

# COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

May 2, 2012

## 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.*

### **Meeting Minutes/Facilitator's Notes Review**

TMT members did not offer edits to the 4/13 Official Minutes, so they were considered final today. More time was needed to review 4/18 notes – these and the 4/25 and 4/27 notes will be finalized at the next face to face TMT meeting.

### **Spring Creek Hatchery Release/Bonneville Operations**

Doug Baus, Corps, reported that the Spring Creek Hatchery fish had arrived at Bonneville about 10.5 hours after their release on 4/30. According to a 5/1 report, from 2200 hours on 4/30 to 0700 hours on 5/1, the fish were found to be in 'excellent' condition and of 675 sampled, there was 1 mortality, no descaling and 1 injury. Dave Wills, USFWS, added that from 0700 hours on 5/1 to 0700 hours on 5/2, 176 fish were sampled and there was 1 mortality, no descaling and no injuries. The Fish Passage Center also reported that as of today, 101,000 fish had passed Bonneville. Doug and Tony Norris, BPA, said the powerhouses so far have been operated to meet the salmon managers' recommendation and TMT agreement made on 4/27. Tony will be providing a full account of actual operations to the USFWS upon conclusion of the operation. The operation was intended to continue until Friday or when all the fish were past the project, whichever occurred sooner.

Paul Wagner, NOAA, raised a concern that adult passage at Bonneville had seen a recent drop in numbers which were much lower than the average for this time of year. He said studies have indicated that during high flows above 130 kcfs spill (the project was currently releasing 190 kcfs spill), adults tend to delay, and currently, sea lion predation below the dam is a concern. Given this, Paul requested that TMT consider a special one day operation 'test' at Bonneville to determine whether operating Bonneville at lower flows could influence adult passage. It would involve reducing spill to about 110 kcfs during the period 0500-0900 hours when adults typically stage and begin their movement. Paul said his preference (and that of the other salmon managers) would be to accommodate this request with minimal to no impact on the Spring Creek Hatchery operation currently in place.

TMT discussed this recommendation and identified potential impacts which included:

- Impact to the Spring Creek hatchery operation/safe passage for the hatchery fish.
- Impact on debris build-up at the project with potential for having to remove fish screens; and impact on debris downstream of the project.
- Impact to treaty fishing near Bonneville, given changes in forebay and tailwater elevations.
  - Bill Proctor, Corps RCC Chief, discussed with Tom Lorz, CRITFC/CTUIR, how the operation could be managed to minimize elevation fluctuations, and they

determined that if the operation would not exceed a 2 foot pool elevation change, tribal fishing would not be adversely impacted. Tom added that he would need to give the tribes a heads up and inquire as to any concerns. The Action Agencies said they would not implement this operation if it has any potential adverse impacts on the treaty fishery.

Considering these potential impacts and the action agencies' ability to coordinate and implement the operation from an operator's perspective, TMT discussed options for the timing of the operation. While starting Friday or later would allow time for most if not all of the Spring Creek fish to pass, Thursday was identified as a preferred option because the operation could be implemented while still meeting the specifications of operating Powerhouses 1 and 2 for the Spring Creek release, and crews would be at the project to help manage and monitor conditions.

TMT members were polled on their level of agreement for implementing NOAA's request for operating Bonneville at 110 kcfs from 0500-0900 hours on Thursday, 5/3:

- Oregon – Ok
- Idaho – Ok
- Washington – OK
- Montana – Ok
- Nez Perce – Ok
- CTUIR – Ok so long as no adverse impacts on the current treaty fishery
- Colville – Ok
- USFWS – No objection
- NOAA – Supports the operation – appreciates the action agencies' coordination efforts to implement the request
- Reclamation – Ok
- BPA – Ok
- Corps – Ok

**Action/Operation:** Tom Lorz, CRITFC/CTUIR, will talk with the tribal fishers and make sure this operation does not cause any serious concerns to the treaty fishery. He will coordinate with Doug Baus at the Corps. Assuming no problems for tribal fishing, the Corps planned to implement the operation as specified above. TMT will reconvene for a brief phone conference on Friday, 5/4 at 1:00 PST to debrief the operation and determine a path forward.

### **Lower Monumental Operations**

Paul Wagner, NOAA, observed that flows at Lower Monumental are in the transition period between spill patterns (140 kcfs and above using uniform pattern and 140 kcfs and below using bulk pattern). The salmon managers had discussed this issue during FPAC and recommended the Corps continue with the uniform pattern over the next week to minimize already elevated gas levels in the system. TMT reviewed the language in the Fish Operations Plan and agreed that this recommendation would align with guidance in the FOP:

'Consistent with adjustments made in 2011 spring operations through regional coordination, when total river flow is likely to exceed turbine capacity and spill over the 120% TDG gas cap

(occurs at a total river flow of ~140 kcfs) for three or more days, the project will use the uniform spill pattern. This may also occur if spill over the 120% TDG gas cap is required due to “lack of demand” spill at any river flow level.’

**Action/Operations Plan:** The Corps will continue to operate Lower Monumental using the uniform spill pattern in accordance with the Fish Operations Plan.

### **Vernita Bar Update**

Russell Langshaw, Grant County PUD, provided a brief update on Hanford Reach operations. He said the operation is still on track, with 6/19 estimated completion date. Average outflows have been 203 kcfs with 67 kcfs as the mean daily delta. Priest Rapids has operated at a minimum 150 kcfs (159.5 kcfs on the weekends) and there have been no exceedances. Fish numbers are expected to pick up soon. Russell will provide an update to TMT at the 5/16 TMT meeting.

### **Operations Review**

**Reservoirs** – John Roache reported on Reclamation projects. Grand Coulee was at elevation 1238.1 feet and managing refill to accommodate the expected peak freshet yet to come. Hungry Horse was at elevation 3532.5 feet, with 9.2 kcfs outflows. In response to a question, John said with the current transmission limitations, the project is able to release about 9-10 kcfs through the power plant. Lisa Wright reported on Corps projects. Libby was at elevation 2391.2 feet, with 28.5 kcfs inflows and 13.4 kcfs outflows. Albeni Falls was operating at free flow, at elevation 2059.3 feet with 83.4 kcfs inflows and 78.3 kcfs outflows. Priest Rapids inflows were 256.8 kcfs. Dworshak was at elevation 1533.5 feet, with 22.7 kcfs inflows and 14.4 kcfs outflows. Inflows at Lower Granite were 137.1 kcfs; at McNary were 408.2 kcfs; and at Bonneville were 409.9 kcfs.

**Fish** – Paul Wagner, NOAA, reported on fish passage. Juvenile yearling Chinook and steelhead are seeing an early peak run, both with highest passage numbers at Lower Granite on 4/26. Subyearling Chinook at Bonneville have seen a peak passage count of 359,000/day. Sockeye counts were 636 at Lower Granite on 4/30; Russ Kiefer, Idaho, added that 24 PIT-tagged fish from the Red Fish Lake Creek were counted at Lower Granite – a good migration sign. Lamprey counts at McNary were 6,000 and at John Day were 9,500.

**Transportation** – Given the above information and the early and fast travel time of the fish runs, Paul recommended a slight adjustment to the transportation operations schedule. Lower Granite collection began on 5/1 and the fish were transported on 5/2. Paul recommended that collection start on 5/3 at Little Goose and on 5/5 at Lower Monumental.

**Action:** Doug Baus, Corps, reported on behalf of Walla Walla District that they are able to accommodate this schedule change and will proceed with operations as specified above.

**Power System** – Tony Norris, BPA, reported that there has been lack of market spill and curtailed wind. The system hit a peak hourly wind generation of 4,000 MW last week. He also followed up from his report at the 4/25 TMT meeting on the transmission system emergency that was declared, which forced The Dalles to operate outside 1% for about 40 minutes. He said there were no additional impacts to report and introduced Jim Burns from the Transmission Group to answer any questions from TMT. Jim provided a little more detail about the event that led to the

emergency declaration. Tony offered to coordinate a TMT site visit to the dispatch center in Vancouver at a future date.

Water quality – Scott English, Corps, reported that involuntary spill has continued and with it, TDG exceedances. He said the Bonneville tailwater gauge at Cascade Island has gone out due to high flows and the Corps is working on a long term solution. In the interim, the Warrendale gauge is being used to monitor/manage TDG below Bonneville.

**Next Meeting, 5/4 Conference Call:**

- Bonneville Operations will be discussed

**Next Face to Face Meeting, 5/16:**

Agenda items include:

- Water supply forecasts
- Prep for Libby/Sturgeon pulse operations SOR
- Vernita Bar Update
- Upper Snake Flow Augmentation
- Operations Review
- Other?

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

**May 2, 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 Montana, BPA, COE, NOAA, Oregon, USFWS, Washington, Idaho, BOR, Umatilla/CRITFC, Nez Perce Tribe, Colville Tribe and others attended. This summary is an official record of the proceedings, not a verbatim transcript.

Paul Wagner, NOAA, added three items to today's agenda: transportation scheduling, adult passage at Bonneville, and Lower Monumental operations.

***2. Review April 13 and 18 Meeting Minutes***

The April 13 minutes were approved as final. Review of the April 18 minutes was postponed until the next TMT meeting.

***3. Spring Creek Hatchery Release***

Baus had good news to report on the special operation of Bonneville Dam for the Spring Creek Hatchery release. Four million smolts were released early on April 30 per the Salmon Managers' request at the last TMT meeting and began arriving at the project about 10.5 hours after release. Fish condition had been excellent so far and mortality was negligible. From 2245-0700 hours (30 April – 1 May), 674 sampled, 1 mortality, 0.1% mortality rate. No descaling and 1 injury.

David Wills, USFWS, reported from 0700 hours 1 May through 0700 hours 2 May 176 sampled, 1 mortality, 0.6% mortality rate. No descaling or injuries.

Bonneville project staff have been cleaning the fish screens of debris daily, which has helped keep injuries and mortalities low, Baus reported. The majority of fish have most likely passed and passage numbers will drop off today or tomorrow, Wills said. Today's passage index is 101,000 subyearling Chinook, Margaret Filardo, FPC, said.

Dave Statler, Nez Perce Tribe, asked how closely the actual operation begun yesterday matches the Salmon Managers' recommendations. The operation was carried out as coordinated at TMT, Baus replied. Tony Norris, BPA, said data from yesterday indicate that all powerhouses were operating within their recommended ranges.

The Action Agencies will provide TMT with data after the operation ends. It is currently scheduled to end May 4, but this could change based on fish passage data.

#### **4. Bonneville Adult Passage Issues**

Wagner, who added this item to today's agenda, reported that 2500 fish passed Bonneville on April 25 and counts decreased to a low of 600 fish on April 28, then rose again to 2200 fish per day on May 1. Bonneville is currently spilling 180-190 kcfs; adult delay is a known problem when spillway flows exceed 100-120 kcfs. It's getting late in the season for adult passage and these numbers indicate that spill could be delaying adults, exposing them to sea lion predation.

Speaking on behalf of the Salmon Managers, Wagner recommended a test operation at Bonneville from 5 am to 9 am in the next few days to find out whether limiting spill to 100-120 kcfs at Bonneville would benefit adult passage.

Tony Norris, BPA, cautioned that the stage at Stevenson would limit forebay elevation increases to about 2 feet, which equates to an 80 kcfs flow reduction for 4 hours. Wagner said this change might not help adults much and asked how it would affect the Spring Creek operation. That depends on whether the cap at the midpoint of the 1% range is maintained at three of the Powerhouse 2 (PH2) units, and whether the best-geometry operation at Powerhouse 1 (PH1) continues, Norris replied.

Changing the hydraulics at the project at this time could impact the screen cleaning operation, Baus cautioned. To date daily cleanings have kept debris accumulation under control, but changing the head associated with this operation could impact the screen cleaning operation and if the project was unable to keep up with cleaning then the project would pull screens.

Because the end of the Spring Creek run is estimated based on index counts, Wills wanted to see tomorrow's index counts before a decision is made to change turbine operations. He also requested a pinniped update to quantify the risk adults face below the dam. The 2012 sea lion hazing report, linked to the TMT webpage, says the maximum number of Steller sea lions seen on any day is 29 and the maximum number of California sea lions is 14, Baus reported. The average 2012 California sea lion count to date is the lowest since 2002, perhaps in response to removal of 6 California sea lions last year.

Jim Litchfield, Montana, asked for a fisheries update. Fisheries below Bonneville are closed, but the tribal fishery above Bonneville has been extended for 4 more days, Cindy LeFleur, WDFW, reported. In order to evaluate the potential impacts of limiting spill on tribal fishing Tom Lorz, Umatilla/CRITFC, said he would need to see an outline of the current operation. The treaty fishery will continue until catch quotas are met.

TMT discussed timing of the spill reduction test so it occurs after the Spring Creek operation has ended. The window of opportunity for this special operation will be short because flows are expected to increase, Norris said. Adult passage at Bonneville should be peaking now, according to the 10-year average, Wagner replied. USFWS

would be comfortable with doing the test on May 3, Wills said. Scott Bettin, BPA, said the generation-neutral Spring Creek operation may continue through May 3.

Water stored from a one-day operation can be released over a period of more than 24 hours, Bill Proctor, COE, reported. Rick Kruger, Oregon, asked whether the test will influence the Action Agencies' ability to operate the PH2 units at the mid point of the 1% best efficiency range. BPA will make best efforts to operate the units to the mid range, Norris replied. However, the operation for adults will change the head at the project, which affects the mid-point of 1% operating range during the operation.

Regarding impacts to the treaty fishery, Lorz said tribal fishers would probably accept a 2-foot elevation increase to 75 feet in the Bonneville forebay tomorrow morning if he communicates with them today. Lorz will report back to Baus later today if the tribes object to the planned operation for adults. The COE is not intending on implementing the operation if analysis indicates it would result in more than a 2-foot rise in the elevation of Bonneville forebay, Proctor assured Lorz. Bonneville pool will be operation within the normal forebay operating range (71.5 to 76.5 ft.) for this special operation.

TMT members gave their views of the proposal to cap spill at 110-120 kcfs from 5 am to 9 am tomorrow while maintaining current powerhouse operations for the Spring Creek Hatchery release. Details of the proposal are: At 5 am on May 3, cap spill at 120 kcfs at Bonneville. For the subsequent hours of 6-9 am, make best efforts to maintain a spill rate of 110 kcfs.

- **Oregon** – This test is worth a try.
- **Montana** – Agrees with Oregon.
- **Idaho** – Willing to find out whether the operation helps adults.
- **Washington** – No objection.
- **Nez Perce** – No objection.
- **CRITFC** – Supports the operation as long as it conforms to treaty fishery needs as discussed today.
- **USFWS** – No objection, assuming that normal Fish Passage Plan operations do not resume at Bonneville until the Spring Creek Hatchery release has passed, as determined by index counts for May 3.
- **NOAA** – Supports the operation.
- **BOR** – Supports the operation.
- **BPA** – Supports the operation.
- **COE** – Supports the operation.
- **Colville Tribe** – Supports the operation.

TMT will reconvene at 1 pm on May 4 to discuss the outcome of the test and decide if additional steps are required.

## ***5. Lower Monumental Operations***

This item was added to today's agenda at the request of Paul Wagner. Flows at Lower Monumental are near the transition point (approximately 140 kcfs) when the FOP calls for a switch from uniform to bulk spill. However, because TDG levels on the Snake River are currently elevated, the Salmon Managers recommend continuing the uniform spill pattern, which produces less gas, for the next week even if flows drop into the 130-140 kcfs range.

Over the next 10 days, inflows at Lower Monumental are forecasted to decline, meaning flows could drop below the 140 kcfs threshold that triggers the switch to bulk spill, Laura Hamilton, COE, said. Yesterday flows ranged from 127-149 kcfs with an average of 136 kcfs. The project is currently operating to a uniform spill pattern. The intended operation for this year, like last year, is to switch from bulk spill to uniform spill when observed or forecasted inflows exceed 140 kcfs for 72 hours, Baus said. The COE will exercise best professional judgement in managing this operation. Continuing the uniform spill pattern makes the most sense as long as inflows stay in the 130-140 kcfs range, Wagner said.

If flows continue to drop, the COE will make the switch to a bulk spill pattern, Baus said. Lisa Wright referred TMT to page 13 of the Fish Operations Plan, which says:

“Consistent with adjustments made in 2011 spring operations through regional coordination, when total river flow is likely to exceed turbine capacity and spill over the 120% TDG gas cap, which is at a total river flow of about 140 kcfs for 3 or more days, the project will use the uniform spill pattern. This may also occur if spill over the 120% TDG gas cap is required due to lack of demand spill at any river flow level.”

Russ Kiefer, **Idaho**, advised against switching to a bulk spill pattern if the SYSTDG model predicts that doing so would result in TDG exceedances in the Lower Monumental tailwater or the Ice Harbor forebay.

If Ice Harbor operates above powerhouse capacity, it would be inconsistent with TDG spill waivers to use a bulk spill pattern when uniform spill would produce less gas, said Rick Kruger, **Oregon**.

If Lower Granite and Little Goose continue to send high gas levels into Lower Monumental forebay, it would be good TDG management to use the uniform pattern because it generates less gas, said Paul Wagner, **NOAA**.

The FOP language is consistent with maintaining uniform spill if daily average flows continue to be a little less than 140 kcfs, said Bill Proctor, **COE**. There were no objections to continuing the current operation of uniform spill at Lower Monumental. TMT will revisit this issue at its next meeting May 16.

## **6. Vernita Bar Update**

Russell Langshaw, Grant PUD, gave an update on the Hanford Reach fall chinook protection program. Estimated completion date is June 19. For the past week, mean daily outflows have been 203 kcfs with a mean daily delta of 67.1 kcfs. A 60 kcfs delta constraint has been in effect since the beginning of the 2012 program with the exception of April 27. All constraints have been met and there have been no exceedances. Field crews are still reporting low numbers of stranded or entrapped fish. Langshaw will give TMT another update on May 16.

## **7. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1238.1 feet. The BOR is managing refill at a controlled rate and maintaining enough space to accommodate peak runoff. Hungry Horse is at elevation 3532.5 feet, with releases of 9.2 kcfs, which will probably continue for the next few weeks. This operation reflects transmission limitations and a unit outage.

Libby is at elevation 2391.2 feet with inflows of 28.5 kcfs and releases of 13.4 kcfs. Albeni Falls is on free flows. Dworshak is at elevation 1533.5 feet with inflows of 22.7 kcfs and releases of 14.4 kcfs.

Priest Rapids inflows are 256.8 kcfs. Lower Granite inflows are 137.1 kcfs. McNary inflows are 408.2 kcfs, and Bonneville inflows are 409.9 kcfs.

**b. Fish. Transportation:** Peak juvenile passage at Lower Granite probably occurred around April 26, at least two weeks earlier than usual, Wagner reported. Various passage forecasts suggest the run is more than 50% complete, and yesterday's index count suggests the peak is long past. In light of this information, collection at Lower Granite began on May 1 with the first barge leaving on May 2.

Because travel times are shorter when flows are high as they are now, yesterday FPAC agreed to recommend that collection at Little Goose begin on May 3 and at Lower Granite on May 5, instead of the previously scheduled dates. Baus said the COE will be able to make these changes to the barging schedule.

*Adults:* This topic was covered in today's discussion of spill at Bonneville.

*Juveniles:* Most of the Snake River traps have been pulled due to high flows and debris, Wagner reported. Peak passage at Lower Granite occurred on April 26 and 71,000 fish passed Little Goose on April 30. Rock Island Dam chinook index counts have been around 1,000 fish per day, with the most recent count at 600. The first index counts were 184,000 fish at McNary, 233,000 fish at John Day, and 45,000 fish at Bonneville. This is prime passage time for juveniles.

Like adult passage, juvenile passage is occurring earlier this year than usual, and steelhead passage is also early. Spring chinook peaked at Bonneville with 359,000 fish

(the Spring Creek Hatchery release) passing on April 26, the same day steelhead passage peaked with 296,000 fish at Lower Granite. On April 30, 195,000 steelhead passed Little Goose, and substantial numbers of steelhead also passed at McNary, John Day and Bonneville. Steelhead passage at Lower Granite is approximately half done, which is much earlier than usual.

Recent sockeye counts were 636 at Dworshak, 1000 at Rock Island and 22,000 at John Day. Some 6,000 lamprey have passed McNary and 9,000 lamprey have passed John Day. Russ Kiefer reported that Idaho's work to establish sockeye in Redfish Lake is having positive results. Recently, 24 PIT tagged fish from the lake were detected at Lower Granite; most of these were naturally produced fish. The cumulative population index for combined hatchery and wild fish is 12 million this year, the highest number ever seen, Wagner said.

**c. Water Quality.** Involuntary spill has been on the increase system-wide since the last TMT meeting, with correspondingly high TDG readings, Scott English, COE, reported. Unfortunately high flows washed out the upgraded Bonneville tailwater station, which had just been rebuilt on higher ground after being inundated last year. The COE is working on a long-term solution to this problem. Meanwhile, adjusted values from the Warrandale gauge are being used to monitor conditions in Bonneville tailrace.

**d. Power System.** Peak hourly wind generation exceeded 4,000 MW for the first time about a week ago, Norris reported. BPA has not identified any additional adverse effects on fish protection measures as a result of an April 24 transmission emergency that caused The Dalles to operate outside of 1% efficiency for 37 minutes. Jim Burns, BPA, gave a detailed explanation of what caused the transmission outage. Loss of a major transformer at McNary required BPA to operate the grid to lower required reliability limits. This limited transmission out of the McNary area, and generation had to be redispatched. BPA called for a voluntary redispatch but none was available in the area needed, and an emergency was declared. The Dalles violated its 1% efficiency range. Norris will keep TMT informed of any fish-related impacts BPA finds from this incident.

Several TMT members expressed interest in seeing the Dittmer dispatch center in Vancouver, WA, so Norris offered to arrange a TMT site visit.

## **6. Next TMT Meeting**

There will be a TMT conference call on Friday, May 4. The next regular TMT meeting will be on May 16. Baus gave TMT a heads-up that coordination of the SOR for the sturgeon pulse at Libby has begun, with discussion scheduled for May 23.

<b>Name</b>	<b>Affiliation</b>
Jim Litchfield	Montana
Tony Norris	BPA
Lisa Wright	COE

Doug Baus	COE
Paul Wagner	NOAA
Rick Kruger	Oregon
Scott English	COE
Bill Proctor	COE
Jim Burns	BPA transmission
Laura Hamilton	COE
Kim Johnson	COE

*Phone:*

Dave Wills	USFWS
Cindy LeFleur	Washington
Russ Kiefer	Idaho
John Roache	BOR
Tom Lorz	Umatilla/CRITFC
Gabriel Banks	XX
Scott Richter	Energy GPS
Steve Hall	COE Walla Walla
Russ George	WMC
Heather Dohan	Puget
Harvey Hall	EWEB
Bruce McKay	hydro consultant
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Barry Espenson	CBB
Margaret Filardo	FPC
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Ruth Burris	PGE
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