

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 2, 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/>.

System Operation Request 2021-3

Jonathan Ebel, ID, presented SOR #2021-3 (as posted on the TMT website), which requests operations to mitigate for and reduce high water temperatures in the lower Snake River reservoirs. Specifically, the SOR requests two actions:

1. Reduce spill to spillway weirs only at Lower Granite and Little Goose Dams from 0900-2300 hours, and return to summer spill volumes defined in the 2020 FCRPS Biological Assessment from 2300-0900 hours, starting July 3 through end of July until coordinated otherwise; and
2. Initiate truck transport of juvenile migrants as soon as possible at Lower Granite and Little Goose Dams and transport until period of reduced spill ceases, or continue through summer transport period previously scheduled to begin August 1.

The first action aims to cool the river section from Lower Granite to below Little Goose by drawing cooler water from deeper in the Lower Granite pool. The second action aims to move fish from warmer areas as soon as possible under the current higher than average temperature conditions and projections. Looking out long-term, Dworshak is in a difficult position in regards to the volume of water left for temperature augmentation, and the situation is not getting better. This operation will help conserve water at Dworshak for the end of August, which is critical for fall Chinook broodstock collection at Lower Granite Dam and for protecting early arrivals of the summer steelhead run.

Charles Morrill, WA, noted that the juvenile fish facility for transport is still seeing significant numbers of sub-yearling Chinook, 696 passing over the RSW and 204 through the bypass, which is surprising considering the heat. The Corps confirmed that the earliest transport can begin is likely next Wednesday 7/7 (collection on Tuesday 7/6), due to personnel availability over the holiday weekend.

Jon Roberts, Corps, presented models and forecasts based on real-time monitoring as requested by Salmon Managers, to demonstrate the results of SOR implementation and no SOR implementation, from a water conservation and temperature perspective. Salmon Managers noted that this modeling was extremely helpful to allow for full and productive conversation at FPAC on this issue.

As of this morning, not much has changed in the 10-day weather forecast. Intense heat is expected on Saturday, with lower temperatures on Sunday. By Thursday, night time temperatures will return to the 60-degree F range again, which will help cool river temperatures down. By the end of the 10-day forecast, heat will return to the region, although significant heat in this region will end mid-late next week. Lewiston is getting haze and smoke and un-forecasted wind. The haze is insulating the current temperature extremes; wind is cooling the surface area near the RSW at Lower Granite. Current temperatures in the tailwater dropped down slightly. Jon noted that this is a good thing for a couple days, but if mixing occurs for longer, the pool will lose stratification which is not beneficial.

The default operation with no SOR (only based on changing natural conditions) provides enough buffer against heat in the next couple of days to start reducing spill from Dworshak over the weekend to begin conserving water based on real-time conditions. This could start sometime tomorrow afternoon, with a slow downward trend

through July 5 or 6, with close monitoring through the weekend. The Corps would continue making adjustments based on real-time conditions, to conserve as much water as possible. This default will occur with or without the SOR.

Modeling for SOR implementation shows a drop in the Lower Granite tailrace temperature by 0.5-0.75 degrees F and a reduction of spill at Dworshak. Water influencing Lower Granite over the next 3-4 days has already been sent from Dworshak (before the SOR was requested) to keep water under 68 degrees F, and is a little less now due to the change in spill pattern. If the SOR is implemented, the Corps will make an immediate reduction over the next 36 hours at Dworshak and will be able to conserve water. The project will require the powerhouse to continue running 9.5 kefs to ensure the Lower Granite tailrace doesn't go over 68 degrees F. With the cooling effect from the 10-day forecast, a further reduction may be made at Dworshak, while keeping the tailrace just under 68 degrees F.

Short-term there is a temperature improvement for 3-4 days that will not occur without the SOR. Long-term, the SOR's action of flow reduction from Dworshak with the change in Lower Granite spill pattern would conserve roughly 1 day of water for every 10 days the operation is in place, providing a slow accumulation of water conservation that will be available to utilize when needed throughout the summer.

TMT Members were polled on the SOR:

TMT Member	Polling Response	Rationale (optional)
NOAA	Supports	NOAA understands the concerns with altering the summer spill pattern and effects on juvenile travel time and out-migration; however, temperature management is NOAA's priority currently.
Oregon	Supports <i>(formerly Abstain)</i>	Oregon recognized the importance of immediate response to address the lethal river conditions. OR believes that there are other options that could be implemented to address the stress from temperatures, without impacting protections for juvenile fish. Recognizing that this is an adaptive situation, and with rapid development of the SOR, there needs to be better understanding of the tradeoffs and OR would like to revisit the SOR weekly. Additionally, OR anticipates submitting a complementary SOR, offering a comprehensive suite of alternatives next week.
Washington	No Objection	OR captured much of Washington's concerns. WA appreciated the support provided by the Corps to model options to effectively conserve water.
Kootenai Tribes	Absent	
Colville Tribes	Absent	
Umatilla Tribes	No Objection	Umatilla appreciated TMT members for providing information to support decision making. They saw some potential negatives to the SOR. Umatilla viewed this as a learning opportunity; hoped for success and that the SOR results can inform later decisions.
Reclamation	Supports	No additional comments
Corps	Supports	The Corps appreciated the inclusion of Corps folks at FPAC meetings to help formulate the SOR.
USFWS	Supports	USFWS appreciated the efforts to conserve water at Dworshak for August. They were uncertain as to the actual impacts to water temperatures downstream at LGS, as modeling isn't available for LGS. USFWS has concerns with truck transport, due to limited data compared to barge transport, and concerns with stray rates. However,

		due to the high water temperatures, decided the SOR provides a net positive at the moment.
Idaho	Supports	Idaho appreciated the region’s willingness to act on these issues, and for water conservation efforts. They acknowledge that the net impacts will need to be weighed against the potential positives and look forward to continued discussion on potential additional operations to conserve water for August.
Montana	Absent	
Spokane Tribe	Absent	
Nez Perce Tribe	Supports	Nez Perce appreciated the collaborative efforts from Corps staff. They noted that the decisions on this SOR were not taken lightly. This SOR represents a balancing of extreme environmental conditions and is not the preferred or ideal for fish, but better than the alternative in extreme conditions. Expected benefits from the operation are not huge and the challenges fish face are significant. Additional actions will be presented in SORs next week. Nez Perce appreciated all TMT consideration with this SOR, and looked forward to the same consideration next week.
Warm Springs Tribes	No Objection	Warm Springs appreciated the modeling team’s efforts.
BPA	Supports	No additional comments.

Tom Iverson, Yakama Nation/FPAC member, noted that Yakama did not sign onto the SOR only because of timing; Tom said that the Yakama Nation does support the SOR and would like to revisit SOR operations and potential alternatives weekly.

Doug Baus, Corps, reported that based on the level of support from TMT members, Action Agencies will implement the SOR as written.

- **ACTION: The AAs will reduce spill to the spillway weirs at Lower Granite and Little Goose dams, from 0900 to 2300 hours, beginning July 3. They will initiate truck transport at Lower Granite and Little Goose as soon as possible. They will provide a summary of the teletype for TMT members.**

Charles noted how helpful it was to have Jon and Chris Peery, Corps, join at FPAC. The modeling team was invited to the next FPAC meeting, on Tuesday at 10 am.

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 7, 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
FRIDAY, July 2, 2021
Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

Today's unscheduled TMT meeting was held via conference call and webinar, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. Today's special meeting was convened to discuss SOR 2021-3, available in full on the TMT website.

1. System Operational Request 2021-3 - Jonathan Ebel, ID

Jonathan Ebel, ID, presented SOR #2021-3 on behalf of ID, NOAA, and the Nez Perce Tribe. The SOR calls for two actions:

1. "Reducing spill to spillway weirs only at Lower Granite (LWG) and Little Goose (LGS) Dams from 0900-2300 h and return to summer spill volumes defined in the 2020 FCRPS Biological Assessment (2020 BA) from 2300-0900. This would begin July 03, 2021 and continue through July until coordinated otherwise; and
2. Initiating truck transport of juvenile migrants at Lower Granite and Little Goose Dams and transport until period of reduced spill ceases or continued through summer transport period previously scheduled to begin 01 August 2021 FPP Appendix E;"

The intent of Action 1 is to reduce spill to spillway weirs only and increase generation flow at LWG and LGS to increase the proportion of deeper, cooler water passing the projects during the hottest part of the day.

With the forecast continuing to look drier and warmer than normal, continuing with the current operation may put the region in a precarious position in the long-term, as it will deplete Dworshak water that could be used for augmentation later in the season. The SOR aims to conserve Dworshak water through the end of August, which could be essential for fall Chinook broodstock collection, as well as any early summer steelhead.

Action 2 seeks to move fish from warmer areas of the river by beginning truck transport as soon as possible, rather than waiting until the currently planned August 1 start date.

Charles Morrill, WA, updated the TMT on subyearling Chinook passage, noting that on Monday, ~5,400 had passed Lower Granite. That number rose to almost 7,500 on Tuesday, ~4,700 on Wednesday, and then dropped to 3,600 yesterday. A majority of fish are using the RSW: 696 passed through the RSW yesterday and 504 used the bypass. This is somewhat surprising considering the heat, noted Morrill.

2. Dworshak Operations – Jon Roberts, Corps NWW

The 10-day weather forecast calls for heat to continue through today and tomorrow, tapering off Sunday. The forecast has not changed much from what was discussed at Wednesday's TMT. Heading into next week, around Thursday, nighttime temperatures will dip back into the 60-

degree range, even in the headwaters. At the end of the 10-day period, temperatures are expected to rise again. At the confluence of the Snake and Columbia rivers, conditions have changed due to unpredicted wind, which has brought smoke from area fires into the region. This smoke is insulating temperatures, which means that daytime highs are slightly lower than expected but nighttime lows are not as low, either. For instance, today's high at Lewiston was predicted to be 108°F; however, it will likely only hit 103°F. A previous forecast had tomorrow's temperatures at 110-111°F, but it is more likely the high will be near 107°F. Wind is cooling off surface temperatures by 3-4°F. For now, that is good, noted Roberts, but looking into the future, it could reduce stratification, if the trend continues.

Roberts and Willow Walker, Corps, presented modeling results of the following two scenarios to the TMT to inform today's discussion:

Scenario 1. The default operation: responding to real-time changes in weather and conditions and reducing spill across the 4th of July weekend.

Scenario 2. Responding to real-time changes in weather and conditions, and changes in LWG's spill pattern should the SOR be implemented. Reducing Dworshak Dam releases over next 48 hours and again early next week.

Scenario 2 would result in temperature reductions at the Lower Granite tailrace of 0.5-0.75°F. Over the past 3 days, a significant amount of water has been released from Dworshak Dam to keep Lower Granite's tailwater temperature under 68°F (this water is just now arriving at Lower Granite). To keep the tailwater temperature from rising, a discharge of 9.5 kcfs (powerhouse capacity) would be needed.

The short-term impacts of the SOR are a temperature improvement over the next 3 to 4 days, said Roberts. In the long-term, for every 10 days this operation is in place, about 1 day of augmentation water out of Dworshak Dam will be conserved for later use. This amounts to about 1 kcfs per day after July 6.

Tom Lorz, CRITFC, wondered when transportation could start. It depends on staffing and scheduling, but if staff are available on short notice over the weekend, then collection could begin as early as Tuesday, with transportation starting Wednesday.

Several TMT members expressed appreciation for the work that Corps Walla Walla and other folks have put in over the past week collecting information for the salmon managers and running models. Several Corps staff attended an FPAC meeting this week to discuss the upcoming SOR and the impacts it would have on the region. Members commented on how valuable it was to have the Corps attend that meeting. Morrill extended an invite to the Corps to the next FPAC meeting scheduled for Thursday, July 8 at 10 a.m.

Emily Stranz, DS Consulting, polled TMT members on SOR #2021-3. For information on available polling responses and their definition, see the official TMT guidelines available on the TMT website. As a reminder, members may choose to vote Support, No Objection, Object without elevation, Object and elevate, or Abstain.

The results are as follows:

Agency	TMT Representative	
Army Corps of Engineers	Doug Baus	Support
Bonneville Power Administration	Tony Norris	Support
Bureau of Reclamation	Joel Fenolio	Support
NOAA Fisheries	Claire McGrath	Support
US Fish & Wildlife Service	Dave Swank	Support
Washington	Charles Morrill	No objection
Oregon	Erick Van Dyke	Support (<i>changed from Abstain during the comment period</i>)
Idaho	Jonathan Ebel	Support
Montana	Absent	Absent
Nez Perce Tribe	Jay Hesse	Support
Umatilla Tribe	Tom Lorz	No Objection
Colville Tribe	Absent	Absent
Warm Springs Tribe	Jen Graham	No objection
Kootenai Tribe	Absent	Absent
Spokane Tribe	Absent	Absent

NOAA: Claire McGrath noted that NOAA understands the concerns with altering summer spill patterns and potential effects on juvenile travel time and out-migration, but at this point in time temperature management takes priority.

OR: Erick Van Dyke opened his comments by changing his polling response from “Abstain,” to “Emergency support with the caveat that this must be revisited weekly”. He said his organization understands the importance of an immediate adaptive response. He initially did not support the SOR because he believes there are other actions the agencies can take that will have similar thermal effects but that will not change important fish-protection measures. He shared that he is committed to providing additional SORs next week that will complement SOR #2021-3. He has ideas he would like to share with the group but feels it may not be best for this forum and may be better for a technical group.

WA: Morrill expressed appreciation for the efforts other have made to move this SOR forward, even though his agency could not support the SOR at this time. He noted that Van Dyke expressed concerns that he also has.

CRITFC: Lorz noted he is not sure of the benefits this SOR would provide and hopes this is a learning opportunity. He is hopeful that it works and that information collected from the operation will inform future decisions.

Corps: Baus appreciates that fish managers included the Corps in the SOR process.

USEWS: Dave Swank shared that while he ultimately polled in support of the SOR, he was on the fence. The other response he was considering was “no objection.” He has concerns about truck transport versus barge transport since there are little data available to compare the two. He thinks there will likely be a net positive, which is why he chose to support the SOR. He is appreciative of the effort to support conservation of Dworshak water for use later in the season.

ID: Ebel said he realizes that today’s SOR does have negative impacts but those have to be weighed against the positives. He looks forward to continuing conversations as this operation and others move forward.

Nez Perce Tribe: Jay Hesse commented that today’s decision is one of balancing extreme environmental conditions against what fish need in the long-term. His polling response of “support” does not reflect what he considers a preferred operation. His support also does not mean that the operation is ideal for fish, he noted. “We’re trying to make a bad situation a little less bad,” he said, adding that the expected benefits are not substantial. Fish will continue to face significant challenges in the coming months. Additional actions are needed and there are several SORs being drafted that will likely be presented next week. These issues are urgent so the SORs may be presented separately, he noted, adding that he looks forward to the region’s support.

Non-TMT members: Tom Iverson, Yakama Nation, noted his agency did not sign the SOR due to timing, but does support the SOR now. Like Van Dyke, he thinks this needs to be revisited each week. A lot of actions will be necessary this summer, but those will be weather dependent, he said, adding that the region will need to be flexible throughout the season.

Based on the level of support from TMT members today, the Corps will implement the SOR as written. Truck transport will begin as soon as possible.

Today’s Attendees:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright, Julie Ammann
Bonneville Power Administration	Tony Norris
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	Absent
Nez Perce Tribe	Jay Hesse
CRITFC	Tom Lorz
Colville Tribe	Absent
Warm Springs Tribe	Jen Graham
Kootenai Tribe	Absent
Spokane Tribe	Absent

Other Attendees (non-TMT members):

Corps –Dan Turner, Jon Roberts, Chris Peery, Willow Walker, David Bogema
BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker)
DS Consulting – Emily Stranz (Facilitator), Colby Mills
Columbia Basin Bulletin – Mike O’Bryant