

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 21, 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

TMT Members approved the facilitator's summary for the July 14 meeting. Official meeting minutes and facilitator's summaries from the July 9 meeting, and minutes from June 30, July 2, 7 and 14 will be reviewed at the next TMT meeting.

Dworshak Dam Operations

Willow Walker, Corps, reported on operations at Dworshak Dam. The 10-day forecast anticipates cooler nighttime temperatures in the lower Snake and Clearwater areas. Warmer temperatures are expected on Saturday night in the lower Snake (although not above 75 degrees F). This pattern will continue to end of the 10-day forecast.

Lower Granite Dam's tailwater is currently around 66.3 degrees F. Flows at Anatone and Orofino are starting to decrease and Dworshak releases are making up more of Lower Granite's inflow, helping to keep water temperatures cooler. Additionally, some rain in the system over the last 2 days and temperatures under 80 degrees F are helping to keep pool stratification between the 15-20-meter mark (67-64 degrees F). Spill bay temperatures are remaining below 68 degrees F.

As coordinated at TMT, SOR-2021-05 changes the tailrace target temperature to 69.5 degrees F after July 23; model estimates show temperatures could reach 69.2 degrees F, however, it is expected that temperatures in the tailrace will be closer to 68.5/69 degrees F. The Corps plans to step down Dworshak flows to 6 kcfs on Thursday, and then 5 kcfs on Friday to help conserve as much water as possible.

Jon Roberts, Corps, reported on updated conditions from the Climate Prediction Center (CPC) and other considerations that will affect operational long-range alternatives to assist decision-making (posted on the TMT website). Above average temperatures are expected throughout the summer, although the concentrated heat is no longer centered over the region. Dobel testing from August 9-13 and 16-17 will have temperature impacts and Lower Granite's receding inflow will impact RSW operations. Other considerations include a higher tailwater temperature during the approved time frame and water needed to cool back down to 68 degrees F. Implemented actions (or planned actions) under the recent SORs have extended water from Dworshak for the end of August by about 10 days.

Updated alternative operations to extend water are posted on the TMT website; including a request to draft Dworshak up to 10 feet deeper than the usual 1,535 feet elevation target by September 1. The alternatives provide between a 4-6-day gap between augmentation flow running out and the beginning of September. Jon noted that the default action has an end of September elevation of 1,520 feet, and an end of August elevation of 1,535 feet.

The update prompted a lengthy discussion with significant concerns and questions regarding the effects of Dobel testing, closing the RSW when temperatures reach above 100 degrees F, and the minimum level of inflows for RSW closure.

The Corps confirmed that minimum flows will likely be around 21 kcfs this Saturday or Sunday, at which point the RSWs will close. Jonathan Ebel, ID, requested further conversation and analysis on an alternate spill pattern (flat vs bulk) to confirm best conditions for fish. Chris Peery, Corps, will connect with Jonathan and Jay Hesse, Nez Perce, offline on the issue, and whether to address it via MOC or discussion at FPOM.

Jon clarified that Dobel testing will occur August 9-12, and minimum generation is not available from 0600-1900 hours, however, 5 kcfs of station power is available. If ambient air temperatures are over 100 degrees F during Dobel testing, Dworshak will need to send additional water to offset the hotter surface temperatures flowing through the RSW. One consideration was to close the RSW during the day and send all spill volume through the conventional spill way base through the deep spill (to extend water by about .5-1 day if temperatures are under 100 degrees F). Concerns around Dobel testing will be discussed further at upcoming TMT meetings to allow for better analysis on the impacts; coordination to close the RSW would need to occur by the August 4 TMT meeting.

Dave Swank, USFWS, noted that the Agency is investigating potential impacts to Bull Trout in the Dworshak tributaries, due to concerns that the August/September elevations might impede the ability to enter tributaries for spawning. There is uncertainty as reservoir elevation is not usually that low this time of year. This uncertainty drew concern from other fisheries managers; it was requested that this determination on impacts be brought back to the TMT as soon as possible. Dave will follow up with USFWS fish biologists and USFWS will coordinate with NOAA regarding how to move forward if there are competing needs from ESA-listed species.

Summary of SORs 2021-3, 2021-4, and 2021-5 TMT Coordination

Doug Baus, Corps, updated the TMT on SORs 2021-3, 2021-4, and 2021-5, and clarified TMT coordination and operation implementation (posted to the TMT website).

Regarding SOR 2021-4, Action 4 (temporary change at Dworshak for summer flow augmentation), the Corps did not have further information at this time, and they will report back to the TMT once more information on environmental compliance is available. Jay requested that the AAs act urgently and provide a response by the July 28 TMT meeting. Jay updated the TMT that the Dworshak Board met on July 20 to discuss environmental conditions, and the draft operational plan is expected to be completed by the end of July. The plan is to start releasing the 200 kaf on September 1, with the allocation of water gradually ramped down over September to meet all purposes identified in recent Board operational plans. Jay noted that the Board did not provide a recommendation for water elevation range.

Jay and Jonathan voiced concern over implementation of SOR 2021-3, specifically that the intent of the SOR, which was to benefit water temperatures, was usurped to benefit power generation. To further clarify the intent of the SOR and acknowledging the limitations of low flow conditions, the Nez Perce Tribe and Idaho requested the following clarifications for Lower Granite Dam operations identified in SOR 2021-3 (posted to the TMT website):

- **July 19 – 22:** Minimum generation and RSW spill from 0500 – 1900 hours; minimum generation and spill the rest from 1900 – 0500 hours; and implementable with outflows less than 30 kcfs.
- **July 23 – 31:** Minimum generation and RSW spill from 0900 – 2300 hours; minimum generation and spill the rest from 2300 – 0900 hours, and implementable with outflows less than 30 kcfs.

It was noted that minimum generation spill the rest was only up to 18 kcfs. BPA heard the concerns and will make it clear to the schedulers on duty; operational changes will be made as soon as possible.

Sockeye Condition Update

Dave updated the TMT on sockeye conditions, based on reports of unusual and suspected lamprey wounds. The Fish Health Program reported that both biologists and a veterinarian reviewed wound conditions and determined that warm water temperatures in the Columbia River this year are exacerbating a normal background level of injuries and wounds. This is causing fish to get secondary infections and bacteria from pinniped bites, lamprey wounds, and nets etc. A brief summary will be available in the next couple of days and will be posted on the TMT website. Jonathan reported a similar initial assessment based on samples and bacterial cultures from fish at the Eagle Hatchery.

Sockeye Emergency Trap & Transport Update

Jonathan reported that as of last Friday, the program had trapped and transported 123 fish and things are going well. As of Monday, 10 of 54 PIT-tags were detected at Lower Granite, with 44 remaining in the system, and about 11% of total PIT-tags considered active in the system. Conversion rates are dropping off between Bonneville and John Day. Chris noted that as of yesterday, 30 of 53 PIT-tags were detected at Bonneville, 30 made it to McNary, and 23 made it to Ice Harbor. Travel time between McNary and Ice Harbor is less than 1-2 days on average, and fish do not appear to be hesitating at the mouth of the Snake River. Travel time to Ice Harbor and Lower Granite is a couple days for each project.

Questions or 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 28, 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@dsconsult.co.

Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, July 21, 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. Review of Minutes and Summaries

The 7/14 summary was approved with no additional edits.

2. Dworshak Dam Update

Willow Walker, Corps, reported on operations at Dworshak Dam. The 10-day weather forecast calls for cool nighttime air temperatures throughout the region and cooler daytime temperatures in the Clearwater area. This continues until Saturday with some slight warming, which continues through the end of the 10-day forecast.

The Lower Granite tailwater is sitting at about 66.3°F. Yesterday, it was slightly warmer. Over the past few days, there has been some precipitation in the area. Flows at Orofino are starting to decrease, meaning that the proportion of total inflow at Lower Granite coming out of Dworshak Dam is increasing. The colder water is helping to maintain temperature and stratification in the Lower Granite pool. Looking over the past few days, the forebay surface was around 79-80°F during the last heat wave. At the 15-meter depth, the temperature is currently 67°F and at the 20-meter depth, the water is at 64°F, thus the pool is maintaining stratification and remaining below the 68°F mark.

Per SOR 2021-5 & coordination with FPAC, the tailwater criterion at Lower Granite has been increased to conserve water in Dworshak Reservoir during a period of lower fish passage in the Snake River. The coordinated action is for the tailrace criterion to be increased 0.5°F per day starting on Friday. Thus, the project would be operated to not exceed 68.5°F on July 23, 69.0°F on July 24, and 69.5°F on July 25. Model estimates show the tailwater reaching ~69.2°F near July 24. However, the Corps believes that with the incoming forecast it is likely to be more around ~68.5–69°F.

The Corps is planning to step down Dworshak Dam releases to 6 kcfs on Thursday and then 5 kcfs on Friday to conserve Dworshak Dam water.

Jon Roberts, Corps, updated the TMT on current and upcoming conditions, which include

1. Lower Granite outage for Doble testing
2. Above average temperatures in the 90-day forecast
3. Receding inflows at Lower Granite

Next, he took the TMT through 4 operational scenarios available on the TMT website:

Scenario 1. Remain with the default operation.

Scenario 2. Operate the RSW up to 12 hours per day.

Scenario 3. Remain in the default operation but close the RSW during Doble testing (re-opening it at night).

Scenario 4. Operate the RSW up to 12 hours per day but restrict RSW use to night-only

The models were run this morning so they are as up-to-date as possible. The following assumptions were made during the model runs: flows of 2,100 kcfs (if this number adjusts, Roberts expects it will impact the end of Dworshak Dam water by no more than half a day), running 8.5 kcfs through the powerhouse. The Corps will proceed with the default operation, unless otherwise coordinated at TMT. Each scenario has Dworshak Dam running out of water by ~ 4-6 days before the end of August.

Trevor Conder, NOAA, asked at what point the Corps brought the tailwater temperature at Lower Granite back down to 68°F from the 69.5°F in the current SOR. All scenarios target 69°F to account for variance, not exceeding 69.5°F. Each model brings the temperature back down on a variable date that relates to real-time conditions, according to Roberts.

Jonathan Ebel, ID, wondered what would happen if the RSW was simply closed. This is close to what the default operation is, noted Roberts, so the results would be similar to the presentation.

Dave Swank, USFWS, brought up that his agency is investigating whether the lower Dworshak elevations would result in issues for bull trout during spawning. USFWS is not sure if the species will become stranded if the reservoir elevation drops to 1510-1520 ft. Tom Lorz, Umatilla Tribe/CRITFC, stated that the elevation has hit 1520 ft. in August historically so there should be information available for that elevation. Jay Hesse, Nez Perce, added that the information likely exists in the NEPA documentation. Swank replied that the EIS does not provide information for this specific time of year at this elevation. The elevation was explored at other times of the year, based on his understanding. Regardless, the decision is not his to make, but something the USFWS is looking into. Swank was simply notifying TMT. Hesse pushed for a quick resolution, saying he would want an answer by next Wednesday. Swank will let the team working on this know the urgency of the matter. He will report back to TMT as soon as possible and update the TMT when he knows something new.

Lorz wondered what the process is if there are concerns for multiple ESA-listed species, especially if the operations would benefit one species but harm another. There is a process for this and discussions will be moved offline.

The default criteria to close the Lower Granite RSW is pursuant to the Fish Passage Plan. When flows are insufficient to support both RSW spill and minimum generation, the FPP calls for closing the RSW and distributing flow according to the non-RSW patterns. The declining inflow forecast shows flows dropping below ~21-22 kcfs at Lower Granite this coming weekend.

Roberts noted that while the RSW will likely close on Saturday/Sunday if the forecast holds, it could be opened again during the powerhouse outage for Doble testing if requested by TMT members and agencies.

Ebel noted that FPOM would need to look into spill patterns and what would be most preferable for fish at this time. He has some concerns about using a flat flow with one stop instead of a bulk pattern. Chris Peery, Corps NWW, will add this to the agenda for FPOM. This discussion may need to happen sooner rather than later.

Hesse wondered about resulting temperatures in the adult ladder if the RSW is closed. Roberts noted that the Corps has a good way to incorporate fish ladder temperatures in the models and that the results presented today set a high of 69°F at the intake for the adult ladder.

It is not necessary to decide today regarding the RSW closure should air temperatures be above 100°F. The Corps will be able to provide more updated models at the next scheduled TMT meeting on August 4 for consideration of RSW operations. Making a decision at that TMT would ensure there is appropriate notice and time to get the right amount of water to the right place at the right time.

As a reminder, Doble testing is schedule for August 9-12. This means powerhouse flow will be reduced to 5 kcfs through one unit for station service and the rest of outflow will be spilled. If ambient air is above 100°F during this time, additional water from Dworshak Dam will be necessary to offset the warmer water through the RSW.

3. Summary of SORs & TMT Coordination - Baus

Baus directed the group to a summary of SOR coordination thus far this season, available on the TMT website. The document includes updates and information on SORs 2021-3, 2021-4, and 2021-5. Baus asked if there were any questions regarding the document.

Hesse directed TMT to SOR 2021-4, section 4, which calls for a temporary change in Dworshak summer flow augmentation to:

1. *Modify the end of August draft limit at Dworshak from 1535 to 1525, and*
2. *Start 200 kaf Settlement releases September 1—operating to ~1510 rather than 1520 by end of September*

The current status of the request – as noted in the summary document – is: *“The Corps is committed to the investigation of the requested operation and can provide weekly updates to TMT on progress.”*

Hesse noted that the situation is urgent and requested that the Action Agencies respond no later than next Wednesday 7/28/2021.

Hesse noted that the Dworshak Board met yesterday to discuss current conditions as it relates to the release of 200 kaf per the SRBA agreement. The draft operational plan is expected to be completed by the end of the month. This year, releases will likely start September 1, ramping down steadily to meet all objectives outlined in recent Dworshak Board operational plans.

Hesse also brought up concerns about SOR 2021-3, asking if it is necessary to continue the operation. Ebel added that it becomes a moot point because as flows recede, the operation can no longer be implemented. Ebel also noted that in his opinion there had been some odd flow patterns with respect to forebay elevation timing versus generation. Hesse added, “I believe there

was a multi-day period when the intent [of the SOR] was clearly not followed and load-shaping occurred.” He added that the SOR was intended to benefit water temperatures and that he expects change from the Action Agencies regarding the load shaping he suspects. When pressed for details, he said the load shaping occurred Thursday through Monday. Ebel added that what he noticed was some minor ponding during generation, which was matched by a lack of spill, which was not increased beyond that of the RSW. Van Dyke also felt that the Action Agencies were not following the unit priority order as defined in the Fish Passage Plan. Specifically he asked why Unit 1 was not being used at Lower Granite. Van Dyke pushed the issue again later in the meeting. Scott Bettin, BPA, commented that the agency is following the priority order defined in the Fish Passage Plan.

Tony Norris, BPA, stated that BPA operated within the bounds of what was requested in the SOR. BPA is managing the best it can given the uncertainty of flows out of Hells Canyon, which it has no control over and does not release flat flows. BPA has managed inflow within MOP and RSW spill flow uncertainty. At times, the pools do change during minimum generation due to conditions, flows, and required spill, particularly when inflow is not flat.

Hesse and Ebel suggested the following clarifications be added to SOR so the SOR meets their expectations:

1. July 19 – 22: Minimum generation and RSW spill from 0500 – 1900 hours; minimum generation and spill the rest from 1900 – 0500 hours; and implementable with outflows less than 30 kcfs.
2. July 23 – 31: Minimum generation and RSW spill from 0900 – 2300 hours; minimum generation and spill the rest from 2300 – 0900 hours, and implementable with outflows less than 30 kcfs.

Bettin noted he does not see flows of 30 kcfs coming back any time soon.

There was some discussion about whether the morning hours should start at 0500 or 0900. The initial request included operations starting at 0500 to see if the extra morning hours would benefit ladder entrance for sockeye during trapping. This trapping may continue and NOAA is still coordinating with the Nez Perce on trapping operations. The extra hours from 0500 to 0900 could be beneficial for that. Ebel noted that given flows the extra hours are moot. Hesse noted his organization does not agree with the need for extra hours but that they will not object.

4. Other

Swank updated the TMT on conditions for sockeye. There have been some reports of suspected lamprey wounds or other damage to adult sockeye at Lower Granite. Swank noted that biologists and veterinarians from the Fish Health Program reviewed sockeye. These experts believe that the warmer than normal temperatures in the Columbia River have exacerbated normal levels of injuries that may occur in the ocean. These wounds are becoming infected, resulting in fungal and infection issues in fish. A summary will be available in the next few days and will be posted to the TMT website for review by TMT members and agencies.

Ebel added that pathologists at Eagle Hatchery align with what Swank noted. Additional bacterial data will be available in the future.

At the request of Baus, Ebel reported on emergency trap and haul operations and passage of sockeye. As of last Friday, 123 fish had been transported. As of Monday, 10 of the 54 PIT-tagged fish were detected at Lower Granite, thus, 44 remain in the system (36 of which have not been detected in the 3 days). Of the 8 tags with recent detections, one was detected in the Upper Columbia. Two have fallen back. Conversion rates are dropping. Ebel is not sure if these are above or below Ice Harbor. However, across the season, many disappear between Bonneville and McNary dams.

Peery added that tag data yesterday showed 30 of the 53 PIT-tagged fish had made it to McNary; and 23 had made it as far as Ice Harbor. Travel time is less than 2 days, except for 2 that took 3-4 days. They have not hesitated at the mouth of the Snake. Morrill commented that this is encouraging.

Today’s Attendees:

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

Other Attendees (non-TMT members):

Corps – Alexis Mills, Dan Turner, Aaron Marshall, Jon Roberts, Chris Peery, Willow Walker, Scott St. John, Dean Holecek, Michelle Yeun
 BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker)
 DS Consulting – Emily Stranz (Facilitator), Colby Mills
 Columbia Basin Bulletin – Mike O’Bryant
 Clearing Up – K.C. Mehaffey
 Portland General Electric – Ruth Burris
 Yakama Nation Fisheries – Tom Iverson
 NPCC – Leslie Bach
 FPC – Erin Cooper