

System Configuration Team (SCT)

The Dalles and John Day Technical Discussion of Passage Information and Proposals for Spill and Studies in 1999

**Reasonable & Prudent Measure #26
Meeting Notes
February 11, 1999**

DRAFT

I. Greetings and Introductions.

The February 11 meeting of the System Configuration Team, to discuss passage information and proposals for spill and studies at The Dalles and John Day Dams in 1999, was held at the National Marine Fisheries Service offices in Portland, Oregon. The meeting was chaired by Bill Hevlin of NMFS, and was facilitated by Donna Silverberg and Cathryn Collis. The agenda and a list of attendees for the February 11 meeting 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 may be too lengthy to routinely include with the meeting notes; copies of all enclosures referred to in the minutes are available upon request from Kathy Ceballos of NMFS at 503/230-5420.

Silverberg explained that the purpose of today's meeting is to allow an opportunity to present and discuss information on the proposed spill program and studies at The Dalles and John Day Dams in 1999, and to begin to frame the spill issue for further discussion by the SCT and Technical Management Team. In terms of the structure for today's meeting, said Silverberg, each of the parties who have developed white papers on this issue will be allowed time to present them, after which there will be an opportunity for clarifying questions and comment. Once all of the papers have been presented, we will have additional dialogue about where we go from here.

Michele DeHart noted that the Fish Passage Center produced its technical comments following a discussion of The Dalles spill issue; those comments stand, she said, and we

anticipate that NMFS will respond to those comments. Bob Heinith agreed, saying that CRITFC also has technical comments to which it is expecting a response from NMFS.

In general, said Hevlin, the two things we need to discuss today are what the 1998 spill study results from The Dalles tell us, and what they suggest in terms of the further research that is needed in 1999 and 2000.

II. The Dalles Spill and Research for 1999.

a. NMFS Analyses of the Information and Proposal for 1999. Earl Dawley spent a few minutes going over the experimental design for 1998, prefacing his remarks by saying that, from the letters that have been written on this subject, there appears to be basic concern about the manner in which the study was conducted, about the type of study that was done, and about whether or not the assumptions were met. It also seems clear, he said, that all of our management theories are based on the type of study this represents – comparisons of juvenile fish groups released, with results collected either in-river, from those juveniles, or from the adults when those fish return.

All of the mortality data that we're using to estimate what happens to fish passing through spillways is based on two groups of fish being released, he continued; most of that data is based on single sets of releases over a very short period of time, involving a specific stock of fish at one particular dam. Those data have then been extrapolated to the entire region, he said. One thing I think we've done better, in this particular study, is that we haven't limited ourselves to one stock of fish, one time period and one condition set, Dawley said. Instead, we have broadened the range of conditions and the range of stocks involved in the study, and have therefore been able to look at treatment vs. control with all of these variables.

The objectives for both 1997 and 1998 were to evaluate what the migration at large was encountering when they went through the dam under particular spill conditions, Dawley continued. After considerable discussion, he said, the researchers decided that the most important aspect of the study design was to look at what was occurring to the overall fish run, not at what might be causing mortality in an individual bay, or under one spill condition or another. That is why we spread out the releases as much as we did – to allow multiple stocks to encounter a variety of spill conditions, spill bays, day and night, gate openings etc. In my opinion, this makes for a better data set, Dawley said. What those variables do not allow us to do, however, is tease out the particular mechanisms that cause a change in survival, he added.

I think that's the main difference between the various opinions on this study, he continued – is the data strong enough to tease the study apart and understand what these mortality mechanisms are, or is it not. Our research direction for 1998 was not an ego trip, he said; we were trying to look at what conditions might provide the best survival through the dam.

NMFS' Gary Fredricks spent a few minutes going through the preliminary results from the 1998 test at The Dalles, explaining that, as Dawley had said, what NMFS was looking for was the highest survival given for a particular condition. In each case, the highest survival was provided under 30% spill and passage through the ice and trash sluiceway. If you believe the data – and I understand that most don't – and the data tell you that 30% spill, with the combined

sluiceway passage and survival, gives you the best passage conditions at the dam, then you would want to test that finding under a static spill condition in 1999, rather than alternating periods of 30% and 64% spill, Fredricks said.

Fredricks distributed Attachment 1, a “white paper” describing the background of the test, recent study results, 1999 research recommendations and possible 2000 tests; please refer to this document for details of Fredricks’ presentation.

Lyle Calvin observed that it would not be prudent to come to a definite conclusion about the relative survival of fish at 30% vs. 64% spill based on a single year of data (during the 1997 test at The Dalles, river flows were too high to allow researchers to test the 30% spill condition). Fredricks replied that, in both 1997 and 1998, survival under the 64% spill condition was unacceptably low. Ron Boyce of ODFW said that, because it wasn’t possible to do a comparative 30% vs. 64% spill test in 1997, it is not possible to conclude that survival under 30% spill would have been any greater than that documented under 64% spill. My point is that survival has not looked good under 64% spill in either year of the test, under very different flow conditions, Fredricks said – that being the case, why would we want to test 64% spill again in 1999? Boyce observed that summer survivals under 64% spill were 92% in 1997 and 75% in 1998, indicating considerable between-year variability; hence, it would make sense to test 64% spill again in 1999.

DeHart observed that, no matter how many times we do a study like this, with small numbers of fish, we won’t be sure what its appropriate management application should be, given that we’re dealing with multiple variables, none of which we can do anything about. The crux of this issue boils down to the fact that NMFS is pretty well convinced that survival is unacceptably low under 64% spill, while others feel those study results are not conclusive enough to make a decision. We can continue that discussion for the rest of today’s meeting and beyond, she said, but I’m not sure that will be very constructive.

John Ferguson said it is inaccurate to say that NMFS has decided that survival is better under 30% spill than it is under 64% spill. The point of NMFS’ proposed test in 1999 is to address the uncertainty about the conditions under which 30% spill was tested. NMFS feels that testing 30% spill under a constant condition across the season will yield more valid results about survival at 30% spill than would an alternating 30%/64% test. Once we’ve done that, he said, we may find that the results were very different than those observed in the 1998 test, he said. That same logic could be used to argue for a constant 64% spill level in 1999, said Boyce.

In response to a question, Fredricks said NMFS’ overall goal for this study is to determine how to operate The Dalles to maximize the survival of migrating fish, given the conditions that exist in any given year.

At the beginning of the meeting, Silverberg said, Bill Hevlin asked two questions: what do the study results to date tell us, and what do they indicate in terms of what studies need to be done in 1999? Various meeting participants, including Boyce, DeHart and Bob Heinith of CRITFC, weighed in on the former question, characterizing the results as inconclusive at best; Jim Nielsen said WDFW concurs with this judgement; Steve Pettit said IDFG does as well.

Dawley disagreed with the state, tribal and FPC interpretation of the data, saying that, over the four test periods (spring and summer 1997 and 1998), survival was consistently worse for fish passed via 64% spill than it was for the tailrace releases. To me, at least, that raises a red flag, which says that 64% spill is not a good condition under which to pass fish, Dawley said. The BPA and Corps representatives said their agencies support the NMFS position; Marv Yoshinaka said USFWS is leaning toward the NMFS position, but does have questions about the information that has been gathered so far.

The discussion continued in this vein for some minutes. The group then moved on to the question of the most appropriate study design for 1999 and beyond; ultimately, Boyce said that, given the pervasive distrust of the results from the 1997 and 1998 spill tests at The Dalles, there is a need for extensive discussion of NMFS' proposed study design prior to the 1999 test – we need to talk about precisely what the 1999 test is intended to accomplish, he said, and how to design the test so that it produces the desired information.

Heinith said that, from CRITFC's perspective, no study should go forward in 1999 unless there is regional consensus on the study design. Tribal agreement on any study will be contingent on having the study plan independently reviewed by the ISAB. Boyce asked whether NMFS agrees that an ISAB review is necessary; Hevlin replied that that question should probably be addressed by the SCT. He added that, if SCT cannot reach consensus on the 1999 study design soon, this issue will need to be elevated to IT for resolution. Boyce requested that NMFS provide a response to Heinith's statement that regional consensus on the study design is a prerequisite for proceeding with the 1999 spill test at The Dalles at next week's SCT meeting. Schneider said NMFS will provide this response, but added that, given current workloads, it is unlikely that the ISAB will be able to review the 1999 study design before the study would need to get underway. He added, however, that other options for independent scientific review may exist.

Ultimately, Silverberg suggested that a subgroup, consisting of representatives from the interested state, federal and tribal agencies, might be a more efficient forum for a technical discussion of the goals, objectives and study design of the 1999 test. After some minutes of further discussion, it was agreed to schedule this meeting for Tuesday, February 23 from 9 a.m. to noon at NMFS' Portland offices.

III. John Day 24-Hour Spill Evaluation.

Bill Hevlin led off this discussion by saying that the 1998 supplemental Biological Opinion calls for a 24-hour spill evaluation at John Day Dam in 1999. The Corps has developed a proposed study plan for that test, he said, and we would like to get some comment on that proposed test at today's meeting.

Rock Peters spent a few minutes going through the proposed 1999 spill program at The Dalles; this information is contained in a white paper on this subject, enclosed as Attachment 2.

Please see this document for details of Peters' presentation. In general, the study will attempt to determine the difference in spill effectiveness between two levels of daytime spill, possibly 25% and 60% of river flow (the exact spill percentages have not yet been established); the nighttime spill level will be a constant 60% of river flow, or the gas cap. Study goals include the development of fish survival estimates to determine what levels of spill are safe for fish passage, and the development of spill curves to determine the effect of spill level on spillway passage efficiency and effectiveness. The researchers will use radio tags and PIT-tags to evaluate survival and fish behavior.

It was observed that previous research has shown that 25% spill at John Day does not provide adequate hydraulic conditions to move fish out of the forebay, and that a spill level of at least 30% is needed; Peters reiterated that the actual spill percentages for this test have not yet been established, but the 25%/60% levels have been suggested in order to achieve the necessary separation between test conditions.

Following this briefing, the meeting participants weighed in with comments and questions. Boyce observed that this proposed study design appears to exceed the requirements of the Biological Opinion; Peters and Fredricks disagreed. Rod Woodin observed that this proposed study may be a moot point; because John Day is a deflected project, and because high levels of spill may be needed at that project for system gas abatement in 1999, it may not be possible to constrain daytime spill to 25%.

Heinith requested that BPA provide written documentation of the generation issues and concerns associated with this test, referenced on the last page of Attachment 2. BPA's Phil Thor replied that a detailed briefing on this issue is on the agenda for the February SCT meeting; some written materials will be presented at that meeting.

Boyce said he is concerned that there is no agreement on the objectives for this test, particularly on the spill levels under which the test would be conducted -- we have one side saying a minimum of 30% spill is needed to provide good passage conditions for fish, while the other side is saying that 25% should be the lower spill level for the test, because of the need to achieve separation between the test conditions, and because of economic and transmission stability concerns. That is something that will need to be resolved before the test can go forward in 1999, he said. Peters replied that he doesn't feel the 25% vs. 30% issue is a show-stopper, and can probably be resolved through further technical discussion. Boyce said the need for independent technical review and regional consensus before the test proceeds applies no less to the John Day study than to the 1999 study at The Dalles.

With that, the meeting was adjourned. Meeting notes prepared by Jeff Kuechle, BPA contractor.