

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

April 7, 2010

### FACILITATOR'S SUMMARY NOTES

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 Meeting Minutes for March 31, 2010**

Paul Wagner, NOAA, reported that his edits to the 3-24-10 official meeting minutes had been forwarded to Pat Vivian, official note taker. With those changes made, the March 24<sup>th</sup> meeting minutes were considered final. Tony Norris, BPA, clarified language in section 6-b. of the 3-31-10 official meeting minutes: the last sentence of the second paragraph should read, "BPA will make the best attempt to flatten the flow rate across the day." Paul Wagner, NOAA, noted that in section 8 of the official meeting minutes, the first sentence of the second paragraph should read "involuntary spill." No other changes to the facilitator's summary or official meeting minutes were made and both sets will be considered final.

#### **Updated Weather and Flood Control Forecasts**

Doug Baus, COE, directed TMT to two maps, both posted as links to the agenda. Link a. detailed Westside SNOTEL data which showed snow/water equivalent conditions improved slightly from last week. However, conditions across the basin are still low, at 70-89% of normal for much of the region and some areas as low as 50-69% of normal. The forecast is still calling for low precipitation. Kyle Dittmer, CRITFC, added that there has been no change in the forecast from two weeks ago and will report next week on the updated forecasts. Baus also reviewed link b: NWRFC Current Snow Conditions which showed a slight improvement but conditions are still below average. For April-Aug at The Dalles, the forecast was 68% of normal, 71% of normal at Libby and for April-July at Dworshak, the forecast was 53% of normal. The early bird forecast was released on 4/1 and the final forecast was due out later in the day on 4/7.

**Action/Next Steps:** The COE will continue to present updates on this item at upcoming TMT meetings.

#### **2010 Operations: Bonneville Low Flow Operations / SOR #2010-01**

Doug Baus, COE, read language from the Fish Operations Plan's low flow spill plan and noted that based on the latest STP info, it is clear that Bonneville flows are likely to be below the FOP's specified 75kcfs. He reported that the COE did receive an SOR from the Salmon Managers, whose signatories included USFWS, CRITFC, Nez Perce and the Shoshonne-Bannock Tribe. Baus said that the COE planned to proceed with their current strategy of spilling to a minimum of 50 kcfs, stopping spill if flows drop below a level such that 50 kcfs spill can be provided and resuming spill only when flows return to a

rate that can provide spill of at least 50 kcfs. The COE clarified that spill shut off periods would be minimized to the extent possible, likely for about 4-6 hours.

Dave Wills, USFWS, referred TMT to SOR #2010-01, which had not yet been posted to the TMT website. Wills said that a multi-agency meeting was held last week and that a very technical discussion took place over how best to manage spill at Bonneville from April 10<sup>th</sup> to approximately April 28<sup>th</sup> (until such time when flows increase and spill can be provided at/above the level of 75 kcfs.) Wills said that the regional group discussion considered a range of operations, such as spilling at whatever rate is available (even if below 50 kcfs) and also turning spill off if spill levels drop below 75kcfs. Wills said that the group decided to continue the conversation at TMT, when more updated STP data would be available. He stressed that it is important to note that it is only April 2010 spring operations that are under discussion and not be indicative of the upcoming summer spill season operations. Wills also noted the hatchery releases scheduled for next week of 10 million fish above Bonneville and said the concern is that the bypass facility will become overloaded. Wills said this SOR was drafted with the intent to provide a “spread the risk” approach by providing whatever spill is available during this period in April when many fish are expected to pass the project and predation is expected to be at a high level.

The following parties provided input on the SOR and on the COE’s plan to stop spill if spill can’t be provided at/above 50 kcfs:

- Russ Kiefer, ID, noted that data indicates reduced direct smolt survival when spillway flows are between 50 and 80kcfs, and that 100 kcfs is better for fish. He acknowledged that the flow levels will likely be a long way from being able to provide desired spill levels. He added that as flat a spill level as possible would be best for fish. Kiefer stated that while Idaho is not opposed to the SOR, they were not comfortable with signing it.
- Rick Kruger, OR, noted that Oregon concurs with the concerns shared by Kiefer and that Oregon was just not comfortable signing the SOR, given the available data and in-water trade-offs. He clarified that Oregon does support providing spill at whatever level possible, as evenly as possible, throughout the day even if spillway flows drop below 50kcfs. He said conditions for fish are likely to be better in the spillway even with spill less than 50 kcfs as opposed to passage through the powerhouse. He added that the available data is not definitive enough to determine that 50 kcfs is the right cut off value during these unique spring conditions.
- Tom Lorz, CRITFC, noted that their goal is to ensure the best passage conditions and given that Bonneville will be passing more fish, priority should lie with Bonneville spill operations. He said that CRITFC opposed the COE’s proposed on/off operations, as not enough information exists to prove that operation would be better than spilling at less than 50 kcfs. Lorz suggested turning the sluiceway and unit 0 off, as a way to keep as much spill as possible passing through the spillway.
- Paul Wagner, NOAA, stressed the importance of carefully managing flows until such time that they increase later in the spring. He said that NOAA supports as uniform/flat spill pattern as possible and that given the latest information, NOAA supports spilling at levels below 50 kcfs.

Dan Feil, COE, clarified that flows of 48 kcfs (not including spill) is necessary to operate the Bonneville dam project and that the COE is required to maintain an elevation range of 262.5-264' at John Day pool beginning April 10 (and as John Day was at 264' on 4/7, the pool can't hold any more water.) He noted that if spill is to be maintained at 50 kcfs, river flows of around 100 kcfs are necessary. Feil said the COE planned to operate as specified at the beginning of the conversation, but that conversation amongst the Action Agencies and NOAA would be continuing over the next couple days. He added that the COE would do their best to maintain spill levels at or above 50 kcfs and BPA said they would make every effort to keep flows as smooth as possible; both agencies will be monitoring the project closely.

**Action/Next Steps:** Dan Feil, COE, said the COE will continue to discuss this issue internally, with the Action Agencies and NOAA over the next couple days. Feil said the COE will notify TMT members of the final plan via email, by end of day Friday 4/9. An update on Bonneville Low Flow Operations will be provided at the next TMT meeting on 4/14.

### **Operations Review**

**Reservoirs:** Grand Coulee was at elevation 1276.4' with outflows supporting the Hanford Reach protection flows of 60 kcfs. Hungry Horse was at 3521.29', with 1.1 kcfs outflows and inflows of 1.5. Libby was at elevation 2403.17', with 2.0 kcfs inflows and 4.0 kcfs outflows. Albeni Falls was at 2052.84' with inflows of 15.5 kcfs, 6.2 out. Dworshak was at elevation 1528.19' with inflows of 3.6 kcfs and outflows of 1.2 kcfs. Lower Granite flows were at 30.2 kcfs, McNary flows were at 96.4 kcfs and Bonneville flows were at 104.4 kcfs.

**Fish** Paul Wagner, NOAA, directed TMT to the Fish Passage Center's two week passage index. He reported for juveniles: yearling Chinook were at 1,000-2,000 fish per day on the Snake River. Lower Granite had below 250. Bonneville was in the low 100's. Subyearlings were in the 2000 per day range. Steelhead numbers still low as the low flows are slowing passage down. Regarding adult passage, 229 Spring Chinook were passing Bonneville at a rate of 229 and Steelhead were passing at less than 100 per day. Lower Granite passage was in the 200 per day range. In looking at the 10 year historical data, this year's passage at Bonneville is tracking closely to 2009 data; Wagner noted that a sizable return was expected. Dave Wills, USFWS, updated TMT on the Dworshak Hatchery release of 1.1 million hatchery fish which he reported as having gone very well. He thanked the COE, BPA, Dworshak staff and all involved for their assistance in a successful operation.

**Power** Tony Norris, BPA, had nothing to report.

**Water Quality:** Scott English, COE, reported that there have been no TDG exceedances.

**The next TMT meeting will be:** a face to face on 4/14 at 9:00 am at COE.

Agenda items will include:

- Notes Review

- Updated Weather and Flood Control Forecasts
- Hanford Reach Update
- Transportation Update / ISAB Report
- 2010 Operations Updates: Low Flow Operations
- 2010 Water Management Plan comments due
- Operations Review

**Future TMT meeting schedule:**

4/21 - conference call  
4/28 - face to face- COE  
5/5 - face to face- COE  
5/12 - conference call  
5/19 - face to face- COE  
5/26 - conference call

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**  
**April 7, 2010**

Notetaker: Pat Vivian

**1. Introduction**

Today's TMT meeting was chaired by Doug Baus (COE) and facilitated by Erin Halton (DS Consulting). Representatives of USFWS, NOAA, Oregon, COE, BPA, CRITFC, BOR, Idaho and others attended. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made. 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 March 17, 24 and 31**

Paul Wagner (NOAA) provided revisions to the March 17 minutes:

- *Section 8b. Low Flow Spill Operations, last paragraph:* "Wagner suggested shaping as much water as possible into May to boost spring flows for both Columbia and Snake River juvenile migrants," replaces, "...to boost spring migration in the Snake River."
- *Section 10. Transport Update, 2<sup>nd</sup> paragraph:* "Default mode is to spill in May," replaces, "... no spill in May."

In the March 31 minutes:

- *Section 8. Emergency Actions and Spill Priority Lists, first paragraph:* "The salmon managers anticipate there will be no involuntary spill this year," replaces, "...no voluntary spill this year."
- Tony Norris (BPA) revised *Section 6a. B2CC Operations, last sentence:* "BPA will try to flatten as much as possible the flow rate across the day," replaces, "...spill amounts of less than 75 kcfs will most likely be flat spill."

With these changes, the March 17 and 31 minutes will be considered final. There were no comments on the March 24 minutes so they were finalized today.

**3. Updated Weather and Flood Control Forecasts**

There's been a slight improvement in the forecasts according to the April 7 SNOTEL plot of current snow and water equivalents, linked to today's agenda. However, the situation is still not good, Baus reported. Water supplies are only 70-89% of normal throughout much of the basin and as low as 40-69% in some areas.

NOAA updated its 30-day forecast a few days ago, Kyle Dittmer (CRITFC) reported. The forecast is still essentially the same as it was when Dittmer briefed TMT two weeks ago – above-average chances of warm, dry conditions throughout the basin. He will provide the Australian Bureau of Meteorology’s latest forecast of Pacific Ocean conditions at the next TMT meeting April 14.

The final RFC water supply forecast for April is due later today, Baus said. The April 1 RFC early bird forecasts are:

- The Dalles Dam – 66% of normal for April-August
- Libby Dam – 71% of normal for April-August
- Dworshak Dam – 53% of normal for April-July

The second link to this topic on today’s agenda presents RFC data on current snow conditions. This graph also indicates a slight improvement in the water supply, but conditions remain below average.

#### ***4. Hanford Reach Update***

Discussion of this topic was postponed until the May 14 meeting.

#### ***5. 2010 Operations***

**a. Bonneville Low Flow Spill Plan.** In response to SOR 2010-01 recently submitted to the COE, Baus and Feil presented the COE’s plan for low flow spring spill operations at Bonneville Dam. The 2010 Fish Operations Plan specifies a minimum spill of 75 kcfs at Bonneville, with coordination at TMT required for spilling less. The BiOp-recommended spill level for Bonneville is 100 kcfs, with 83 kcfs defined as the lower end for favorable passage conditions. However, under extreme low-flow conditions, lower spill levels may be considered and coordinated through TMT. Based on STP information, it’s clear that spring flows at Bonneville will fall below the 75 kcfs minimum.

Therefore, the COE’s low-flow plan for Bonneville is to spill until flows go as low as 50 kcfs. Minimum powerhouse discharge required to operate the project is 48 kcfs. If flows go below 50 kcfs, spill would be shut off until flows are sufficient to spill above 50 kcfs again.

Dave Wills (USFWS) then presented the system operational request, which was signed by USFWS and CRITFC and emailed to TMT members before today’s meeting. Last week an in-depth technical meeting of FPOM and FFDRWG members addressed the problem of low spring flows at Bonneville. The FOP specifies a John Day elevation of 262.5-264 feet on April 10, and regional consensus is required to deviate from that operation. Not all stakeholders were present at the joint FFDRWG/FPOM meeting, so the SOR was drafted to capture ideas that were generated and present them to TMT.

SOR 2001-01 asks the COE to immediately begin filling John Day to create a reservoir in the lower river, where volume can be stored and released slowly to aid fish passage. The SOR requests a delay of several days in reaching the MOP elevation of 262.5-264 feet on April 10 so the stored volume can be used to supplement spring spill. The SOR also recommends that Bonneville spill a minimum of 50 kcfs if possible, with a target level of 75 kcfs from April 10 until inflows pick up in the lower Columbia River.

The John Day reservoir is currently at elevation 264 feet, which is the maximum April 10 elevation according to the FOP. Any water stored at John Day now would have to be released by April 10, making storage for Bonneville operations moot, Feil said. Tony Norris (BPA) noted that the 1.5 foot elevation band is an operating range, not augmentation volume. BPA is committed to working with the COE to flatten out the available spill at Bonneville to the greatest extent possible for the sake of fish passage.

Discussion turned to whether survival rates are higher through the Bonneville spillway or powerhouse at flows below 50 kcfs in April. The COE proposal to stop spill at 50 kcfs was based on studies showing that survival through the spillway is poor when spill volumes are less than 50 kcfs. However, there's a lack of survival data on which to base a low-flow operation in spring. The available data is for summer, when temperatures and predation rates are higher, impacting survival to a greater extent if spill volumes are low. Several fish managers said that spill below 50 kcfs after April 10 would be preferable to no spill, given that on April 12-13, some 10 million smolts are scheduled to be released from hatcheries upstream of Bonneville Dam. Also, there are known problems with gatewell crowding and powerhouse passage.

The Salmon Managers (Washington and Montana were not present) gave their views of the SOR and the COE proposal for Bonneville operations:

- **USFWS** –Shutting off spill would overcrowd the bypass and turbines, subjecting large numbers of smolts to unfavorable passage conditions. Favored spilling even if flows are below 50 kcfs – any amount of spill is better than none. Objected to operating the B2CC with no spill to keep flows from circulating into the tailrace.
- **Oregon** – Objected to the COE's plan to shut off spill at 50 kcfs. Spill levels above 50 kcfs are desirable, but spill should continue even if flows are less. Exposing fish to spillway conditions below 50 kcfs is clearly preferable to what they would experience passing through the powerhouse. Didn't object to using John Day storage for flow augmentation, but agreed with NOAA that it probably wouldn't provide enough water to solve the problem; agreed with Idaho that delaying fish at John Day might not be worth it.
- **NOAA** – Spilling less than 50 kcfs is acceptable because there's no known cutoff point at which spillway conditions are worse than passage

through the powerhouse at this time of year. Implementing the John Day provisions of the SOR would not produce enough extra water to solve the problems at Bonneville caused by low flows.

- **CRITFC** –The sheer number of fish scheduled to be released warrants provision of minimal conditions at Bonneville for good survival. By comparison, there would be fewer fish in the John Day pool to be affected by implementing the SOR. Objected to turning the spillway off and on.
- **Idaho** – Didn't oppose SOR 2020-01 but didn't sign it. The tradeoff involved – potentially delaying fish in the John Day pool in order to provide slightly better conditions at Bonneville – might not be worth it. Didn't object to the COE proposal to shut off spill at 50 kcfs.

The COE will confer internally and with the other Action Agencies before making a final decision, and will notify TMT of the final Bonneville operation via email. TMT will revisit this issue at its next meeting April 14.

*(In a 4-9-10 email, the COE informed TMT that spill in April 2010 will continue at all river levels, due to the very low flows, low temperatures and assumed lower rates of predation in spring.)*

**b. Bonneville Unit Operations for Spring Creek Release.** USFWS is still working on specifying the Bonneville unit operations for the Spring Creek release and will coordinate with the COE on that before the next TMT meeting. Typically, the operation is from the midpoint to the bottom end of 1% efficiency, Wills said. Line and station repair work is scheduled for April 10 at Bonneville, and the Spring Creek fish will be released April 12 or 13. USFWS will monitor their passage at the project. Norris suggested coordinating with hatchery personnel as early as January to plan releases if flows are low in future years.

## **6. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,276.4 feet, releasing 60 kcfs for Hanford Reach protection flows, John Roache (BOR) reported. Hungry Horse is at elevation 3,521.29 feet, with inflows of 1.5 kcfs and discharges around 1.1 kcfs. Libby is at elevation 2,403.17 feet, with inflows of 2.0 kcfs and outflows of 4.0 kcfs.

Albeni Falls is at elevation 2,052.84 feet, with 15.5 kcfs inflows and 1.2 kcfs outflows. Dworshak is at elevation 1,528.19 feet, with inflows of 3.6 kcfs and outflows of 1.2 kcfs

Lower Granite inflows are 30.2 kcfs; McNary inflows are 96.4 kcfs; and Bonneville inflows are 104.4 kcfs.

**b. Fish. Juveniles:** At the Salmon River trap, the two-week passage index shows 1,000-2,000 yearling Chinook passing in the past week, mostly hatchery

fish. At the Imnaha trap, there were about 1,000-1,800 fish over the past few days. Lower Granite passage counts have stayed below 250 fish per day. Subyearling Chinook passage rates at Bonneville are 600-2,000 fish per day. Steelhead passage numbers at Bonneville are low but expected to increase. Dave Wills announced that last week's release of 1.1 million fish from Dworshak hatchery went well, thanks to careful coordination between BPA, COE and Dworshak staff.

Adults: Yesterday 229 Spring Chinook passed Bonneville, the largest count yet for 2010. Steelhead are passing Bonneville at the rate of less than 100 fish per day. Steelhead winter holdovers are still passing Lower Granite at the rate of about 100 fish per day. In terms of run timing, the passage of 292 adult spring Chinook at Bonneville is similar to last year's passage but far below the 10-year passage index of 2,900 fish. There should be a significant increase in adult spring Chinook numbers in the next two weeks, according to Washington's run projections for 2010.

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

**d. Water Quality.** All TDG gages are operating, and no exceedances have been reported. Spill operations are currently underway on the Snake River.

## **12. Next Meeting**

The next TMT meeting will be April 14 at the COE NW division office. Topics covered will include updates on most of today's agenda items, plus an update on Hanford Reach protection flows, and comments on the WMP.

<b><i>Name</i></b>	<b><i>Affiliation</i></b>
Rick Kruger	Oregon
David Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
Tony Norris	BPA
Kyle Dittmer	CRITFC
Dan Feil	COE
Holli Krebs	JP Morgan
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