

IMPLEMENTATION TEAM MEETING NOTES

September 4, 2003, 2:00 p.m.-4 p.m.

NOAA FISHERIES OFFICES
PORTLAND, OREGON

I. Greetings, Introductions and Review of the Agenda.

The September 4, 2003 meeting of the Implementation Team, held at the NOAA Fisheries offices in Portland, Oregon, was chaired by Jim Ruff of NMFS and facilitated by Donna Silverberg. The meeting agenda and a list of attendees are attached as Enclosures A and B.

The following is a distillation (not a verbatim transcript) of items discussed at the meeting, together with actions taken on those items. Please note that some enclosures referenced in the body of the text may be too lengthy to attach; all enclosures referenced are available upon request from NMFS's Kathy Ceballos at 503/230-5420 or via email at kathy.ceballos@noaa.gov.

Silverberg welcomed everyone to the meeting, led a round of introductions and a review of the agenda.

2. Updates.

A. In-Season Management (TMT). Cindy Henriksen reported that, at yesterday's meeting, the TMT discussed the end of summer operations; many of the traditional BiOp operations have now stopped, including spill at the four projects. MOP operations at Little Goose, Lower Monumental and Ice Harbor have now been relaxed. At the storage projects, Libby and Hungry Horse were drafted 20 feet by August 31, while Grand Coulee drafted 12 feet to elevation 1278. Dworshak was drafted to elevation 1533 by August 31, with the remainder of the Dworshak draft to elevation 1520 scheduled to occur by September 15, following a two-day rampdown period to minimum Dworshak outflow. Dworshak is currently load-following somewhat, releasing 8 Kcfs during daytime hours and 5.3 Kcfs during nighttime hours, with a release temperature of 45 degrees. The observed summer seasonal average flow was 32.3 Kcfs at Lower Granite and 135 Kcfs at McNary, well below the BiOp targets of 51 Kcfs and 200

Kcfs, respectively, for those projects. The TMT is now working mainly on the 2004 Water Management Plan, Henriksen said.

At yesterday's TMT meeting, a number of Water Management Plan-related issues were discussed, some 16 in all, Henriksen continued. These included policy, operational and process issues. The category we struggled with the most was process, Henriksen said; many of the questions, such as the process by which research results should drive real-time operational decision-making, were essentially technical in nature, but will require some clarification from the IT. We also discussed the issue under Agenda Item 4, below, Henriksen said.

RSW operations at Lower Granite, Ice Harbor spill operations, and the 85 Kcfs spill/transportation threshold in the Snake River were some of the technical/process questions we discussed at TMT, Henriksen said; we plan to discuss these issues further at TMT, and will seek assistance from the IT on an as-needed basis.

Are there any other issues the IT should be on the lookout for from TMT? Ruff asked. Not today, Henriksen replied, although some of these issues could eventually make their way here. Is TMT planning to have a "lessons learned from 2003" discussion this fall? Tony Nigro asked. Probably in November or December, Silverberg replied.

B. Independent Scientific Advisory Board (ISAB). No ISAB report was presented at today's meeting.

C. Water Quality Team (WQT). See Agenda Item 3, below.

D. System Configuration Team (SCT). SCT chair Bill Hevlin said the SCT met this morning; the primary topic of conversation was FY'04 CRFM budget and priorities. The Corps reported that both the House and the Senate are recommending an \$85 million appropriation for CRFM in FY'04; it is hoped that the appropriation process will be completed by some time in October. With savings and slippage, we'll likely have about \$70 million to work with, initially, Hevlin said; that is enough to fund at least the line-items that all SCT members have identified as high priorities. The total FY'04 CRFM program, if everything is funded, would cost about \$120 million, said Hevlin; what we would lose if we only have \$70 million-\$80 million to work with is some medium- and low-priority projects, he explained. Hevlin noted that the Corps and FFDRWG have worked especially hard this year to scrub and fine-tune their line-item-by-line-item cost estimates. Hevlin added that there is a chance that at least a portion of the \$15 million in savings and slippage will be restored later in the fiscal year.

One complicating factor is the fact that some of the key research results, such as those from the 2003 Ice Harbor injury and survival studies, needed to inform the CRFM decision process will not be available before November, Hevlin said – without those results, it is impossible to decide whether construction should proceed on some projects, such as the Ice Harbor removable spillway weir. If the research results indicate that RSW construction is warranted, said Hevlin, that will have a \$5 million impact on the FY'04 CRFM budget. In response to a question, Hevlin said the Corps' annual study proposal review process is scheduled

for September 15-17 at Portland District Headquarters. The next SCT meeting is set for September 18; an SRWG meeting to address past and future studies at Ice Harbor and Lower Granite will be held at the Corps' Walla Walla District headquarters on October 1 or 2.

E. TMDL Update. No TMDL report was presented at today's meeting.

F. Water Quality Plan Work Group Update. No WQPWG update was presented at today's meeting.

3. Draft Final Report of Water Quality Team on Water Temperature Modeling and Data Collection Plan for the Lower Snake River Basin.

Ruff noted that the WQT has been working on this task for the past year and a half; it is now time for them to bring the results of their efforts to our attention. Mark Schneider said Rick Emmert of the Corps led the WQT subgroup responsible for the selection of the Snake River water temperature model and monitoring strategy. Schneider noted that a wide variety of agency, tribal and industry personnel participated in this effort, which was developed in response to BiOp RPA 143.

Schneider, Joe Carroll and Mike Schneider went through a series of PowerPoint slides laying out the highlights of the final RPA 143 subgroup report, touching on the following major topic areas:

- July 30, 2003 – draft plan/report complete
- The contents of the report
- 2002 Data collection and analysis (characterized 2002 thermal patterns in the Lower Snake River system during the summer and fall periods, provided information to evaluate existing water quality monitors in representativeness for both spatial and temporal patterns in temperature and provide guidance of future sampling requirements, provided information that helped to decide on the required model resolution and model selection; provided calibration and verification data for the selected model)
- 2002 data collection and analysis conclusions -- characterization of Lower Snake River thermal patterns (annual vertical temperature gradient in Dworshak; cold-water releases from Dworshak can result in rapid changes in Lower Clearwater River temperatures; resulting change in Lower Granite forebay temperatures is more subtle; annual thermal cycles are consistent for all study area sampling stations; the Clearwater underflows when mixing in with the Middle Snake, annual vertical thermal gradient in Lower Granite pool as much as 6 degrees C exists from July-mid-September)
- 2002 data collection and analysis conclusions -- evaluation of the representativeness of the fixed water quality monitors (the tailwater monitor was a good measure of tailwater and average forebay water temperature even during periods of significant vertical gradients; the forebay monitors were generally comparable to the 5 m profile instruments; both tailwater and forebay samples are point measures in space but the tailwater reach is generally well mixed; the forebay instrument is positioned at one discreet depth in an area that can experience some significant vertical thermal gradients)

- and will be a biased measure of forebay temperature)
- The model selection process – based on the 2002 data collection/analysis and other model selection criteria, the RPA 143 technical team recommends using the CEQUAL-W2 model for this modeling effort – it is two-dimensional, model code is non-proprietary, it has a long history of successful similar applications, is supported by USACE ERDC, handles other water quality parameters in addition to temperature; computer run times are in the medium range in comparison to other tools.
 - Model development, proof of concept and verification – three phases reflecting expanding geographic boundaries; the model will ultimately encompass the Dworshak reservoir, Brownlee reservoir, and Snake River to the confluence with the Columbia River.
 - Water temperature routine sampling – high priority: continue water temperature monitoring at each project tailwater and forebay (long-term) with the following recommendations – water temperature monitoring year-'round at all stations, suggest relocating forebay monitor upstream of project to avoid downwelling/upwelling associated with dam face; suggest replacing point monitoring approach with a profiling approach using a real-time thermister strings; no changes to tailwater stations)
 - Water temperature research sampling – high priority: continue vertical and longitudinal thermal monitoring in the Lower Snake River from spring through the fall period
 - Data collection strategy – tributary/boundary sampling (high priority): fixed temperature loggers at (Phase 1) Snake R. at Anatone, Clearwater at Orofino, Toucannon, Palouse; (Phase 2) Grande Ronde R., Salmon R., Snake R. mainstem at Hells Canyon tailrace; (Phase 3) Snake mainstem at head of Brownlee Reservoir
 - Data collection strategy – water discharge/project operation (high priority): continue close-interval project operations data, continue routine COE operations data collection
 - Data collection strategy – meteorological data (high priority): continue current weather stations (8 total) monitoring air temperature, dew point temperature, barometric pressure, wind speed and direction, solar radiation, precipitation, cloud cover
 - Proposed model implementation: objective (temperature management for habitat, improvement in the Lower Snake basin) and approach (CEQUAL W-2, short and long-term forecasts of hydrological and meteorological conditions)
 - Proposed model implementation: goals – develop an operational model by the summer of 2004 (domain Phase 1: Clearwater River to the confluence with the Snake, Snake River from Anatone to Lower Granite; Decision support: water control alternatives, temperature control alternatives at Dworshak, fisheries management)
 - Model development team under the leadership of COE, in partnership with regulatory agencies: EPA, WDOE, IDEQ, BPA, the Tribes, the Fish and Wildlife Service, consultants, other interested parties
 - Initial tasks: data assimilation (flow, stage, velocity, water temperature, channel bathymetry, meteorology, biology, hydraulic structure)
 - Other tasks: numerical grid generation, boundary conditions, model evaluation, real-time model application

Essentially, we just wanted to let the IT know that we have selected a model and identified a data collection strategy to support it, Mark Schneider said; the next step is to take the

model to the TMT to explain how it can be used both for pre-season predictive purposes and for in-season management. In response to a question, Mike Schneider said the WQT's goal is to ensure that the modeling system is up and running, and available for TMT use, prior to the first week of July, when the cold water releases from Dworshak typically begin, of 2004. The challenge here is not just to generate numbers, but to understand how this tool might be used to help inform the in-season decision-making process in a meaningful way, Mike Schneider said. That includes some discussion of the shortcomings of this modeling approach, Carroll added.

Will the model you've chosen allow us to model past years' operations as well as alternative operations that might have produced a better result, in terms of temperature control in the Lower Snake? Ruff asked. If we can develop a numerical measure of the benefits of a given operation to the habitat and the resource, yes, Mike Schneider replied.

In response to a comment from Ben Cope, Howard Schaller observed that, as useful as this tool will likely be, setting the Dworshak operation is a much more complex and dynamic process than simply choosing a target water temperature at Lower Granite – water supply and storage levels, run timing and weather forecasts also have to be factored in, Schaller said.

The IT requested the RPA 143 subgroup return in early calendar year 2004 to present results of the model development and application on actual Snake River water temperature questions. The subgroup agreed to comply with the IT request, possibly by February or March 2004.

Ruff thanked the WQT, and its technical work group in particular, for all of their hard work in selecting the model and developing the monitoring needs to calibrate and run the model. We'll look forward to hearing back from you once you have some "hindcasting" results to show us, said Ruff. In the meantime, we'll schedule a presentation on this topic at an upcoming TMT meeting, Mark Schneider said.

4. Discussion of Guidance for Developing Objectives and Criteria for Ending the Summer Spill Program.

As you will recall, said Silverberg, we agreed that we would continue the in-season discussion of the development of criteria to help managers decide when the spill program should begin and end. Based on the relevant biological information, there are some years when that might occur earlier, and some years when it would occur later. The task before us today is to attempt to define the process by which those criteria will be developed by the TMT – who should participate in those discussions, and when does that process need to conclude? Also, what are the objectives of the summer spill program, she said – are they clearly set forward somewhere, and if so, where?

Hevlin noted that the Mid-Columbia PUDs have been discussing and implementing spill criteria for a number of years; he suggested that the TMT discuss this issue with relevant personnel at Grant, Douglas and Chelan PUDs, among others.

Ruff observed that, at the last IT meeting, there was no agreement on how the status of the run is to be determined in season, how the 95% passage point is to be determined based on available forecast and field data, or even about whether it is appropriate to use the 95% point of passage as a criteria for ending spill. In other words, there is something to be said for the simplicity of simply choosing a planning date, Ruff said.

In response to a question from Jim Litchfield, Silverberg read the appropriate paragraph from the most recent instructions issued by the Federal Executives, outlining the task before the IT and TMT. Essentially, we are being asked to develop a methodology by which spill can be managed in season, said Ruff; if we can't reach agreement on such methodology or criteria, frankly, the alternative is a planning date.

The group devoted a few minutes of discussion to the many complexities surrounding this issue, including the role of cost effectiveness, the appropriateness (or lack thereof) of designating a numerical, percentage passage target, the overall goal and purpose of the spill program, and the question of whether the funds set aside for the annual spill program might yield greater biological benefit if applied in other recovery areas. Schaller observed that one thing to bear in mind is that spill provides immediate benefits for fish, whereas other mitigative measures, such as habitat improvements, take years to provide tangible biological benefits. In the Fish and Wildlife Service's view, he said, any alternatives to the spill program need to yield benefits that are not only numerical comparable, in terms of biological benefit, but also chronologically comparable, with respect to the time-frame in which those benefits accrue.

One thing that would be useful would be to look at the historical record for Snake River subyearling fall chinook and see on what dates the 80%, 90% and 95% point of the various fish runs has been reached at the federal dams where spill is occurring, said Ruff. Why don't we start by determining what average proportion of the run has been protected under the August 31 end date for spill in years past, and look at the potential for using that information as a guide to the development of our criteria, Ruff suggested.

The group devoted a few minutes of discussion to the question of whether or not the IT can effectively address the cost-effectiveness side of this issue, as well as the question of what alternative measures to spill might provide equal or greater biological benefits at a lower cost. The IT also briefly revisited the origins of the August 31 planning date for the end of the summer spill program in the 2000 FCRPS BiOp, as well as the considerable uncertainty, within the region, about the available biological information.

Litchfield observed that it is going to be a near-impossible task for the IT and TMT to reach consensus or agreement on a set of criteria based solely on the available biological information, primarily because there is no agreement, at this point, about what that information really tells us. I believe we need to factor in cost as well, Litchfield said.

One key question is, what, exactly, does "no jeopardy" mean, in the context of the 2000 BiOp? Nigro said. What degree of risk to meeting the applicable performance targets is tolerable under the BiOp? he said – to me, that's been a moving target from the beginning.

Again, said Ruff, I think we're getting wrapped around the axel on "what," rather than "how" – we need to start by developing a clear understanding of what the historical record tells us about passage timing. This is a relatively simple exercise, he said; it doesn't have to be a deconstruction of the Biological Opinion. Still, until we know what our biological objectives are, it will be difficult for the IT and TMT to develop these criteria, Litchfield said. I can provide copies of the one-page table that lays out the hydro performance standards from the 2000 FCRPS BiOp, if that would be helpful, Ruff replied.

Michelle DeHart said it would be a relatively simple task for the Fish Passage Center to pull together the historical passage timing information Ruff has requested. Nigro suggested, further, that it would be useful for the IT to review the relevant survival targets for spill in the BiOp. The group devoted a few minutes of discussion to the origins of the 95% number; it was noted that the only place this number appears is the 1995 BiOp. The 95% number is not referenced in the 2000 FCRPS BiOp.

The discussion continued in this vein for some minutes. Ultimately, Ruff reiterated his suggestion that the IT begin this process by seeing what the available passage data tells us. Once we know that, he said, we can begin to apply whatever criteria the participants in this process feel are appropriate, including the criteria used by the Mid-Columbia project operators. It would also be relatively simple to look back and say, if we were operating to a 95% passage point, on what date would we have stopped spill in past years? DeHart suggested.

Litchfield observed that, while examining the data may be a useful exercise, it is unlikely to yield a definitive answer to the real question: namely, what are we trying to achieve, biologically, as a region, through the BiOp spill program? It was eventually agreed that, at its next meeting, the IT will review both the relevant historical data and the various methodologies (including those employed by the Mid-Columbia PUDs) that could be used to set the starting and ending dates for the spill program. DeHart agreed to take the lead on the compilation of the data side of the question.

Hevlin suggested that, in the absence of agreement on the biological objectives of the spill program, it might make sense to discuss the establishment of a "spill account" – a set number of days of spill, to be allocated in whatever way the salmon managers believe will yield the most biological benefit. Some way to quantify the benefits accrued per unit of cost – say, \$1 million – for various recovery measures would also be useful to Bonneville and its customers, said Ken Barnhardt.

It would appear, then, that the IT is going to take a stepwise approach to the development of spill criteria, said Nigro; the first step is for us to review the relevant passage data. That implies, however, that there will be a Step 2: the "so what" step, he said. There are a variety of questions we need to figure out how to ask if we're going to avoid an extremely argumentative discussion, Silverberg observed. Hevlin noted that any change in management strategy will require changes to the way data is collected – for example, which groups are PIT-tagged. Nigro reiterated an earlier request that the ISAB be invited to a future IT meeting to discuss the value of the tail of various runs, in terms of the biological diversity of the run at large.

Ruff said he would prefer that as much of this conversation as possible take place at the October 2 IT meeting. DeHart said she will provide the FPC data to NOAA Fisheries in time to distribute it to the IT membership a week or so prior to that date.

5. July and August IT Meeting Minutes.

Ruff asked that any comments on the July and August IT notes be submitted to him as soon as possible.

6. Next IT Meeting Date.

The next Implementation Team meeting was set for Thursday, October 2. Meeting summary prepared by Jeff Kuechle.