

# McNary 1 Percent Meeting (FFDRWG)

March 23, 2004  
NOAA Fisheries Offices  
Portland, Oregon

Today's meeting was convened to discuss the action agencies' biological monitoring plan to allow the McNary Dam powerhouse to operate outside 1 percent peak efficiency in 2004.

Marvin Shutters said he had distributed an issue paper just prior to the lunch break, as well as a sheet summarizing a range of possibilities in terms of operations and effects. Ron Boyce noted that these documents are a good starting-point in trying to frame the McNary 1 percent issue. In response to a question, Shutters said most of the data used to develop the issue paper came from the recent joint data meeting. The group devoted a few minutes of discussion to this information; Boyce noted that it will be very difficult to get at the delayed effects of turbine passage, rather than spill passage, that may result from operating McNary outside 1 percent.

Steve Rainey observed that NOAA Fisheries does not agree that higher egress flows will result in improved survival. Why do we study that, then? another participant asked. We haven't studied it in enough detail, Rainey replied; the responsibility for demonstrating that higher survival would result from faster flows through the outfall rests on the action agencies. What empirical data are you relying on? Boyce asked. There is none, Shutters replied – it's based on best professional judgement and an understanding of hydraulic effects and conditions. The point is that faster velocities should provide better egress conditions, he said.

Boyce asked that the action agencies fully document all of the model parameters and assumptions used in this analysis. The group discussed the total river flows assumed (260 Kcfs-280 Kcfs), as well as the spill effectiveness assumed (1 to 1). Bill Hevlin noted that run timing also has a major effect on how many fish will be affected by this operation, because some fish will be passing the project at times when there is no daytime spill. Is it accurate to say that the turbines will not be operating outside 1 percent during nighttime hours? Boyce asked. We want the flexibility to operate outside 1 percent during both daytime and nighttime hours, Kim Fodrea replied; however, we will be providing BiOp spill during nighttime hours. And during the day, you're proposing that you will operate as many turbine units as necessary outside 1 percent in order to meet load? Boyce asked. Correct, was the reply. That makes for a very complex modeling exercise, Boyce observed.

One very important point is that this analysis either doesn't look at the difference in performance, in terms of survival, between fish that pass McNary via spill vs. those that pass through the turbines, Rod Woodin observed – potentially, that difference in survival is on the order of 20 percent. That's correct, Shutters replied. I believe that is the main impact, said Boyce – you simply can't assume that spillway survival and powerhouse survival are equivalent. We should probably try to develop a detriment number for bypassed fish vs. spilled fish, Hevlin suggested – 1 percent, perhaps. I agree that if we're going to go down this road, we need to take that approach, Boyce agreed. We could look at doing that, said Shutters – any specific

suggestions you may have would be appreciated.

Rainey also took issue with the statement that juveniles move out more quickly with the greater amount of flow through the gatewell. Another question is, if in fact you have fish that, because of a turbulent environment in the upper part of the gatewell, fish that either don't get out or take up to three hours to get out, are those fish surviving at all? Rainey said. If we see 90 percent OPE in three hours, what happens to the other 10 percent? Rainey said. I just think you need to be careful about assuming that the higher flows through the gatewell and quicker egress will necessarily provide a biological benefit. It's a subjective incremental benefit, is my point, Rainey said.

Will you be providing a final draft of the paper laying out the biological effects of this operation? Boyce asked. Yes – we will distribute that within the next few days, as soon as comments have been received and incorporated, Shutters replied.

The discussion then turned to the action agencies' McNary 1 percent monitoring plan. One of the major goals is to use this monitoring plan as an off-ramp for the 1 percent operation. The Corps also distributed a document summarizing the discussion of this issue at the February 11 FFDRWG meeting. Hevlin noted that this document does not include the operation he suggested at that meeting – operate McNary's powerhouse at whatever unit loading the action agencies feel is appropriate, while providing BiOp spill during the day. The Corps agreed to add that suggested operation to the list. It was noted that the Corps regards this as a regionally coordinated, FFDRWG-developed monitoring plan.

The group went through the monitoring plan line by line, touching on the following major topics:

- gatewell conditions for fish
- high water temperature/temperature monitoring
- gatewell debris loading
- impacts to forebay delay
- total dissolved gas

Boyce noted that the major problem he sees with this plan is that it does not monitor the major parameters that will affect fish survival – the increase in turbine passage and mortality and the decrease in spill passage and survival. The best thing we could do there is monitor the reduction in spill in-season, replied Mark Smith. At the very least, we will be able to document that reduction in spill. But you won't have any way to document the effects of the decrease in spill and the increase in powerhouse passage on fish, Boyce observed. That is absolutely true, Shutters replied.

Kim Fodrea distributed an internal Bonneville memo describing the December 23 meeting between BPA, NOAA Fisheries and the Corps at which the McNary 1 percent issue was discussed. According to this memo, the attendees discussed four policy questions:

1. Does the existing information suggest reporting rationale to operate outside (above) the 1 percent criteria?

2. If the answer to #1 is yes, is there a preferred range of operation?
3. Can a viable plan be developed for operating outside 1 percent that addresses off-ramps for debris conditions if they arise?
4. Do we need the additional PIT-tag research if we operate outside 1 percent?

The meeting attendees concluded that the answer to Question 1 is yes; that, with respect to Question 2, additional evaluation of the available data is needed to determine an appropriate operating range, that, with respect to Question 3, there is a need to determine criteria for gateway condition, fish condition etc., and that the answer to Question 4 is no, although this type of research may be needed in the future. As the memo notes, absent such research this year, there will be no documentation as to the impact of this operational change.

Hevlin noted that, in 1994, a mortality event occurred that killed 50,000 fish at McNary almost instantly. That event happened almost before people knew what was happening, said Hevlin, and my concern is that this monitoring plan isn't going to allow us to react quickly enough if something bad happens this year. If there is another large fish kill as a result of this operation, he said, that will look very bad for the Corps.

The group continued on through the monitoring plan, discussing which monitoring criteria to use as an "off-ramp" that would cause operation outside 1 percent peak efficiency to end: descaling was the primary criteria discussed. It was noted that PIT-tag collections will provide data from five gateways every other day during the test period. Woodin noted that a Unit 6 block study design would also be a useful source of information. We need a baseline before we can really develop these criteria, said Boyce.

So the plan is to monitor the fish in the gateway every other day, and if you see high descaling or injury rates – as yet undefined – you will respond immediately by either reducing unit loading or removing debris, Woodin observed. Correct, was the reply. To me, the first response should be for you to return to 1 percent operation, Woodin observed – the concern is that you're only looking at the fish every other day, so there could be 48 hours before a problem is seen. If you're going to operate conservatively, he said, reducing unit loading should be your first response as soon as a problem is identified. Perhaps we could agree to leave it up to the discretion of the project biologist, Scott Bettin suggested.

Rock Peters suggested that, if a problem occurs, a second-level test of 16.4 Kcfs vs. some other unit loading would yield useful information as to what is causing the problem. Rainey said that, in his view, the benefit of the doubt needs to go to fish, rather than to power operations. All I'm saying is that it would be useful to get some information about why the problem occurred, if possible, Peters said. I think that's a good point, said Rainey.

Boyce observed that more detail, with respect to response time, the allowable increase in descaling rate, and species to be studied is needed in the McNary monitoring plan. Do we need to pick a level of descaling if we use the delta for Unit 6, which is being operated within 1 percent, compared to the descaling rate for the other units? Shuttles asked. Is the approach Steve has been advocating acceptable to everyone else? The question is, who can approve an incremental increase in descaling as a criteria, between Unit 6 and the sample at large? Rainey

asked. I think what we agreed is 2 percent, Hevlin replied. The question, however, is whether smolt monitoring personnel can detect that small a difference in the number of descaled fish. So if we're seeing 4 percent of the fish descaled in Unit 6, we would tolerate no more than 6 percent through the units being operated outside of 1 percent? Rainey asked. That's correct, Hevlin replied. Ultimately, the Corps said they will work with NOAA Fisheries to develop the appropriate number, in terms of the allowable increase in descaling.

Once we have that number, said Smith, if we see that increase in descaling, would the next step be for us to back off the unit loading to within 1 percent until the next sample is taken? What if the problem is obviously debris, and it can be removed more quickly? Bettin asked – would we still have to keep the units within 1 percent for the next 48 hours? Also, what about the step we discussed previously, where the project biologist assesses the situation? Fodrea asked. That would be happening at the same time, Shutters replied. Boyce suggested that it would make more sense to be as conservative as possible, and wait until two or three consecutive samples show acceptable rates of descaling before returning to operation outside 1 percent.

Are you still planning to do some work with fry smaller than taggable size at Unit 6? Woodin asked. Yes, Smith replied. We're also going to look at lamprey, said Shutters; we did work with PIT-tagged lamprey a few years ago, and found that many of the lamprey released in the gatewell never showed up at the facility.

We still need to get down to a more detailed level, said Boyce, because supposedly the TMT is going to make a decision on this issue next week. The Corps agreed, requesting that the other participants provide any specific suggestions they may have. So we're expected to go to TMT next Wednesday and tell them we either do or do not have a good monitoring plan? David Wills asked. That's correct, was the reply. Wills noted that, at last week's TMT meeting, the Fish and Wildlife Service, CRITFC and the state fishery agencies of Oregon, Washington and Idaho submitted an SOR requesting that McNary be operated within 1 percent peak efficiency in 2004. To us, we haven't even got a yes to Question 1 in the action agencies' memo – that it would be acceptable to operate the project outside 1 percent, he said.

It was observed that the action agencies have been tasked to develop this monitoring plan so that if operation outside 1 percent is approved, they will be ready. While we understand your position, said Smith, that's what we've been tasked with – to develop the best monitoring plan possible in order to minimize the biological impacts of operation outside 1 percent at McNary. We want to encourage you to participate, added Shutters – the more participation we have, the better the final product will be. The fact of the matter is, there are a lot of us in the room today who are just playing the cards we've been dealt.

Is this really a technical issue? Fodrea asked. Because I don't think it is, she added. Bob Lohn has been very clear that if problems occur, then that is a technical problem, from NOAA Fisheries' perspective. The problem is that we can't measure the survival impacts from this operation, Fodrea said.

The Corps will put together a different proposal on monitoring and descaling and get that out to you later this week, said Mark Smith. There have also been other concerns raised, he said

– shall we address them now? In response to a question from Boyce, Shutters said he does not believe it would be possible, logistically, to effectively evaluate the biological impacts of reduced spill under the proposed operation – we simply don't have the study or equipment in place to do that this year, he said. We do plan to run a block test to get at that information in 2005, added another Corps representative.

The discussion then moved on to where the study fish should be released; Rainey suggested 1,000 feet from the tip of the navigation wall. There was a few minutes of discussion of the details of the test fish release, including when and where the fish will be released. Ultimately, the Corps requested that any questions, comments or concerns about the fish releases be submitted to Shutters as soon as possible.

Steve Haeseker said it would, in his opinion, be possible to study the change in project survival as a result of operating outside 1 percent peak efficiency in 2004. It was noted that the cost of such a study would be approximately three times the cost of the study proposed for this year – about \$6 million. Again, we are proposing that type of study for 2005, Shutters said.

The group also discussed the planned water temperature monitoring activities under the monitoring proposal. Are you going to propose a temperature threshold, which, if exceeded, would curtail operation outside 1 percent? Haeseker asked. We will, but it isn't currently included in the monitoring plan, Smith replied. The group also discussed the trigger point for full transportation: 68 degrees or higher at the McNary forebay monitoring station.