

# **WATER QUALITY TEAM MEETING NOTES**

**May 9, 2000  
National Marine Fisheries Service Offices  
Portland, Oregon**

## **I. Introductions and Review of the Agenda.**

Mark Schneider of NMFS and Mary Lou Soscia of EPA welcomed everyone to the meeting, held May 9 at the Oregon Department of Environmental Quality offices in Portland, Oregon. The meeting was facilitated by Jacqueline Abel, who led a round of introductions and a review of the agenda. The group spent a few minutes reviewing the minutes from the last WQT meeting, making a few minor revisions.

## **II. Transboundary Gas Group Report.**

**A. U.S./Canada International Treaties and Agreements.** Schneider said the last TGG meeting was in Spokane; one of the major “to do” items identified at that meeting was the need to enumerate and sort out the various international treaties and agreements governing the operation of the Columbia River system. Schneider said he and Les Swain of Canada have been working on this issue, and attempting to assemble all of the information needed to answer this question; I have also been working with Tom Foeller and others at BPA to identify all of the relevant power agreements, Schneider said. He added that he hopes to have more information to share on this topic shortly.

**B. Basin-Wide Dissolved Gas Modeling.** Schneider said that, at the Spokane meeting, Mike Schneider of the Corps’ Waterways Experiment Station made a presentation on his “spreadsheet” basinwide dissolved gas model. Only a few of us have seen that model so far, he said; Mike will be in Portland in July, and if possible, I would like to schedule a briefing on the model for the full WQT, as well as the IT, while Mike is here. He added that he and Les Swain will be making a presentation on the TGG to the British Columbia/Washington Environmental Cooperation Council meeting on June 19; one of the things they will be talking about is the TGG’s basinwide dissolved gas management plan, and Mike Schneider’s spreadsheet model is expected to be very helpful in planning the structural and operational measures needed to implement that plan. In response to a question, Schneider agreed that it may make sense for Mike Schneider to make a joint presentation to the IT and WQT, most

likely at the July 12 IT meeting.

### **III. Risk Assessment Update Overview.**

Schneider explained that this agenda item pertains to the 1995 report, “Spill and Risk Management Assessment,” developed by the agencies and tribes. The purpose of the report was to evaluate and compare the risks associated with spill passage – higher TDG levels, mechanical injury etc. – with the risks associated with other routes of fish passage. Since that report was developed, he said, we have seen some additional research on this topic; we also have five more years of biological and physical monitoring data.

With that in mind, Schneider said, I have reviewed this new information and produced a new report, “Risk Assessment Update.” The report will be appended to the 2000 FCRPS Biological Opinion; it addresses various biological responses of fish to dissolved gas, including mortality, sublethal effects, gas bubble signs, the effects of depth compensation and other factors. The report also delves in considerable detail into the results of the monitoring program, and the conclusions that can be drawn from that work, he added.

Schneider asked whether the other WQT members would be willing to review the Risk Assessment Update and provide comments. In particular, he said, I would like to know whether or not I’ve missed any pertinent reports or other information that should be included in this document. In addition, he said, if you disagree with any of my conclusions, I would like to hear that as well. Schneider said his report will be available soon in electronic form, and that he will send it directly to the Water Quality Team membership.

### **IV. Effects of Gas Supersaturation on Adult Reproductive Success.**

Alec Maule said he wanted to report on this item today because it has recently received funding from the Northwest Power Planning Council as new and innovative research. Initially, the study will focus on fish in a laboratory setting; Maule added that the initial round of funding is for one year only and that, next year, the project will return to the prioritization mix.

Maule noted that this project began with the inception of the voluntary spill program in 1995; basically, people wanted to know what effect spill and fairly low levels of dissolved gas supersaturation had on juveniles. He said USGS had conducted lab experiments on juvenile fish at TDG levels of 110%, 115% and 120%; as Mark’s risk assessment report notes, said Maule, we came to the conclusion that 120% is a fairly safe level, but somewhere between 120% and 130%, problems begin to occur. Signs in the gills disappeared fairly quickly, he said, while signs in the fins tended to persist longer. We also found that fish with fairly high levels of BKD were much more susceptible to gas bubble trauma.

Maule continued on through his results, touching on the effects of dissolved gas supersaturation on predator avoidance, depth of migration ( about 2 m; Maule noted that

migration depth is probably the major protective element of fish behavior, in terms of minimizing the effects of GBT), and the effects of gas bubble disease on resident fish in Lake Rufus Woods (virtually none last year, when TDG levels were low). Currently, said Maule, the study is focusing on resident fish in the lab, looking at the progression of GBT signs and severity as TDG levels increase.

This year, he continued, the focus of this research will be on the effects of gas supersaturation on the reproductive success of adult chinook. We will be working at the Little White Salmon hatchery, using some of their adult returns; the fish will be exposed to four different levels of gas supersaturation: 110%, 120%, 125% and 130%. The maximum duration of exposure will be up to the time of the first mortality, he added; the fish will be exposed in large tanks, tagged and returned to the general population, where their reproductive success – egg diameter, fecundity, fertilization success, survival and growth of the progeny – will be monitored.

Next year, said Maule, we hope to duplicate the work we're doing on spring chinook with sockeye or steelhead, the two species that are most susceptible to GBT.

The group spent a few minutes discussing the planned USGS research; in response to a question, Maule said he has already submitted his proposal for next year's work to BPA, adding that this year's work is scheduled to begin next week, with the first fish exposed during the first week in June.

## **V. EPA Comments on Draft Environmental Impact Statement.**

Mary Lou Soscia provided a brief overview of EPA's comments on the draft EIS for the Lower Snake River Juvenile Salmon Migration Feasibility Study. She noted that, in 1997, EPA committed to the Corps that they would be a cooperating agency in the development and review of the Lower Snake EIS; at the same time, we retained our independent authority to review the EIS, she said, noting that EPA has the responsibility to review all federal actions to determine their consistency with environmental regulations.

Soscia said the EPA review was focused on three main areas: water quality, air quality and economics (the cost of moving toward Clean Water Act compliance). She said EPA had used the temperature model it had developed to run various scenarios in an effort to understand the impact of the four scenarios included in the EIS on CWA attainment.

Basically, she said, what we found was that the draft EIS, in its present form, doesn't really address water quality -- water temperature, dissolved gas and dissolved oxygen -- concerns sufficiently, at least in the three non-breaching alternatives. The temperature model results showed that the breaching alternative would significantly reduce water quality standard impedances, Soscia said; EPA's conclusion was that the draft EIS really didn't have full disclosure of the full implications of each of the four alternatives for Clean Water Act

attainment. For that reason, Soscia said, EPA has rated the draft Lower Snake EIS as inadequate; we also rated the three non-breaching alternatives as insufficient, because they didn't adequately address Clean Water Act compliance.

EPA met with the Corps on April 21; we committed to work closely with them to develop a process for moving forward, and making sure that water quality issues are adequately addressed in the draft EIS, Soscia said. She added that anyone interested in obtaining a copy of EPA's draft EIS comments can find them on the EPA website, by going to <http://www.epa.gov/r10/earth>, clicking on "What's New," then clicking on "Lower Snake

## **VI. 7Q10 Numbers and Calculations.**

Chris Maynard distributed Enclosure C, a spreadsheet showing WDOE's most recent 7Q10 (seven-day, 10-year maximum high flow) calculations for Bonneville, The Dalles, John Day, McNary, Ice Harbor, Lower Monumental, Little Goose, Lower Granite, Priest Rapids, Wanapum, Rock Island, Rocky Reach, Wells, Chief Joseph, and Grand Coulee Dams. He noted that the 7Q10 calculations are important because, when flow conditions are high enough that the 7Q10 flows are achieved, the project operators receive an exemption from the applicable water quality standards. In other words, the project operators are obligated to meet water quality standards in all but 7Q10 years? Margaret Filardo asked. That's correct, Maynard replied.

Maynard added that this information comes mainly from the project operators themselves, and has now been incorporated into WDOE's permit writers' manual. Basically, he said, we asked the project operators to give us their 7Q10 calculations; it's an interesting table, but it still needs some work.

Maynard went briefly through this table, pointing out where he thinks discrepancies exist. Various WQT members also weighed in on this topic, offering a variety of viewpoints and suggestions, and asking a series of clarifying questions. Dick Cassidy said he will provide some additional information on the mainstem projects for Maynard to incorporate. If WDOE and the Corps can resolve the questions at the mainstem projects, Maynard said, then this probably won't need to come back to the WQT.

## **VII. Regional Water Quality Plan.**

BPA's Bill Kinsey explained that representatives from a variety of federal agencies, including BPA, EPA, NMFS and the Corps, have been meeting to discuss Clean Water Act issues; we thought it was time to do some outreach, he said, and seek the WQT's feedback on our effort. Basically, what we're trying to do is figure out ways the federal agencies can integrate Clean Water Act considerations with Endangered Species Act decision-making, Kinsey said. In years past, the ESA has dominated the decision process; the federal agencies

are now acutely aware that state, tribal and federal water quality standards also need to be addressed.

Some of this will be addressed in the upcoming 2000 Biological Opinion, Kinsey said. To complement the water quality section of the 2000 BiOp, he said, our group is in the process of developing a water quality paper or report that, ideally, will lay out a process for developing a water quality plan. Substantively, he said, we have agreed that, as a long-term objective, the federal agencies want to be consistent with state and tribal water quality standards. By 2010, he said, we want to have figured out how that can be attained; I'm not sure the federal agencies have said that before. We're not positive how we're going to get there, he said, and that's where we could use some feedback from the WQT.

Kinsey said the federal group met with state and tribal water quality representatives in Spokane on April 20; another, similar meeting has tentatively been scheduled for June 6. Kinsey distributed a brief outline of the federal parties' proposed mainstem water quality plan (Enc. E), covering the background for this effort, a description of the plan itself, the plan's scope, process and schedule, a list of the participants in the plan's development, and sections on TDG, temperature, needed structural, operational and procedural measures, and monitoring and evaluation. He spent a few minutes going through its contents.

Kinsey said the federal group is contemplating the creation of a new Regional Forum entity, the Water Quality Development Implementation Team, to guide the development and implementation of the mainstem water quality improvements. The group would include federal, state and tribal representatives; it would be different from the existing Regional Forum groups because it would be focused on Clean Water Act, rather than ESA, issues.

Maynard suggested that it would be very helpful if the group could provide a forum for brainstorming on mainstem temperature issues. Schneider said another issue that deserves considerable thought is how to encourage the level of state, tribal and federal commitment this effort needs if it is to be successful. I've become a bit cynical, he said, because I've been involved with groups that start off with a great deal of enthusiasm, which then dwindles to the point that all of the substantive work is done by just a few individuals. I would hate to see that happen in this case, he said. Socia observed that a major impetus for participation in this new group, and the mainstem water quality planning effort, could be its potential to prevent future litigation.

Maynard cited the Mid-Columbia Coordinating Committee as a positive role model for the prospective Water Quality Development Implementation Team; they exist because of litigation, he said, but have been able to sustain a high level of commitment and enthusiasm, and work effectively as a coordinating and problem-solving body. Robert MacDonald agreed that the MCCC does work well; however, one of the problems the MCCC encounters at times is the fact that they make decisions by consensus, rather than majority.

Still, I'm interested in why the MCCC continues to be an effective group, said Schneider – they've done it, and I'm not sure why or how. They do have a mandate, and goals to meet, Maynard observed. Maybe that's it, said Schneider – perhaps, through the water quality plan, it would be possible to develop a hard list of objectives, and obtain the necessary commitments from the agencies and tribes. He cited the Transboundary Gas Group as an example of an entity that enjoyed initial support and enthusiasm from a broad spectrum of regional interests, but has since seen that commitment dwindle; the reason for that, I think, is that while the technical people in those agencies and tribes saw the need for the TGG, it has never enjoyed the level of executive-level buy-in it needs to be a success, he said. Kinsey noted that, if water quality issues receive the expected level of attention in the new Biological Opinion, that could also provide the necessary incentive for executive-level involvement in the new group.

Russell Harding observed that, from Oregon's perspective, there is some sensitivity to the fact that, so far, the mainstem water quality plan has been developed by the federal family, largely behind closed doors. While Mary Lou Soscia, in particular, has been working to keep the states informed of what's going on, inevitably, questions come up and issues arise, and satisfactory answers aren't forthcoming. Your aim of meshing the Clean Water Act and the Endangered Species Act is admirable, Harding said. However, the fact that your outline doesn't reference TMDLs is cause for some concern; we don't want to arrive at a place where we have specific water quality measures laid out in the Biological Opinion, counterpoised with a relatively vague mainstem water quality plan. One of the things the states will be looking for in a mainstem water quality plan is at least some recognition of what the water quality act's response will be to waters not meeting standards, said Harding. It would also be very helpful if the water quality plan could clearly spell out the areas where it will be possible to integrate the requirements of the Clean Water Act and the Endangered Species Act, and the areas where that integration is impossible, he added.

Kinsey said that, with respect to Harding's point about the plan's lack of reference to the TMDLs, that was by design – we were trying to be sensitive to the perception that we might be attempting to displace the states, he said. The states develop the TMDLs, while we're trying to develop a plan to help implement them. If that could be clearly stated in the plan, that would be extremely helpful, Harding said, because that is exactly the way we've been viewing this plan.

After a few minutes of additional discussion, Kinsey asked that any additional questions or comments be addressed to him, to Jim Irish of BPA or to Soscia; it was agreed to schedule an update on this item at the next WQT meeting, by which time it is hoped that a draft mainstem water quality plan may be available for review.

### **VIII. WQT Emergency Subgroup Update.**

Abel noted that, at the last WQT meeting, there was some discussion of setting up a

WQT subgroup to address water quality-related emergencies; at that meeting, Mark Schneider and I agreed to draft a couple of lines of text referencing that subgroup for incorporation into the WQT Guidelines. Abel distributed this new language (Enclosure F); after a brief discussion, it was agreed to insert the new text into the Guidelines after the first bullet in Section 3, Meetings, with the caveat that the WQT members who did not attend this meeting have an opportunity to review the proposed language. With that, the meeting was adjourned.

**IX. Next WQT Meeting Date.**

The next meeting of the Water Quality Team was set for July 12. Meeting notes prepared by Jeff Kuechle, BPA contractor.