

**TECHNICAL MANAGEMENT TEAM
MEETING NOTES
April 3, 2002
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON**

TMT Internet Homepage: <http://www.nwd-wc.usace.army.mil/TMT/index.html>

FACILITATOR'S NOTES ON FUTURE ACTIONS

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

Hanford Reach/Vernita Bar Update:

Discharge at Priest Rapids has remained stable at 53 kcfs with about three kcfs fluctuations. 364 Chinook fry were found. Future reports will be posted on TMT's website and regular updates will be made at TMT.

Water Management Plan (WMP):

Scott Boyd reported that the COE sent a draft Spring/Summer update for the Action Agencies to provide comments on. The federal attorneys have not yet released the WMP.

Action: Scott will update TMT on all communications and expects to share a final draft at the next TMT meeting.

Cindy Henriksen will give a report on the WMP to IT members at their April 4 meeting in Boise. She will outline priorities, compare the Plan to previous years' plans, share the Action Agencies' interpretation of the Plan, give a summary of comments, and explain how the Spring/Summer update fits into the WMP.

Sturgeon Pulse Operation at Libby:

Dave Wills reported that USFWS is currently consulting with Idaho, Montana, tribes and BC Hydro on an upcoming SOR that will be presented to TMT on April 24. The request will likely include a two-week operation at 20 kcfs down to 15 kcfs (about 350 total KAF). This will be preceded by tiered Bull Trout flows as per the USFWS Biological Opinion, a total of 150-200 KAF. The draft plan proposes operation from May 5 through the second week in July and the use of 500-800 KAF. USFWS is working with USGS to develop gravel and dispersal studies. Ron Boyce expressed the need to closely monitor operations in order to balance all fish needs.

Action: USFWS will get an SOR to TMT members prior to discussion on April 24.

Current System Conditions:

Fish: Fish managers reported that smolts have been moving steadily since March 20. As of April 3, many fish were en route to Lower Granite or had already arrived. The spring migration has indeed begun!

Operations, water supply, power: The COE and BOR reported that the reservoirs are drafting to end of April flood control based on the March final water supply forecast. The April final should be out early next week. Dworshak outflow has increased to 16 kcfs and should continue through April without exceeding gas levels. Grand Coulee is expected to meet its target and Hungry Horse is still drafting. The BOR is struggling to fill all reservoirs in the upper Snake except for Boise/Payette.

Spring Spill System Operations:

Spill: TMT noted that fish numbers and movement supported the beginning of spill at Lower Granite, which was scheduled to begin April 3 at 6 pm. Little Goose will begin 24-hour spill at 6 pm Friday April 5. Ice Harbor will begin 24-hour spill on April 11 at 6 pm. Lower Granite and Ice Harbor will operate at a MOP + 1 range. All lower Columbia projects are scheduled to begin spill on April 10; TMT will hold discussions at their 4/10 meeting to confirm this.

Flow augmentation: Lower Granite is at 60 kcfs and is expected to come down a little in the next week. Grand Coulee will begin drafting 1 – 1.5’ after April 11. There was a request for more technical data to assist with the next TMT discussion, e.g. runoffs expected. Ron Boyce will call the Action Agencies Tuesday if the Salmon Managers feel they don’t have all the information they need.

John Day pool elevations: The pool should be near normal spring/summer operating range by April 10. It is currently at 262.5 to 264’ (close to the target).

Lower Monumental Offset Operation Proposals:

NMFS evaluated the four options discussed at the last meeting for proposals to offset no spill at Lower Monumental caused by needed repairs at the project. Paul Wagner reported that, prior to TMT, there was Federal agreement on Option 1, which is to spill at Little Goose and use of Lower Monumental full flow bypass until May 1. At Lower Monumental, bypass fish until May 1, then transport them for the remainder of the season. Analysis of the other options didn’t provide the best survival and would not support needed research. Paul opened the discussion up for questions and comments by TMT. There were no objections to the decision.

SOR 2002 C-1:

Kyle Martin presented CRITFC’s request concerning operations from April 2 – 13 of lower Columbia pools for the spring 2002 Tribal fishery. TMT members discussed and support the SOR.

Action: RCC issued a teletype, effective immediately, to operate with a 1.5’ pool range as a soft constraint at Bonneville Dam. The elevations are expected to be 75.0 – 76.5’.

Develop Operations:

Spill at Lower Granite began at 6 pm on April 3; Little Goose will begin spill at 6 pm on April 5; and Ice Harbor is scheduled to spill at 6 pm on April 11. The Lower Columbia projects are scheduled to begin spill (upon discussion at TMT) on April 10. McNary spill deflectors and avian wires may create problems for an April 10 start. April 10 flow targets will be met. Pools at

Bonneville are operating at a 1.5' (soft constraint) range. The pool at John Day should be at 262.5 – 264' by April 10.

Next Meeting, April 10, 9 am:

Agenda items:

- Hanford Reach Update
- WMP Comments, Spring/Summer Update
- Current System Operations – Fish and Projects
- Minimizing Spill at Lower Monumental
- Flow Augmentation
- Spill Priority List (handed out at 4/3 meeting)

1. Greeting and Introductions

The April 3 Technical Management Team meeting was chaired by Cindy Henriksen of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Henriksen at 503/808-3945.

2. Hanford Reach Update.

Scott Bettin said Priest Rapids discharge has been flat at 53 Kcfs since the last TMT meeting; field crews found no stranded juvenile chinook last week. We were within 3 Kcfs fluctuation last week, added Chris Carlson, on March 27, index seining found 364 chinook fry. Daily monitoring didn't occur because of the flat flows, which are expected to continue at least through mid-week. He added that, in the future, he will be posting the weekly Hanford Reach update to the TMT website.

3. Sturgeon Pulse Operation.

Scott Bettin said he has heard the sturgeon pulse SOR will be submitted on April 16. David Wills agreed, saying it is his understanding is the Fish and Wildlife Service will submit an SOR in time for the April 17 TMT meeting. The goal this year is to work with the sturgeon hatchery larvae outplants, Wills said – 4-day-old larvae will be planted above Bonners Ferry, and the hope is then to mimic the natural hydrograph to study the effects of increased flow on predator dispersal and sturgeon movement. The first part of the pulse would require an outflow of about 20 Kcfs measured at Bonners Ferry, tailing down to about 15 Kcfs during the latter part of the operation. With a current base flow of about 6 Kcfs at Bonners Ferry, that would require an increase of about 14 Kcfs, and an estimated total volume of about 450 KAF.

Wills said the Fish and Wildlife Service would also like to start releasing some bull trout flows prior to the sturgeon pulse, beginning about May 15, if it would be possible to do so without significantly affecting refill probability at Libby. That operation would continue for two weeks after the sturgeon pulse ends, if possible, bringing the total of the operation to 500-800 KAF. The first batch of sturgeon larvae is expected to be available around the first of June, Wills

added.

Ron Boyce said FPAC will discuss the bull trout/sturgeon operation at its April 16 meeting. In response to a question from Wagner, Henriksen said refill probability at Libby is always heavily dependent on precipitation in May and June, so it's hard to say, at this point, to what degree the proposed bull trout/sturgeon operation may affect refill probability at that project. In response to a question from Boyce, Henriksen noted that Libby is already on minimum outflow, so there is nothing that can be done to store additional water in Libby, at least until the bull trout operation begins. She added that water released from Libby will end up in Grand Coulee, where it is more readily usable for lower river flow augmentation.

4. Review of Water Management Plan.

Scott Boyd said Corps legal staff is reviewing the action agencies' response to comments, but has not yet approved this document for release. Their review is expected to be completed by early next week, Bettin added. Boyd said the draft spring/summer update to the water management plan is being reviewed by the action agencies, and should be ready for TMT review next week. The final draft 2002 WMP, incorporating the comments received, will also hopefully be ready for TMT review at next week's meeting.

With respect to the report to IT, said Henriksen, once the Water Management Plan is finalized, when can we expect a findings letter from NMFS? That will be submitted 45 days after we receive the annual progress report from the action agencies, Paul Wagner replied. Henriksen said her presentation on the 2002 Water Management Plan to the IT on April 4 will include a review of the new WMP, how it differs from previous years' plans, the action agencies' interpretation of the priorities laid out in the BiOp and the WMP, a review of the comments received, current system conditions and the most recent forecast information, as well as the timeline for the completion of the 2002 WMP and the spring/summer update.

5. Review of Current System Conditions.

Wagner reported on the current status of the migration. Referring to the Fish Passage Center website, he said the past two weeks of passage data show Imnaha trap collections pretty consistent since March 20; as many as 7,000 have been trapped daily at that site. At Lower Granite, fish have been collected for the past week, about 300 per day with a peak of 2,000. At Little Goose, they just wetted-up the facility yesterday, said Wagner; we saw 150 fish there yesterday, so some fish are showing up at that project as well. Typically, he added, most of the early-arriving fish are wild migrants. In a nutshell, said Wagner, we have fish. Michelle DeHart said that, so far today, 2,550 fish have arrived at Lower Granite.

Henriksen said the headwater storage projects are drafting toward their April 30 flood control elevations, where necessary; we're still operating based on the March final water supply forecast, she said. The April final water supply forecast is expected to be released on Monday, April 8. There was a spate of rain last week, Henriksen added, increasing inflows at some projects. Dworshak continues to release full powerhouse capacity, 16 Kcfs. We were able to shift only 115 KAF in flood control storage from Dworshak to Grand Coulee, she said.

In response to a question, Henriksen said Dworshak's current outflow of 16 Kcfs is not exceeding the 110% gas cap at that project. When we get the April final forecast, she said, we will likely adjust that operation. Henriksen noted that, as water and air temperatures begin to warm, it will no longer be possible to release 16 Kcfs from Dworshak without exceeding the 110% TDG standard.

Grand Coulee achieved its March 31 elevation target, and is on target to meet its April 10 target of 1263 feet, Tony Norris reported. Hungry Horse is drafting slightly to meet the Columbia Falls minimum flow. The Upper Snake is going to struggle to refill its reservoirs, due to last year's drought, lack of carryover, and less-than-rosy water supply forecast this year, said Norris; the Boise and Payette systems are the only exceptions, Norris said.

6. Start of Spring System Operations for Fish on Lower Snake and Columbia.

Bettin said the spill operation will start at 6 p.m. tonight at Lower Granite, as planned. The Little Goose operation will likely start in a couple of days, based on travel time, he added. Michelle DeHart said the Fish Passage Center is estimating a three-day travel time between projects, so three days after the Lower Granite operation begins, we would recommend that you start at Little Goose, six days after that, on April 11, at Ice Harbor. We expect the Tucannon fish to start arriving at Ice Harbor on about April 20, she said, so the April 11 start date should be appropriate. Boyce said that, based on the number of fish arriving at Lower Granite, he would recommend that 24-hour spill at Little Goose begin this Friday, April 5 at 6 p.m.. Spill would then begin at 6 p.m. April 11 at Ice Harbor. Henriksen added that the Lower Snake pools are now at MOP, with the exception of Ice Harbor and Lower Granite, which are at MOP +1.

The discussion then turned to the onset of spill at the Lower Columbia projects; Wagner recommended that spill begin on the BiOp planning date of April 10, because fish, including listed steelhead, have already begun to arrive at John Day. Boyd noted that the Corps is working on some of the technical details of the spill pattern at McNary; the test did not go well, so they need to develop a revised spill pattern. We'll plan on starting spill at all Lower Columbia projects at 6 p.m. on April 10, and discuss the operation further at next week's TMT meeting, Bettin said. In response to a question from Wagner, Bettin said increased Brownlee and Dworshak discharge is the reason Bonneville flows have been higher than expected during the past week.

The discussion moved on to spring flow augmentation; Henriksen referred the group's attention to the most recent flow augmentation histograms developed by the Corps. She noted that flow at Lower Granite (60 Kcfs yesterday) can't be increased at this time, because Dworshak is at maximum outflow. If anything, said Dick Cassidy, Dworshak outflow is likely to decrease slightly (by 300-500 cfs) due to increased solar radiation, in order to stay below the gas cap at that project.

We could also talk about Grand Coulee operations, Wagner said. After a brief discussion, Bettin noted that, until the April 10 elevation target is achieved at Grand Coulee, any increase in discharge from Grand Coulee will be driven by snowmelt. Grand Coulee outflow will likely be

in the 70 Kcfs range until the freshet begin, he said.

Boyce expressed concern that current flows are likely to be less than half of the spring flow target in the near term, primarily because reservoirs are filling like crazy. Hindsight is 20-20, he said, but I wish there was something we could have done differently to prevent this situation. Reservoirs are not filling per se, said Henriksen, they are operating to meet Arpil flood control elevations, which in some cases are drafts. We're just following the priorities laid out by TMT, said Bettin; we are operating to meet the storage reservoir elevation targets, and given the fact that the spring freshet has not yet begun, there really isn't anything we could be doing differently at this point. The group discussed the possibility of increasing Grand Coulee discharge; no TMT consensus was reached on this issue. To a certain extent, this is an artifact of last year's drought, Norris said; again, there was much less carryover in the storage reservoirs than usual. It sounds as though we'll have more information to discuss at next week's TMT meeting, Silverberg said.

Albeni Falls has been operating in its bottom foot since January, 2051 feet, Henriksen reported; that project is now starting to refill, will be at 2054-2055 by the end of April, and will be full by about June 30.

With respect to John Day pool elevation, said Henriksen, we touched briefly on this issue last week; it is our intent to have John Day pool at its normal summer operating range of 262.5-264 feet by Wednesday of next week. We were at 264.3 as of midnight last night, she added.

7. Lower Snake operations to Minimize Lower Monumental Spill.

Wagner reminded the group that NMFS had agreed to analyze the various options that have been put forward to offset the expected 1% decrease in in-river survival due to the lack of spill at Lower Monumental this year. You will recall that Option 1 was 24-hour spill at Little Goose, and go to full-flow bypass at Lower Monumental, through May 1, he said. Option 2 is the same thing, except that the Little Goose and Lower Monumental operations would continue all the way through the spring season. Option 3 is no spill at Little Goose to reduce in-stream migration, instead emphasizing transport; Option 4 puts even more weight on transport by reducing spill at both Little Goose and Lower Granite.

With respect to our goal of increasing in-river survival, said Wagner, we rejected Options 3 and 4, because they actually reduce in-river survival. The difference between Options 1 and 2 is the duration of the Little Goose and Lower Monumental operations; our analysis mainly focused on Option 1, because of the impact of Option 2 on key research activities called for in the BiOp, he said – particularly the studies focused on differential delayed mortality. Option 2 essentially would mean zero transport through the spring season, he said, and we want to get some idea of what the survival difference is between transported fish and in-river fish. The bottom line is that Option 2 would interfere with a wide range of planned research, he said.

Based on NMFS' analysis, he said, we would see an in-river survival increase of about 0.34%-0.38% if Option 1 is implemented. He noted that the SYMPAS model measures only the impacts to juvenile survival; it says nothing about adult impacts, and the real goal of increasing

survival is to increase adult populations. NMFS' research shows that, for juveniles migrating early in the season, SSARRs are higher for in-river migrants; once you hit early May, however, SSARRs are higher for transported fish. In NMFS' view, up to May 1, our operations should emphasize in-river migration, while after May 1, operations should emphasize transportation – hence our support for Option 1, Wagner said.

The bottom line is that we have discussed this among the federal operators, and have agreed to go with Option 1, Wagner said. The spill program at John Day will proceed as planned, and we're still looking at the McNary spill program, considering 24-hour spill every other day. So you're not looking at a departure from the BiOp spill program at Lower Granite? Sharon Kiefer asked. Except for the planned RSW test, no, Wagner replied.

Moving on to the Corps' analysis of reservoir operations that will reduce the likelihood of spill at Lower Monumental this spring, Rudd Turner said the Corps is in the process of analyzing this issue and developing a proposal. It looks as though Lower Granite will not be on the table, due to the need to maintain the one-foot operating range for the RSW test, he said. Little Goose and Lower Monumental have the potential to store 26 ksf, Turner said; however, the most recent SSARR shows that it is likely that there will be at least some involuntary spill during a two-week period in May – up to 200 ksf at Lower Monumental. The best we're likely to be able to do with the reservoir manipulation is to avoid spill on some days when some marginal spill would otherwise occur, Turner said. One other possibility would be to manipulate Dworshak outflow during that period, he added. Again, he said, we're looking into this question, and will try to provide you with a specific proposal at next week's meeting.

8. Review of New System Operational Requests.

On April 2, CRITFC submitted SOR 2002 C-1, regarding reservoir operations during the spring treaty fishery. Kyle Martin went briefly through the specifics of this SOR, including the following:

- Implement the following pool operations as follows:
- April 2, 2002, 6 a.m. Tuesday through 6 p.m. April 13, 2002
- Bonneville Pool: operate the pool within 1 foot from full pool (msl elevation 77-76)
- The Dalles Pool: operate the pool within 1 foot (msl elevation 159.5-158.5)
- John Day pool: operate the pool within 1 foot (msl elevation 264.5-263.5)

Martin said the Compact will be meeting late next week or early the following week to discuss any potential additional fishing periods; he noted that, if the SOR cannot be implemented, the CRITFC member tribes request a written explanation from the federal operators.

Boyce said FPAC supports this SOR as well. Turner said the Corps received the request after the requested start time, and went to work on it right away, issuing a teletype specifying operations of 75.0-76.5 feet at Bonneville pool as a soft constraint. That's the normal operating range, he said, effective immediately and running through April 13. If you could let us know as soon as possible when the next SOR will be submitted, we would appreciate it, Turner said. Will

do, Martin replied.

9. Develop Recommended Operations.

Bettin reiterated that spill at Lower Granite will begin tonight at 6 p.m., at Little Goose this Friday, April 5 at 6 p.m., and at Ice Harbor at 6 p.m. Thursday, April 11. Spill will begin at the four Lower Columbia projects on April 10 at 6 p.m.; we will revisit that operation at our April 10 meeting in light of current fish passage information, Bettin said. Flow targets will be what they are at Lower Granite and McNary, because of the current constraints on the system. Turner added that project personnel have asked that spill be delayed until April 11 at Bonneville, due to contractor delays in installing the spill gates at Bays 1 and 18.

10. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, April 10. Meeting summary prepared by Jeff Kuechle, BPA contractor.

**TMT PARTICIPANT LIST
April 3, 2002**

Name	Affiliation
Don Anglin	USFWS
Colin Beam	PPM
Scott Bettin	BPA
Ron Boyce	ODFW
Scott Boyd	COE
Mike Bucko	Powerex
Ruth Burris	PGE
Chris Carlson	Grant County PUD
Dick Cassidy	COE
Suzanne Cooper	BPA
Scott Corwin	PNGC Power
Michele DeHart	FPC
Roger Fuhrman	IPC
Russ George	Water Management Consultants Inc.
Laura Hamilton	COE
Scott Hanson	BPA

Tim Heizenrater	UBS
Cindy Henriksen	COE
Cathy Hlebechuk	COE
Richelle Harding	D. Rohr & Assoc.
Jonne Hower	USBR
Eric Keefer	
Kyle Martin	CRITFC
Kevin Nordt	PGE
Tony Norris	USBR
Mike O'Bryant	CBB
Rick Pendergrass	BPA
Todd Perry	AEP
Chris Ross	NMFS
Shane Scott	WDFW
Donna Silverberg	Facilitation Team
Craig Sprankle	Reclamation
Glen Traeger	Avista Energy
Rudd Turner	COE
Maria Van Houten	UBS
Paul Wagner	NMFS
Steve Wallace	PacifiCorp
Nancy Yun	COE