load of 350 lbs/day by approximately 66% from March to October.
- Scenario 1 represents an average of 6 lbs/day less total phosphorus in Lake Spokane compared to Scenario 2.
- That means that Scenario 2 reduces the total phosphorus load by over 64%
- A difference with no distinction

Impact on DO

- Scenario 1 results in an average of 0.04 mg/L more dissolved oxygen than scenario 2
- No real difference between DO impacts comparing Tables 9 and 10 from PSU 2009 Report
- How does reliance on Scenario 1 v. Scenario 2 change the obligations of Avista?

Impact on Avista's "Responsibility"

- The TMDL does not discuss any limitations on Avista in meeting its responsibility
- Avista is assigned responsibility to implement reasonable and feasible measures to improve water quality
- It is not equitable to impose a WLA on Coeur d'Alene that is unreasonable

Ecology Should Revise the TMDL to Base WLAs on Scenario 2

- Technology assumptions in Scenario 2 are consistent with Technology Work Group and Foundational Concepts
- Results in a 64% reduction in TP to Lake Spokane
- Results in essentially the same impact on DO levels in the Lake
- Does not prejudice Avista