

COLUMBIA RIVER REGIONAL FORUM

TECHNICAL MANAGEMENT TEAM

July 08, 2009 Meeting

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 6/24 and 7/1 the facilitator's notes / official meeting minutes and both sets were considered final.

Dworshak Operations

Dan Feil, COE, referred TMT to three links posted to the TMT agenda; he noted that links "b" and "c" were forwarded to FPAC in time for their meeting Tuesday July 7th. He clarified that the models assumed 1 large and 1 small unit operating through today. Feil said on the morning of 7/4, the COE increased outflows bumped up to full powerhouse. Current temperatures at Lower Granite tailwater are 66°F, so reducing outflows was deemed appropriate. Paul Wagner, speaking on behalf of the Salmon Mangers, said they supported stepping down to 7.9 kcfs today. He added that if temperatures begin to fluctuate (and rise above 66.0°F) by Friday, then FPAC recommends that the COE return to full powerhouse of ~9.5-10 kcfs. If temperatures do hold steady at 66.0°F, FPAC supports holding outflows of ~8 kcfs.

Feil also raised the issue of the "rate of change" that is, how much are temperatures increasing/ decreasing per day. TMT members discussed the shared desire to stay ahead of warming trends. Feil said, if a rolling 12 hour average increase of .5°F per day (real time) is observed over the next few days, the COE will take action and bump operations back to full powerhouse. The COE's Walla Walla District also offered to re-run the models Thursday and Dan Feil said he could email the results to TMT. TMT members present during the meeting supported this course of action and said they looked forward to reviewing the updated data on Friday.

Steve Hall, COE, reported on the status of Dworshak's unit 3 repairs: seepage has continued to increase, but appears to be leveling off. The COE has installed two - 2" pumps in the turbine pit that should provide assistance needed to get through September operations. Hall said there is a contingency plan in place: higher voltage, large pumps can be brought in if necessary. Alarms will alert operators to any seepage over pump and drainage capacity. The turbine will be closely monitored (repair inspections performed every couple of days) and TMT will continue to receive regular updates. After the September outage window, the COE plans to perform more extensive inspection/repairs.

Action/Next Steps: The COE will reduce outflows to 7.9 kcfs today; if temperatures begin to fluctuate (and rise above 66.0°F), the COE will return to full powerhouse of ~10 kcfs. If temperatures do hold steady at 66.0°F, outflows will stay at ~8 kcfs. If there is a 12 hour average increase of .5 degrees per day (real time) over the next few days, the COE will increase outflows to full powerhouse on Friday (7/10) morning. Updated model runs will be performed by Walla Walla District and emailed to TMT members by Friday morning.

Treaty Fishing – SOR 2009-C3

Kyle Dittmer, CRIFTC, referred to SOR 2009-C3, posted as a link to the agenda, and submitted by the Tribes on July 6th. Dates to range from July 8th at 0600 through July 11th at 6:00pm. Dittmer noted that an aerial flight survey earlier in the week observed 385 nets total. Dittmer said that the tribes are close to done with fishing for summer 2009, but that there is a 50% chance that another SOR will be issued next week.

Action/Next Steps: The COE said they planned to operate the pools as they have in response to the prior SOR's: 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. This item may be on the agenda for the 7/15 TMT conference call.

Libby Operations

Amy Reese, COE, reported that Libby is nearing the tail end of the Sturgeon Pulse operation. She referred TMT to graphs that were linked to the agenda. Reese reported that Libby operations are currently on schedule to meet Bull Trout minimums of 7 kcfs on July 12th. Reese noted that the last three forecasts show 4500 KAF for the April-August inflow volume which equals a fairly low water year. The COE plans for outflows to remain at 7 kcfs through July and August then likely shift to 6 kcfs in September. She acknowledged that there have been a few years in the past where operations exceeded 7 kcfs (in August) in order to reach 2449' at the end of September. Reese said she will provide updated graphs/data on July 22nd to TMT.

McNary Juvenile Transport

Dan Feil, COE, read from 2009 Fish Operations Plan, which states that McNary transport “will initiate sometime between July 15-30th.” Paul Wagner, NOAA, said that the Salmon Managers have been discussing this issue at FPAC for several weeks and will revisit the topic at their July 14th meeting. Feil added that he will check with barge operators regarding timing for transport as they may require a 3-4 day lead time.

Action/Next Steps: This item will be on the agenda for the next meeting.

Little Goose Low Flow Operations

Dan Feil, COE, reported that they have had barge navigation issues when flows are below the 50 kcfs range. This spring, adjustments were made to operations that would provide a buffer. Feil said flows were currently in the 60 kcfs daily average range. He added that the COE proposes moving to MOP +1 when daily output falls below 50 kcfs and use flat spill pattern if needed. TMT discussed prior years' flows and operating ranges; the flat flow used in 2008 was 11 kcfs which turned out to be about 30% of spill. Feil asked for TMT members to weigh in on the proposed short term operations trigger of daily flows dropping below 50 kcfs:

- NOAA: no objection - will look to review additional data between now and next week's TMT meeting.
- BPA: no objection.
- BOR: no objection.
- ID: no objection.
- Also: Kyle Dittmer, CRITFC: abstain, will take proposal back to CRITFC for management consultation and will report back to the COE.

Operations Review

Reservoirs: Grand Coulee was at elevation 1289.4' and hit full 1290' on July 6th. Hungry Horse was at 3558.28', with inflows of 4 kcfs and outflows of 2.2 kcfs. Libby was at elevation 2434.26', with inflows of 18.6 kcfs, outflows of 9.0 kcfs. Albeni Falls had inflows of 26.8 kcfs, outflows of 30.2 kcfs. Dworshak was at 1596.51' with inflows of 2.7 kcfs and outflows of 9.5 kcfs. Lower Granite flows were at 62 kcfs, McNary had flows of 187.9 kcfs, and Bonneville flows were at 178.6 kcfs.

Fish: Paul Wagner, NOAA, referred TMT to the FPC website regarding adult passage data. Summer Chinook and Sockeye were winding down and Steelhead were picking up. Smolt data showed subyearlings nearly done, with 118,000 per day at McNary and 5,000 per day at Lower Snake River projects. He noted that Sockeye at Boneville and Lower Granite are well above the 10 year average and Summer Chinook and Jacks were both trending well. Paul also referred TMT to the NOAA website's Science Center page; return data shows that good ocean conditions were part of why Jack and Chinook had successful runs.

Power System: Nothing to report.

Water Quality: The spill cap at Bonneville was increased to 125 kcfs; outlook for TDG was good and flows were trending downward.

Other: None

TMT Schedule: Conference Call scheduled for July 15th at 9:00am.

July 15th meeting agenda items include:

- Treaty Fishing SOR (if needed)
- Dworshak update
- Discuss McNary juvenile transport
- Review Lower Granite low-flow operations

**Columbia River Regional Forum
Technical Management Team Meeting
July 8, 2009**

1. Introduction

Today's TMT meeting was chaired by Dan Feil (COE) and facilitated by Erin Halton (DS Consulting), with representatives of BPA, COE, NOAA, BOR, Idaho, CRITFC, Montana 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 July 1, 2009

There were no comments on the facilitator's notes or official minutes.

3. Dworshak Operations

Attachments B and C to this item on today's agenda were given to FPAC yesterday so they'd have modeling data for Dworshak over the next 2 to 3 weeks to aid in their discussion, Feil reported. The scenarios assume a reduction in Dworshak outflows beginning today, from full powerhouse (approximately 10 kcfs) to 7.9 kcfs using a big and a small unit. The Dworshak operation ramped up to full powerhouse at 1 am on July 4. The ongoing goal of the Dworshak operation is to keep temperatures at Lower Granite tailwater below 68 degrees F. The current temperature is 66.15 degrees F.

Dworshak inflows are now 3 kcfs, and the box whiskers plot shows little variability in inflows through July and August, Steve Hall (COE) said. Based on this modeling information and given the water year, the COE believes a reduction in flows is appropriate to conserve as much water as possible now for temperature management later, Feil said.

At yesterday's FPAC meeting the Salmon Managers reached consensus on a recommendation to step down to 8 kcfs as planned today and revert to full powerhouse on July 10 or if the Lower Granite tailwater temperature exceeds 66 degrees F, Paul Wagner (NOAA) reported. Attachment B models 10 kcfs outflows through the end of July, except for a brief interlude of 7.9 kcfs outflows, then 12 kcfs outflows through August and 8 kcfs through September. The COE and Salmon Managers agreed that a reduction in flows is appropriate at this time. There was agreement to use 66.0 degrees F at Lower Granite as a trigger for higher Dworshak outflows before July 10 if necessary.

To address timing, Feil proposed calculating the rate of change using a 12-hour rolling average, considering that it takes 2-3 days for water to travel from Dworshak to Lower Granite. An increase of more than half a degree in the 12-

hour rolling average within 24 hours signifies that more flow augmentation is needed.

Given that inflow to Brownlee is higher than expected this year, the contribution of warmer water from Brownlee is likely to be higher in July, so the need for flow augmentation above 10 kcfs from Dworshak is approaching, Wagner said. Hall noted that the Weather Service's long range forecast for July through September predicts above normal temperatures throughout the Columbia basin this summer, especially in southern Idaho.

Attachment B projects outflows of 7.9 kcfs from Dworshak next week. The forecast shows a tendency for temperatures to increase as they did in the summer of 2002, Tracy Schwartz (COE) said. In light of this forecast, significant warming next week would be needed to justify outflows of more than 7.9 kcfs.

The COE will rerun the Dworshak model early tomorrow, July 9, and disseminate the results so that TMT will have the latest forecasting information available to make a decision on July 10, if needed. A possible TMT July 10 conference call was scheduled if necessary to discuss what action to take if temperature is hovering right at 66.0 degrees.

Hall gave an update on the leak at Dworshak unit 3. Seepage has been increasing but appears to be leveling off and the COE is monitoring the situation closely. It appears that the pumps currently installed can handle the seepage and keep unit 3 in operation through end September. A contingency plan calls for installing higher voltage pumps if the seepage increases more than anticipated. The COE will keep TMT informed of any new developments.

4. Treaty Fishery – SOR 2009-C3

CRITFC submitted SOR 2009-C3 to the COE on July 6, Kyle Dittmer (CRITFC) reported. The SOR requests 1-foot elevation bands as a hard constraint at the three lower river projects from 6 am today, July 8, through 6 pm July 11. CRITFC's latest aerial survey showed 385 nets with 133 (34.5%) of those in the Bonneville pool, 84 (22%) in The Dalles pool, and 168 (43.5%) in the John Day pool. The tribes are close to wrapping up the 2009 fishery season and anticipate a 50-50 chance of more fishing next week.

The COE will operate the three lower river projects as it has for previous treaty fisheries, with a 1 foot soft constraint and 1.5 foot hard constraint on elevation fluctuations at Bonneville, a 1.5 foot soft constraint and 3 foot hard constraint at The Dalles, and a 1.5 foot hard constraint at John Day. The COE sent teletypes to the projects and the operations are currently underway, Fiel said.

5. Libby Operations

The sturgeon pulse is ending at Libby, Amy Reese (COE Seattle) reported, with water volumes duration extended (but not water volume) so the rampdown is less steep. Outflows are scheduled to hit bull trout minimums (7 kcfs) on July 12. The first link to this item on today's agenda models summarizes recent ESP traces and shows how the this year's Libby forecasts (Both NWS-RFC and Corps) and how the forecasts have changed over time. This information indicates that runoff has ended, and that 2009 will turn out to be a low water year.

The second link to this item on today's agenda shows three sheets that include ESP traces for inflow, modeled outflow, and modeled reservoir elevation. projected Libby outflows. The COE's current plan is to keep outflows at bull trout minimums through July and August. In September the bull trout minimum drops to 6 kcfs.

The third link to this item on today's agenda forecasts The modeled median Libby reservoir elevations based on box whiskers plots of inflows for the past from the 44 years ESP traces is . This scenario projects that the Libby elevation will be 2,444 feet at the end of September, which is 4 5 feet below its elevation target of 2,449 feet. This assumes Libby outflows remain at bull trout minimums of 6 kcfs through September.

TMT will revisit Libby operations in two weeks at its July 22 meeting.

6. Juvenile Transportation at McNary

Feil advised TMT members to begin thinking about the initiation of transportation at McNary, which could begin any time within the window of July 15-30 as specified in the summer 2009 Fish Operations Plan.

The Salmon Managers began discussing this decision at FPAC two weeks ago, Wagner said. There's no consensus recommendation yet, but FPAC will reconsider on July 14 and Wagner will report to TMT the next day. TMT will address transportation at McNary along with Dworshak operations in its July 15 conference call.

7. Little Goose Low Flow Operations

Next week will probably be the point at which flows in the Snake River drop to 50 kcfs or less, which has been associated with navigation problems at Lower Granite, Feil reported. A MOP+1 operation was used this past spring to create a buffer at the Lower Granite lock, so the COE is proposing the same operation this summer as specified in the summer Fish Operations Plan. The trigger for the Little Goose low flow operation will be Snake River flows of 50 kcfs (rather than 40 kcfs as stated in the summer FOP). If a MOP+1 operation doesn't provide sufficient navigational buffer, the COE will switch to flat spill at Little

Goose, Feil said. Last year's flat flow was 11 kcfs, which turned out to be about 30% spill, the BiOp target for Little Goose, Tony Norris (BPA) recalled. Karl Kanbergs (COE) reported at least one occurrence of navigation problems when Snake flows were above 50 kcfs as a daily average. The COE is making every effort to ensure that the Lower Granite tailwater gage is accurate.

Wagner said graphs depicting this situation would be helpful in decision making. The COE will provide these for its conference call on July 15. Feil polled TMT members on using 50 kcfs as a trigger for the Little Goose low flow operation in the meantime. NOAA, BPA, and BOR had no objections. CRITFC abstained from voting and will coordinate with the COE later today regarding its view of the Little Goose operation.

8. Operations Review

a. Reservoirs. Grand Coulee is at elevation 1,289.4 feet, after reaching 1,290 feet elevation on July 6. Hungry Horse is at elevation 3,558.28 feet and slowly filling, with 2.2 kcfs outflows and 4 kcfs inflows.

Libby is at elevation 2,434.26 feet, with inflows of 18.6 kcfs and outflows of 9 kcfs. Albeni Falls inflows are 26.8 kcfs and outflows are 30.2 kcfs. Dworshak is at elevation 1,596.51 feet, with inflows of 2.7 kcfs and outflows of 9.5 kcfs.

Seven-day average inflows are 62 kcfs at Lower Granite, 187.9 kcfs at McNary, and 178.6 kcfs at Bonneville.

b. Fish. Adults – Summer Chinook season is declining as expected for this time of year, Wagner reported. FPC data indicates that 700 fish are passing per day, down from a rate of 1,400 per day earlier this week. Sockeye passage is also declining, with 6,863 fish passing this week. Sockeye had a good year in 2009, with passage counts well above the 10-year average at both Bonneville and Lower Granite dams. Steelhead passage of both hatchery and wild fish is on the increase.

Jack counts in 2009 have been spectacular, and Wagner showed TMT a new ocean index tool on the NOAA website that indicates ocean conditions might be behind the big numbers. Hatchery feeding practices could be another factor.

Smolts – Yearling passage is done, while subyearling passage is in progress throughout the basin, peaking at McNary. Recent counts there, which include fish from Hanford reach as well as the Snake River, were 118,000 fish per day, with a peak count of 311,000 two weeks ago. Subyearlings are passing at the rate of 5,000 fish per day at each of the three lower Snake dams.

c. Power System. There was nothing to report today.

d. Water Quality. The COE raised the spill cap at Bonneville yesterday from 115 to 125 kcfs, with no exceedances. Flows are trending down, lessening the likelihood of exceedances.

9. Next Meeting

The next scheduled TMT meeting will be a conference call July 15, with a possible call this Friday, July 10, if needed to follow up on flow augmentation. The July 15 conference call will cover treaty fishing, Dworshak operations, McNary transport, and Little Goose low flow operations. This summary prepared by consultant and writer Pat Vivian.

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