

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

July 1, 2009 Conference Call

FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS

Facilitator: Erin Halton

Notes: Christa Leonard

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.

Review of Minutes/Agenda

No further edits were made to 6/17 and 6/24 the facilitator's notes / official meeting minutes and both sets were considered final.

SOR Treaty fishing

Kyle Dittmer, CRIFTC, reviewed SOR 2009-C2 posted as a link to the agenda submitted by Tribes requesting that Bonneville, John Day and The Dalles' pools be kept at a one foot hard constraint from 6:00am on 6/30 – 7/2 at 6:00pm. He added that there would be a COMPAC meeting held later in the day on 7/1 and said the COE could expect to see a new SOR to be submitted after 3:00pm. Jim Adams, COE, acknowledged that the COE had yet to post to the web the dispositions on 2009 Treaty Fishing SOR's; he said they would likely be caught up on postings within the next week. Adams clarified that for Saturday July 4th, operations will be at full pool at Bonneville to accommodate the Hood River fireworks display.

Action/Next Steps: The COE said they planned to operate the pools as they have in years past: Bonneville under a 1' soft / 1.5' hard constraint; The Dalles under a 1.5' soft / 3' hard constraint; and John Day under a 1.5' hard constraint. If there are any issues with operations transitioning out of the holiday weekend, the COE will send out notice via email. This item will be on the agenda for the 7/8 TMT meeting.

Dworshak/Lower Snake River Temperature Modeling

Kyle Dittmer, CRITFC, referred to an EPA-generated graph posted to agenda. He said that temperatures were a bit higher in the Lower Snake than the model captured. Jim Adams, COE, referred TMT to a thermocline data graph, which showed 2009 temperatures tracking similar to those observed in 2007. Adams said that Dworshak was currently operating with one large unit and outflows of 5.3 kcfs, temperatures were in the range of 46.5-47°F, the pool was at elevation 1600' (full pool.) Temperatures at Lower Granite were at 64°F. Steve Hall, COE, referred TMT to three graphs posted to the agenda and acknowledged that due to technical issues, the modeling had not been completed in time for the FPAC meeting held on 6/30. Hall noted that the first graph showed observed hydrograph data through 6/29, and said the COE expects that cooling releases will be necessary over the 4th of July weekend to maintain desired temperatures of below 68°F at Lower Granite with Dworshak discharges in the 45-47°F range. Dave

Wills, on behalf of the Salmon Managers, said that at the FPAC meeting on 6/30, there was regional support (from Nez Perce Tribe, WA, NOAA, ID, USFWS and CRITFC) for a weekend operation that would use temperature triggers for shifts in outflows. Wills described the recommendation as follows: maintain minimum outflows of 5 kcfs (using 1 large or two small units) through midnight 7/5, then increase to full powerhouse (~9.8 kcfs) on 7/6 at 12:00 a.m. Between now and then, use rolling 12 hour average temperatures at Lower Granite as triggers; if temperatures reach 18.5°C/65.3°F, increase outflows to 7.5 kcfs, and if the temperatures reach 19°C/66.3°F, increase outflows to full powerhouse (~9.8 kcfs).

TMT members discussed the most recent temperature data and the likelihood of Lower Granite reaching 65.3°F within the next day or so. Dave Statler, Nez Perce Tribe, noted that the natural flows out of the Clearwater River will continue to warm and suggested drafting the coolest water temperature possible, relative to the volume of water in the Dworshak pool. TMT members discussed using a temperature target of 45° through the weekend. Wills reported that the Dworshak Hatchery was okay with temperatures in the range of 44.5-45.5°F. As such, the COE proposed a slight amendment to the Salmon Managers' proposal: beginning at 0600 hours on 7/2, ramp up Dworshak outflows to ~7.3 kcfs using one large unit and one small unit in undershot and hold steady until midnight on 7/5, with a target temperature of 45°F. If the rolling 12 hour average at Lower Granite begins to exceed 19°C/66.3°F, the COE will ramp up outflows to full powerhouse. If temperatures do not exceed 19°C, the COE will continue operating with outflows at ~7.3 kcfs.

The following parties weighed in on the amended proposed operation for Dworshak:

- USFWS: no objection.
- BPA: no objection.
- NOAA: no objection.
- BOR: no objection.
- ID: no objection.
- MT: no objection.
- Also: Kyle Dittmer, CRITFC: no objection.

Action: The COE will operate Dworshak as stated above, beginning at 0600 hours on 7/2.

Operations Review

Reservoirs: Grand Coulee was at elevation 1284.3' and on track to reach elevation 1290' by the end of the weekend. Hungry Horse was at 3556.74', with outflows of 2.2 kcfs. Libby was at elevation 2432', with outflows of 12.0 kcfs and planning a slow step down in outflows through July 12th to 7 kcfs (Bull Trout minimums.) Albeni Falls was at full pool and passing inflows of about 30 kcfs. Dworshak was at full pool and had outflows of 5.3 kcfs. Lower Granite flows were ranging between 70-75 kcfs, down from 80 kcfs earlier in the week. Regarding the TSW, Adams said that the COE plans to shift to the high crest position once there have been 3 days with flows of 75 kcfs or less. FPOM members Dave Wills and Russ Kiefer had no objections but cautioned the COE to

provide good egress conditions during the shift. McNary flows were between 175-200 kcfs and flows at Bonneville were in the range of 210-245 kcfs.

Fish: Russ Kiefer, ID, noted that PIT tag data for sockeyes over Bonneville were slightly above what they were last year and Dave Statler, Nez Perce Tribe, said that there had been one adult Pacific lamprey observed so far this year.

Power System: Tony Norris, BPA, noted that CGS went down last Friday.

Water Quality: Jim Adams, COE, noted that TDG levels were fairly normal for this time of year. Bonneville planned to lower spill levels to 125 kcfs later in the day on 7/1.

Other:

TMT Schedule: Face to Face meeting scheduled for July 8th at 9:00am.
July 8th meeting agenda items include:

- Finalize July 1st TMT Minutes and Facilitator Notes
- Follow up Treaty Fishing SOR's
- Review Dworshak Operations
- Review Libby Operations
- Operations Review

**Columbia River Regional Forum
Technical Management Team Conference Call
July 1, 2009**

1. Introduction

Today's TMT call was chaired by Jim Adams (COE) and facilitated by Erin Halton (DS Consulting), with representatives of NOAA, COE, Montana, Nez Perce Tribe, BPA, Idaho, BOR, USFWS, CRITFC, FPC and others participating. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

2. Review Meeting Minutes for June 17 and 24, 2009

There were no comments on any of these notes today so they are presumed final.

3. SOR Treaty Fishing

Kyle Dittmer (CRITFC) presented the SOR submitted by CRITFC last week for an additional week of treaty fishing. It requests a hard system constraint of 1-foot variance at Bonneville, John Day and The Dalles pools from 6 am Tuesday, June 30, to 6 pm Thursday, July 2.

There could be another fishery SOR submitted today or tomorrow, probably late afternoon today. The COE will need time to teletype instructions to project operators before the holiday weekend begins Friday, Adams said.

Dittmer presented the results of CRITFC's latest net flight. There were 418 nets in the three pools, and of these, 153 (37%) were at Bonneville, 88 (21%) were at The Dalles, and 177 (42%) were at John Day. These proportions are typical of summer operations.

The COE plans to provide the same operation it has for past tribal fisheries, Adams said. Bonneville pool will operate within a 1-foot band as a soft constraint and a 1.5-foot band as a hard constraint. The Dalles will operate within a 1.5-foot band as a soft constraint and a 3-foot band as a hard constraint. John Day will operate within a 1.5-foot band as a hard constraint. In addition the Bonneville pool will be kept as full as possible over the 4th of July weekend for the sake of fireworks. There was agreement that this operation won't impact treaty fishing, as it's scheduled for after the SOR ends and fishers will be taking the weekend off. Dittmer said he will notify platform fishers, who can fish at any time, to expect water levels to reach 75.8 feet for 1 hour at Bonneville on Saturday, July 4.

CRITFC has several options on the table for handling the transition period from high pool and will communicate offline with the COE later today, Dittmer said. Any further information on this topic will be disseminated via email.

Dave Statler (NPT) asked when dispositions on the treaty fisheries will be available on the TMT page. The work can't be done until the operation is complete and results are tabulated for the times requested by the SOR, Adams said. These will be posted to the TMT website soon. Dittmer will also provide a summary of this year's treaty fishery, probably in July.

4. Dworshak and Lower Snake River Temperature Modeling

Dittmer presented a graph of EPA's modeling results of temperatures at Lower Granite Dam. The weather has been warming up the past few days and temperatures on the Snake River are higher than the model predicted.

Adams presented a thermocline of Dworshak temperatures as of June 29, 2009, as compared with temperatures in 5 previous years. This year resembles the 2005 season most closely. Currently Dworshak is operating with one large unit in overshoot mode, producing water of 46.5-47 degrees F. That is perfect for the hatchery, Dave Wills (USFWS) said. Dworshak reservoir is full at 1600 feet elevation and passing inflows. The thermocline, like the EPA modeling results, indicates higher temperatures in upper reservoir elevations this year than in previous years. Observed temperatures are about 2 degrees higher than what the CEQUAL WII model predicted, Steve Hall (COE) said. Flows at Lower Granite have been increasing by about 1 degree F per day over the past few days.

The COE's plan is to ramp Dworshak up to 1 big and 1 small unit, or a little less than 8 kcfs flows in order to maintain appropriate temperatures over the weekend, then potentially step up to full powerhouse flows after the weekend as needed. Early next week is when the COE predicts cooler weather so additional water may not be needed to keep temperatures at Lower Granite from exceeding 68 degrees F.

Dittmer wondered why temperatures are turning out warmer than expected, given this year's cold spring and delayed runoff. It's a function of the upper elevation of the pool, which gets stirred up by wind with the colder spring runoff water sinking to the bottom of the pool as runoff occurs, Hall said.

A third graph attached to this item on the agenda predicts Dworshak temperatures based on the recent sharp rise in temperatures. It shows modeling results based on using 2002, an average year as a forecast of temperatures that generally produces good near-term temperature forecasts. Based on observed data as of June 29, inflows have started dropping off. Operators switched to the big unit last night, or 5.3 kcfs outflows, when the pool reached 1600 feet.

Wills presented the Salmon Managers' recommendation, developed yesterday at FPAC without benefit of these graphs, which couldn't be completed until today due to problems with the model. FPAC's consensus recommendation, endorsed by CRITFC, the Nez Perce, Washington, NOAA, USFWS and Idaho, was to maintain 5 kcfs outflows from Dworshak using either 2 small units or 1 big unit through the weekend, then increase to full powerhouse capacity at midnight Sunday, July 5. The Salmon Managers identified triggers for changing the operation: If temperatures exceed 18.5 degrees C (65.3 degrees F on a 12-hour rolling average) over the weekend, ramp up outflows to a big and small unit (7.5 kcfs). If the rolling 12 hour average temperatures exceed 19 degrees C, ramp up to full powerhouse (10 kcfs) outflows immediately, instead of waiting until midnight Sunday.

In light of the new modeling information, the COE proposed to the Salmon Managers a slight adjustment in this plan: begin ramping up to 1 big and 1 small unit tomorrow morning, then to full powerhouse flows Monday morning, with a provision to start the full powerhouse operation sooner if temperatures exceed 19 degrees C on a 12-hour rolling average before Sunday. The impact of increasing the Dworshak operation to 2 units will probably hit Lower Granite in 2.5 to 4 days at current high flows.

This year has been generally cooler than most of the previous 5-6 years. On June 30, 2005, the temperature of Lower Granite outflows was 63.5 degrees F. On June 30, 2006, it was 66.7 degrees F; in 2007, it was 67.5 degrees F; and in 2008, 55.6 degrees F. This year's temperature of 62.4 degrees F is closest to 2005 conditions.

Apparently there would be no problem at the hatchery if temperatures are 45 degrees F over the weekend, Wills said, with reevaluation as flow augmentation increases next week. The current operation of the big unit in overshot mode is producing water that's about as cold as it can get in that position, but it might be possible to get colder water by mixing other units in undershot mode, Hall said.

Adams suggested operating the small unit in undershot mode and raising the gates in the big unit for more flexibility in temperature management; Hall said that could be done. It's also possible to target 45 degree outflows as the weekend target by adopting a range of 44.5-45.5 degrees F. That would be fine from a hatchery perspective as long as they know, and that 45 degrees is better than 44, Wills replied. It might be better to run the operation on the warmer side rather than use too much cold water now, Karl Kanbergs (COE) advised. This was acceptable to USFWS, so the COE proposed a range of 45.5-46.5 degrees F. Dave Statler said the coldest acceptable water is best because inflows in the Clearwater River above the north fork are declining.

TMT finally settled on a range of 44.5-45.5 degrees F at Lower Granite for the sake of operational flexibility. Idaho, BOR, BPA, Montana, Nez Perce Tribe, NOAA and CRITFC approved of this operation.

Beginning at 6 am July 2, the COE will increase Dworshak outflows to 2 units, with the small unit in undershot mode and the big unit in overshot mode, or approximately 7.3 kcfs outflows with a target of 45 degrees F. That operation will continue until 6 am Monday, July 6, unless the rolling 12-hour average tailwater temperature at Lower Granite exceeds 19 degrees C (around 66.2 degrees F). If that occurs, the operation will increase to full powerhouse capacity over the weekend. If it doesn't occur, the operation will switch to full powerhouse (3 units in optimal range) or 9.8 kcfs outflows Monday morning. It's time to start drafting the reservoir, according to information in the STP runs, in order to meet the 1,535 foot elevation target, Adams said. TMT will revisit the augmentation operations at its July 8 meeting.

5. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,284.3 feet, headed toward full at 1,290 feet by the morning of July 6.

Hungry Horse is at elevation 3,556.74 feet and discharging 2.2 kcfs, with inflows dropping and the reservoir slowly filling. Inflows are now 5.5 to 6 kcfs.

Libby is at elevation 2,432 feet with outflows of 12 kcfs. The operation will slowly step down as part of transitioning from the sturgeon pulse to bull trout minimums of 7 kcfs.

Albeni Falls is full and passing inflows of approximately 30 kcfs.

Dworshak reservoir is full at 1600 feet as discussed earlier, with the operation changing tomorrow morning to 7.4 kcfs outflows.

Inflows have been dropping at Lower Granite from a high of 80 kcfs earlier this week. This affects the Little Goose temporary spillway weir. The TSW crest is supposed to be switched to the high position when there are 3 days of flows of 75 kcfs or less. FPOM sent out a notice asking whether it would be acceptable to change the crest from the high to the low position on Monday, July 6; USFWS found this acceptable while Idaho emphasized the importance of making sure that the low position of the crest would provide good egress conditions in the tailrace over the 4th of July weekend. There were no objections to the COE's plan to move the TSW crest into the low position on July 6.

Seven-day averages are 248 kcfs at McNary, 83.7 kcfs at Lower Granite, and 152 kcfs at Priest Rapids.

b. Fish. Increases in PIT-tagged adult returns at Lower Granite indicate that sockeye returns to the lower Snake River might be higher this year than last, Russ Kiefer (Idaho) reported.

c. Power System. The Columbia generating station went out of service June 26, which is why the Grand Coulee reservoir elevation is lower now than predicted, Tony Norris (BPA) reported.

d. Water Quality. TDG levels on the lower Columbia River are rising, which is typical this time of year, Adams said. The Camas Washougal gage becomes the primary gage controlling spill at Bonneville, and potentially even at The Dalles. Due to exceedances of 115.7% TDG at Camas Washougal gage yesterday, spill at Bonneville will be lowered to 125 kcfs tonight.

8. Next Meeting

The next regular TMT meeting will be July 8, 2009. Follow-up on treaty fishing, Dworshak operations, Libby operations, and the usual operations review will be on the agenda. Dan Feil will step into his new role as TMT chair as of the July 8 meeting. This summary prepared by consultant and writer Pat Vivian.

Name	Affiliation
Rich Dominigue	NOAA
Jim Adams	COE
Jim Litchfield	Montana
Dave Statler	Nez Perce Tribe
Mike Butchko	Powerex
Russ George	WMC
Steve Hall	COE Walla Walla
Doug Baus	COE
Laura Hamilton	COE
Kim Johnson	COE
Dan Feil	COE
Karl Kanbergs	COE
Tony Norris	BPA
Russ Kiefer	Idaho
John Roache	BOR
Scott Bettin	BPA
Dave Wills	USFWS
Richelle Beck	DRA
Ruth Burris	PGE
Margaret Filardo	FPC
Eric Volkman	BPA
Tom Le	Puget Sound Energy
Glen Trager	Shell Energy
Tim Heizenrader	Centaurus
Tracy Schwartz	COE Walla Walla
Rudd Turner	COE