COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM
August 30, 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.

Review Meeting Summaries & Minutes – TMT Members approved the official meeting minutes and facilitator's summaries for the August 9 and 16 meetings.

Spill Priority List (SPL) – Dan Turner, Corps, provided an update on the draft fall/winter SPL (September 1 – no later than April 2), which defines how lack of load spill is distributed to projects in order for Action Agencies to manage TDG on a system-wide basis; the draft list denotes projects' sequential order for BPA to spill and is posted to the TMT website. Dan noted that the order is the same as last year, and that Washington's water quality criteria includes specific fish passage exceptions during spill for steelhead (footnote 1) of 115% TDG in the forebay and 120% TDG in the tailwater. FPAC will review the draft list when they meet next week and will contact the Corps with any requested changes.

Dworshak Operations – Grant Bell, Corps, provided an update on current operations and forecast modeling for Dworshak Dam, including impacts to project operations from recent wildfires in the area (posted to the TMT website).

A wildfire west of Dworshak started on August 19 within close vicinity to the 500kV powerline. The line was deenergized as a precaution and project outflows dropped from the planned 9,400 cfs to between 2,100-2,400 cfs. On August 20 the fire was no longer observed as a threat and the line was reenergized; ramp up began that morning and the project was back to planned flows of 9,000 cfs by 2100 hours. Grant noted valuable lessons learned and appreciated input on short-term solutions from Jay Hesse, Nez Perce Tribe and Jonathan Ebel, IDFG. The fire is no longer growing, and temperature impacts from the resulting lack of discharge were expected downstream in the Snake the rest of the week.

Another fire, north of Orofino and SE of Dworshak, began yesterday (August 29) near the 115kV powerline; the line was deenergized as a precaution and project outflows decreased from the planned 9,200 cfs to 7,200 cfs. That evening the project began spilling 2,000 cfs to bring discharge back to the planned 9,200 cfs. TDG downstream of the project reached 105%. The line was reenergized at 0100 hours this morning and the turbine was back online. Dworshak ramped down spill and ramped up powerhouse flow back to 9,200 cfs.

Fish Managers had concerns regarding the ripple effects of the first fire on Lower Granite operations and expressed dismay, that from their perspective, priority for fish seems lower than for minimum generation and navigation operations. Based on the publicly available data, Fish Managers observed the Lower Granite forebay drafting below 733 feet (MOP) and that spill was reduced below the RSW followed by a 1.25-foot refill. Jonathan noted that from his perspective, this situation would fall within process for notification and rationale as a deviation from the FOP and the Water Management Plan.

Action Agencies noted the significant challenge in managing the lower Snake River during periods of low flow, and that BPA's data show significant drops in inflow, lower than forecasted, and as a result the Lower Granite forebay drafted very close to, and not below, 733 feet. BPA stressed that project operations information is not being seen in real time, and that from their perspective, operations did not

deviate from the FOP. It was clarified that any observed deviations are documented in monthly FOP implementation reports, which are posted to the TMT website and can be viewed here: https://pweb.crohms.org/tmt/documents/FOP_Implementation_Reports/.

Another concern from Fish Managers was that important inflow data are not included in the posted tables for viewing. BPA clarified that inflow is a computed number based on elevation change and outflow that doesn't offer much flexibility in real time operations. Fish Managers reiterated the significant challenges in managing water, especially for multiple purposes and that the issue warrants deeper conversation.

- **ACTION**: Fish Managers requested that Action Agencies include in the FOP implementation report Lower Granite operations when the RSW was closed and resulting pool refill.
- **ACTION**: Discuss BPA's 3-second data and biological impacts to low flow operations further at a future TMT Process Meeting for continued dialogue among TMT Members.

Grant continued with the update on current Dworshak operations, noting the observed transition from wildfire operations back to 9,200 cfs flow at the project. Forebay elevation is currently 1,537.94 feet; September 1 midnight elevation is expected to be about 1,535.8 feet, slightly higher than the 1,535 feet. This target may fluctuate due to some forecasted precipitation.

Temperatures following the recent heat from the past weekend and early this week have dropped significantly, cooling natural inflows; 72 degrees F at Anatone, 71.6 degrees F at Orofino, and 45 degrees F coming out of Dworshak resulting in 66.22 degrees F at the Lower Granite tailrace. In the Lower Granite forebay, following the wildfire and heatwave around August 19/20, stratification was pushed to the 25-meter mark (lack of discharge and passing remainder of warm water from heat wave). Stratification has returned to the 20-meter mark at 64.1 degrees F.

Dworshak inflows have moved up from the 90% climatology line, sitting between 50% and 90%, and is expected to continue going into September. Inflows are still slightly lower than average, although not as low as earlier in the summer.

The extended forecast in the lower Snake River area shows favorable temperatures with warm spells but no heat of concern; even cooling temperatures through the 10-day forecast. The 10-day at Lewiston shows highs in the upper 70s/low 80s, with partial clouds through rest of this week moving into sunnier conditions and small chances of rain. The modeling forecast shows that temperatures are not expected to get close to 68 degrees F in the Lower Granite tailrace with this ramp down schedule.

Treaty Fishing – Kyle Dittmer, CRITFC, presented SOR 2023 C-2 (posted on the TMT website) for the fall 2023 Tribal treaty fishing season. The request on behalf of the CRITFC Tribes is to operate Bonneville and The Dalles pools within a 1.5-foot band and the John Day pool within a 2-foot band from August 21 at 0600 hours through August 24 at 1800 hours, and from August 28 at 0600 hours through August 31 at 1800 hours for fall fishery. Kyle noted that an interstate Compact hearing today will request this week's SOR operation to extend through this Friday due to high winds, and then extend into next week. Kyle will email BPA and the Corps to notify requested fishery extending past the initial 2-week request.

Recent modeling from TAC and CRITFC estimates run sizes of 374,000 adult summer Chinook, 285,000 coho, and 63,400 steelhead. CRITFC sponsored a net flight last week; yesterday's net flight was cancelled due to the high winds and might retry today or tomorrow, otherwise next week. Tribal fishers are selling fish at their usual locations, and vendors are listed on the CRITFC website.

Alexis Mills, Corps, noted that the SOR is being implemented as requested, and she did not expect any issue in coordinating CRITFC's request to extend this week's fishery as well as through next week. BPA appreciated the advance notice for this request.

Operations Review – *Reservoirs*: Joel reported on Bureau of Reclamation projects:

- **Hungry Horse**: midnight elevation was 8,547.14 feet (below the 12-feet from full target over a month early), and the project is operating to Columbia Falls minimums with inflows averaging 500 cfs for the last 5 days. Recent and continued expected precipitation should provide a good response in stream flows.
- **Grand Coulee**: midnight elevation was 1,277.8 feet. The project is drafting down to the 13-foot target of 1.277 feet by the end of August, and is starting refill in the reservoir as best possible to target 1,283 feet in October.

Joel noted that the Banks Lake forebay is 1,564.6 feet, and will reach the end of August target of 1,563.9 feet by tomorrow night. The Payette flow augmentation water finished yesterday (181 kaf).

Lisa Wright, Corps, reported on Corps of Engineers projects:

- **Libby**: midnight elevation was 2,445.7 feet, average inflows of 0.3 kcfs, outflows of 8.5 kcfs;
- **Albeni Falls**: midnight elevation was 2,062.2 feet, average inflows of 5.6 kcfs, outflows of 10.3 kcfs;
- **Dworshak**: midnight elevation was 1,538.3 feet, average inflows of 0.6 kcfs, outflows of 9.1 kcfs;
- **Lower Granite**: average outflows of 26.2 kcfs;
- **McNary**: average outflows of 120.3 kcfs; and,
- **Bonneville**: average outflows of 120 kcfs.

Water Quality: Dan reported that TDG levels are less than the state WQ criteria right now. He noted that The Dalles tailwater gauge (TDDO) was out of commission for a while due to repairs and a delay in equipment replacement. The gauge is back online now with data being transferred.

Fish: Kelsey Swieca, NOAA, reported that adult fall Chinook, coho, and steelhead are generally all increasing in passage at Bonneville; YTD passage for fall Chinook is 143% of the 10-year average and 70% for steelhead. At Lower Granite, adult fall Chinook are steadily trickling in, with YTD passage at 197% of the 10-year average, 58% for steelhead, and a handful of sockeye (5) over the past week as the run continues to wind down.

Juvenile salmonids are moving through all the projects, almost exclusively sub-yearling Chinook. There was a moderate uptick at Lower Granite about 10 days ago, but only a couple hundred passing the project over the past couple days.

Dave Swank, USFWS, reported that the adult lamprey daytime ladder count at Bonneville is at 63,265, or 174 % of the 10-year average to date. He does not expect this percentage to change significantly as the adult lamprey run at Bonneville seems to be nearing its end.

Power System: Tony Norris, BPA, reported incoming weather systems that should provide significant wind generation. Temperatures are tracking closer to seasonal averages as regional air temperatures come down heading into fall.

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 on September 6, 2023, at 9:00 AM.

Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, August 30, 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. **Review Summaries and Minutes – August 9 and 16**

    - August 9 – Approved
    - August 16 – Approved

2. **Draft Fall/Winter Spill Priority List –** *Dan Turner, Corps-NWD*

    a. Spill Priority List

    - Turner provided the draft Fall/Winter Spill Priority List.
    - Water Quality Criteria changes with the end of the Summer Spill.
    - The 2023 draft is the same order as last year, with a footnote added because of the discussion last year about Washington's criteria for fish passage spill.
        - Represented in footnote 1, if there is spill for Steelhead that would fall under the Washington 115/120% TDG criteria.
        - This is a side note because this spill priority list focuses on spilling for Lack of Load spill and would be 110% TDG criteria throughout the system.
    - This is the order that BPA would spill in.

    Tom Lorz, Umatilla/CRITFC, said that FPAC has not had a chance to look at the list and will review it next week. If they have any suggested changes, they will contact the Corps and let TMT know.

3. **Dworshak (DWR) Operations –** *Grant Bell, Corps-NWW*

    a. Dworshak Line Outages for Wildfire

        a. 1st fire – August 19-20

    - West of Dworshak Project – 1 mile West of Ahsahka, Idaho
    - Wildfire started August 19
    - 10:30 pm PDT, August 19, due to the close vicinity of the 500kV line to the fire, it was de-energized as a precaution.

    - This dropped the Dworshak discharge from the planned 9.4 kcfs for temperature operations down to between 2.1 and 2.4 kcfs.
- 9:00 am PDT, August 20, the fire was no longer deemed a threat to the 500kV line, which was then re-energized.
- With such a significant drip Dworshak began to ramp back up in discharge back to the nominal flows.
    - The plan that day was to cut to 9 kcfs discharge.
- 9:00 pm PDT, August 20, Dworshak got back up to the 9 kcfs discharge.

Summary:

- Good lessons learned.
- Jay Hesse, Nez Perce, and Jonathan Ebel, ID, provided good feedback in terms of what they are looking for in terms of a short-term solution.
- Ebel did some digging and offered a shorter-term solution, at least for the rest of the summer, until the Corps has more time to look at it in terms of what to do in this sort of outage between the Tribes, State of Idaho, and Idaho DEQ.
    - This was good for the team and good feedback for the future.

b. 2nd fire – August 29

- Started yesterday.
- No established fire map.
    - The circled location provided was just a rough approximate area of where the fire is located.
- Southeast of Dworshak Project – North of Orofino, ID.
- 4:30 pm PDT, August 29, 115kV line was de-energized.
- Dworshak discharge dropped to 7.2 kcfs.
- 5:30 pm PDT, August 29, began spilling to 2 kcfs of water.
    - Brought Dworshak back up to the planned value of 9.2 kcfs.
    - They did not end up going up to the 110% TDG do to the fact that 9.2 kcfs is all they had planned.
        - From their model results it was more than sufficient water for temperature operations.
- 1:00 am PDT, August 30, the fire was no longer deemed a threat to the line which was re-energized.
- Between 1:00 – 2:30 am, the spill was slowly ramped down and replaced back with powerhouse flow.
    - Back up to nominal 9.2 kcfs coming out of Dworshak.

Summary:

- Overall, this outage was less severe, both in change in discharge as well as duration.
- The fire is still ongoing, and the Corps can provide a little more context in the future.

Charles Morrill, WA, asked if both fires were started by lightning or if causes are known.

Bell said that the cause of both fires is still under investigation. He said that right now that is the latest information that he was able to pull this morning. He said that he knows that Walla Walla yesterday (August 29) had some pretty significant lightning and thunderstorms that were moving toward the direction of Dworshak. He said that he would say lightning was likely but there is no official cause as of this point.

Lorz said that it does not need to be talked about now, but there was some discussion at FPAC yesterday about how the first fire and the operations at Dworshak and some of the ripple effects at Lower Granite. He asked if the Corps plans to address that or if not the Fish Managers would like to add that to the agenda.

Stranz asked for clarification if Lorz wants to add it to today's agenda or a later agenda.

Lorz said that he does not think that we need to wait a week.

Baus told Lorz thank you for reaching out. He said that he thinks that the Corps and BPA would feel comfortable answering any questions today regarding what happened at Lower Granite (LWG).

Lorz said that it appeared that the LWG forebay went below the 733-mark and the Corps had to pool a lot of water which caused flows to drop precipitously out of LWG. Which then forced the removable spillway weirs (RSW) out of service, they had to turn it off. Lorz said that it seems like that is not usual operation and not what the FOP intends. He said that the fish managers are wondering how this would get reported out other than having them have to be looking at outflows and data and that kind of information.

Baus said that TMT should take a deeper dive into that data because Lorz's characterization is different to Baus' characterization of the situation. Baus' characterization was it is difficult to manage the Lower Snake River during low flow periods. He said that as was pointed out, when you have a low flow period exacerbated by an unplanned fire event, as well as uncertain outflow from Brownlee, which further lowers flow, it makes operations and all the Spill, MOP, and Water Requirements difficult to achieve. Baus said that it is his understanding when they do have low flow situations it is consistent and contemplated in the Fish Passage Plan (FPP) as referenced per the FOP. When we have insufficient project inflows to maintain minimum generation, as well as fixed spill it is contemplated and discussed in the FPP to close the RSW and spill the remainder of project outflow until sufficient flows. He asked if that answered Lorz's concerns or if it would be better to take a deeper dive into the data.

Lorz said we can go into a deeper dive. He said it looked like the Corps went below the 733', which is below MOP at the forebay, for a couple hours around August 20. It then looked like the Corps aggressively refilled the pool over that, by refilling they then put

less water out of the dam. Lorz said that it seemed more like it was a conscious decision than just low flows. Lorz said that is the part that they are trying to understand. He said others in the group are much closer to the data were the ones that brought it up. He said that he does not need to be the only one talking, if someone else wants to chime in, but that was their question. It was not declared a power emergency, so the Corps did not use their emergency protocols to do this, it looks like it was a knowing decision that had ripple effects of ponding water that triggered having to turn off the RSW. Lorz said that is kind of like not just low flows, that was actually by design. Lorz said that is what they are trying to figure out.

Ebel told Baus that there seem to be two parts. He said one is understandable to him and another part that he has questions about. The first, right as the transmission line was de-energized the Action Agencies (AA) put a bunch of flow out of LWG and dropped the pool below MOP. Ebel said that looked to him like the AA were covering some load issues. Ebel said what he is trying to understand in terms of the operations at LWG, and he is not sure if they are related to the DWR outage or not, is on August 22 where inflow to LWG was sufficient but AA dropped below RSW spill and refill through most of the MOP range. Ebel said that he was wondering how that would be considered within the FOP. The 6-hour inflow to LWG was 8-10 kcfs over the outflow. Ebel said that when doing the math there was sufficient inflow to even operate the RSW and increase the forebay elevation. He said there are two parts, what happened immediately downstream upon the DWR outage and then an odd, seemingly outside the FOP operation that occurred on August 22.

Tony Norris, BPA, prefaced saying that he knows that the hourly data posted on the public website makes it appear that they had drafted below 733' but the 3-second data that the Control Room follows from the GDAC system on August 20, inflow dropped from the previous day (August 19) of a range on inflow from LWG – because they have Hells Canyon peaks – from about 22 to ~31 kcfs. After that outage, it was a Sunday, so Hells Canyon reduces discharge additional due to evolving load. The additional drop from the Dworshak operation dropped the range from 25 kcfs to as low as 16 kcfs at about 11:00 pm and so they were having to deal with this huge swing. Their data indicated that they did not draft below 733' during that period. It shows that they came very close. Norris said that you can see why they have two-tenths of a foot buffer so they can avoid going below those elevations if they can. They did go below that buffer and they had to make changes to refill the project when they had that sudden, unexpected decrease in inflow. Then on the subsequent days they still had low flows into LWG before that picked up on August 22 before Hells Canyon went back to the expected pattern and it facilitated some fill. Norris said that he cannot say what else happened at the project, but they did not go below 733' from what the Control Room can see. Norris said that again on August 22, they got close again and then began to get a buffer for what may or may not come down the road.

Ebel commented on the refill with a buffer. He said that spill was reduced below the RSW, and the project filled a foot-and-a-quarter. He said that the buffer is almost the entire MOP range.

Norris said that he cannot speak to what they were actually discussing in the real-time at the moment but there were still fires in the area even though they had re-energized that

line. There was still fire activity going on and so they probably did not want to end up in a similar situation.

Ebel said he can understand that. He said within the FOP there is a table that discusses sufficient flow to maintain the RSW. He said that it seems like this situation would fall within the process realm, in an appendix where there needs to be some type of notification and rationale as to why it is deviating from the FOP. Ebel said that he wanted to point out that process wise he does not think that these are lining up with the FOP and the Water Management Plan. He said that he is not sure where to go from there but felt that he should point it out.

Baus asked for clarification the location because he was still not tracking. He said that it is his understanding that the rudimentary concept is if project inflows are insufficient to maintain minimum generation and the fixed outflow of the RSW, then the project is to close the RSW and operate to minimum generation and then distribute the remaining project outflow via conventional spillbays. Baus said that it is his understanding that is what they did.

Ebel said to look at inflow. He said the crux of this is the sufficient inflow. The 6-hour average inflow from midnight to 6:00 am on August 22 was 24 kcfs, from 6:00 to 11:00 am it was 31.6 kcfs. Outflow during those periods was 14.2 – 18.9 kcfs and the spill was reduced as low as 1.9 kcfs. Ebel said inflow-wise, from the data that he can access, suggests that there was sufficient inflow to maintain the RSW while actually still continuing to store water. To him it appears that there was a conscious decision made to store water faster at the expense of the use of the RSW which seems to deviate from the FOP. He said that is his point it depends on the definition of what sufficient inflow is.

Stranz said that Ebel is saying that because from his perspective it was deviating from the process and the FOP there needs to be some kind of notification and rationale as to why that happened. She asked Baus and/or Norris if there were any of those that made the decision on the call or if we have had any contact with them to understand more of what was going on.

Norris said that he disagrees. He said that they were recovering on those hours that Ebel is suggesting. He said that they got close to the bottom and that it was a Monday morning. He said that they might have been expecting more outflow out of Hells Canyon on a Monday morning. He added that sometime the pools do not behave in the way that you might expect. Norris said that operating these dams is not a spreadsheet exercise. They have to deal with what is going on in the real-world and sometimes the real-world does not match up with the spreadsheet. He said that he cannot speak to what they saw when they needed to start to put some water behind, but at that moment when they reduced spill down to ~6 kcfs we were about a tenth off the bottom. They probably felt that they needed to get some fill. Once spill resumed back to where it was prior to August 20, they had only filled six-tenths of a foot. LWG Norris said that he does not believe that they have done anything inappropriate or outside the bounds of the FOP.

Stranz said that what she is hearing from Ebel is that from what he can see, and his perspective is that it was a deviation from the FOP. She said that what she is hearing from Norris is that he does not see that it is a deviation from the FOP. She asked Norris if that is correct.

Norris said absolutely.

Daniel Turner, Corps, reminded TMT that spill variances get documented in monthly FOP implementation reports. He said that there were questions about where people can look for documentation with further information. He said that this does not directly relate but he wanted to remind TMT that there is a process for this information.

Stranz said that it sounds like this one would probably not be documented because from the AAs perspective they were not outside of the FOP.

Turner said that is correct.

Lorz asked Turner where those reports are published and if they are actually available or are they just to NOAA for meeting the requirements. He requested that the link would be put in the notes.

> FOP Monthly Implementation Reports (crohms.org)
> https://pweb.crohms.org/tmt/documents/FOP_Implementation_Reports/

Norris said that he got some additional information from his real-time folks that the forecasted inflows at LWG when they got down within a tenth of being off the bottom. They had to close the RSW to get into the soft constraint MOP range. Then once they got back into the soft forebay range they re-opened the RSW. Norris said that he thinks that they were just struggling to manage around a drop in inflows and then inflows came in lower than they had forecasted. This is just managing the system around low flows.

Erick Van Dyke, OR, asked for the amount of megawatts that they were required to produce at that time.

Norris asked what Van Dyke meant by required, they can only produce the amount of megawatts where they have water available, this was not some marketing exercise this was just managing low flows.

Van Dyke asked how much megawatts they were producing at the time.

Norris said that he would have to go look but that it seems irrelevant to him about the amount of megawatts because they are only managing the hydraulics not the megawatts.

Scott Bettin, BPA, asked Norris for the amount of hydraulic discharge in water.

Stranz asked Van Dyke to share why this is important to him while Norris was looking for this information.

Van Dyke said that we manage water through a lot of places through a dam. He said whether we were efficient in all of the different passage routes for water. He said that it was a question that came up with them to understand where they were in terms of generation flow and why it had to come from the RSW. He said that the actual value counts for each of those locations.

Norris said that they were at minimum generation, and 11.9 kcfs.

Bettin said they were at 84 MW.

Ebel told Norris that he thinks that he will have to agree to disagree. He said that he understands that they had to make changes as both generation dropped at DWR and flows dropped as inflow at LWG. He said what he is speaking to is August 22 and Ebel said to look at the table to start to see, though inflow is not included on the Hourly Project Data table. He said Norris was focusing on the period of inflow that occurred over the weekend. Ebel said that he was talking about Tuesday (August 22). It shows in the table, as ponding most of the range during the period when the RSW was not in operation. Ebel said that he does agree that Norris is correct that they were in the bottom of the operating range, he is not sure whether they agree on what might be an appropriate buffer that falls under that kind of insufficient flow described in the FOP. Ebel said that he would like to see this in the FOP Implementation Report for the month because to him this is a clear deviation from the FOP. Given that within two days the AA then dropped all the way back down to the bottom of the operating range again while inflow was high suggests that it is not as critical a low flow situation as it is being made out to be.

Stranz said that she thinks what should be done now is to ask the AA to consider Ebel's request of recording this in the FOP Implementation Reports. The AA can have some internal conversations and if they find that it is okay with them, they can go ahead and proceed with that.

Van Dyke shared for those not familiar with the Project Data tables, Ebel's point about inflow is not included on these tables, and that piece of information is actually critical in describing what Ebel is saying. Van Dyke said that inflow is about what was in the reservoir. Though he appreciates the table it shows what was released through the dam, it shows where it went. The part that is missing still is the detail about how much water was coming into the reservoir in each of those hours. He said that some may not notice, and he thought that it was important to say.

Norris said inflow did not pick up until later that day. He said that they did not get inflow until after 8:00 am. Prior to that inflow is still down in the low 21-22 kcfs, until later that morning when Hells Canyon picked up and started to arrive at LWG, He said that those are all things that the Control Room needs to deal with as well as trying to forecast those outcomes. He said that the fish managers continue to tell the AA that they have not followed the FOP, but the AAs highly disagree. Norris said that maybe spending some time seeing some of the three-second data and some of the forecasts, or the data that they use to operate the system on a real-time basis.

Ebel said that he thinks that would be helpful to take a look at that data. He said that the numbers he only has access to the data that the AA allow the public to see.

Stranz said that she will turn it over to Baus and Norris to talk about this internally and consider whether or not the AA are willing to include in the FOP Implementation Report as the fish managers have requested.

- Action Agencies consider including in the FOP Implementation Report.

Stranz continued and said that moving forward maybe there should be a process meeting or something where we can look at the three-second data and see if that sheds new light on everyone's understanding.

Baus added his response, he said that he shares Norris' concern. He said that at this time their current approach is that low flows are very hard, and he said that he thinks that they have belabored that point at this meeting. He said that every year is a constant challenge of when project inflows are insufficient they close weirs. He said that he hears Ebel's concerns and understands that he is asking them to put it in the FOP Implementation Report. He said consistent with Norris' response, he does not feel like they did anything that is a variance from the FOP, but they will take a look at it. He said that if Ebel has more conversations with the Corps and BPA regarding low flow operations as it relates to weir operations, he would like to continue to have that open dialogue.

Jay Hesse, Nez Perce, said this is a topic that needs further discussion but as it stands now, he said that he thinks the operations that occurred August 22 highlight how the hardlines and minimum operations for min gen and for navigation are set as a higher priority than fish. Hesse said that a hardline seems to be drawn in these operations, in this scenario, where folks are unwilling to manage the system or unable to manage the system in a way to drop below min gen or to drop below the MOP levels but are willing to drop below the spill levels that are identified for fish. Hesse said that he does think that this does warrant further discussion and as an example where the operations and priorities are not balanced, and the pain is put on the back of the fish.

Charles Morrill, WA, said that he thought that his colleagues addressed it well. He just shared what was available on the FPC website for operations on August 22. He said again it does not show what inflow is, but it does show the extremely low flows and as others have said this is also a concern of Morrill's. He also agrees that they need a better understanding of why and how.

from Charles Morrill to everyone: 9:40 AM

LWG 8/22/2023 200 14.2 11.9 1.9 733.4
LWG 8/22/2023 300 15.7 11.9 3.4 733.4
LWG 8/22/2023 400 15.7 11.9 3.4 733.4
LWG 8/22/2023 500 15.6 11.8 3.4 733.5
LWG 8/22/2023 600 15.7 11.9 3.4 733.5
LWG 8/22/2023 700 15.6 11.8 3.4 733.6
LWG 8/22/2023 800 15.7 11.9 3.4 733.7
LWG 8/22/2023 900 15.7 11.9 3.4 733.8
LWG 8/22/2023 1000 16.4 11.9 4.1 733.9
from Charles Morrill to everyone: 9:40 AM

This is what we see in terms of operation on the 22 from 0200 to 000

from Charles Morrill to everyone: 9:42 AM

but we don't see what inflow is

Stranz said that three people have mentioned that you cannot see inflows. She asked if those data are not available anywhere or if it is just not available on this table.

Norris said that inflow is a computed number. He said that trying to forecast that inflow and then operate with what is actually happening at the dam does not always add up as simply as a spreadsheet. He said that if you are not tracking real-time information on a

much finer scale, it would be easy to come back to say that could have easily done something different. Norris said that it is not easy. He said maybe TMT will have to spend a little bit of time taking a look at some finer time step on data and that will illuminate the situation here.

Baus said that he agrees with what Norris said but he does think that what helps illuminate the challenges and the complexities are the data that we do have. He said that if you google "Idaho Power Hells Canyon Outflows". He said that outflows are there and are real and they are fluctuating anywhere from 6-18 kcfs and that is difficult to manage. Baus said that if the forecast changes and you are dealing with Hell Canyon outflows ranging from 6-18 kcfs that is a significant change in project outflows. When you do not have a lot of water to work with and you are dealing with unforeseen things like fires there is not a lot of flexibility. So Baus said that he wanted to reverberated Norris' comments.

Ebel answered Stranz' question of where the inflow data are available. He said that the computed inflow data are available through CROHMS in a more raw but not quite raw data.

Van Dyke acknowledged Baus' point that it is hard. He said that they are not here trying to dispel the fact that managing water is hard. What they are trying to dispel is that managing water for multiple purposes is hard and what they are seeing that there was an issue with the amount of water being delivered using the data available, specifically the inflow compared to the outflow. He said that there seems to be an issue where we need to acknowledge that we are seeing data that provided reason to bring the topic up the way it was. He said that he appreciates that others have shared their thoughts on why they think this is. He said that he thinks that we need to look at it in more detail specifically identifying in reports what data and information is shared and why. He said that he thinks that inflow should be recognized as part of the components that need to be discussed.

Stranz said that there was still a request for the FOP Implementation Report and it sounds like something that they will need to add to a process meeting agenda to dive a bit deeper into the three-second data.

Bettin asked to include biological impacts in the process meeting. He said that there is a concern that they are not doing anything with the RSW off so he would like to touch on the biological impacts, if there are any.

Lorz said that they look forward to that discussion about other mitigation impacts and when they have other problems they would like to see the AAs assessment for mitigation you need to do for the biological impacts if they want to get tit for tat.

Stranz said that we are not getting tit for tat.

Lorz said that he is sorry, but he gets frustrated when the AA have an operating plan that they are supposed to adhere to, and the fish managers say that they think that they might be outside of it and the first response is what was the biological impact.

Stranz said that she felt like for a while the conversation has begun to swirl. She would like to move off of it so that all can take a break and then come back to it once

we have had a chance to look at more information and talk to people who were operating the project and then look at the data together.

Lorz said that he did not respond to that at all. What he was responding to was the request like the one made for biological impacts, he said that seemed like a bit of a tit for tat kind of a response and he was not super giddy about those.

Stranz said that she did not feel that the conversation was being productive anymore and she has it down as a process meeting where they can get as deep and dirty as needed. She then moved it back to Bell for the rest of his update.

b. Current Hourly Data (August 30 – Hour 7)

- Current Outflows: 9.2 cfs
- Current Forebay Elevation: 1537.94 feet
- Expecting a September 1 midnight elevation of ~1535.8'.
  - Coming in higher than their end of August 1535' target.
  - May have a little precipitation that may bump flows.

c. Snake & Clearwater Rivers Temperature Data

- Natural Flows:
  - Anatone: 72°F
  - Orofino: 71.6°F
- Dworshak: ~45°F
- Lower Granite (LWG) tailwater: 66.22°F

d. LWG Forebay Temperature Strings

- August 19 & 20
  - Following the last wildfire and the remainder of warm water from hottest heatwave.
  - Stratification got pushed down closer to the 25 meter-mark.
- Moving forward things recovered
- Heatwave from last weekend's heatwave.
  - A little heat pushed through the 20 meter-mark.
- Out and past the rest of that, and the last of the warm water from the last heat appears to be through the system.
- Recovered and back to the strong 20-meter stratification of 64.1°F.

e. DWR Extended Inflow Forecast

- Moved off the 90% climatology line for shorter term future.
- Somewhere between the 90 and 50% climatology and expect to stay going into September.
- Inflows are still low but not as low as earlier this summer.

f. 10-Day Regional Temperature Forecast

- Lower Snake area is showing favorable temperatures.
  - Some warmer spells but nothing considered hot.

g. Weather Forecast for Lewiston, ID

- Highs in the high 70° to low 80°F.
- Partially cloudy this week and then onto sunnier condition.
  - Small chances of rain.

h. Current Model Results – August 29 @ 0745

- Seasonal ramp down begins September 1.
  - Same plan Hesse presented last TMT.
- Temperatures are not expected to get close to 68°F with the ramp down in the near future.
- Beginning of 10 day shows the ramp up after the first fire, back up to nominal powerhouse. The slight dip (August 30) is the wildfire from last night/this morning.

Morrill thanked Bell for the update.

4. SOR 2023 C-2– *Kyle Dittmer, CRITFC & Alexis Mills, Corps-NWD*

a. SOR 2023 C-2

- CRITFC requested an initial two-week operation August 21-24 and August 28-31.
  - 1.5-foot elevation band for Bonneville and The Dalles
  - 2-foot elevation band for John Day
- Fish forecast models out of CRITFC in coordination with TAC.
  - 374k Adult Summer Chinook
  - 285k Coho
  - 63.4k Steelhead
- CRITFC had a net flight last week which shared data with the Corps and BPA staff.

- There is a going to be an Interstate Compact Meeting for the Tribes to request for the SOR to be extended through this Friday (September 1).
    - Due to lots of high nuisance wind in the Gorge.
    - 30-50 mph wind gusts are playing havoc with gill nets.
- Fishing for next is still being discussed, Dittmer will send out an email to the Corps and BPA staff as to what is discussed.
- Will bump up into harvest catch rates as they get further into the month of September which will tell them when they need to shut off for the season.
- Alexis Mills, Corps, said the SOR has been implemented as requested and the forebay constraints for John Day, Bonneville, and The Dalles will be held until tomorrow. She said that if there is a request for an extension, they will coordinate that and they will look into coordinating any requests for next week.

Bettin told Dittmer and Lorz thank you for the communication ahead of time. He said that he appreciated it.

Dittmer said that CRITFC had to cancel its net flight yesterday because of the wind. They may retry today of tomorrow so they may or may not have new net data to share. If not they will have to do it again next week because they are planning on ding net flights almost every week now. He also added that the Tribal Fisheries are out there in their usual locations and Dittmer believes that they are back to pre-pandemic level. He said that because Summer season was so short depending on how fishing goes for Fall season the vendors may be out a little longer this year.

5. Operations Review

a. Reservoirs

Reclamation – Joel Fenolio

- Hungry Horse Dam
    - Midnight elevation: ~3547 ft.
        - Below 12 foot from full more than a month early so they are just operating to Columbia Falls minimums.
    - Inflows (avg. last 5 days): ~500 cfs
    - Getting significant rain in the basin – about 1.5” over the last 12 hours.
        - Hope to see some response in the stream flows.
- Grand Coulee Dam
    - Midnight elevation: 1277.8 ft.
    - Drafting down to the 13-foot target of 1277 feet.
        - On track to do that and start refilling the reservoir as best they can.

        - They are trying to be up to 1283' sometime in October.
- Banks Lake Forebay
    - Elevation 1544.6 ft.
    - This year the amount of water taken for the Columbia Basin Project the end of August target I 1563.9 ft.
    - They will be at that tomorrow night (August 31).
- Payette Flow Augmentation
    - Finished up the Payette Flow Augmentation Water on August 29.
    - Waiting on final accounting.
    - Took out the 181 kaf this year.
    - That has wrapped up.

Corps – Lisa Wright

- Libby Dam
    - Midnight elevation: 2445.7 ft.
    - Inflows: 0.3 kcfs
    - Outflows: 8.5 kcfs

- Albeni Falls
    - Midnight elevation: 2062.2 ft. (Hope gauge)
    - Inflows: 5.6 kcfs
    - Outflows: 10.3 kcfs

- Dworshak Dam
    - Midnight elevation: 1538.3 ft.
    - Inflows: 0.6 kcfs
    - Outflows: 9.1 kcfs

- Lower Granite average outflows: 26.2 kcfs
- McNary average outflows: 120.3 kcfs
- Bonneville average outflows: 120 kcfs

b. Water Quality – *Dan Turner, Corps*

- TDG levels at all projects are less that the Water Quality Criteria.
- Of note: The Dalles tailrace gauge (TDDO) was out of commission for a while.

- Some repairs were done and then it went back out of commission again a couple of times.
- It is now back online, and data are being transferred.
- The most recent outage was due to a communications cable that had to be special ordered, and it took a couple of weeks to get that equipment replaced.

c. Fish

Salmon – Kelsey Swieca, NOAA

- Adults
  - Bonneville
    - Fall Chinook, Coho, Steelhead are generally all increasing in passage numbers.
      - YTD Fall Chinook: 143% of ten-year average
      - YTD Steelhead: 70% of ten-year average
  - Lower Granite
    - Fall Chinook are steadily trickly past the project.
      - YTD: 197% of ten-year average
    - Steelhead
      - YTD: 50% of ten-year average
    - Sockeye
      - Handful as run continues to wind down for this part of the year.
      - Five over the past week or so.
- Juveniles
  - Almost exclusively Subyearling Chinook
    - At Lower Granite there was an uptick in that Subyearling passage about a week and a half ago, but the event was fairly punctuated and the passage index has only a couple moving past LWG over the last couple of days.

Lamprey – Dave Swank, USFWS

- Counts at Bonneville:
  - Total daytime ladder counts: 63,265
  - 174% of ten-year average for this date.
- Nearing end of the adult lamprey run at Bonneville so it should not change dramatically from that average.

d. Power System – *Tony Norris, BPA*

- Weather systems providing wind.
- Moderating temperatures more closely tracking seasonal averages, air temperatures are on a downward slope as we get farther into fall and have less daylight.

6. **Public Comments:**
7. **Set agenda for next meeting – September 6, 2023**

Today's Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Doug Baus (chair), Aaron Marshall, Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin, Ben Hausmann
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Trevor Conder, Kelsey Swieca
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	Tom Lorz (CRITFC)
Colville Tribe	
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

COE – Grant Bell, Willow Walker, Dan Turner, Alexis Mills

CRITFC – Kyle Dittmer

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

Energy Keepers – Eve James

Chelan PUD – Jay Fintz

Oregon DEQ – David Gruen

Snohomish PUD – Mike Shapely, Kevin

Columbia Basin Bulletin – Mike O'Bryant

Portland General Electric – Ruth Burris