

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

August 2, 2023

Facilitator's Summary

Facilitation Team: Emily Stranz & 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; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2023/>. Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Update on Corps Personnel – Doug Baus, Corps, reported that Julie Ammann, Corps, is on a 120-day detail acting as the Columbia Basin Water Management Chief. Aaron Marshall, Corps, will be acting as the RCC Chief while Julie is on detail, until the end of November.

Review Meeting Summaries & Minutes – TMT members approved the July 14 official meeting minutes and facilitator's summary. Minutes and summaries from the July 19 and 26 meetings are still pending and will be reviewed at the next TMT meeting.

Dworshak Operations – Willow Walker, Corps, provided an update on current operations and forecast modeling for Dworshak Dam. The project is currently releasing full powerhouse at 10 kcfs, with a pool elevation of 1,566.91 feet, and is drafting about 1.1 feet/day.

The Snake River at Anatone and Orofino have been stabilizing around 75 degrees F. The Lower Granite tailwater is 66.7 degrees F; low at the moment due to recent cloud cover and lower than projected temperatures.

Stratification in the Lower Granite forebay has recovered since the last heatwave in later July and early August, setting things up nicely for water conservation and the potential SOR. RFC projected inflows to the Dworshak reservoir are hanging around 90% climatology, and are forecasted to continue below average through August.

Regional temperatures are forecasted to hit over 100 degrees F or higher in the Lewiston area. Cloud cover from rainstorms in surrounding areas of the lower Snake region will provide some cooling, and temperatures will stabilize in the high 80s/90s. Today, Lewiston is expected to reach 99 degrees F, and Dworshak water was spilled over the weekend to combat the high temperatures; the heat is not forecast to last, which will help maintain Lower Granite forebay stratification. Forecasted cloud cover will keep temperatures in the upper 80s and low 90s which will further help conserve water.

Modeling results show that without an SOR, Dworshak would need to continue running at powerhouse capacity to stay between 67-68 degrees F in the Lower Granite tailrace. Considering the increased temperature criteria requested in the submitted SOR, Dworshak would ramp down 2,000 cfs today, with another 2,000 cfs tomorrow, to allow the Lower Granite tailrace temperature to rise to 69 degrees F by August 6. After August 8, project outflows will depend on real-time basin conditions (if cloud cover persists or if heat returns) to cool the river back down by August 14.

Alternative operations (posted to the TMT website) analyze potential Dworshak operations and effects on Lower Granite tailwater temperature. The scenarios have been updated to reflect the needed spill from July 28-31 for the expected heatwave on August 2/3 (and to recover Lower Granite forebay stratification). Scenario 1, with a mild remainder of summer, has changed to reflect an end of Dworshak flow augmentation through August 30. Scenario #2, with a hot remainder of summer, shows a 3-day water

shortage to maintain 68 degrees F at the end of August. Scenario #5, using suggested criteria from SOR 2023-5 to raise the Lower Granite tailwater, is expected to result in Dworshak flow augmentation through the end of August, with an extra 2 days of water beyond that. Alternatives #3 and #4 are no longer in consideration. Willow reminded the TMT that these dates are approximate (1-3 days room for error), and the long-term projections do not take into account any significant impacts that could occur in extreme conditions such as wildfire or unexpected outages.

In response to a query regarding running out of water in Scenario #2, Willow noted that the Corps’ rough estimate of minimum flow is about 5 kcfs (half powerhouse), and would depend on inflows.

SOR 2023-5

Jonathan Ebel, IDFG, presented SOR 2023-5, which requests a temporary change to Lower Granite Dam tailrace water temperature criteria to provide Dworshak summer flow augmentation through August 31. Specifically, to achieve the Dworshak reservoir elevation threshold of 1,535 feet on August 31 by relaxing the Lower Granite temperature criteria from 68 degrees F to a maximum of 69 degrees F (intent not to exceed 69.5 degrees F), between August 6–14th.

Willow clarified that if the SOR is implemented, Dworshak will start decreasing flows today to target the requested date of August 6 when there are cooler temperatures and lasting cloud cover. If conditions allow, the Corps can work to cool things down before the August 14 requested end date.

TMT Members in attendance were polled on SOR 2023-5 as written. Some provided additional rationale for their responses:

TMT Member	Polling Response	Rationale (optional)
NOAA	Support	NOAA is generally supportive of the SOR for 2023, although they do have concerns on the impact to ESA listed sockeye and spring/summer Chinook. From NOAA’s perspective, most sockeye tend to not make it after August, but spring/summer Chinook could experience impacts. They support this SOR and will continue to evaluate the impacts, how the reservoir is managed afterwards, and work on solutions for the future. Depending on outcomes, NOAA may not support similar operations in the future.
Oregon	Absent	OR was absent from the polling; OR is a signatory on the SOR.
Washington	Support	WA appreciated the discussion, regional support, and coordination on this issue, noting that they share NOAA’s concerns and believe this is a prudent action to take at this time.
Confederated Tribes of the Colville Reservation	Support	CTCR noted discomfort in relaxing water temperature criteria that is already high, but there are critical implementation actions at the end of August that would be otherwise debilitated. The tradeoff impacts are unfortunate.
Confederated Tribes of the Umatilla Indian Reservation	Absent	CTUIR was absent from the polling, CTUIR is a signatory on the SOR.
Reclamation	Support	No additional comments.
Corps	Support	The Corps thanked the TMT representatives from IDFG and CTUIR in coordinating this effort with FPAC and the Corps. With historically low inflows to Dworshak this is a wise use of conserving cool water.

USFWS	Support	USFWS noted this is a typical tradeoff decision, and from the Agency’s perspective, this is a refinement of the 2021 operation that will require evaluation and adjustments in the future.
Idaho	Support	No additional comments.
Montana	Support	No additional comments.
Nez Perce Tribe	Support	NPT shared sentiments with other Salmon Managers. From their perspective, this is not the preferred operation but with the potential for greater impact later on, it is a necessary step.
BPA	Support	No additional comments.
<i>Kootenai Tribe of Idaho, Spokane Tribe of Indians, and the Confederated Tribes of Warm Springs were not present to register a polling response, nor were listed as signatories on the SOR.</i>		

Action Agency Decision

Willow reported that the Corps will begin implementing the operation at 12pm today (August 2) reducing outflow by 2,000 cfs through the rest of the day and an additional 2,000 cfs tomorrow, ending up with 6,000 cfs releases from Dworshak that will allow temperatures in the Lower Granite tailrace to rise closer to the 69 degrees F target. The Corps will continuously evaluate real-time basin conditions and updated forecasts to determine when Dworshak can end lower flows in order to either start bringing things down or, if enough water is saved, to get through the end of August. Willow appreciated the coordination and engagement within the TMT. The Corps will report back on the operation at the next TMT meeting.

Adult Sockeye Conversion – Jonathan reported that adult Snake River sockeye (see summary on TMT website) are rapidly approaching the end of their run through the hydrosystem, noting that IDFG has started to see fish in the Stanley Basin. Jonathan noted that all numbers are preliminary until IDFG publishes an annual report. Passage at Bonneville, McNary, and Ice Harbor has essentially stopped; window counts dropped into the single digits last week and PIT-tag passage has more or less stopped. Fish are still passing at Lower Granite, although today dropped into single digits (based on window counts).

Conversion rates are poor relative to last year and most years. About 50% of fish are dropping between Bonneville and McNary, 60% of those are making it to Ice Harbor, and overall Bonneville to Lower Granite is close to 20% for the year. Travel time has slowed relative to last week across the projects. Jonathan noted that travel times are approaching those seen in 2021. Of Snake River PIT-tags that passed Bonneville, 16 were last detected in the Upper Columbia at or above Priest Rapids, and 11 of those last detected at Wells Island.

Jonathan didn’t have a long-term conversion average for Snake River sockeye available, and will work on a rough estimate to provide to the TMT. As far as expectations for conversions in the basin, things have been very low, and up to 75%. Fish passing Lower Granite now have a low probability of surviving to the Stanley Basin, whereas those that passed earlier have a higher probability of survival.

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 on August 9, 2023, at 9:00 AM.

**Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, August 2, 2023
Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)**

Today's TMT meeting was held via conference call and webinar, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. A list of today's attendees is available at the end of these minutes.

1. COE Staffing Update

- Julie Ammann is on 120-day detail acting as the Columbia Basin Water Management Chief.
- Aaron Marshall is backfilling behind Ammann as the acting RCC Chief for the next 120 days.

Baus told Marshall thank you for filling that critical role.

- Baus wanted to highlight this for those on the call in the event they had anything that they needed to reach out to Ammann on for the next 120 days, please reach out to Marshall.

Marshall said thank you for the update and he wanted to say hi to everyone. He said thank you for welcoming him into the role of RCC Chief for the next 120 days. He said that it should take us through the end of November.

Stranz said that it was great to have him sitting in for Ammann and congratulations to them both.

2. Review Summaries and Minutes – July 14 (July 19 and July 26 pending)

- July 14 – Approved

Jonathan Ebel, ID, said that he brought them up this morning and should have known that they would be very, very long. In reading 19 of the 29 pages, he would like to commend the notetakers.

Charles Morrill, WA, said that he had no concerns and thought that they were well done.

Kirk Truscott, Colville, said that he did not participate so he would abstain.

3. Dworshak Operations – Willow Walker, Corps-NWW & Jonathan Ebel, ID

a. Current Hourly Data (August 1)

- Dworshak (DWR) Releases: 10 kcfs (Full Powerhouse)
- Current Forebay Elevation: 1566.91 feet
- Drafting: ~1.1 foot/day

b. Snake & Clearwater Rivers Temperature Data

- Natural temperatures (°F):
 - Anatone: ~75°F
 - Orofino: ~75°F
- Lower Granite (LWG) tailwater: 66.7°F
 - Low at the moment because the last few days were originally forecasted to be in the low 100s. They have been closer to 97°F and we have some cloud covering moving in.

c. LWG Forebay Temperature Strings

- July 21
 - Last heatwave
 - 15-meter mark LWG was starting to lose stratification.
 - Getting in the yellow 68° - 69°F.
- End of July and first week of August
 - Recovered stratification.
 - Sets them up to conserve Dworshak water as they look at the SOR that was submitted to increase temperatures in the LWG tailrace to 69°F.
 - Will help keep that controlled and not have it run away.

d. DWR Extended Inflow Forecast

- Hanging around 90% climatology
- Forecasted to continue on that trajectory through August.

e. 10-Day Regional Temperature Forecast

- Tiny dots of red ($\geq 100^\circ\text{F}$) around Lewiston, ID.
- Some cloud cover is forecasted.
 - Not necessarily precipitation at the Lower Snake region.
 - Enough clouds from surrounding rainstorms to cool things down.
- Moving forward they continue to cool and stabilize in high 80s and 90s.

f. Weather Forecast for Lewiston, ID

- August 2
 - 99°F
 - DWR spilled water over the weekend to combat high temperature.

- August 3
 - Upper 90s – 100°F
 - It was looking to continue beyond August 3 but it looks like things are looking a little cooler.
- Helpful for keeping the stratification in the LWG forebay as we potentially look at allowing things to get warmer during the period called out in the SOR.
- After that cloud cover is forecasted for long period keeping the temperatures in the upper 80s to low 90s will help conserve water.

g. Current Model Results – August 2

- Without the SOR operation:
 - DWR would need to continue running powerhouse capacity to stay around the 67° - 68°F mark in the LWG tailrace.
- With the SOR operation:
 - DWR would step down 2 kcfs (August 2) and then another 2 kcfs (August 3) to start allowing the LWG tailrace to rise to 69°F by August 6.
 - After August 8 it will depend on what the real-time basin conditions are (e.g., how long the cloud cover stays around, if things get hot again or not) as to if DWR would stay in the 6 kcfs range or if they would need to start moving back up in order to get the river pulled back down by August 14.

h. DWR Alternative Operations – August 2

ALTERNATIVES REQUESTED		
Alternative Operations	End of DWR Flow Aug.	Notes
1 Default operation with a mild remainder of summer	~August 30 th (previously 31 st)	Needed spill July 28 th -31 st for hot weather August 2 nd and 3 rd , and to recover 15-meter forebay stratification at LWG that was weakened from previous heatwave. Additional water from Dworshak needed to combat intense and extended heatwaves could cause a ~3 day shortage in our ability to maintain 68° at the end of August
2 Default operation with a hot remainder of summer	~August 28 th	Based on current conditions, this operation could provide an excess of ~2 days beyond August 31 st
3 LWG tailwater temperature criteria raised to 69.5° from August 1 st to August 16 th	~August 31 st + 7 Days	Based on current conditions, this operation could meet the August 31 st target
4 LWG tailwater temperature criteria raised to 69.5° for ~6 days in the first two weeks of August	~August 31 st	Based on SOR 2023-5 criteria
5 (SOR) LWG tailwater temperature criteria raised to 69° from August 6 th through 14 th (9 Days)	~August 31 st to August 31 st + 2 Days	

1. Dates are all approximate and could slide sooner or later by 1-3 days based on actual conditions that develop
 2. Alternatives do not consider other significant impacts that could occur in the extreme conditions, i.e. wildfires that disable a transmission line, unexpected unit outages, etc.
 3. Alternatives 3 & 4 are no longer considerations as they have been replaced with SOR criteria.

- Alternative Operation 1:
 - Changed because there was a heatwave that occurred that needed spill and some hot weather.
 - Moved closer to August 30, would potentially put DWR one day short in that scenario.

- Alternative Operation 2:
 - Continues to be the same.
- Alternatives 3 and 4 are greyed out – will be removed moving forward. Walker wanted to note that these would not be considered anymore because they were replaced by the SOR criteria.
- Alternative Operation 5: SOR Criteria
 - This is still looking good to get DWR through the end of August.
 - If things are extra cold, there is a potential additional two days.

Kirk Truscott, Colville, asked if the “End of DWR Flow Aug.” column was to the date listed or through the date listed.

Walker said that it was through.

Dave Swank, USFWS, asked assuming DWR runs out of water on August 28 what would the minimum flow dropped down to.

Walker said that it would depend a lot on where the inflow is actually coming in at. But roughly speaking, their best estimate is about 5 kcfs, or half the powerhouse.

i. SYSTEM OPERATIONAL REQUEST: #2023-5 Walla Walla District – *Ebel*

Ebel said that there are no substantive changes to SOR from last week except that it now lists the agencies support it and some NMFS editorial comments.

The SOR as Walker explained above, requests to relax the temperature criteria at LWG from 68°F to 69°F, with the intent of the criteria not to go over 69.5°F.

There are a number of reasons, primary reason being to stretch DWR water.

There are concerns. One being for sockeye but unfortunately sockeye passage has declined substantially in the Snake in the last few days. So some of the concerns are not too relevant now since they have more or less stopped moving and will probably stop moving at LWG over the next couple of days.

Stranz noted that it looked like all fish agencies signed on to this SOR.

Ebel said that not all according to the list, but the usual suspects are all on there.

Swank said that it sounds like because of the uncertainty around forecasted temperatures throughout August, if the SOR passed it sounded like the Corps would soon after start decreasing outflow from DWR to let LWG tailwater temperatures increase to 69°F. He asked to confirm that information and that the Corps would not wait to see how the weather forecast plays out, she would start this with the August 6 date in mind.

Walker said yes, looking at implementation if the SOR passes, they would start today to target that August 6 date. During August 6 and the first following days there is going to be cloud covering and things are going to be cool. That will help DWR save water, rather

than if they were to wait until closer to the August 14 date, it could get hot and maybe have less bang for the buck as far as saving water.

Polling Options: Support / Object / No Objection / Abstain

NOAA:	Support
OR:	<i>Signatory (Absent)</i>
WA:	Support
<i>Kootenai:</i>	<i>Absent</i>
Colville	Support
Umatilla:	<i>Signatory (Absent)</i>
BOR:	Support
Corps:	Support
USFWS:	Support
ID:	Support
MT:	Support
<i>Spokane:</i>	<i>Absent</i>
Nez Perce:	Support
<i>Warm Springs:</i>	<i>Absent</i>
BPA:	Support

NOAA – Conder said that NOAA is supportive of this SOR for 2023. They do have some concerns on the impact to ESA-listed Sockeye and Spring/Summer Chinook. Conder tends to agree with Ebel that most of the sockeye tend to not make it after August. This is not necessarily the case for Summer Chinook so we will be seeing potential impacts to those fish. NOAA has some concern about that. They are going to continue to support this in 2023 and evaluate the information, look at the impact to the fish, look at the effect of the temperatures and how the reservoir is managed afterwards and try to work on solutions for the future. NOAA may or may not be supportive of this in the future, but they are supportive for this year, and they are just going to continue to look at how it worked out.

WA – Morrill said that he would say that there has been a lot of really good discussion around this to reach the point where everybody supports it. Morrill said

that Conder's concerns are noted. Morrill thinks that the SOR is a prudent action to take at this point in time.

Colville – Truscott said that it is never a good feeling to relax a water temperature criterion that is already pretty high in this situation but there are some critical actions that occur in the latter half of August that elevated water temperatures that would be fairly debilitating. So, it is a trade-off of potential impacts early on in August to avert impacts later in August. It is unfortunate but sometimes that occurs.

Reclamation – No comments.

Corps – Baus thanked Tom Lorz and Ebel for coordinating this. With historically low inflows into DWR reservoir this was a wise use of conserving cool water.

USFWS – Swank said this is a typical trade off decision. He said TMT implemented something similar in 2021. There were some concerns over how that turned out. He said that he thinks that he views this as a refinement of that operation. And like Conder said, they will need to obviously evaluate it to how it went and adjust for the future because we are almost certain to run into this situation in future years.

ID – No comments.

MT – Said that his thoughts have been captured by other TMT team members.

Nez Perce – Jay Hesse said that his thoughts are similar to others in that this is not preferred operation, but we are water supply limited and so raising temperature criteria is not desired but being boxed in to a corner where temperatures jump even further than 69.5°F on is a greater impact. This is a necessary step at this point.

BPA – No comments.

- Starting August 2 at noon and through the rest of the day DWR will drop a total of 2 kcfs. Then across the entire day of August 3 they will drop an additional 2 kcfs. So that by the end of day, August 3, they will end at 6 kcfs releases from DWR. That will allow the temperature to rise closer to the desired 69°F temperature target. From there DWR will continuously evaluate real-time based conditions and updated forecasts to see when they should end that lower flow in order to either start bringing things down or because they have saved enough water that they think they will make it through the end of the month.

Walker said thank you to everyone for making it so easy to get to this point. All of the conversations back and forth about what the region wants to look at has helped the team get out some analysis. The open dialogue has been wonderful. She said it has been a pleasure to work with everyone.

- Check in at next TMT meeting to see how things are going.

4. Adult Sockeye Conversion through August 1– Jonathan Ebel, ID

- a. Adult Snake River Sockeye Passage

Note: All the numbers are preliminary until IDFG publishes annual report.

- May be last update. Rapidly approaching end of the run through the hydrosystem.
 - IDFG has also started seen fish in Stanley Basin.
- Sockeye Abundance Estimate (August 1, 2023)
 - BON, IHR, MCN: Passage has more or less come to a halt.
 - Dropped to the single digits last week on the window counts.
 - PIT tag passages have more or less stopped.
 - Seen in the table when compared to last week.
 - Lower Granite (LWG): single digits
 - Small increase in the PIT tag expanded abundance estimate.
- Conversion Rates
 - Poor relative to last (relative to most years)
 - BON > LWG: ~50%
 - MCN > IHR: ~60%
 - BON > LWG: 20%
 - It will probably go up a little bit but are rapidly approaching the end of sockeye passage through the hydro system.
- Average Travel Times
 - Slowed relative to last week – across the board.
 - Fish delayed or slow movers.
 - Approaching travel times that were seen in 2021.
- Note at the bottom – Upper Columbia enjoy a couple sockeye from the Snake. They probably probably follow the leader and went up river.

Morrill asked if Ebel said that a reasonable long-term average conversion was 38-39% for Snake River sockeye.

Ebel said he did not say, he would have to look back at the numbers. He recently just looked at above at the conversion from LWG to the Basin, but he could not say of the top of his head.

Morrill asked if when he does, he could share.

Ebel said he would look at get a rough estimate but the problem when we look at these averages now is he has to drop out some of the years where PIT tags were seldom seen. He said he thought that 2019 there were maybe 5 tags total. He said that he will drop those out and get Morrill an estimate or median.

Morrill said that Ebel had mentioned in the meeting during the FPAC discussion. He appreciates it.

Ebel said that as far as expectations of how it is going to look like, they have seen everything from very low to 75% conversion in the basin. He suspects that fish passing LWG now have a low probability of surviving to make it to the Stanley Basin whereas those that passed earlier have a good survival probability.

5. Public Comments: None

6. Set agenda for next meeting – August 9, 2023

- a. SOR polling
- b. Update on Dworshak Operations.

Today’s Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Doug Baus (chair), Lisa Wright
Bonneville Power Administration	Scott Bettin, Ben Hausmann
Bureau of Reclamation	Chris Runyan
NOAA Fisheries	Trevor Conder
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe	
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

COE – Aaron Marshall, Dan Turner, Alexis Mills, Willow Walker, Elizabeth Holdren

NOAA – Dana Bethea

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

NW Power and Conservation Council – Kate Self

Energy Keepers – Eve James

Oregon DEQ – David Gruen

Clearing Up – K.C. Mehaffey

Snohomish PUD – Jesse Pruess

Douglas County PUD – Andrew Gingerich