

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 1, 2020

DRAFT Facilitator's Summary

Facilitator: Emily Stranz; Notes: Colby Mills, DS Consulting

The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as 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. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2020/>.

Review Meeting Minutes

TMT members approved the official meeting minutes and facilitator's summaries for the June 3, June 8, June 10, and June 17 meetings.

Dworshak Operations

Jon Roberts, Corps, updated the group on operations at Dworshak Dam. Currently the project is discharging 6-6.1 kcfs, all of which is through the powerhouse, except for 100 cfs that goes to the hatchery. Current elevation is just under full at 1,599.63 feet. The project hit full on June 19 and has been in the top .5-foot for the past two weeks, passing inflows and sending water to Lower Granite Dam to assist with temperature control.

TDG levels have fluctuated based on inflows. Currently, one turbine is down to minimum discharge, and levels are slightly elevated at 103%, while the hatchery remains at 100%. On June 27, TDG increased to 107.8% due to units on minimum generation and spilling from lack of load. Jon noted that the project has worked to minimize effects at the hatchery.

Temperatures currently passing through Hells Canyon are at 57.67 degrees F; the Clearwater River at Orofino is 52 degrees F, and 54 degree F water out of Dworshak. Recent cool rains have helped to keep the Dworshak pool cold. Air temperatures are expected to rise to 80 degrees F for the second half of the next 10-day period, and nights are expected to warm as well.

The Corps is running the operational temperature model each day (as posted on the TMT website). Dworshak is operating to allow for preservation of cold water into the summer. Starting at 2000 hours the project will start passing 7 kcfs, then drop to 6 kcfs tomorrow to ensure that temperatures at Lower Granite remain cool for the next 10-days. The pool will start drafting in July to hit 1,535 feet by September 1.

Operations Review

Reservoirs: Joel Fenolio, BOR, reported on Bureau of Reclamation projects:

- **Hungry Horse:** midnight elevation was 3,555.4 feet. The project operated at full powerhouse and spill to the gas cap over the weekend due to a storm in the southern part of the system. Currently, outflows are ramping down to 6,000 cfs, then 5,000 cfs tomorrow; reducing over the weekend to get the pool within 2-feet of full by July 10.
- **Grand Coulee:** midnight elevation was 1,285.3 feet, with inflows over the last 5 days averaging 215,000 cfs and releases of 200,000 cfs. The project is slowly refilling, targeting 1,286.5 feet by July 2 and aiming to hit 1,288 feet by mid-July. Spill has peaked at 14.5 kcfs, while the project operates to spill caps.

Lisa Wright, reported on Corps of Engineers projects:

- **Libby:** midnight elevation was 2,447.7 feet, with average inflows of 30.5 kcfs and outflows of 25.0 kcfs at full powerhouse;

- **Albeni Falls:** midnight elevation was 2,062.2 feet, with average inflows of 59.8 kcfs and outflows of 58.9 kcfs;
- **Dworshak:** midnight elevation was 1,599.6 feet, with average inflows of 7.3 kcfs and outflows of 8.8 kcfs;
- **Lower Granite:** average outflows of 78.8 kcfs;
- **McNary:** average outflows of 324.7 kcfs; and
- **Bonneville:** average outflows of 314.8 kcfs.

Joel reported that flow augmentation was delayed in the upper Snake River, as Milner Dam had to cut releases for about a week to support a body recovery effort. The project has ramped back up to 4,500 cfs with plans to maintain and then ramp back down to finish flow augmentation by July 22 or 23.

Doug Baus, Corps, updated the group on current Treaty fishing, with Bonneville and The Dalles operating in a 1.5-foot band, and John Day operating in a 2-foot band. The operational request is from 0600 hours on July 1 – 1800 hours on July 3; 0600 hours on July 6 – 1800 hours on July 9. There was no SOR for the operation.

Doug also provided an update on the Corps' plans for juvenile transportation. At this time daily truck transport will resume as defined in the FOP, with collection starting on August 15 and every other day truck transport starting on August 17, depending on numbers. He noted Action Agencies need at least two weeks advance notification to implement any requested adjustments to the transport operation as defined in the FOP. Charles Morrill, WA, confirmed that FPAC had discussed a possible earlier starting date, and will circle back with a request at the next TMT meeting.

Water Quality: Dan Turner, Corps, noted that the Corps is having trouble getting spill bay data into the distributing system, and they are working on getting the issue resolved.

There have been various exceedances of Water Quality Standards (WQS) on the system, with Grand Coulee and Chief Joseph spilling due to lack of turbine. On the lower Snake and Columbia Rivers there have also been scattered exceedances of WQS criteria due to a lack of load spill.

Dan reported that the Summer Spill Priority List order is the same as this spring, with Lower Granite at the top and then working down the system (posted on the TMT website). There are spill caps for Lower Monumental Dam in both bulk and uniform patterns at level 1, and Dworshak has a lack of load spill cap.

Jay Hesse asked if it was possible to modify the list to move Little Goose lower in the order from 0400-1200 each day to minimize spilling above 30% those hours to assist in adult passage. Several fish managers supported this concept. Action Agencies noted the difficulty in implementing a time restraint as part of the spill priority list, especially considering the upcoming holiday weekend. Jonathan Ebel, ID, suggested shifting Little Goose down the list below Ice Harbor as an interim measure and observing results over the coming week. Most TMT members on the call expressed that they were comfortable with the suggested interim operation; Erick Van Dyke, OR, expressed that he did not have enough information to inform a position. Jay noted that he would still like the AAs to consider the original hourly operation request.

- **ACTION:** The Corps will move Little Goose Dam below Ice Harbor Dam at all three levels on the summer spill priority list, starting at 1600 hours today. The AAs will continue to discuss the proposed hourly operation internally and report back to the TMT on its feasibility.

Fish: Claire McGrath, NOAA, reported moderate passage of sub-yearlings in the system, and noted that a summary of juvenile passage index is posted on the TMT website.

Adult summer Chinook have increased over the past week, along with steelhead and sockeye. At Bonneville, summer Chinook YTD passage is 58,336, or 89% of the 10-year average. Jacks YTD passage is 6,794, or 38% of the 10-year average; total steelhead YTD is 6,357, or 47% of the 10-year average; wild steelhead YTD is 3,506, or 69% of the 10-year average; and sockeye YTD is 193,460, or 84% of the 10-year average. Almost 6 million shad have passed, at 210% of the 10-year average.

At Lower Granite, summer Chinook YTD passage is 3,621, or 44% of the 10-year; jacks YTD is 843, or 28% of the 10-year average; total steelhead YTD is 2,214, or 28% of the 10-year; sockeye YTD is 10, or 15% of the 10-year average. Shad have also arrived at Lower Granite.

Priest Rapids has experienced delays in counts, although sockeye are increasing in passage at 22% of 10-year average.

Dave Swank, USFWS, reported on a lamprey update issued yesterday. He noted that many are passing at night, and only daytime ladder counts are posted, thus the current lamprey estimates are higher than what is posted for adult lamprey.

Power System: Tony Norris, BPA, reported that recent mild temperatures and lots of wind and water have attributed to lack of load conditions, and thus wind generation was curtailed throughout the weekend.

Tom Iverson, Yakama Nation Fisheries, asked whether BPA had to pay to curtail the wind generation, to which Tony responded that the oversupply management is reimbursed.

Questions and comments from members of the public: There were no questions or comments from members of the public.

The next scheduled TMT meeting is a conference call on July 8 at 9:00 AM.

This summary is respectfully submitted by the DS Consulting Facilitation Team. Suggested edits are welcome and can be sent to Colby at colby@dsconsult.co.

Columbia River Regional Forum

Technical Management Team DRAFT OFFICIAL MINUTES

Wednesday, July 1, 2020

Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

Today's TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting, and was conducted via conference call and webinar. See the end of these minutes for a list of attendees.

1. Review of Meeting Minutes

The summaries and official meeting minutes for the June 3, June 8, June 10, and June 17 TMT meetings were approved with no additional edits.

2. Dworshak Operations - Jon Roberts, Corps NWW

Jon Roberts, Corps NWW, reported on operations at Dworshak Dam. Outflows are 6 to 6.1 kcfs. All Dworshak discharge is going through the powerhouse, except 100 cfs to the hatchery. The reservoir is just below full, with a current elevation of 1,599.63 ft. The project has been in the top 2 feet of the operating range since June 12 when it hit 1,598.3 ft. It entered the top half-foot on June 15 and briefly touched full at 1,600 ft. on June 19. The project is passing inflow and sending all additional water above what's needed to keep the reservoir full to Lower Granite to help with temperature – Dworshak outflow is currently around 42°F.

In regards to TDG, the Dworshak tailrace is at 103% currently and the hatchery is at 100%. On June 27, there was spill due to lack of load on the system. The project was at minimum generation which resulted in TDG of up to 107.8%. The Corps coordinated with the hatchery over the weekend to minimize the effects of the increased TDG on the hatchery.

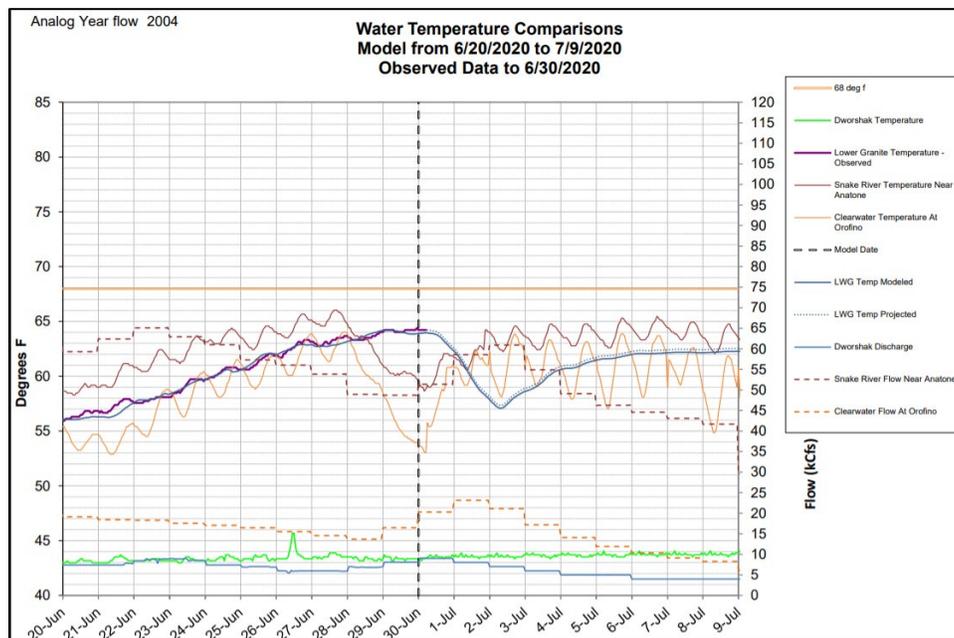
Roberts reported on water temperatures, which are currently cool.

- Snake River at Anatone: 57°F
- Clearwater River at Orofino: 52°F
- Dworshak Dam tailwater: 44°F
- Clearwater River at Lewiston: 50°F
- Lower Granite tailwater: 63°F

Cool weather and rain this past weekend dropped water temperatures at Anatone and Orofino; however, temperatures are expected to climb this week. The 10-day weather forecast calls for cool weather over the next day or two, then rising to 80 degrees. Toward the end of the 10-day forecast, nighttime temperatures start to increase into the 50s, so there will be less nighttime cooling; but with daytime highs staying well below 90°, the system should stay relatively cool.

Roberts reported that the Corps is running the temperature model daily and shared the latest run as of yesterday morning. The cooler water from the Clearwater and Snake is expected to reach Lower Granite in the next couple days, which keeps the tailwater well below the 68° threshold throughout the forecast period. The model has been tracking very closely with observed

temperatures. Dworshak outflow is currently 6 kcfs to keep the pool full and pass the remainder of inflow. The plan is to increase to 7 kcfs at 8:00 tonight to keep from overflowing, then back to 6 kcfs tomorrow as water from the rain event tapers off. The model indicates needing to start drafting around July 7-8 to reach 1,535 feet by September 1.



Claire McGrath, NOAA, and Charles Morrill, WA, both commented that they appreciated the update and are happy to see conditions are looking favorable for temperature this year.

3. Operations Review

3a. Reservoirs – Joel Fenolio, Reclamation; Lisa Wright, Corps

Hungry Horse – Midnight elevation 3,555.4 ft. Over the weekend, the project was discharging full powerhouse and spilling up to the gas cap in anticipation of a storm that was forecasted for Sunday-Monday. The bulk of the precipitation fell to the south of the region and releases have been ramped down to 6,000 cfs today and will be dropped to 5,000 cfs tomorrow. Reclamation will likely continue to reduce flows over the weekend, targeting 2 feet from full around July 10.

Grand Coulee – Midnight elevation 1,285.3, inflows ~215 kcfs, releases ~200 kcfs. The project is slowly refilling and should be at 1,286 feet by tomorrow, then filling slightly over the holiday weekend to target 1288.8 feet by mid-month. The project has been spilling (up to 14.5 kcfs on June 28) as part of the spill operation to reach the spill caps.

Upper Snake flow augmentation update: Due to a body recovery operation near Twin Falls, ID, releases at Milner Dam were dropped down to 0 over the past two weeks. The project has ramped back up to 4,500 cfs and that will be maintained until Reclamation begins the ramp down to finish flow augmentation around July 22-23.

Libby– Midnight elevation 2,447.7 ft., yesterday’s average inflows were 30.5 kcfs and outflows were 25 kcfs.

Albeni Falls – Midnight elevation 2,062.2 ft., inflows 59.8 kcfs and outflows 58.9 kcfs.

Dworshak– Midnight elevation 1,599.6 ft., yesterday’s average inflows 7.3 kcfs and outflows were 8.8 kcfs.

Lower Granite – Yesterday’s average outflows were 78.8 kcfs.

McNary– Yesterday’s average outflows were 324.7 kcfs.

Bonneville– Yesterday’s average outflows were 314.8 kcfs.

Baus reported that treaty fishing is underway in the lower Columbia River and the Corps is implementing the request to maintain Bonneville and The Dalles pools within a 1.5-foot band and John Day within a 2-foot band. The operation began at 0600 this morning and will continue through 1800 on July 3. It will continue again at 0600 Monday, July 6, through 1800 Thursday, July 9. There was no SOR for this operation.

Regarding juvenile transport, the Corps’ plans to implement the default operation defined in the FOP and resume collection on August 15 with every-other-day truck transport starting on August 17, contingent upon numbers. Baus notified TMT that the Corps would need 2 weeks advance notice to adjust the operation. Charles Morrill, WA, shared that at FPAC yesterday there was talk of starting transport earlier than August 15. He noted fish managers would provide that update at next week’s TMT with at least two weeks’ notice before their requested start date.

3b. Water Quality – Dan Turner, Corps

Dan Turner, Corps, notified TMT that there have been issues getting spill bay data into the distribution system. The Corps is aware of the issue and working to fix it.

There has been spill due to lack of turbine at Grand Coulee and Chief Joseph, which has caused an exceedance of the 110% TDG water quality standard. On the Lower Snake and Columbia, there have also been some exceedances of the water quality criteria (120% TDG in the tailwater and 115% in the next downstream forebay) due to lack of load spill.

Turner noted that the Corps has posted the spill priority list for summer and directed TMT to the list on the TMT website. He noted that it is the same order as the spring spill priority list with Lower Granite at the top of the list with different state standards for different parts of the system.

Jay Hesse, Nez Perce, inquired if it was possible to restrict lack of load spill at Little Goose to 16 hours a day and not spill above 30% in the morning from 0400 to noon. The spill priority list has never been operated hourly and thus the Corps and BPA would need to talk offline and explore if it is possible to do that.

Scott Bettin, BPA, asked if the desire is to simply not spill at Little Goose and if moving the project to the bottom of the order would be an agreeable solution. Hesse reiterated that his preference would be for a partial spill priority list operation each day rather than moving the project down on the list; his preference is to prioritize adult passage over additional spill.

McGrath echoed that it would be helpful to keep the morning block free of additional spill at Little Goose but noted NOAA would be open to moving Little Goose to the bottom of the spill priority list all hours.

Baus noted that the Corps would not be able to commit to an hourly spill priority list at today's TMT since the tool has never been used in that manner. He added that what the Corps could implement today is moving Little Goose lower on the list, since that is an operation that has been implemented in the past. Tony Norris, BPA, added that with the holiday weekend approaching, it may be problematic to try to implement a new operation on such short notice. Bettin added that in addition to it being a holiday weekend, remote work due to COVID-19 may add an extra level of complication in coordination.

Jonathan Ebel, ID, proposed a middle ground: moving Little Goose below Ice Harbor instead of all the way to the end of the order below Bonneville. NOAA supported this plan, adding that there are not many adult sockeye in the system right now and that summer Chinook are the main species moving through the system.

WA, Colville Tribe, BPA, USFWS, MT, and Umatilla Tribe/CRITFC expressed support of the operation, which the Corps could implement today. BPA and the Corps will discuss offline if the operation is implementable on an hourly basis and report back to TMT next week.

Erick Van Dyke, OR, did not object but noted he would need more information before he could consider supporting the operation.

Bettin noted that this may be a good topic for the end of the season review or the flex spill working group.

Based on today's discussion, the Corps will move Little Goose below Ice Harbor on the summer spill priority list at all levels. This will be implemented today at 1600 when the daily spill priority list is issued. This will remain in effect until TMT advises the Corps otherwise. The Corps and BPA will report back at next week's TMT regarding possible hourly changes to the spill priority list.

3c. Fish – Claire McGrath, NOAA

Claire McGrath, NOAA, reported on fish. Summer Chinook have been decreasing over the past week, steelhead have been increasing, and sockeye numbers are strong, she said.

At Bonneville, summer Chinook counts have been 1,900 to 3,000 per day over the past week and the YTD is 58,336, which is 154% of last year and 89% of the 10-year average. Jacks have been passing at 200-300 per day and are at a YTD of 6,794, which is 97% of last year and 38% of the 10-year average. Steelhead are at 6,357 YTD, which is 139% of last year, but only 47% of the 10-year average. Wild steelhead are at 3,506 for the year, which is 145% of last year and 59% of the 10-year average. Sockeye are at 193,460 for the year and, as of yesterday, more had passed the project than last year at this time. Sockeye are at 84% of the 10-year average.

At Lower Granite, summer Chinook are at 3,621 for the year thus far, which is 163% of last year and 44% of the 10-year average. Jacks are at 70% of last year and 28% of the 10-year average.

Steelhead are at 2,214, which is 76% of last year and 28% of the 10-year average. Sockeye are at a total of 10 so far this year, which is 15% of the 10-year average.

Shad at Bonneville have come in at 5.8 million, which is 200% of 10-year average, and have made their way to Lower Granite.

At Priest Rapids, there have been delays in counts. Thus far, sockeye are at 130% of last year and 22% of the 10-year average but are increasing rapidly.

There is not much to report for juveniles, except that subyearlings are still passing.

Dave Swank, USFWS, reported on an update on lamprey at Bonneville Dam that was distributed yesterday. He noted the numbers are very rough and do not include lamprey that pass at night or through lamprey passage structures and are adjusted post-season. The current estimate for lamprey is higher than what was posted and shows numbers that are lower than average.

3d. Power –Tony Norris, BPA

Norris reported that mild temperatures over the last weekend accompanied by significant wind and water resulted in lack of load conditions. Wind generation dropped over the weekend despite wind occurring in the system, indicating lack of load. Oversupply management, which is implemented when BPA cannot manage lack of market conditions within state water quality TDG standards, was implemented almost every hour this weekend and wind generation was subsequently curtailed. Tom Iverson, Yakama Nation Fisheries, asked if curtailing wind moves the market into negative pricing. Norris responded that it's not negative pricing, but oversupply management reimburses the wind generators for credits they would have received for that power.

4. Next TMT

The next TMT meeting is call on July 6 at 9 a.m.

Today's Attendees:

| Agency | TMT Representative |
|---------------------------------|--|
| Army Corps of Engineers | Doug Baus (Chair), Lisa Wright, Julie Ammann |
| Bonneville Power Administration | Tony Norris, Scott Bettin |
| Bureau of Reclamation | Joel Fenolio |
| NOAA Fisheries | Claire McGrath |
| US Fish & Wildlife Service | Dave Swank |
| Washington | Charles Morrill |
| Oregon | Erick Van Dyke |
| Idaho | Jonathan Ebel |
| Montana | Jim Litchfield |
| Nez Perce Tribe | Jay Hesse |
| Umatilla Tribe/CRITFC | Tom Lorz |
| Colville Tribe | Sheri Sears |
| Warm Springs Tribe | Jen Graham |
| Kootenai Tribe | N/A |
| Spokane Tribe | N/A |

Other Attendees (non-TMT members):

Army Corps of Engineers – Dan Turner, Laura Hamilton, Alexis Mills, Jon Roberts

BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker)

Clearing Up – K.C. Mehaffey

Columbia Basin Bulletin – Mike O’Bryant

DS Consulting – Emily Stranz (Facilitator), Colby Mills

Yakama Nation Fisheries – Tom Iverson