

Spokane River TMDL Collaboration

Full Group Meeting

November 22, 2005, 9:00 a.m.-2:30 p.m.

City of Spokane Fire Training Center, N. 1618 Rebecca Street

Full Group Attendees

Tom Agnew, Liberty Lake Sewer & Water District
Chris Butler, Spokane Tribe of Indians
Dick Denenny, City of Spokane Valley
Tom Eaton, US EPA-Region 10
Rick Eichsteadt, Sierra Club
Wayne Frost, Inland Empire Paper
Gwen Fransen, ID Dept. of Environmental Quality
Sid Fredrickson, City of Coeur d'Alene
Bruce Howard, Avista
Jim Kimball, Hayden Area Regional Sewer Board
Jack Lynch, City of Spokane
Todd Mielke, Spokane County Commissioner
Dave Peeler, WA Dept. of Ecology-Olympia
Mike Petersen, The Lands Council
Terry Werner, City of Post Falls

Bill Ross, Facilitator, Ross & Associates
Ryan Orth, Ross & Associates
Mike Sharar, Mike Sharar Consulting
John Spencer, CH2M Hill

Collaboration Update and Meeting Agenda Review

Bill Ross opened the Full Group session at 9:00 a.m. to review the day's agenda. The Monitoring Workgroup will provide an update on its progress, to date, and share details of its draft report. Tom Eaton will then address the Collaboration on EPA Region 10's activities related to the Spokane River TMDL and the Collaboration process. The bulk of the meeting, from 10:00 a.m. to 2:00 p.m. will be devoted to presentations and discussion of the two scenarios submitted to the Full Group. The group of dischargers will present first, followed directly by the Sierra Club. Those parties not included in the dischargers' scenario will also have an opportunity to present their issues in relationship to the Collaborative. The Full Group will conclude the meeting with a discussion of the next steps and future schedule of the Collaboration.

Co-Chair Dave Peeler expressed his gratitude to those who submitted scenarios for consideration at this meeting. While having conducted only a brief review of the materials, he is hopeful that they will lay the foundations that will lead to for a TMDL Implementation Plan and an agreement. Co-Chair Todd Mielke added that the scenarios are the culmination of months of hard work by many individuals and that these efforts are impressive and appreciated by the Full Group. Mr. Mielke asked that all participants recognize the need for significant additional work from this point forward and that the

dialogue at today's meeting will be the starting-point for refinements of this work that the Collaboration will undertake to reach an agreement.

Monitoring Workgroup Progress Update and Draft Report

Monitoring Workgroup Co-Chairs Stan Miller and Bob Cusimano presented an update on the Monitoring Workgroup's progress and details of their draft report. After introducing their fellow Monitoring Workgroup members, the Co-Chairs explained that the Workgroup was formed, as stated in the Workgroup Charter, to make recommendations to the Full Group of the elements that would comprise a successful Monitoring Program within a TMDL Implementation Plan. The main sections of the Monitoring Workgroup draft report include Monitoring Principles and Management, a description of Current Monitoring Programs in the Spokane River basin, recommendations for a Core TMDL Implementation Monitoring Program, and a Summary of Special Studies. With the bulk of its charge now completed, the Monitoring Workgroup anticipates issuing its final report by the December 16th Full Group meeting. A copy of the current draft Monitoring Report may be found on the Collaboration website at <http://client-ross.com/spokane-river>.

Report on Environmental Protection Agency Activities related to the Spokane River TMDL and Collaboration Process

Tom Eaton, of EPA Region 10, provided a report on EPA's activities related to the Spokane River TMDL. Mr. Eaton explained that EPA has various responsibilities and relationships to the TMDL process. EPA provides three basic responsibilities in this situation: a review of the TMDL submitted by the Washington Department of Ecology, oversight review for NPDES permits issued by the Washington Department of Ecology, and as the NPDES permitting agency for Idaho dischargers.

EPA is committed to using the same model as Ecology as a basis for issuing permits in Idaho, and needs to prepare its permit writers for any potential technical or policy questions that may arise. In preparation to meet its responsibilities, EPA ran the model using a set of test factors for Idaho dischargers. Of potential significance in the Spokane River situation is the decision from *Oklahoma v. Arkansas*, which states that a NPDES permit written in one state cannot cause or contribute to violations of water quality standards in another state. EPA held separate technical and policy meetings with Idaho and Washington to begin discussions of how to approach these challenges.

EPA is supportive of and engaged in the Spokane River TMDL Collaboration process and will work with all parties to share more information as it becomes available. EPA is currently working with its General Consul at EPA Headquarters to answer several legal questions and will discuss its findings with the states and the Full Group as soon as possible. At this time, permit limits in Idaho are neither set nor ready for public review. EPA and Ecology will discuss compliance schedules and interim milestones with individual permittees as standards are set.

Presentation of the Dischargers' Scenario Proposal

Todd Mielke, Jack Lynch, and Dick Denenny introduced the dischargers' scenario proposal. Each recognized that the Collaboration process is addressing the unique challenge of improving Spokane River water quality through a diverse stakeholder group committed to public input and transparency. Mr. Mielke added that the Collaboration represents one of the most comprehensive approaches to a TMDL nation-wide, and will be looked to as an example by other communities in the future.

John Spencer provided an oral summary of the dischargers' proposal with highlights of each major section. Mr. Spencer mentioned that the flows referenced in the dischargers' proposal are municipal flows, projected on a 20 year basis according to each utility's individual growth patterns. Kaiser

Aluminum is engaged in a groundwater remediation program and it is appropriate that this flow is distinguished from the municipal flows.

With respect to conservation, the dischargers' scenario proposes that the LOTT program model be implemented in the Spokane River basin. Conservation carries value in terms of reduction of phosphorous to the River, as well as economic value as less water is pumped through treatment. It is currently unknown as to what percentage of municipal flows would be reduced as a result of the implementation of the LOTT program model. Some of these conservation measures are already being enacted through revisions to building codes that require low-flow fixtures. The dischargers would seek to reach the highest conservation target possible.

While the Technology Workgroup's efforts were laudable, treatment technology is not an easy area of research. A survey of the nation's exemplary treatment facilities found that treatment performance correlates with individual compliance requirements, in general, but that performance is also dependent upon a number of other conditions. Therefore, it is seen as a "fruitless endeavor" to base a compliance number for the Spokane River situation on a statistical calculation from these trends in across the country. It is known that treatment technology can remove significant amounts of phosphorous, with some associated limitations and costs. The dischargers' scenario proposes that each discharger will develop a one-year pilot program with engineering studies and set preliminary permit limits set based on these results. After five years of operation, these compliance numbers would be reevaluated. The dischargers are committed to finding the best technology, operating this technology to optimal performance, auditing its performance, and using this comprehensive information to set final limits. Kaiser Aluminum would take the same actions as the municipalities with any remaining flows after the 20MGD of groundwater remediation at a proposed treatment target of 100 $\mu\text{g/L}$. (It is not anticipated that any groundwater pumped into the Spokane River would be a concern with respect to phosphorous loading, however, this may be an issue from EPA or Ecology's perspective.) Due to Inland Empire Paper Company's unique influent, further study on the municipal and industrial bioavailability of certain types of phosphorous should also be conducted.

The discharger's proposal calls the City of Spokane, Spokane County, Liberty Lake, and Coeur d'Alene to each develop facility plans for municipal re-use. The Spokane County plant would incorporate re-use as a significant component of its operations. The group of dischargers proposes that industries continue to reduce total consumption of water and improve their reuse capacity. Sierra Club's Tim Connor asked whether reuse is considered a supplement for what cannot be achieved through technology. Todd Mielke responded that the group of dischargers has had several internal discussions about this matter. Water committed to reuse must be treated to a higher level for application. This application of this treated water can be considered either as a product that can be offered, or in terms of assets the public sector controls versus assets controlled by the private sector. Assets controlled within relative proximity of the treatment facilities that have irrigation needs include municipal golf courses, parks, etc. There is more work to be done in creating demand for this treated water in the private sector amongst potential agricultural and industrial users. The focus of reuse has been on the seasonal needs of the River system and agricultural reuse is consistent with that seasonal reality. However, the development of non-agricultural application of treated water will help dischargers to achieve a year-round reuse program.

The dischargers' proposal calls for a non-point source program jointly funded by federal, state, and discharger resources. The program would target practices and activities that are effective as phosphorous reduction controls. The dischargers are committed to contributing to a \$1 Million a year program over 20 years, as long as the measures implemented through the program are effective in

reducing phosphorous. In addition to a non-point source program that will identify and measure opportunities to reduce phosphorous, the dischargers' scenario also suggests that municipalities may further control non-point sources of phosphorous through septic tank elimination, a ban on phosphorous in dishwasher detergents, and/or a ban on phosphorous in residential fertilizers. Education will be an essential component of any successful ban on phosphorous-containing detergent or fertilizer. The dischargers have also had productive discussions with Stevens County and are asking that Ecology and EPA assist Stevens County to identify growth areas and growth boundaries, and to install proper infrastructure.

Avista has committed to aeration for improvement of downstream water quality as an element of their dam re-license application with the Federal Energy Regulation Commission. The dischargers feel that water quality should be considered from a total lake perspective, and therefore would look to conduct a joint study Lake Spokane water quality with Avista. Mr. Eichsteadt asked about the condition within the dischargers' proposal related to Avista's §401 requirements. Mr. Spencer explained that he would not address this item in any detail, as Avista is currently negotiating the financial commitments for how to best perform aeration, whether in the tailrace or the lake.

Mr. Spencer commented that the recommendations from the Monitoring Workgroup are seen as being comprehensive and would be considered as a framework for a monitoring program jointly developed by the dischargers, Avista, and Ecology. The dischargers' scenario proposal asks that the effectiveness of all reduction measures be evaluated and the model recalibrated with any new data in the 11th year of the Implementation Plan. Based on the findings from this evaluation, it may be appropriate that the dischargers, Avista, and Ecology develop a Use Attainability Analysis and/or site specific standards for the Spokane River and Lake Spokane reservoir. It may also become necessary for DO levels in Lake Spokane to be enhanced through aeration/oxygenation.

The dischargers propose a trading program as an element within an agreement for a TMDL Implementation Plan. Trading opportunities between municipalities may arise in the next two to three years and could be a vehicle to ensure reductions of phosphorous in the Spokane River over time. The dischargers would like to model such a trading program after the Cherry Creek program near Denver, CO.

Dave Peeler asked how the dischargers' proposal as a whole meets the need for reasonable assurance. Mr. Spencer replied that the proposal assures that the dischargers are working towards meeting water quality standards over the course of the entire 20-year timeframe. However, depending on the results of monitoring and new inputs to the model, it may be appropriate to reassess the water quality standards themselves.

The City of Spokane will commit upwards of \$125 Million for treatment technology and Spokane County will spend \$220-250 Million for its treatment facility. Sid Fredrickson anticipates expenditures for treatment technology in Coeur d'Alene in the range of \$30-60 Million. In general, the collective costs could reach \$500 Million over 20 years, with the bulk of these costs concentrated in treatment technology. The dischargers' proposal identifies a \$1 Million per year cap on other expenditures for both the City of Spokane and Spokane County. Rick Eichsteadt asked what funding limitations would be relative to the remaining dischargers. Mr. Spencer responded that the dischargers will collectively determine the appropriate contributions of each for additional programs and studies.

Mike Petersen asked to what degree the dischargers' proposal addresses future TMDLs on the Spokane River watershed. Mr. Spencer replied that the proposal addresses the current TMDL. Dave

Peeler added that while the proposal does address the current TMDL only, Ecology could foresee further opportunities to adaptively manage future water quality requirements, to the extent they may impact this agreement around the TMDL for DO.

A complete copy of the Dischargers' Proposed Scenario may be found on the Collaboration website at <http://client-ross.com/spokane-river>.

Presentation of the Sierra Club's Scenario Proposal

Rick Eichsteadt, Bonne Beavers, and Tim Connor co-presented a summary of the Sierra Club's proposed scenario to the Full Group. Rick Eichsteadt commented that the Sierra Club sees both commonalities and differences between its proposal and that submitted by the discharges. In its scenario, the Sierra Club attempted to highlight many examples from applications found nation-wide, as well as regional efforts. These examples can be found in the attachments to the Sierra Club proposal, which will be posted to the Collaboration website.

Mr. Eichsteadt presented a series of "legal/factual realities" that provide background to the approach of the Sierra Club's proposed scenario. These background items include:

- the Collaboration process is focused on DO and should ensure that other pollutants of concern in the Spokane River are considered, such as carbonaceous biochemical oxygen demand (CBOD) and ammonia
- the Implementation Plan must also meet the Spokane Tribe's water quality standards
- a future TMDL on PCBs in the Spokane River will impact decisions surrounding the selection of technology designed to remove phosphorous and improve DO levels
- Spokane County's plant is considered a "new source" of discharge to the Spokane River and is subject to applicable laws and regulations
- Washington State law provides guidance on non-point source reductions, stating that water quality offsets can only occur after a proven reduction is met
- a phased approach to implementation is appropriate, considering uncertainties surrounding this TMDL
- multiple jurisdictions have responsibilities and should participate in solutions within the implementation of reductions to meet this TMDL

Dave Peeler asked whether the Sierra Club's mention of a phased approach correlates to specific timeframes. Mr. Eichsteadt responded that the general timeframe in their proposal is 20 years for an Implementation Plan, with interim milestones and check-ins along the way.

The Sierra Club's proposed scenario includes several flow charts displaying the decision pathways for a TMDL Implementation Plan. These charts detail the flow of activities to implement initial technology and influent control measures, additional non-point source, reuse, and conservation measures and corresponding monitoring efforts as well as the longer-term pathway to assess individual discharger progress in achieving the identified TMDL limits, including the potential amendment of the Implementation Plan or the TMDL.

Mr. Eichsteadt detailed the Sierra Club's view of conditions that would contribute to an effective monitoring program, including:

- measurement and analysis of physical, chemical, and biological data to determine compliance with NPDES permits and the efficacy of NPS control strategies
- monitoring of other parameters known to affect DO, such as sediment loads and temperature

- measurement of Spokane River flows
- discharge monitoring reports prepared by NPDES permit-holders
- measurement and reporting of Implementation progress for each responsible party

The Sierra Club's scenario also suggests elements that should be included in an agreement:

- provisions to meet "reasonable assurance"
- a statement of actions for each party
- vehicles for addressing disputes and ensuring compliance
- long-term commitments to funding
- provisions for public reporting

The Sierra Club then addressed specific elements of phosphorous reduction strategies and details of their implementation. A disclaimer to this section explained that the specific approaches and strategies for phosphorous reduction do not represent all the available options, nor is it expected that the dischargers would implement every action described. Rather, the appropriate suite of actions should be selected so that TMDL goals and water quality standards are met.

Mr. Eichstadt shared the Sierra Club's suggestions for influent control and reduction measures for municipal dischargers, including:

- Water audits and water conservation measures
- Programs to implement pre-treatment requirements and reduce industrial sources of phosphorous
- Ordinances to ban the sale and/or use of dishwashing detergent and residential fertilizers containing phosphorous
- Measure and control infiltration/inflow in sewer systems
- Education/incentive programs focused on phosphorous reduction

Bonne Beavers introduced three technology-based strategies to reduce phosphorous loading from wastewater treatment plants, including advanced wastewater treatment technologies, operations maximization, and NPDES permits that provide incentives and opportunities for pollutant reduction. The selection of treatment technologies by the dischargers should use all known, available, and reasonable methods of treatment (AKART). On a case-by-case basis, the dischargers should select treatment technologies following an Ecology-developed process that includes engineering, environmental, and economic analyses to determine AKART. As well, each discharger should conduct a technology assessment to pilot candidate technologies and maximize its operations for phosphorous, CBOD, and ammonia reductions. Dave Peeler asked for more detail regarding the term "natural restoration," given as an example of an alternative to conventional wastewater treatment systems that could be considered within a technology assessment. Ms. Beavers explained that this term comes from applications where engineers have been successful in achieving treatment through biological processes, such as with the work of Jonathan Todd and Bill McDonough.

The NPDES permits issued under a TMDL Implementation Plan may include compliance schedules, interim limits, and/or require further upgrades or changes and should incorporate the applicable conditions of the TMDL MOA. Given the inherent uncertainty of technology performance, permitting agencies should also consider the role of traditional risk allocation and include flexible-enough permit conditions to incentivize the adoption of advanced treatment technologies. The Sierra Club proposal also explains a technical condition that precludes a compliance schedule component to the NPDES permit for a new Spokane County treatment facility. Rather, this facility would need to be in compliance with TMDL effluent concentration limits at the time of discharge.

Tim Connor spoke to the non-point source measures section of the Sierra Club's proposed scenario. Ecology and the dischargers should use information from the tributary TMDLs for Hangman Creek and the Little Spokane River to inform key technical questions surrounding the contribution of non-point sources to the DO problem. A non-point source strategy would identify remedial actions and best management practices to reduce pollutant loading. Each discharger would commit funds necessary to implement the non-point strategy and establish a long-term non-point source monitoring program to report the progress of non-point source control measures. Such a strategy could also address non-point source pollution through activities designed to reduce pollutant loadings from municipal stormwater drainage systems. With respect to phosphorous contributions from septic systems, Spokane County should pursue a septic tank elimination program and implement programs to improve phosphorous removal technology for existing multi-unit developments. To qualify for several programs that provide non-point source reduction funding, Ecology, the dischargers, the Spokane Conservation District, and other local governments should coordinate to assess their eligibility and take any additional steps to ready themselves for future funding.

Rick Eichsteadt presented the Sierra Club's proposed scenario elements addressing reuse measures. Dischargers should conduct a feasibility study to assess the potential for reclamation and reuse of wastewater at their facilities and implement programs to maximize the construction of reclaimed water facilities and application of reused water. The City of Spokane should evaluate reuse opportunities within a short proximity of its treatment facility, as well as to the West Plains area. The Sierra Club suggested that Spokane County re-evaluate its siting of a proposed regional wastewater facility to maximize reuse potential. Mr. Mielke commented that the County conducted an extensive siting review for this facility and found difficulty in locating a site that conformed to the criteria of situation for gravity flow, sufficient size, and absence of contamination. While still an open question, one preliminary finding of this review determined it advantageous for the facility to pump reclaimed water as a product than to pump wastewater to the facility.

The Sierra Club's summary presentation also touched-on implementation strategies to improve the DO problem in the Spokane River through improvement of in-stream flow and the enforcement and amendment of existing pollution control authorities. The summary concluded with a statement about the cooperation of Avista, Ecology, and the group of dischargers to ensure §401 certification and FERC process with the TMDL, tribal water quality standards, and options to address Long Lake DO levels.

A complete copy of the Sierra Club's Proposed Scenario, including a table of contents, summary, and attachments, as well as the presentation to the Full Group, may be found on the Collaboration website at <http://client-ross.com/spokane-river>.

Description of Other Parties Not Included in Dischargers' Scenario Proposal

Jim Kimball, representing Hayden Area Regional Sewer Board, and Terry Werner of the City of Post Falls, addressed the Full Group as to their relationship to the Collaboration given the fact they were neither included in the dischargers' scenario, nor had they submitted their own scenarios. Both Hayden and Post Falls are actively pursuing land application as a phosphorous reduction strategy and have conducted a joint study to determine the land available for reuse. With no definitive runs of the model to answer questions about the criticality of the "shoulder" months, Hayden and Post Falls are inclined to work directly with EPA, outside of the Collaboration process, for any load allocations. Both municipalities are prepared to work with the group of dischargers in the future, once more information is available about the efficacy of reduction strategies on the health of the Spokane River. Tom Eaton commented that it is critical to resolve open questions and issue permits for these dischargers, who

have been operating without permits for over a year. EPA will provide an update to their permitting approach at the December Full Group meeting. Once they have shared their approach, EPA welcomes feedback from the two states. EPA will convene the Idaho dischargers to describe the current situation with the Spokane River TMDL and NPDES permits before the next Full Group meeting.

Discussion of Scenario Proposals

Dave Peeler commented that it was clear in listening to the scenario presentations that the TMDL Implementation plan would include a strong reuse program, conservation and reuse measures, and top-notch treatment technology. Ecology will review the scenarios over the next few weeks and consult with stakeholders to determine the path forward to reasonable assurance. A high-level agreement should come together fairly soon that will lead to a detailed framework to move towards these various objectives in a reasonable and cost-effective way. Ecology will meet with the dischargers and the Sierra Club over December 8 and 9 to further discuss the scenarios and gather additional feedback. The draft Implementation Plan will undergo a round of public review and if the draft TMDL is revised it, too, will be available for public review.

Bill Ross raised the matter of the protocol for running the model. Mr. Ross posed the question of whether the Full Group requires any modeling to be completed before their December 16 meeting. Mr. Peeler responded that the model could be run around flows, but was not sure of any difference this would make on the TMDL. The "shoulder" season question may require some adjustment to the model and Ecology would prefer to have this question prepared and ready for a model run at the appropriate time. Rick Eichsteadt requested that any refined question be distributed for to the Full Group for review. Mike Sharar announced that the revised Idaho and Washington models are available for the public's use online through Ecology's Environmental Assessment Program. However, for regulatory purposes and evaluating potential scenarios, the model will be run and verified by Portland State University procedures. The Full Group will continue its discussion of modeling at the December 16 Full Group meeting.

Next Steps and Future Schedule

The Collaboration Co-Chairs summarized their impressions of the information shared at the day's proceedings. Mr. Peeler thanked both the group of dischargers and the Sierra Club and commented that he was pleased by the willingness of individuals to find best possible path forward. Mr. Mielke spoke to the significant progress made in the last 11 months. The Collaboration has brought understanding about everyone's contributions to the process. Participants are seeking information to find unified solutions and addressing the complexity of filling-in the details. The final format of agreement will present a challenge, but participants are now drawing from the same data. The December 16 meeting will present the opportunity to frame the process for agreement on the components of an Implementation Plan.

Before adjourning the meeting, Mr. Ross spoke to the role of the media in the Collaboration process. Again, participants are asked to not characterize the motivations or intentions of others. As press contacts are made, participants should forward any information to Ross & Associates for distribution to the Full Group. The Collaborative will discuss active outreach and education as it approaches an agreement.

The meeting adjourned at approximately 2:30 p.m.