# Spokane DO TMDL Monitoring Workgroup Meeting Notes

Jan. 18, 2017 1:00 - 3:00 pm Ecology's Eastern Regional Office 2<sup>nd</sup> Floor Large Conference Room

### **Participants**

John Beacham, City of Post Falls Ben Brattebo, Spokane County Mike Coster, City of Spokane Lisa DallyWilson, Dally Env/SRSP Jeff Donovan, City of Spokane Kris Holm, City of Coeur d'Alene Dave Knight, Ecology Doug Krapas, IEP Co. Bud Leber, Kaiser Aluminum Meghan Lunney, Avista Chris Moan, Avista Paul Pickett, Ecology Cadie Olsen, City of Spokane Monical Ott, City of Post Falls Jim Ross, Ecology Jule Schultz, Riverkeeper Elizabeth Schoedel, City of Spokane Jerry White, Riverkeeper Karin Baldwin, Ecology

## Literature Search Project Work Plan (draft scope of work):

The majority of the meeting was spent discussing the draft Project Work Plan Memo for the Literature Search with Paul Pickett:

- Paul will be researching literature that addresses the assessment of dissolved oxygen and lake water quality. The literature search will focus on assessment tools and methods, and technical information on how the assessment tools were used. The technical information may have a policy context or policy implications, which will be noted. However, the project will not infer policy decisions.
- The document being reviewed is a work plan, but not a quality assurance project plan (QAPP), so the project will not include data analysis. How the assessment tools and methods could be used will be described conceptually, but they will not be applied to Spokane River or Lake Spokane data as part of the literature review.
- The group asked that the literature review address how success has been determined for other TMDLs in Washington State and in other states. The group is interested in how decisions regarding success were made or what factors led to the decision that a TMDL had been successful. Tools used in TMDLs that are similar to the Lake Spokane situation are part of the literature search, and the policy context and goals (including success endpoints, if available) will be described, but a detailed analysis of the regulatory process in other TMDLs is outside the scope of this project.
- The group suggested that the Work Plan include a purpose statement which was identified as the last sentence of the third paragraph under Problem Description: "This search would identify and evaluate some alternative methods or analyses that could be used to measure improvements in water quality, reservoir health, and support for aquatic life." Paul thought that was a good idea and will look at incorporating it.
- Some in the group expressed concern that the tools identified could indicate the system or designated uses aren't healthy and didn't want the project to result in further requirements for the dischargers. The Spokane River and Lake Spokane DO TMDL (DO TMDL) has allocations that will not be replaced by this project. This project is looking for other assessments that could indicate improvement rather than relying soley on model results. In other words the project will try to identify other tools to show improvement toward reaching the targets in Table 7 of the DO TMDL.

- Paul will also be looking at different methods to analyze dissolved oxygen data. For example, a TMDL on Lake Whatcom analyzed the cumulative distribution of dissolved oxygen deficits. The analyses could be for measured or modeled results Paul intends to 'cast a broad net.'
- The project will also try to find information on the water quality and ecosystem response to changing nutrient levels and how long the rate of recovery is, or how long it could take to reach equilibrium. There was a question if the CE-QUAL-W2 model had the capability to show how long it will take to reach equilibrium. Paul stated that the model could be looped until equilibrium was reached, which could provide useful information. But limitations inherent to a calibrated model make it difficult to predict what the system will do based only on the model. Such a looped model might fail to capture many variables that evolve in the real-world system over time. Paul feels regular monitoring and modeling check-ins over time would be needed as well.
- Lisa requested Paul come up with another term to use rather than 'tool box'. Paul said he'd work on that.
- Under the Scope-of-Work, Possible areas to explore, there was a question about what was meant by the second sub-bullet stating "simplified modeling or analysis methods for DO and other water quality parameters". Examples of these modeling or analysis methods would be spreadsheet based tools or model packages that could be run relatively quickly. Such simple tools are screening tools that could provide useful information more quickly than running the CE-QUAL-W2 model.
- The group requested that Paul look at old citations in the DO TMDL, and look at what other tools have been applied that are different from the model used, or incorporate how other tools can fill gaps in the CE-QUAL-W2 model. Paul said that was a good idea.
- The point was made that the TMDL was initiated because of the algae blooms on Lake Spokane. So a request was made to see if there is literature showing that by reducing phosphorus there will actually be a reduction in algae blooms. In other words, do tools that reduce phosphorus actually decrease algae blooms? Paul responded that a detailed analysis of the history of the project or the theory behind eutrophication was beyond the scope of the study. However, tools that explore the different factors affecting algal blooms and dissolved oxygen would be within the scope.
- Paul will make recommendations based on potential applicability to Lake Spokane, but the literature search will not not judge if one tool is better than another.
- Under Study Objectives, the draft document states that ecological resilience and diversity could be indicators of relevant analytical methods to look at in the literature search. A request was made to keep the literature search tied to the designated uses since they can be measured, whereas ecosystem resilience could be subjective. Paul agreed that the DO goals of the TMDL would be the nexus for relevant literature, and that he'd try to clarify that language in the work plan.
- The sidebars for the literature search are:
  - The policy context and implications will be noted, but Paul will not make policy judgements.
  - No data will be analyzed.
- The literature search will include case studies and how they apply given the standard and policy decisions. For example, the tools used in Lake Washington could be described, the context of purpose of the tools and how they were used explained, and then a statement about the applicability to Lake Spokane would be provided.
- The group also suggested speaking with Idaho Dept. of Environmental Quality about their assessment methods. Paul said his primary focus would be information from Pacific Northwest states, so that learning from IDEQ was a core approach.
- Kris Holm suggested we consult Ecology's Policy 1-11 to see what is required for listing a waterbody as meeting water quality standards or impaired. The policy could be used to evaluate any new assessment methods. Paul will not focus on Policy 1-11 because Ecology's Water Quality Standards

Unit, which is responsible for updating Policy 1-11, will review the resulting literature search document to determine consistency with Ecology policy and standards. Also, the literature search may inform part of the 10-Year Assessment, but is not intended to be guidance for the assessment. So, the tools or methods in the final literature search may or may not be used in the future.

• Lisa went over the SRSP's November 2016 questions about the Literature Search. She clarified that the SRSP would like a comparison of analysis methodologies from biological, empirical, and chemical data collected in the past with current data from the watershed. Are data from these studies comparable and would that comparison be a way to look at success?

### Potential Goals and Objectives for Lake Spokane DO TMDL 10-Year Assessment:

- The goals and objectives should be a living document because once the literature search is complete, we may want to adjust the objectives of the assessment.
- Ecology's EAP program strives to keep study goals and objectives neutral so that studies are not biased and give the appearance that a particular outcome is desired. Some draft goals and objectives included language indicating the TMDL implementation was successful. After discussion, the group decided such success indicators should be placed into a separate Measures of Success section of the document. Karin will adjust the goals and objectives and send them out to the group in advance of the next meeting.

## 2015-2016 Biennial Report:

The group thought March 1<sup>st</sup> would be a reasonable timeframe to submit 2015-2016 data to Karin for use in the Biennial Report. Tony Whiley, and engineer in the Water Quality Program at Headquarters will analyze the data for the report.

### Next Steps:

- Monitoring Workgroup and Advisory Group members can send citations or ideas of studies to Paul. He will accept them at any time until a draft report is ready.
- Karin will make edits to the Goals and Objectives of the 10-Year Assessment and send it out to the group.
- Karin will call Kris to discuss questions about Ecology's decisions on Avista's DO Water Quality Attainment Plan.
- Karin will send a Doodle Poll to schedule the next monitoring workgroup meeting in 4 to 6 weeks.