

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 7, 2021

Facilitator's Summary

Facilitator: Emily Stranz; Notes: Colby Mills

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/2021/>.

Review Meeting Summaries & Minutes

Official meeting minutes and facilitator's summaries for the June 23, June 30, and July 2 meetings will be reviewed at the July 14 TMT meeting.

Dworshak Dam Operations

Jon Roberts, Corps, reported on operations at Dworshak Dam. Some cloud cover in the region was expected to bring river temperatures down today and tomorrow. Saturday through Monday will be clear and hot due to another heat wave, with temperatures back up in the 100-105 degrees F range, but the heat wave is expected to dissipate Tuesday. Temperatures will be closely monitored through the weekend.

Dworshak's discharge was dropped down to conserve as much water as possible with the couple days of cooler temperatures. The Lower Granite Dam tailwater has been fluctuating between 67.35-67.53 degrees F; drifting to 68 degrees F to be as efficient with water as possible. Yesterday saw the hottest temps in the Lower Granite forebay, up to 81.1 degrees F at the surface at 1900 hours, although the pool is continuing to keep good stratification between the 15-20-meter mark (68-66.5 degrees F).

With the implementation of SOR #2021-3, there was a cooling effect in the Lower Granite tailrace, with temperatures down about 0.5+ degree at times. Lower Granite tailwater temperatures are expected to be closer to 67.5 degrees F as the Corps continues to try and conserve water at Dworshak (there have been 4 days of lower discharge so far). Dworshak spill will need to come up on Thursday evening to offset the high temperatures expected Saturday through Monday. The Corps will monitor closely if more water can be conserved.

Jon noted that due to an emergency repair, the Orofino gauge is displaying the most recent two temperatures incorrectly (showing over 100 degrees at the time of meeting). The data are corrected and recorded as updated, and they are working on a permanent fix. Additionally, the Lower Granite temperature strings are not showing hour 2300 due to a formatting error on the webpage, however, the data are being recorded and the formatting will be fixed.

Four alternative scenarios were presented (posted on the TMT website) for the long-term outlook, as requested by FPAC yesterday:

1. Return to FOP summer spill 3-days on July 11;
2. Current operation of continuing Lower Granite and Little Goose spillway weir only 0900-2300 / night FOP spill;
3. Lower Granite tailwater temperature criteria raised to 70 degrees F between July 23 – Aug 7, as well as continuing Action #2 July 10 onward; and
4. Lower Granite tailwater temperature criteria raised to 70 degrees F between July 23 – Aug 7, as well as a return to FOP summer spill at Lower Granite.

Jon reminded the group that Doble testing at Lower Granite starts on August 9, per FPP Appendix A, and additional Dworshak water will be required to ensure stratification and maintain temperatures at Lower Granite during the outage for testing. Unfortunately, this testing is unlikely to be rescheduled, as repairs can only be made during small windows of time (dry weather) and it is critical to keep the transformers in working order.

Facilitator Summary

In response to a query about what would occur to tailrace temperatures once flow augmentation runs out from Dworshak, Jon provided the modeling results showing water temperatures in the 71-73 degrees F range. These results include use of the Lower Granite RSW and there was a request to run the same scenarios without the RSW. The Corps Walla Walla team will run the model with the RSW closed. There was also a request to model the Dworshak pool elevation if water was used through the month of August to keep Lower Granite temperatures down.

→ **ACTION: The Corps Walla Walla team will provide modeling result for these alternatives, as well as projected outcome information.**

Doug reported that a brief summary of the SOR (#2021-3) actions is posted on the TMT agenda website, as requested by OR at the last meeting. Many expressed appreciations for the Corps' efforts and coordination with FPAC.

Lisa Wright, Corps, clarified that the RSW shutoff criteria at Ice Harbor and Lower Monumental dams is flow below 30 kcfs any time during summer spill; Little Goose dam is below 35 kcfs on or after August 1, unless coordinated with FPOM to close it earlier. As of Friday, projected flows at Ice Harbor and Lower Monumental were not expected to meet the flow criteria within the forecast period.

→ **ACTION: Scott St. John, Corps, will coordinate to add a conversation on spillway weir closure criteria to the FPOM agenda for July 8.**

Erick Van Dyke, OR, reported that OR still intends to provide a SOR with additional alternatives aimed at protecting fish during these difficult river conditions. A TMT call was scheduled for Friday, July 9 at 11:00 AM to deliberate the forthcoming SOR. FPAC will aim to distribute the SOR to TMT by Thursday afternoon to allow enough time for review before the TMT meeting.

Charles noted that in terms of passage, adult sockeye counts in the Snake River are not showing significant impact despite the high temperatures in the Snake and over 70 degrees F at Bonneville, McNary, and Ice Harbor projects. Sockeye passage below McNary remains a concern for the remaining portion of the migration run.

Jonathan Ebel, ID, reported that ID emergency sockeye trap and haul began at Lower Granite yesterday: 8 adults were transported back to Eagle Hatchery near Boise. Adult transport will continue tomorrow.

Questions or comments from members of the public: Ruth Burris, PGE, asked if Grand Coulee Dam hit refill yet; Joel Fenolio, BOR, clarified that the project should hit peak pool elevation (1,289.6 feet) on July 12.

Charles Pace commented on load patterns at Bonneville, highlighting the relationship between load in the Pacific Northwest, interchange and wind; Mr. Pace suggested that this could be a dramatic inter-relationship that could pose harm to fish.

**The next scheduled TMT meeting is a conference call on Friday July 9, 2021 at 11:00 AM.
The next regularly scheduled TMT meeting is a conference call on Wednesday July 14, 2021 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@diconsult.co.

Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, July 7, 2021
Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

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

1. Dworshak Dam Update

Jon Roberts and Willow Walker, Corps Walla Walla, reported on operations at Dworshak Dam. The 10-day weather forecast shows some cloud cover today and tomorrow in the region, which should bring river temperatures down. Temperatures will hover around average. Heading into the weekend, another heat wave will enter the region with temperatures in the triple digits. The heat should dissipate around Tuesday of next week.

Looking at water temperatures at Anatone, the temperature is at 73°F. Dworshak Dam discharge was reduced yesterday in an effort to conserve water due to the forecasted drop in temperatures. The Lower Granite tailwater is fluctuating around 67.35-67.53°F. Roberts noted that due to the efficiency of the current operation, this may come closer to 68°F in the coming days. The forebay reached its highest recorded temperature thus far this year at 1800 yesterday. The pool is still maintaining stratification, meaning the water at the depth the fish pumps pull from (15-20 meters deep) is sitting near 68°F.

Roberts shared modeling results with TMT which showed the effects of SOR #2021-3 as coordinated at the last TMT. Effective July 3 at 0900, Lower Granite spill changed to RSW only from 0900-2300 daily and FOP spill (18 kcfs) from 2300 to 0900. This helped to lower the Lower Granite tailrace temperature by about 0.5°F on average. At times, the benefit was slightly higher or lower. Since the change in Dworshak outflow occurred 4 days ago, the effects can now be seen in the Lower Granite tailwater, based on water travel time. Temperatures in the Lower Granite tailwater are near 68°F and will move closer to 67.5°F this week as air temperatures drop. On Thursday, they will begin to warm as higher temperatures enter the region again. The Corps will monitor the situation and make a reduction in discharge to conserve water, if possible.

Roberts took TMT through 4 operational scenarios:

Scenario 1. Return to FOP Summer Spill 3-days on July 11.

Scenario 2. Continuing LWG daytime RSW spill only / night FOP spill.

Scenario 3. LWG tailwater temperature criteria raised to 70°F July 23 to Aug 7 and continuing LWG daytime RSW spill / night FOP spill July 10 forward.

Scenario 4. LWG tailwater temperature criteria raised to 70° from July 23 to Aug 7 and return to FOP summer spill at LWG.

These models showed Dworshak water running out between August 18 and 24, depending on the scenario. It is important to note that the Lower Granite outage for Doble testing begins on August 9. Additional cold water will need to be sent for that testing. Erick Van Dyke, OR, asked

if Doble testing could be rescheduled. Chris Peery, OR, noted that it is important this work is done to prevent transformer failures, highlighting an incident at Little Goose. Deferring testing is not something the Corps would do lightly. Scott Bettin, BPA, noted that testing is done every other year unless maintenance is required. Lately maintenance has been required every year. Van Dyke asked if the issue is the aging structure. He commented that it seems like the process is resulting in the agency not being flexible enough during extreme events. Bettin noted that work has always been done at this time of year and must be done at this time of year when it's dry. This type of testing is open air and can expose the transformer to moisture, which is problematic.

Several TMT members asked Roberts to provide additional modeling if time permits. Those requests included:

1. Van Dyke would like Roberts to model the summer spill actions through traditional bays.
2. Charles Morrill, WA, would like Roberts to model what it would take to maintain the Lower Granite forebay at 69-70. Roberts will provide the additional volume needed as well as the additional risk to refill.

Roberts will look into these requests and report back to TMT.

Jay Hesse, Nez Perce, also wondered what would happen to the tailrace after flow augmentation from Dworshak runs out. Under scenario 1, temperatures would climb to 74°F, dropping to 72-73°F on September 1. Under the other scenarios, temperatures would hit 71-73°F.

Tom Lorz, Umatilla Tribe/CRITFC, asked when the RSW at the other projects will be closed. Lisa Wright, Corps, reported that the FPP trigger at Lower Monumental and Ice Harbor is flows below 30 kcfs. At Little Goose, the criteria are flows below 35 kcfs starting August 1. The current forecast has flows above these thresholds the next 7 days. Bettin mentioned that the August 1 date for Little Goose is becoming hard to hit due to flows falling below 35 kcfs earlier and wondered if it should be discussed at FPOM. Scott St. John will add it to the agenda.

Morrill expressed appreciation that the Corps attended yesterday's FPAC and providing model results for the fish managers to inform their recommendations. At this time, no additional SORs are ready. However, the group is pushing to get one on the table ASAP. Accordingly, there will be a special TMT call this Friday 7/9 at 11am to discuss the new SOR.

Although temperatures have been above 70°F at Bonneville, McNary, and Ice Harbor dams, Morrill reported that there have not been any recorded impacts to passage. There may be thermal impacts, he noted. Sockeye passage is ramping down at most projects below McNary. Van Dyke added that fish passage affects all listed species and from his agency's perspective it is important to be proactive as this year has been a lethal, difficult year for aquatic life. Morrill added that he has received preliminary reports of sturgeon mortality at John Day and McNary.

Jonathan Ebel, ID, added that sockeye trap and haul started at Lower Granite dam yesterday. Eight adults were transported to Eagle hatchery near Boise, ID, yesterday. Efforts will continue tomorrow.

Lastly, Roberts noted there is an error in the temperature string for Orofino. Three weeks ago, an emergency repair was made to the gauge and since then, the most recent two hours reported are

obvious errors. The correct data fill in over time so the most recent two hours should be ignored. A team is working to fix it.

2. Summary of TMT-Coordinated Operations

Baus directed the TMT to a summary of TMT-coordinated operations regarding SOR 2021-3, available on the TMT website.

3. Questions from the Public

Ruth Burris, Portland General Electric asked if Grand Coulee had hit refill. Joel Fenolio, Reclamation, said the project is projected to peak at 1,289.6 ft. on August 12.

Charles Pace, a citizen, noted strange load patterns in BPA graphs related to loads in the PNW and the interchange and wind, with regards to USGS data and Bonneville discharges. He believes there is a relationship there that someone needs to look at. He added that it is harmful to fish.

Today's Attendees:

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

Other Attendees (non-TMT members):

Corps – Alexis Mills, Jon Roberts, Willow Walker, Scott St. John, Eric Chow, David Bogema
DS Consulting – Emily Stranz (Facilitator), Colby Mills
Portland General Electric – Ruth Burris