

# COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

August 15, 2012

## DRAFT Facilitator's Summary

Facilitator: Robin Gumpert

*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 July 25, August 8 Meeting Minutes**

The Official Minutes and Facilitator's Summary from the 7/25 TMT meeting, and Official Minutes from 8/8 were posted and reviewed. With no further edits or comments, the notes were considered final.

### **McNary Transportation**

Paul Wagner, NOAA, said the salmon managers at FPAC discussed the start of McNary truck transportation, scheduled to begin this Friday 8/17. Upon their review of temperature and flow conditions, and given the improved bypass system, the salmon managers had reached consensus to recommend that truck transportation of subyearling Chinook at McNary be deferred for now. Paul said that a PSFMC study and report showed that higher temperature conditions were not a good environment for handling and holding fish for transportation. The Fish Passage Plan defines a temperature threshold of 70°F for John Day and Bonneville smolt monitoring facilities to alter sampling operations and both projects had reached that point already this year and had switched to every other day sampling. The McNary forebay is approaching that threshold but there are no FPP criteria for changing operations at the McNary collection facility due to warm temperatures. Also, with the high flows this year and the new outfall, the salmon managers felt that continuing to bypass the fish was the best option at this time.

Planned Operation/Next Steps: No objections were raised to the salmon managers' recommendation as it was described. The salmon managers will submit an SOR to the Corps by COB today (8/15) that includes the recommendation and a biological rationale. The Corps will review the SOR internally with its district biologists and policy/legal team. If there are no concerns, the Corps will implement the request as described. If further discussion and/or coordination is needed, TMT will reconvene at 1:00 pm on Thursday, 8/16, to revisit this issue. Doug Baus, Corps, will send an email notification to TMT with the decision and meeting cancellation, or, TMT will discuss the SOR during the conference call.

### **Dworshak Operations**

Steve Hall, Corps Walla Walla, reported on Dworshak operations to manage temperatures at Lower Granite. He referred to a graph of daily temperatures linked to today's agenda and explained that the daily spikes that have occurred since 8/12 were due to transformer double testing at Lower Granite which required warmer water spill from the project. He also shared two Dworshak operating scenarios, one showing the current 11 kcfs release and the other showing a release of 12.5 kcfs, and their respective impacts at Lower Granite. He acknowledged that the models were not responding to the unique conditions with the Doble testing. To meet the end of August elevation target of 1535 feet at Dworshak while providing cool enough water to meet

temperature requirements at Lower Granite, the Corps planned to continue releasing 11 kcfs through Friday, 8/17, then back off to full powerhouse on 8/18 through the remainder of the month.

TMT questions:

- What are the impacts of the current warmer temperature releases on the adult trap and ladder? Corps response: Likely no impact on temperatures in these areas.
- How much difference would it make to draw water from a different depth? Response: Up to about 1° F by going down 5 meters. Turbine units draw water from ~15-20 meters, and spill pulls water from the top 10 meters of the pool. The temperature difference between the top ½ meter and 20 meters deep has been as much as 6-7°F. If the pool was higher, the water spilled would be cooler. Hall referred to the temperature string data showing temperature gradients through the water column in the forebay to illustrate the difference in temperature from drawing water from deeper in the water column.
- How much are temperatures impacted by Hells Canyon? Are there other ways to draw cooler water? Response: The Corps has explored options and do not see any that would produce a benefit. Comments were made that operating Lower Granite at full pool could potentially provided a cooling effect by spilling from a greater depth in the reservoir.
- Have you considered rescheduling the double testing in future years so as not to compound temperature issues during this migration period? Response: This will be discussed at a future FPOM meeting. The effect of the warm water spilled is highly localized to the immediate area of the Lower Granite tailrace temperature gauge, and the pool above Lower Granite is still cooled by Dworshak releases.
- We need to better understand the actual impact downstream from mixing this warmer water. Russ Kiefer, Idaho, response: We see steelhead passing McNary but there is still a thermal block at the confluence that is delaying their migration into the Lower Snake.

Planned Operation/Next Steps: The Corps will continue releasing 11 kcfs out of Lower Granite through Friday, 8/17, at which time double testing is scheduled to be completed. On 8/18, the project will back off releases to full powerhouse. The Corps Walla Walla will produce updated temperature and operation modeling at the next TMT meeting.

### **Libby Operations**

The Action Agencies will implement Alternative 4 as discussed at the 8/8 TMT meeting. The slide attached to today's agenda shows this alternative with projected end of month elevations based on the latest forecasts, and the only difference was a slight increase of ~0.1 ft for the end of September elevation to 2451.1 ft. There was consensus from the TMT on this operation.

### **End of MOP Operations**

Tony Norris, BPA, reminded TMT that there is no longer a BiOp requirement to hold the Lower Snake projects to MOP after August. While the constraint will be lifted thereby providing more flexibility, BPA will return all projects to MOP to meet the Nez Perce agreement for Dworshak flow augmentation.

## **Operations Review**

Reservoirs – John Roache, Reclamation, reported on projects. Hungry Horse was at elevation 3556 feet and operating to meet a target elevation 3550 feet by the end of September; Grand Coulee was at elevation 1283.3 feet, targeting 1279.7 feet by the end of August. Lisa Wright, Corps, reported on projects. Libby was at elevation 2455.2 feet, with 12.5 kcfs inflows and 16 kcfs outflows. Albeni Falls was at elevation 2062.4 feet and passing inflows of 15.2 kcfs. Dworshak was at elevation 1555.1 feet with 1.4 kcfs inflows and 11.2 kcfs outflows. Lower Granite inflows were 25.8 kcfs; McNary inflows were 204.0 kcfs; and Bonneville inflows were 193.2 kcfs. Lisa pointed to a link to the agenda with a recap of Little Goose MOP operations that was modified on July 28 to increase MOP by 0.5 feet to provide safe navigation into the downstream entrance of the Lower Granite navigation lock. She said since the operation was implemented there have been no excursions below the 633-ft minimum tailwater elevation at Lower Granite and the operation was having the desired effect.

Fish – Paul Wagner, NOAA, reported on fish passage.

*Juveniles:* Subyearling Chinook passage was about 1,000/day at Lower Granite; less than 100/day at Lower Monumental; 23,000 at McNary and 10,000 at Bonneville. Juvenile lamprey passage counts at John Day were about 200/day, and about 20/day at Bonneville.

*Adults:* Fall Chinook counts at Bonneville were beginning to pick up, about 1,000/day, and expected to increase over the next two weeks. Jack counts were up but steelhead counts were below the 10-year average. At Lower Granite, steelhead passage was low, likely due to higher temperatures. Sockeye total count was 447. Russ Kiefer, Idaho, added that in the Stanley Basin, 67 sockeye were trapped, of which 26 were wild/natural. Charles Morrill, Washington, reported the latest COMPACT forecast for Fall Chinook is 654,000.

Water quality – Steve Juul, Corps, reported that there are no TDG issues.

Power system – Nothing to report.

## **TMT Schedule**

- 8/22 Conference Call – cancelled unless major issues come up
- 8/29 – Face to face meeting at NOAA
- 9/12 – TMT are invited to a field trip at BPA Vancouver offices to look at the transmission operating room following the TMT conference call. TMT members should submit their names to Scott Bettin and Tony Norris if they plan to attend.

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES**

**August 15, 2012**

Notes: Pat Vivian

***1. Introduction***

Today's TMT meeting was chaired by Doug Baus, COE, and facilitated by Robin Gumpert, DS Consulting. Representatives of BPA, Montana, Idaho, BOR, COE, NOAA, Nez Perce Tribe, Oregon, USFWS, Washington, CRITFC/Umatilla Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript.

***2. Review July 25 and August 8 Meeting Minutes***

There were no comments on the facilitator's notes and official minutes for July 25 and August 8, so they were deemed final.

***3. McNary Transport***

FPAC reached a consensus recommendation yesterday that truck transport at McNary be delayed because raceway temperatures are too high for fish to remain there 48 hours, Paul Wagner, NOAA, reported. The 2012 Fish Operations Plan says that truck transport will begin at McNary Dam on August 17 and continue through September 30. However, raceway temperatures were an average of 68.9 degrees F on August 3-9, with a daily average high of 69.7 degrees F and a maximum of 71.8 degrees F on August 8, according to the Pacific States Marine Fisheries Commission weekly monitoring report on temperature conditions at McNary. At Bonneville and John Day, sampling is limited to two days a week under similar conditions. Temperatures at McNary can only be expected to increase, and high flows on the lower Columbia would provide better passage via the newly upgraded McNary bypass outfall pipe. Because truck transport requires that fish be held in the McNary raceway up to 48 hours, trucking under current conditions is not advisable.

FPAC therefore recommends using the McNary bypass for juvenile passage in lieu of transport after August 17, with continued check-ins as the season progresses. Baus asked for clarification of how long FPAC recommends that truck transport be delayed. The Salmon Managers based their recommendation on current conditions and didn't address future conditions explicitly, Wagner replied. Nevertheless there was a sense that transport would probably be delayed for the entire 2012 season. With temperatures in the 100 degree range forecasted for the Pasco area in the next few days, it is highly unlikely that raceway conditions will improve by the time trucking is scheduled to begin. In addition, the presence of large numbers of shad in the river before September 30 often curtails the trucking operation early.

Russ Kiefer, Idaho, suggested the COE put trucking plans on hold indefinitely this year, unless an agency or tribe sees conditions that warrant transport and raises the topic for discussion at TMT. Charles Morrill, Washington, agreed with NOAA's prognosis that short-term conditions are not likely to improve in time to initiate transport this year.

Baus requested that the recommendation be presented to the COE as a system operational request (SOR) with supporting biological documentation, which Wagner said NOAA will provide by close of business today. A tentative TMT call was scheduled for 1 pm tomorrow to discuss the McNary SOR.

#### **4. Dworshak Operations**

Since August 12, temperatures have spiked daily at Dworshak, a unique condition reflected in the temperature modeling shown in attachment 4a to this item on today's agenda, Steve Hall, COE, reported.

Attachment 4b depicts two potential scenarios:

1. Increase Dworshak outflows to 12-12.5 kcfs in an effort to provide temperature control in Lower Granite tailwater.
2. Continue the current discharges of 11 kcfs into the near future.

Hall pointed out there's not much difference in temperatures between the two scenarios. The daily temperature spikes are an unintended result of Doble testing underway at Lower Granite Dam. The test requires that all generators at Lower Granite powerhouse be de-energized, which results in spilling the entire river with the exception of one small service generator. This operation tends to pull warm water from the surface of the reservoir over the spillway as opposed to deeper, cooler water that would be running through the generators.

The good news in this situation is that most of the warm water on the surface has already been spilled, leading to a slight cooling trend. Also, the angle of the sun is lower, with shorter days and longer nights. Therefore the COE's plan is to hold the current 11 kcfs releases from Dworshak through August 17, when Doble testing will end, then ramp down to full powerhouse flows in an effort to meet the August 31 elevation target of 1,535 feet.

Kiefer asked whether Doble testing has affected temperatures in the adult trap and ladder at Lower Granite; Hall doubted it would. Tony Norris, BPA, asked whether having Lower Granite pool at maximum elevation during the Doble testing would affect spillway temperatures; Hall said yes because spill would be drawn from deeper in the water column with the pool at maximum elevation. This could reduce temperatures in Lower Granite tailwater by approximately 1 degree

Fahrenheit. Dave Statler, Nez Perce, asked if anything else could be done to spill the trapped cooler water; Hall said going to full pool is the only possible remedy at present.

Kiefer noted that adults are currently avoiding entering the Snake because of a temperature differential (thermal block) between the Snake and Columbia rivers. This effect will gradually diminish. Meanwhile, the full-pool idea should be explored; possible impacts on the adult ladder at Lower Granite need to be examined closely. Would it pull warm water into the adult ladder? Scott Bettin, BPA, doubted this would be a problem. The Lower Granite tailwater gage only records water temperatures in one location, and the effect of the warmer water spilled is highly localized to the spillway tailrace near the gauge. The pool above Lower Granite is still cooled by Dworshak releases and fish have access to cooler areas than these data indicate.

Rick Kruger, Oregon, asked whether the future scheduling of Doble testing (which occurs biannually on lower Snake projects) would change as a result of these temperature spikes. This discussion of how to schedule future Doble testing in light of temperature impacts will continue at FPOM.

The Salmon Managers present today approved of the COE's plan to continue Dworshak operations at 11 kcfs outflows through the end of Doble testing on August 17. Statler suggested the COE monitor impacts of Doble testing downriver. TMT will check in on Dworshak operations at its next meeting.

### ***5. Libby Operations***

Baus reported the COE is continuing to implement Alternative 4 for Libby operations, which the COE presented last week in response to Montana's request for a gradual ramp down at Libby in September based on biological concerns. Alternative 4 maintains August ramp rates based on inflow triggers defined in Alternative 3, and specifies increased outflows of 8 kcfs at Libby Dam instead of 6 kcfs, which will be sufficient for the Kootenai Tribe's sturgeon habitat restoration in September. Based on the latest STP projections, this week's modeling run of Alternative 4 results in about a tenth of a foot difference in the projected September 30 reservoir elevation as opposed to last week's run, Baus said. Jim Litchfield, Montana, thanked the COE for implementing this operation, which successfully addresses the biological concerns.

### ***6. End of MOP Operations***

The BiOp doesn't require MOP operations after August 31, but in consideration of the Nez Perce settlement agreement to release 200 kaf of stored water from the Dworshak reservoir in the month of September, BPA has been returning projects to their current MOP range in September minus navigation adjustments, Tony Norris, BPA, said. This has been the standard

protocol for the past several years and will be again this year. In return for increased operational flexibility, BPA doesn't use fish augmentation volume for storage, Kiefer explained. **Idaho** supports this approach.

## **7. Operations Review**

**a. Reservoirs.** Hungry Horse is at elevation 3,556 feet, targeting 3,550 feet by the end of September. Current releases are 2.9 kcfs, with a goal of keeping these flows either steady or in slow decline to 2.7-2.5 kcfs by end August. Grand Coulee is at elevation 1,283.3 feet, targeting an August 31 elevation of 1,279.7 feet (1280 feet is the BiOp target, with .3 feet allocated to the Columbia River water management/Lake Roosevelt incremental storage release program).

Libby is at elevation 2,455.2 feet, with inflows of 12.5 kcfs and releases of 16 kcfs. Albeni Falls is at elevation 2,062.4 feet, passing inflows of 15.6 kcfs. Dworshak is at elevation 1555.1 feet, with inflows of 1.4 kcfs and releases of 11.2 kcfs. McNary inflows are 204.0 kcfs. Lower Granite inflows are 25.8 kcfs. Bonneville inflows are 193.2 kcfs.

Attachment 7a provides an update on the Little Goose MOP operation. Since the COE implemented a MOP +0.5 foot operation on July 28, there have been no excursions below the minimum tailwater depth requirement of 633 feet at Lower Granite navigation lock, Lisa Wright, COE, reported.

**b. Fish. Juveniles:** Wagner reported that subyearling passage is winding down, with an index count of 1,000 fish per day at Lower Granite and around 500 fish per day at Little Goose over the past few days. Lower Monumental is passing fewer than 100 fish per day. John Day is passing 1600 fish per day, per a sampling regime that is limited to twice weekly due to high temperatures. The Bonneville index count was 10,000 fish on August 14, now trending toward 1,500-3,000 fish per day. The McNary collection count today was 40,000 fish, which is higher than previous counts, Charles Morrill, Washington, reported. Wagner noted that juvenile lamprey passage at John Day is winding down after index counts of a few hundred per day over the past week.

**Adults:** Fall chinook passage is on the increase. Counts are approaching 1,000 adults per day, with a seasonal count of 8,00 fish. The fall chinook jack count this year is higher than it was for either the spring or summer chinook runs. Steelhead passage, which declines when temperatures rise, is at 3,400 fish per day, less than the 5,000-6,000 fish per day of a few weeks ago. The fall chinook forecast this year is for 655,000 fish at the mouth of the Columbia. As for steelhead passage further upriver, the temperature differential between the Columbia and Snake rivers appears to be a passage impediment. Sockeye trapping in the Stanley basin is on the increase, and 26 of the 67 fish trapped as

of August 13 were wild natural fish, Kiefer reported. This finding indicates that natural spawning is producing adult returns.

**c. Water Quality.** With declining flows in the river, there are no outstanding TDG issues, Steve Juul, COE, reported. The current spill priority list expires at the end of August, Laura Hamilton, COE, noted. TMT will discuss spill priority list on August 29.

**d. Power System.** There was nothing to report today.

### **8. September 12 TMT Meeting**

Tony Norris, BPA, is coordinating the September 12 TMT meeting that will be held at BPA's Dittmer transmission complex. TMT members who want to be included in the tour should notify Tony Norris and Scott Bettin in advance for security clearance.

### **9. Next TMT Meetings**

TMT scheduled a potential conference call for tomorrow at 1 pm to discuss McNary transport operations if needed in response to the SOR coming from NOAA at close of business today. The next regular TMT meeting in person will be August 29 at NOAA's Portland office.

<b>Name</b>	<b>Affiliation</b>
Tony Norris	BPA
Jim Litchfield	Montana
Russ Kiefer	Idaho
John Roache	BOR
Scott Bettin	BPA
Steve Juul	COE
Lisa Wright	COE
Paul Wagner	NOAA
Dave Statler	Nez Perce
Rick Kruger	Oregon
Dave Wills	USFWS
Doug Baus	COE
Kim Johnson	COE
Laura Hamilton	COE

*Phone:*

Charles Morrill	Washington
Cody Armstrong	EDF Trade
Steve Hall	Walla Walla
Heather Dohan	Puget Sound Energy
Dave Benner	FPC

Ruth Burris  
Margaret Filardo  
Greg Lawson  
Richelle Beck  
Barry Espenson  
Tom Lorz  
Bruce McKay

PGE  
FPC  
Thompson Reuters  
Grant PUD  
CBB  
CRITFC/Umatilla  
hydro consultant