

WASHINGTON STATE DEPARTMENT OF ECOLOGY
Water Quality Program

TO: Ted Sturdevant, Department of Ecology Director

THROUGH: Dustin Bilhimer, Spokane TMDL Dispute Resolution Coordinator

FROM: Spokane TMDL Dispute Resolution Panel
Polly Zehm, Kevin Fitzpatrick, Will Kendra, Andrew Kolosseus and Megan White

DATE: May 5, 2010

SUBJECT: **Spokane TMDL Dispute Resolution Panel - Summary of Recommendations**

The Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report (TMDL Report) was published for public comment in September 2009, with an extended comment period that went into November. Ecology submitted the TMDL Report and response to comments to EPA for approval on February 12, 2010, and published it on Ecology's web site.

The Water Quality Program (WQP) initiated its dispute resolution process on February 26, 2010, with Inland Empire Paper Company; the city of Coeur d'Alene; the city of Post Falls; the Hayden Area Regional Sewer Board; Avista; and the Sierra Club, each requesting dispute resolution of the TMDL Report. Each of the parties submitted written materials defining and supporting their dispute claims. Other affected parties also submitted written materials to the panel including Spokane County; the Spokane Tribe; Idaho Department of Environmental Quality; Kaiser Aluminum; Gonzaga Law School and Kootenai Environmental Alliance; and the city of Spokane.

The Dispute Panel thoroughly reviewed the TMDL Report, the written materials provided by the parties, and the WQP's written response. The disputing parties concisely summarized their concerns for us in oral presentations at the public half-day meeting in Spokane on April 5, 2010. All of the written documents and videos of the oral presentations are posted on Ecology's web site.

Prior to making our recommendations, the Dispute Panel again reviewed the materials provided by the disputing parties and panel members completed various follow-up assignments to address issues raised by one or more disputing parties or to answer questions raised by panel members themselves. We filled out the attached matrix to ensure we considered and documented our recommendations for each issue raised.

It is clear that WQP had a challenging task in establishing this TMDL for the Spokane River. There are many different ways to establish a TMDL. The Dispute Panel understands that the WQP's goal in this TMDL was to account for all of the dischargers, allow each to continue to discharge, and to divide the available waste load allocation equitably. Much of this approach was established through an earlier process in which the dischargers participated, referred to as "Foundational Concepts". Kelly Susewind's (Water Quality Program Manager) presentation in Spokane summarized the approach as "meet state water quality standards and avoid placing too large a burden on any single discharger." It was clear from the presentations that there are many different ways to make the allocation decisions. How to protect the river without placing too heavy a burden on any one single entity is complex and difficult to reconcile with every discharger's unique history, investments, opportunities, plans for growth, and subjective perspective.

The WQP's written response did a good job of succinctly responding to each of the detailed items that were brought forward in this Dispute Resolution Process. That response document is a key component of the recommendations that we are providing to you. The Dispute Panel believes that additional clarity and explanation will help address many of the permittees' and stakeholders' concerns. As previously noted, we completed and attached a matrix of each issue and our recommendations to address that issue. That matrix is part of our deliberation and decisions. In addition to the matrix, we are making some specific recommendations on other items. The recommendations are organized into the following categories:

- Concerns reviewed where we think there is a need for additional action.
- Concerns reviewed where there is no need for action.
- Concerns that need additional clarity.

Concerns Reviewed Where We Think There is a Need for Additional Action:

Bioavailability Report

Conceptually, not all phosphorus matters. Only that portion that impacts the dissolved oxygen (D.O.) in Lake Spokane will be counted toward each facility's waste load allocation and be put into permits. There is understandable uncertainty about how the study results will be used when they are available in approximately one year. We think the additional clarity below will help the dischargers, particularly Inland Empire Paper (IEP), understand how that information will be used to develop its permit limits. Ecology will issue permits to IEP and the city of Spokane in 2010. Those permits will specify that final limits need to be met in 2020. The following will occur in the interim:

- The bioavailability study will be completed in December 2010.
- The written report describing the findings of the bioavailability study is due in early 2011.
- The report is then available for use in setting permit limits. The WQP should work with IEP and the city of Spokane to determine if a permit modification earlier than 2015 would help provide more certainty.
- According to Table 10 of the TMDL Report, final waste load allocations will be re-assessed with each permit cycle. Thus, the permits will be re-issued in 2015 and will incorporate bioavailable phosphorous limits based on the findings of the Phosphorous Bioavailability Report, and waste load allocations will be revised if necessary. As noted in the bullet above, the WQP, IEP and Spokane may choose to do this prior to the 2015 permit cycle.

Idaho Flow Assumptions

The panel recognizes the importance of growth to the communities in Idaho. In looking through the documentation provided to us, it is clear that Post Falls thought that 5 mgd should be used for their 2027 growth projections. In fact, Post Falls provided this number to the regulatory agencies twice, once in a letter to EPA dated February 27, 2008, and again in April 2009. That being said, the panel thinks that this issue of population growth and future flow should be looked at again at the ten-year assessment period. This commitment to look at flow projections at the ten-year check-in point should be highlighted in the Detailed Implementation Plan to determine if growth assumptions were correct or if some areas are not experiencing the growth expected and could trade some future capacity.

Development of Offset Program

The WQP needs to put together a clear set of expectations, beyond what is in the water quality standards, for how the offset part of the TMDL will be implemented. The panel recognizes how complex this is, but recommends that some minimal expectations and architecture be provided to stakeholders within the next two months. This should include a description of how interstate trading can occur. This should be done prior to development of a Detailed Implementation Plan.

Providing Idaho and EPA Clarity on Development of Idaho Permits

The Detailed Implementation Plan should include the following information on how Idaho permits should be drafted consistent with the assumptions in this TMDL:

- The Washington State Department of Ecology has no jurisdiction in Idaho.
- Idaho's responsibility is the D.O. sag in Long Lake that is represented in the Idaho-Only modeling scenario described in the 2010 Modeling Report.
- Idaho can use offsets for stormwater assumptions in the model on Idaho's side of the border as long as it does not cause larger sag than that represented in the Idaho-Only modeling scenario described in the 2010 Modeling Report.
- We encourage Idaho and EPA to participate in the workgroup that will strive toward the development of an offset trading program so that it is available to Idaho dischargers.

Ecoregional Criteria

The Detailed Implementation Plan should provide additional information on the Ecoregional Criteria since it continues to be a confusing concept. Our understanding, based on Kelly Susewind's oral presentation, is that this criterion was used to represent a minimally-impacted condition at the riverine assessment point. This was used only to establish Avista's D.O. responsibility. Requirements for the other dischargers were based on the 0.2 mg/L D.O. depression below the no-source scenario. The tributary loadings alone cause more than a 0.2 mg/L D.O. depression; the dischargers are only able to discharge phosphorus as a result of Avista's D.O. responsibility.

Confusion Over the Terminology of Dominant Aquatic Life

This area should also be clarified in the Detailed Implementation Plan. Based on additional information we received from the WQP, we understand this term to mean the following:

This is a general term that appears in the water quality standards for D.O. criteria in relation to establishing sampling locations that are representative of a well-mixed system (where dominant aquatic habitat tends to exist). This typically means that samples should not be taken from shallow stagnant backwater areas, within isolated thermal refuges, at the surface or at the water's edge. This ensures that the D.O. measurements are representative of the ambient condition of the water, rather than obtaining samples that will misrepresent the amount of D.O. because of other physical or chemical processes occurring.

Concerns Reviewed Where There is No Need for Action:

The D.O. Model Stability

At the meeting in Spokane, Kelly Susewind committed to investigating the concern raised that there were unexpected flow variation problems with the model. Kelly asked EPA and Portland State University to review this claim. The results of their investigation are in the attached memo. They found no evidence of

stability problems or inconsistent D.O. predictions in the Lake Spokane Model. The Dispute Panel does not recommend that any changes be made based on this concern.

Request to set an allocation at the Idaho-Washington Border

The Dispute Panel finds that Ecology has effectively done this. The TMDL assumes specific loadings from the Idaho dischargers and calculates their cumulative D.O. impact in Lake Spokane, the critical location for the TMDL. The TMDL states that any distribution of loading that is equally protective as the Idaho-Only scenario (causes a D.O. sag in Lake Spokane less than or equal to the Idaho-Only Model run) will be considered consistent with the TMDL. This effectively sets a single requirement for Idaho. Translation of this requirement to discharge limits is based on the model. This would be the case whether setting concentration limits at the border or D.O. impacts in Lake Spokane.

Concerns That Need Additional Clarity:

It is Arbitrary and Capricious to Set Waste Load Allocations that Cannot Be Met With Technology

The Dispute Panel understands that Ecology is required to set waste load allocations that get the water body to meet water quality standards. Under the Clean Water Act, this can mean requiring dischargers to stop discharging completely. The bottom line is that the Water Quality Program is required to establish allocations that protect water quality – not necessarily what can be achieved with technology. Furthermore, we recognize that the trading program will provide options for achieving phosphorus reductions beyond technological limits.

How Ecology Can Allow Spokane County to Discharge Under the “Pinto Creek” Court Decision

Pinto Creek refers to a case where the Ninth Circuit held that EPA improperly issued an NPDES Permit in violation of Clean Water Act regulations. The Dispute Panel understands that the Pinto Creek ruling allows for a new discharger if there is a TMDL in place. That TMDL must have all existing dischargers on a compliance schedule to achieve water quality standards. This TMDL does that and requires Spokane County to meet its waste load allocation upon startup. Spokane County is not provided a compliance schedule.

Inequitable Distribution of Final Effluent Limits

Among the objections raised by the Idaho dischargers in the Dispute Resolution Process is the appearance of inequitable apportionment of the waste load allocations among the dischargers when TMDL Scenario #1 is applied using a monthly maximum average of 50 ug/L. The larger Washington municipal dischargers appear to benefit from higher seasonal averages for phosphorous concentrations in their treated effluent, and smaller dischargers appear to be responsible for a higher level of phosphorous removal with lower seasonal averages for phosphorous in their treated effluent.

In response to these perceived inequities, the Idaho discharges requested that the waste load allocations of the TMDL be based on TMDL Scenario #2, with the total phosphorous concentration of 50 ug/L set as a long term average. However, under this scenario, the increase in daily mass loading to Lake Spokane of total phosphorous is 6.42 lbs greater than the anticipated loading resulting from conditions established for Scenario #1. This exceeds the loading capacity of the river, and places an additional burden on Avista. Lower seasonal limits for smaller dischargers are a statistical result of estimating long-term seasonal averages for the smaller facilities to ensure that the 50 ug/L monthly maximum average is achieved with the statistical confidence prescribed for NPDES Permits. The smaller dischargers have lower monitoring

frequencies, resulting in a lower long-term seasonal average than for the large Washington municipal facilities that monitor their effluent with greater frequencies. Unfortunately, it is not just a simple matter of raising sampling frequencies for smaller dischargers in order to get the desired increase in total phosphorous concentrations. Doing so would increase the daily load of total phosphorous into Lake Spokane.

In the following table, the Dispute Panel assigned the same seasonal long term average to all the Spokane River dischargers (with the exception of Kaiser) that maintain the daily loading of 30.25 lbs/day of total phosphorous from Scenario #1. The resulting long-term average for all qualifying facilities, therefore, is 40.4 ug/L. The panel believes that this approach could be seen to provide a more equitable distribution for the removal of total phosphorous by Spokane River dischargers to achieve the Spokane River TMDL waste load allocation of 30.25 lbs/day.

	Load of Total Phosphorus (lbs/day) based on 40.4 ug/L
Washington Point Sources	
Liberty Lake	0.51
Kaiser (see footnote)	3.21
Inland Empire Paper	1.38
City of Spokane	17.13
Spokane County (new plant)	2.70
---Total---	24.92
Idaho Point Sources	
Coeur d' Alene	2.56
HARSB	1.08
Post Falls	1.69
---Total---	5.33
Grand Total (WA and ID)	30.25
Notes for Table:	
1-As per TMDL: "Waste load allocations for Kaiser are lower [0.25 ug/L] than other dischargers due to non-contact ground water, which is low in nutrients, comprising a significant portion of that facility's discharge."	
2-Concentrations are seasonal averages.	

Based on the work above, the Dispute Panel initially agreed to recommend that the long-term average phosphorous limit be changed to 40.4 ug/L so that all point source dischargers did indeed have the same numeric limit. We asked WQP and EPA what that change would entail. Upon finding out that this would cause delay and extra expense in implementing the TMDL -- because the model would need to be re-run to verify our assumptions that this change would still meet waste load limitations for the lake, the public

comment period would need to re-open for a minimum of 30 days, and Ecology would need to do another response to comments and resubmit the TMDL Report to EPA for approval -- the panel determined that such a minor adjustment in the numeric limit did not justify the delay to implementation. The time and cost to do this are not justified, especially since it is still significantly short of meeting Idaho's request of a 50 ug/L limit and would not substantially improve the TMDL. We, therefore, recommend the original approach for a monthly maximum average of 50 ug/L in the TMDL. We also recommend that WQP and dischargers use the flexible implementation and adaptive management approach for achieving final permit limits (set out in Table 10 of the TMDL) to evaluate a uniform seasonal average during implementation.

Attachments: Matrix
April 16, 2010, EPA Memo - Response to Limmnotech Comments on Spokane
TMDL Model Stability