

**COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

July 24, 2024

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: <https://pweb.crohms.org/tmt/agendas/2024/> Suggested edits for the summary are welcome and can be sent to Colby at [colby@dsconsult.co](mailto:colby@dsconsult.co).*

**Review Meeting Summaries & Minutes** – TMT Members approved the official meeting minutes and facilitator's summary from the July 17 meeting.

**Dworshak Operations** – Willow Walker, Corps, reported on operations at Dworshak Dam (DWR), noting that a new link has been added to the regular update that shows regional weather for the past month: air temperatures have been above average throughout this long hot spell. Current forebay elevation is 1,577.8 feet, and the project is releasing 9.7 kcfs, max powerhouse capacity (no spill).

Water temperatures are high in the natural system: Orofino is 75 degrees F, peaking a few days ago at 80.1 degrees F, and Anatone is at 73.5 degrees F. The Lower Granite (LWG) tailwater is about 67 degrees F, with pool stratification holding at 68 degrees at the 15-20-meter mark, although stratification did push down slightly yesterday evening. Inflow projections have been and continue to be below average, this is not expected to change any time this summer.

Temperatures will be hot for the next few days, then will drop to the upper 80s and mid-lower 90s, then warm up again through the end of the 10-day forecast. Temperatures at Lewiston, ID, will be in the mid-80s to mid-90s for the next week and then increase to about 100 degrees F for the remainder of the forecast. Willow noted that there won't be too much relief from the heat at night, on August 1 the low is forecast to be 72 degrees F.

Today's temperature modeling results show Orofino peaking at 81 degrees F a few days ago, with water from DWR hitting the LWG forebay today. The temperature is holding below 68 degrees F, although it did rise slightly today, and is not expected to go above 68 degrees F in the next couple of days.

Willow provided an update on the remaining water supply at DWR for the rest of the summer (posted to the TMT website), emphasizing that the current outlook could be much worse. There is enough water to maintain 68 degrees F in the LWG tailwater (with DWR outflows of 9 kcfs) through one event that would change temperature conditions, such as the scheduled Doble testing or another heat wave at the end of August. Salmon Managers asked the Corps to consider potential scenarios that could result in having more water available for runs migrating later in the season. The group recognized that relaxing water temperature criteria has significant tradeoffs and that temperatures will likely increase above 68 degrees F regardless. Operational alternatives (posted to the TMT website) based on initial input from Salmon Managers include:

- **Alternative 0:** Maintaining current requirements of maintaining water temperatures at or below 68 degrees F, reserving the currently remaining 3 days of spill for Doble testing.
- **Alternative 1:** Allow higher temperature criterion of 69.5 degrees F in the tailwater of LWG during Doble testing, alleviating the need for DWR to release extra water during this time.
- **Alternative 2:** Target a higher temperature criterion of 69.5 degrees F in the LWG tailwater between August 1-9, allowing DWR to reduce outflows below 9 kcfs and conserving water for a potential heat wave in the last 2 weeks of August.

- **2a.**: Save as much water as possible during August 1-9 by targeting 69 degrees F during that full timeframe.
- **2b.**: Target 69 degrees F until 2 days of additional spill have been saved during real time conditions.

Willow noted that if there is desire to implement Alternative 2, the Corps needs to know by this Friday to begin preparations. Salmon Managers voiced concern about the harmful impact of warmer water conditions on anadromous fish. Water quality criterion is expected to be exceeded regardless of operations due to climate conditions, the alternatives presented are intended to reduce the risk for fish in this as best possible.

Salmon Managers also expressed concern regarding the timing and necessity of Doble testing at LWG; they asked for a change in schedule, which the Corps said was not feasible due to the intricate logistical planning efforts that go into the maintenance operation, and canceling it poses an extreme risk to dam operation and safety. Salmon Managers noted a serious need for future discussions and revisions to the testing schedule to better time it with fish runs. NOAA suggested that the best possible timeframe for Doble testing could be in the first period of August, understanding it was not a possibility for this year but might be adjusted in the future. The Nez Perce Tribe added that for future years, testing is preferred when there is minimal thermal stratification, and offered the latter part of September as a timeframe that may not pose as great a challenge for temperature management.

The Corps asked for a formal polling on this potential in-season management action, as it is different from what is outlined in the current operational documents. Following a brief caucus to review the presented alternatives, TMT Members were polled on Alternative Operation 2/2a., and given an opportunity to provide their rationale:

<b>TMT Member</b>	<b>Polling Response</b>	<b>Rationale (Optional)</b>
NOAA	Support	NOAA emphasized that the issue of limited cooling water has been ongoing, and NMFS has supported operational changes in the past, while understanding the tradeoffs between species. Their intent of support is to target a window of temperature relaxation that aligns with the anticipated lull in passage shifting between the sockeye to fall Chinook run. Additionally, the intent is to target a period least impactful to LWG trap operations. NOAA believes there are opportunities to approach this issue differently in the future and look forward to exploring them.
Oregon	Abstain	No additional comments.
Washington	Support	WA appreciated NOAA’s comments, emphasizing that the situation a tough one. They are supportive of future discussions and today’s adaptive management decision and believe this to be the best decision for a bad situation.
Confederated Tribes of the Umatilla Indian Reservation	Support	CTUIR affirmed NOAA’s rationale and added that they will reflect on this year’s change in spill operations (RSW only at LWG) when considering how to best manage future operations.
Yakama Nation	Support	No additional comments.
Reclamation	Support	No additional comments.
Corps of Engineers	Support	The Corps looks forward to future conversation on this issue. Doble testing is in the Fish Passage Plan (FPP) Appendix A,

		and TMT Members will have the opportunity to offer input on it in the next draft process of the FPP this winter. Walla Walla district appreciated the opportunity to coordinate with Salmon Managers on this operation.
USFWS	No Objection	USFWS polled No Objection as they initially thought Alternative 2b. may have been the best plan, although noted there may not be much difference between the implementation of 2a. and 2b. Temperatures in August remain uncertain and therefore were okay with Alternative 2a.
Idaho	Support	ID appreciated Walla Walla District’s water management crew in coordinating operation alternatives to address the climate reality. They hope to find a better solution in the future.
Montana	Support	MT appreciated the many efforts on this issue through the years and encouraged the TMT to work for a long-term solution for this recurring problem.
Nez Perce Tribe	Support	NPT appreciated dialogue by all TMT members and the preparation work by the Walla Walla District to inform the discussion. This is a risk management decision to best manage risk, in response to not being able to meet temperature criteria for climate-based and hydro-system presence/maintenance-based reasons. The Tribe’s risk balancing gives priority to conditions at the end of August associated with fall Chinook broodstock collections and operation of the adult trap when there are more adult natural origin Chinook. These efforts align with the HGMP objectives.
BPA	Support	No additional comments.
<i>The Kootenai Tribe of Idaho, Confederated Tribes of the Colville Reservation, Spokane Tribe of Indians, Confederated Tribes of Warm Springs, and the Confederated Salish and Kootenai Tribes were not present to register a polling response.</i>		

*Action Agency Implementation*

The Corps will implement Alternative 2.a: “save as much water as possible between August 1-9 by targeting 69 degrees F during the full timeframe,” per the request from IDFG (with a consensus from TMT). DWR will reduce flows starting next Monday to allow temperatures to increase to a target of 69 degrees F (0.5-degree buffer), saving as much water from DWR as possible to use later in the season. Willow added that the alternative will be implemented with an understanding that temperature relaxation will only be employed if absolutely necessary and noted that there is always a chance that forecasts will change. WA and others noted appreciation for the collaboration and efforts on behalf of the Corps Walla Walla District to help identify the best alternative to a bad scenario.

**Sockeye Update** – Jonathan Ebel, ID, provided an update on sockeye (posted to the TMT website), noting that the numbers are nearing towards final. PIT-tag expansion at Bonneville (BON) has not changed in the last week; no tags have been detected at the project, which indicates the end of the run, as expected. Counts at LWG have exceeded PIT estimates as expected, with observed upper Columbia fish straying into the Snake River.

Considering conversion rates from BON to McNary (MCN), and MCN to Ice Harbor (IHR), Jonathan noted that while fish from Washington are potentially coming into Idaho (that aren’t trapped), Washington is seeing a lot of Snake River fish in the upper Columbia. 16 of the total PIT-tags for Snake River hatchery sockeye have made it up the Columbia; conversion from MCN upstream is high.

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Conversion from BON to LWG, is not great but not as bad as 2023 or 2021. Fish are slowing down in the system and average travel times are decreasing, which is normal for this time of year.

Temperatures are extremely high above the LWG pool, peaking at Anatone at 75.5 degrees F, and 76 degrees F in the Salmon River near Shoup. Finally, Jonathan reported that the trap and transport operation finishes tomorrow, and that any fish not trapped now will have a tough time reaching the Stanley Basin. In response to a query about observed morbidity in the reaches, Jonathan noted there have been no reports to his knowledge, but there are not many fish, so it may be that mortalities go unnoticed. Fish are either trapped in the LWG pool or trying to get through warm water. He encouraged TMT Members to consider unaccounted-for fish, reminding that thermal refugia exist but are scarce.

**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 July 31, 2024, at 9:00 AM.**

**Columbia River Regional Forum  
Technical Management Team  
OFFICIAL MINUTES  
Wednesday, July 17, 2024  
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**

a. Draft Summary & Minutes for July 17

- July 17 Summary and Minutes – Approved

**2. Dworshak (DWR) Temperature Augmentation Update – Willow Walker, Corps-NWW**

a. NOAA NWS Climate Data – Lewiston

- Summer Air Temperatures in Lewiston, ID
  - Lewiston, ID is the location where the Snake and Clearwater come together so there is a good representation of the regional weather.
  - Gold Band shows the normal temperature band.
  - Blue Bar Graph shows the daily Min/Max temperatures.
- July Timeframe
  - 19 consecutive days out of the past 24 have been above the normal temperature range.
  - 3 days tied for the record hot temperatures.
- Something to keep in mind, we have been dealing with a very long hot spell.

b. DWR Current Hourly Data

- Forebay Elevation: 1577.8 feet
  - Same exact elevation on this day last summer.
- Releasing: 9.7 kcfs
  - Maximum powerhouse capacity.
- Spilling: 0.0 kcfs

c. Snake and Clearwater Rivers Temperature Data

- Orofino (Clearwater Mainstem):

- Temperature: 75°F
  - Peaked 3 days ago at 81°F
  - Anatone (Snake River):
    - Temperature: 73.5°F
  - Lower Granite (LWG)
    - Tailwater Temperature: ~67°F
- d. LWG Forebay Temperature String
- 15/20m Line
    - Holding stratification well.
    - Pushed down yesterday evening but LWG was able to maintain the 68°F and everything looks good below the 20 m.
- e. DWR STP Extended Inflow Forecast
- As expected DWR has been below average this year and this is not expected to change anytime this summer.
- f. 10-Day Regional Forecast (July 25 – August 3)
- The week begins with a hot spot where Idaho and Washington meet but maximum temperatures will fall into the upper-80s – mid-90s. This will be held for a few days.
  - We will see things warm up again toward the end of the 10-day forecast.
- g. Weather Forecast for Lewiston, ID
- Mid-80s to mid-90s until August 1.
  - August 1 the forecast will increase to above 100°F and will remain to the end of the 10-day.
  - Low temperatures on and after August 1 will be above 70°F so there will be no relief at night.
- h. Model Results – Updated July 24, 2024, 8:10am
- 3 days ago, Orofino water temperatures peaked off the chart.
    - Went to about 81°F.
    - This water is hitting today.
  - DWR spilled in preparation for the hot water temperatures hitting LWG forebay.
    - Hanging on to the <68°F.

- It did increase a little today, it is not expected for water to go above 68°F because of the spill helping out.

i. Summer 2024 DWR Water Supply Outlook

- Looking to August water supply outlook.
  - Not in extremely bad situation, there is enough water to maintain the 68°F for August.
  - Need an average of 9 kcfs outflow from DWR through August.
  - Have enough water to get us through one event (e.g., double testing, heat wave)
- There is already a heat wave forecast for the first week of August, there is double testing this year, and there could be another unforeseeable heat wave at the end of August.
- Provide an opportunity for the region to consider when the best place to put risk of going above 68°F in August would be.
- Alternative Options:
  - Alternative 0 – Maintain current requirements of maintaining water temperatures at or below 68°F.
    - If there was a heatwave, use the spill for that. If there was not it would be used for double testing.
    - End of August could risk having temperatures drift above 68°F
    - Extra Water Provided: 0 days
  - Alternative 1 – Allow the LWG tailwater to drift above 68°F during double testing.
    - Would not have to use the 3 days of spill.
    - LWG would be able to maintain the stratification in the pool but because there would be no generation but more spill it would raise the tailwater temperature but as soon as it was over because the stratification would be maintained the temperatures would be able to return to the near 68°F.
    - Extra Water Provided: 2.5 days
  - Alternative 2 – Target a higher temperature criterion of 69.5°F in the LWG tailwater between August 1 and August 9.
    - Save water for double testing, and then have additional water at the end of the month.
    - Extra Water Provided: 2 days
    - Need to know for this alternative before end of day Friday.
- Until Alternative is chosen Walla Walla district will keep operating to Alternative 0.

Kelsey Swieca, NOAA, said that she appreciated Walker and her crew running the alternatives. She said that she was curious about Alternative 1. It mentioned that there is

2.5 days of spill. She asked if that would be extra water provided. In Alternative 2 it just says two days. Swieca asked if Willow could elaborate on the difference.

Walker said that it was a typo, it should be the same comparison-wise. It is 2.5 days extra of spill in Alternative 1, and 2 days in Alternative 2. This is on top of the standard 3 days that we have no matter what.

Erick Van Dyke, OR, asked for clarification about the double testing. He said that double testing occurs at all projects, he wanted to be clear on which double testing events are being referred to in the memo, DWR or LWG.

Walker said that she was specifically talking about double testing at LWG. This is because the 68°F is set based on LWG tailwater. so double testing at LWG has the biggest impact on that measurement value.

Brian Marotz, MT, said that he is trying to get better understanding of the ramifications to the fish when we raise the temperature from 68°F to 69.5°F. He said for bull trout it is in the range that they begin to get thermal stress. He asked if the anadromous fish in that area as sensitive. He asked what is known about that.

Jonathan Ebel, ID, said that anadromous fishes also get stressed. He said that the entire Columbia, or at least upstream of LWG is above 68°F at this point. Ebel said that yes, raising it up will stress out the fish that are there (at above 68°F), but particularly with Alternative 2, the concept behind the dates is that is when the fewest adult anadromous fish (e.g., Sockeye, Fall and Summer Chinook, Steelhead) are below Lower Granite. The idea of raising the temperature in the first week of August is because if we are going to do it that is when to do it to stress out the least number of fish, or the lowest proportion of the runs this year.

Marotz said that was very useful. He said it was interesting as he was looking through the Outlook his attention moved to Alternative 2 because he remembered last year Ebel talking about the number of fish and the reach at the time. He said that Ebel's response clarified things for him.

Van Dyke said that to be clear that the regulation and the criteria is based on quite a bit of information provided on how fish respond to different temperature levels, so this is an impact on fish if a change like this is made.

Ebel said that given that and it is impacting the fewest fish, he said that he understands what Van Dyke was talking about, but he asked if the Corps can implement Alternative 2. He said that at least Idaho supports Alternative 2.

Stranz said that she assumed that all alternatives were implementable from a Corps' perspective. She asked Walker if that was a correct assumption.

Walker said that from DWR Operations Water Management perspective all the alternatives are doable. She said that she would let Doug Baus, Corps, speak to Policy procedure.

Baus said that as Walker noted that the Default Operation (Alternative 0) as well as Alternative 1 and 2 are implementable. He said that two points of note: specific to Alternative 2 if requested, the Corps would need to know by COB Friday; from a



procedure standpoint, because it is an adjustment to the operation identified in the Biological Assessment regarding the Corps' criteria for operating the LWG tailwater temperature they would request an SOR. The SOR would need to highlight a departure from the current operation, which is the tailwater criteria below LWG and then adjusting as noted in this attachment, increasing that by 1.5°F. He said that if Salmon Managers (SM) would like Alternative 2, they would need to request an SOR by COB on Friday and on the SOR document the Alternative desired. He said that TMT would probably would also need an unscheduled TMT meeting, Friday July 26 to do the polling on the SOR and the change in operation. He asked if Ebel was tracking from a process standpoint.

Ebel said that he was tracking the circularity of requesting a request. He asked if we cannot make the decision today while we have these alternatives in front of us. Because it is a little unnecessarily bureaucratic.

| *from tom lorz to everyone: 9:26 AM*

| *tmt bureaucratic, this a surprise.....*

Baus said that they had some preliminary conversations about this process yesterday. He said that what was laid out was Baus' assessment of where we are as far as expectations associated with implementing Alternative 2 and then the need to have an SOR and a TMT meeting to do the normal polling procedures. He said that is his current understanding of where they were yesterday afternoon. He said that he would pause for a moment if any of his Corps' colleagues share a different opinion that address Ebel's concerns chime in.

Ammann said that she apologized for having to dialogue on this, but she said that she was wondering if TMT has everyone's support on the SOR and everyone signed on, would we need to have an unscheduled TMT meeting. She said that she wondered if streamlining would potentially help.

Baus said that his understanding of the SOR polling process is the point of the request is to have a formal procedure in which all the TMT members can poll. He said he would argue that as long as we have a process in place where we had an SOR, and we were able to capture all of the TMT members' formal polling response that would be adequate. He said more loosely, if we had some documentation today with formal polling response from members, everyone, that would be sufficient.

Stranz said that TMT had not heard from enough members to know if we were there. She said that she would like to hear all the perspectives. She said that she would like to continue the conversation and then circle back to the process.

Swieca said that she agreed that there should be additional discussion because when the SM caucused yesterday there was not necessarily a universal path forward that was agreed upon. She said that she thinks that TMT needs some additional discussion before going into any polling today. She said that the one thing that the SM were interested in having a little more conversation and discussion with the Corps about is that it seems like the most parsimonious solution for fish would be to, and logistics, would be to have double testing during the first period of August so that we can stack that period of impact.

She said that it is their understanding that it is not possible this year per conversations prior to this meeting but it might be possible to make something like that happen in the future or at a minimum have the double testing period at LWG not overlap with the start of the Fall Chinook run. She said that she communicated the conversations that she had with the Action Agencies (AA) to the SMs yesterday, but she thought it would be good if the AA and SM could have a little back and forth and if Chris Peery, Corps, could confirm that it is not possible to move double testing at LWG this year. And maybe make a note about how it could be possible in future years.

Peery said as TMT knows, the double schedules were set in January and they can be found in the Fish Passage Plan (FPP) in [Appendix A](#). He said that it is the same crews that do the double testing at all the dams and so if they were to try to change the schedule at one dam it would have scrambled all the other dams schedules, they are already doing the double testing at other Projects. He said that is the crux of the issue for scheduling and that specifically was set at LWG by the SM for the middle of August because that was perceived to be the time that it would have the least impact on the fish runs. If there is a desire to change the timing of the double testing, the Corps can definitely talk about that for next year and have it outlined with their Technical Managements Group at the beginning of the next year.

Tom Lorz, CRITFC, asked Peery for a quick outline of what is going on at Little Goose (LGS) this year because he thought that LGS was supposed to be doing double testing now but it seems like it has been stalled or it is going to be shifted.

Peery said that was correct, the double testing was scheduled for the end of July into August because of the mod, the arc-flash at T2, they could not do the double testing. Their plan, the MOC, is to use some of the time, specifically August 5 & 6, that was originally scheduled for double testing to get prepared to make the repairs on the mod bushing. Peery said that hopefully the MOC would get out today.

Lorz asked if the equipment is still at LGS. He said that he was wondering if there was a way that we could start earlier at LWG or if it is hard and fast. He said that he does not think that DWR is doing double testing this year so is there an opportunity to start LWG earlier.

Peery said that he had not talked to the crews about this, it just came up in his email this morning. He said that he did not think that the technical support crews were available to speak to at the moment. He said that he will try to contact them and find out.

Catherine Dudgeon, Corps, said that she was filling in for Rich Hilt, their Outage Coordinator. Hilt gave her three points as to even though LGS is cancelled why we cannot just switch the double testing from LGS to LWG. She said that Hilt wants to point out:

- The fact that double testing requires the whole electric crew to support effort. Because this has been planned out in January, the crew scheduled their summer to be there for the whole period of double testing, having them all of a sudden switch their schedules, short-term, would be difficult.

- There is a GE contract to come in and install gas monitors on T1 the week of August 12; that would have to be rescheduled.
- Unit 2 will be out of service on August 5 for annual maintenance; they have a crane crew lowering head gates into Unit 2. That is located in the same spot where they would be working on the doble testing. They do not have the area and space to do both the work, it could cause a safety potential having both crews trying to overlap each other.

Dudgeon said that it is such a short turnaround to try to switch LGS to LWG, or even start LWG early since this has been planned out for months in advance. It is really not easy to switch or start early.

Ammann confirmed with Dudgeon that Rich reached out to the Project and got some of that information.

Jay Hesse, Nez Perce, said that the Water Temperature Criteria are established both in the Biological Opinion and the State Water Quality Standards. He said that he would be interested in hearing from Thomas Starkey, Washington Ecology, at some point of the discussion. He said as we had discussed those are there as a manageable threshold for fish performance and survival so relaxing those or not meeting those criteria is not ideal and is an impact to fish. The USG Commitments Document highlights that and includes an effort to minimize degraded fish operations resulting from scheduled and unscheduled maintenance and outages. Hesse said that he thought that doble testing fits into that category of scheduled maintenance, and so believed that there is a commitment to figure out how to minimize the degraded fish operations. He said that you make the best of a bad situation. He said that the information that had been shared in terms of the alternatives and anticipated weather conditions definitely say that we are going to exceed those Water Quality Criteria either intentionally or unintentionally, during August. He said under Alternative 0 there are 3 days of spill remaining and that is allocated to doble testing maintenance efforts, it seems like we are short of water under Alternative 0, so we are in a situation no of how do we manage water temperatures to the best possible way and minimize the impacts to fish on those drained conditions as stated in the USG Commitments Document. Hesse said that he is concerned about the process request that if we make an informed and intelligent recommendation for how to best do that, that the SM have to submit and SOR, yet if the SM just sit on their hands and do something more impactful for fish there is no paperwork required and the process just plays out. Hesse said that seemed like unproductive process in his mind. He said that he would like the Corps to reconsider the process that Baus laid out as required in terms of an SOR and Hesse would like to hear from Washington Department of Ecology and the USG in terms of how we adaptively manage a situation where we know or are predicting that the standards are not going to be met. He asked if that would actually require an SOR from the SM. Hesse said that he has a consistent position with Ebel at this point that making the best of a bad situation is likely done by Alternative 2, and he would like to minimize the process TMT has to go through in doing that. He said that we know that doble testing influences downstream water temperatures and when it is done at Projects that have thermally stratified reservoirs. Planning the LWG and LGS doble testing during the Summer does not make sense to him in terms of managing fish impacts. For future year he would ask the Corps that they strategically be planned for a period where there is

minimized thermal stratification, likely the latter part of September or other timeframes when that type of change does not create challenges to temperature management.

| *from Charles Morrill to everyone: 9:40 AM*

| *Fully agree with Jay's comments !*

Starkey said that his initial questions were answered. They had to do with the timing of a double test, what it is and why it is happening in August. He said that Ecology would never straight up approve of an exceedance of criteria but if it is completely unavoidable then they would defer to the SM expertise for the timing and the operation that would best mitigate for impacts to fish at the projects. Starkey said that if an operation is avoidable regardless of if it is planned or unplanned then he would expect more conversation to happen in the attainment process, the Corps is under a new 401 Certification authority by the State and the timing of something like a double test is something that Starkey would expect to be very appropriate to discuss in their attainment process, or whatever comes of that. He said addressing Hesse's comments on how we adaptively manage for the timing of a double test, he said that he would expect that is something that is very ripe for conversation as we move forward with attainment, criteria attainment on the Snake River specifically.

Van Dyke said all that he was hearing was important for making the final consideration for moving forward. He said that his question is associated with the double testing scheduling. He said that he was curious if someone can answer why the rules used to say every third year double testing was expected to happen, yet since about 2020 there has been a change in the pattern of how double testing has occurred at many of the Lower Snake River Dams. He asked to hear why we have had double testing conducted on both transformers at LWG for all but one year since 2020. He asked what changed in the rules that required that double testing be conducted for both transformers every year since 2020, except last year. He said that is what he thought he had read in the record.

Peery said that he could not really answer the question, but maybe Dudgeon could. He said that he recalled that LWG had the issues with the gaskets that required them to have additional work done on the transformers in Summer, and there was extensive discussion to coordinate that work. That might have been part of why there was more often work on the transformers in Summer. Peery said that the double testing is specifically scheduled for the warm time in the year because it is not good to open a transformer when it is not warm and dry out; that has been discussed a lot in FPOM. This is true anytime there is any other work that has to go on in the transformers, and there have been issues: gaskets at LWG; high gas levels at LGS; an exploding transformer. Having to deal with those have all part of the issues.

Van Dyke said that Peery did not really answer his question. He said that he is asking about the Corps' rules and how they changed.

Stranz said what she heard is that Peery could not answer the question, but maybe Dudgeon could.

Swieca said that she may have a little more information as FPAC chair based on her conversations with the Outage Chair yesterday. She told Van Dyke that as he knew she

spoke to those on the Pre-TMT call yesterday and she put it into and email this morning. She said that she thought it begins to address Van Dyke's question, but it is not likely at the level of detail that he is interested in. The Outage Coordinator told Swieca that sometimes it can appear that it is not on a three-year cycle because the Project can opt to take the outage period of their typical, what would have been double testing period and in years when they do not have testing they will attempt to address issues that have been identified in a previous year's double testing during that period of time. So, they can still have the operational impacts to address those previously identified maintenance concerns in that time period. It is not formally double testing, but it does cause impacts to the Project.

Van Dyke said Swieca's response was helpful. He said that in 2020 there was a lot of conversation about how to manage these coordinations. There were some suggestions and recommendations to tease these apart so that TMT understood whether it was the test that was being conducted or if it was something else and that those coordinations would include that. There has just been a change in the process, and it seems to trigger in 2020. It is not just LWG, it is the entire Lower Snake River dam scheduling or this activity that has been different. It is not following the same rules, so he is asking specifically what changes in the rules at the Corps that has created their inflexibility when we have issues like the one, we are talking about now to try to adapt in-season for unplanned unexpected problems like extreme heat for multiple days.

Stranz said that she would like to take a Process Check. She said that what she heard from the Corps is that it would be nearly impossible to shift up the double testing for this year. However, there is good potential to have conversations in the off-season, or January to talk about testing timing for next year. She said that she has also heard that there is maybe some need for more conversation on the Alternatives that we are looking at. She said that she knows that sometimes that takes time, so she said that she wanted to prioritize those conversations for now. She said that she has the questions that were posed about double testing. She said that TMT can punt those down to a future conversation.

Van Dyke said that the other frustration is that there is a scheduling that you can cancel some of this work and not have it cause the same havoc. He said that it is confusing, it is not going to occur in some places that were planned and that seems to be okay, however you cannot turn it the other way. He said that is frustrating. He said he thinks the treatment of changing schedules is something that we all deal with when we work to get things done. Why things are pliable at one end but not the other is something that should be thought about more.

Stranz asked the Corps if there was any possibility of canceling the double testing at LWG this year.

Peery said that double testing is very important for assessing the condition of the transformers. Without the routine maintenance the Corps cannot track if there is a problem and fix it. When they do not maintain their routine maintenance, and something goes wrong they get criticized for that. [Van Dyke said that is all understood] Peery said no they are not going to not schedule the double testing for those reasons. It is very important that they collect that data and when something does go wrong, they have to fix it, they have to retest it. He said that is another reason why there might be additional or

more frequent double testing that is happening in the System. The transformers are important for the operations at the Project and when they go down, TMT has seen what happens at the dams in terms of fish operations, multiple operations.

Morrill agreed

Van Dyke asked if the work ongoing at LWG is not to test directly or only, it is to address something else, and if it is both transformers this year.

Peery said that the work this year is on T1. They will be taking T2 down during the day and only operating T2 at night, so Units 5 & 6 will be operating at night. T1 will be down the full time.

Van Dyke asked if this is why we are challenged with temperature management in the tailwater, because of the change in operation that has been planned.

Peery said that is correct.

Van Dyke said this is for the test, and not for additional work that was identified at some other time in the test.

Peery said that he is not sure of all the details of what is going on but the four days of operation that is for double testing. There might be some other work going on at the same time.

Van Dyke asked if it was correct that last year, they did not do any double testing.

Peery said not at LWG. He wanted to respond to Hesse's comment. He said that he understands the concerns for the temperature management in August, and Hesse's suggestion of September. Peery said that in the past the Corps was asked in the coordination to avoid doing double testing in July because that is the Sockeye run and in September because that is when we are coming into the peak passage Steelhead and Fall Chinook period. He said that is specifically why August has been targeted for the period of doing the double testing. He said that he knows that it is hard to schedule this, there are multiple conflicting operations going on, the repair work, fish collection, fish passage. He said that as he had responded earlier, SM and AA can discuss an alternate schedule to try to target a time we have the minimum impact but in the past the Corps was requested to avoid September.

Peery comment from Hesse for coordination avoid sockeye in July, Sept steelhead chinook. August for Double. Conflicting operations. Can discuss an alternate to try to schedule a time. In the past asked to avoid September.

Stranz said that she would pencil that into the future conversation. She said that TMT should shift to what was happening this year and what operations might look like moving forward. She said that she had heard from Washington, Nez Perce, and Idaho that Alternative 2 looks good to them. She said that she wanted to open it up to other TMT members and hear from them about their thoughts on the Alternatives, specifically if there was any in opposition to Alternative 2.

Swieca said that NMFS is not necessarily opposed to Alternative 2 but they would like some assurances that it would only be employed if the forecast continued to necessitate

the temperature criteria relaxation. She said that NMFS is concerned because for a couple of years TMT has moved forward with a temperature relaxation early in the season, using information from incomplete forecasts, because forecasts are never right, they are just models. NMFS is concerned that for a number of years they have agreed to this operation of a temperature criteria early in the August period and then late in the August period we have been well below our 68°F criteria and we have had some extra water. She said that they want to make sure that if NMFS moves forward with Alternative 2 it is only used, the temperature relaxation period only occurs for periods that is absolutely necessary to save enough water for the August period understanding that there are again uncertainties associated with the modeling.

| *from Charles Morrill to everyone: 9:56 AM*

| *Extra water ... not really imho*

| *Jay ?*

Walker said that the Corps recognized that as well, the past couple of years when that had happened, as Swieca said, it was an unexpected but welcome change in weather at the end of August that had made us lucky. She said that they hope to provide enough time for these decisions to be made but the Corps understands that then, at the end of August, if it is cooler that you had used the water at that time. Walker said that they understand, they would not use the relaxation unless necessary but there is always that risk of the forecast changing at the end of August further out than can be seen to being cooler.

Swieca said that Morrill had put something in chat about her terminology of extra water. She said that she should not refer to it as that, what she should have said was that the temperatures in the late August period were a couple of degrees below 68°F for the past couple of years, and so NMFS want to get as close to that temperature threshold as possible for as long as possible through that August period. She said that was the point she had been trying to make. She said that she thought there are a lot of ways that this operation could be structured differently, a lot we have talked about today in terms of the timing of double testing and some other inquiries. Swieca said that NMFS is interested in pursuing some of those in the future. She said while they are comfortable giving their okay for Alternative 2 under the notes that she had made before; only employing it if necessary, under the modeling scenarios; she does think that we could do a little better with this operation in future years and NMFS looks forward to having those conversations and coming up with a plan on how to do that.

| *from Charles Morrill to everyone: 9:57 AM*

| *agree with Kelsey*

Ebel said that in general he is in camp of put the water where, or in this case, when the fish are. He said that he does not see having a temperature that is a couple of degrees below 68°F as problematic relative to the proportionate that is passing the first week of August. He said that he wanted to go back to see if the Corps had altered their thoughts of requiring a written request.

Baus said that what TMT is doing right now does capture TMT's adaptive management process and he thought that the process of going around and getting feedback from each

TMT member, as Stranz had been doing, and then if TMT then goes to a polling response that would be sufficient for the COE to adjust the 68°F Provision in the Biological Assessment from 68°F to 69.5°F. He said that because TMT had the process dialogue today, we are hearing from others, and if we had the TMT formal polling on record the Corps would be okay making this change without a formal SOR.

Ebel said thank you.

- | *from Charles Morrill to everyone: 10:00 AM*
- | *Yes, agreed and thank you Doug*

Stranz said great, and to continue having the conversation.

Tom Iverson, Yakama, said that he concurs with Ebel's comment about using the water when the fish are there. He said that he thinks Yakama supports taking a roll call vote today and they support Alternative 2.

Dave Swank, USFWS, said that he is okay with Alternative 2. He said that he believed that TMT did something very similar last year, as Swieca illuded to. He asked for clarification from Walker, he said that he was trying to remember the details of how this was implemented last year. He said Alternative 2 talks about targeting a tailwater temperature of 69.5°F between August 1 – 9. He asked if there were a specific number of days that they would target with this operation. He said that it is a little loose between August 1 and August 9. He asked if they could talk more about the number of days that they might target to be at the new criteria and how that would work.

Walker passed the question to Jonathan Roberts, Corps, he had been writing emails back and forth so he had more information that would be able to clarify that question.

Roberts said that they have been looking at the analysis and trying to get Alternatives out there to give TMT enough time to think about them and have the conversation, like today. He said that he knows there is some uncertainty there, he said that they could implement Alternative 2 in two general ways:

- a. Look at trying to get as much water saved as possible with targeting 69°F (+5°F fluctuation uncertainty). So, they would target 69°F through that specific timeframe to conserve as much water possible.
- b. Based on actual weather conditions, they could target 69°F and once DWR gets a couple of days of water saved up for an extended heatwave later in August, then they would push water to get back down to 68°F to reduce the time LWG tailwater is above 68°F.

Roberts said that it might add more questions to everyone's thought process, but they are trying to make sure that they have as many opportunities and alternatives out there to allow the SM to make the best decision and place risk based on just having the heatwave through July and potentially once again with other opportunities and limitations backed into a corner. He said that he hopes that helps but knows that it might generate some questions.



Stranz said that does add some nuance to it. She asked if Swieca would like to respond because it seemed like the two options might address some of NFMS' concerns or talk to the concerns she was having.

Swieca said that they do start to address their concerns. She said that she might need a couple of seconds to think about which one would make more sense under the context of forecasting certainty for the late August period. She said that she might come back to a response to that one.

Stranz said that she wondered if it would be helpful to TMT to have a caucus given what Roberts just laid out. She said that she wanted FPAC to have a chance to talk about those two different options. She said before that TMT should get any clarifying questions or any other questions that TMT might have, or any more information that needs to be addressed and then revisit to see whether or not a caucus would be helpful before doing official polling today.

Van Dyke said that this a lot to take in in a conversation like this one. He said that one thing that he noticed is that there is little difference to be gained in the expected gain in water availability between Alternatives 1 & 2. He said that his assumption is that those 2.5 days would be added onto the 3 days that are currently expected, so we are talking about a 5-day period. He said looking at the forecast it is over 100°F August 1 – 7. He asked if those are already built into the forecast that had been provided or if they are considered those unexpected exceedances.

Walker said that the first few days of August currently being forecast to be above 100°F, as the forecast sits right now DWR will be able to maintain that with just 9 kcfs rather than spilling from August. If that >100°F extends or if it increases to >110°F, then DWR would have to spill for that timeframe. She said that the reason that at this point DWR would not have to spill, even though it is 100°F right at the beginning of August, is they are coming off having a really nice stratification set up and August 1 is going to RSW spill only, which temperature-wise will make an improvement to the tailwater and help hold onto those temperatures a little bit longer. She said the further we move beyond the August 1 date, if the warm temperatures keep extending beyond what we can see, then they would need to spill from DWR to maintain that level. She also answered Van Dyke's question about the 2.5 days versus 2 days. She said that they currently still have the 3 days of spill with just the baseline operation, the 2/2.5 days would be on top of that.

Stranz asked Walker and team to pull together the text of Alternative 2a and 2b for polling.

Roberts said that they were typing that up right now and would have it in 1-2 minutes.

Swieca said that speaking as FPAC chair she thought the conversation might warrant a quick SM caucus as Stranz had mentioned before. She said that there are still a few members that we had not heard from and there are a couple strong opinions in this conversation that Swieca wanted to make sure that we were getting everybody's recommendations before we move right into polling.

Stranz said that she had not heard from Lorz.

Lorz said that the SM needed to caucus and figure their position out and get back to Stranz. He said that would be the smartest play, rather than babbling for 5 minutes.

- | *from Willow Walker to everyone: 10:11 AM*
- | *Alt 2a.) Save as much water as possible during Aug 1-9 by targeting 69 degrees during that full timeframe.*
- | *Alt 2b.) Target 69 degrees until two days of additional spill have been saved during real time conditions. Ex: may only take through the 7th or 8th and then could return to a 68-degree target before the 9th.*
  
- | *from Colby Mills, DS Consulting to everyone: 10:14 AM*
- | *We'll reconvene from caucus on this Webex at 10:45a PT*

After a short caucus TMT met back at 10:45a.

Stranz asked if SM had any questions or statements from their conversations during their caucus that they would like to share prior to polling.

Swieca said as FPAC chair she would briefly summarize their conversation. She said that she thought they had some very good dialogue about level of uncertainty with water forecasting and weather forecasting as well as the SM desired tendency to be more or less risk adverse. She said the good conversation about that led to a recommendation that will be seen via polling that SM are generally comfortable with. It may not be the preferred recommendation for a number of entities, but generally all of the SM agree that there are better ways for this water to be managed and to address these issues in the future, and they look forward to doing those, whether they are related to the timing of double testing or other issues that could be explored.

Stranz asked if TMT was going to poll on Alternative 2.

Swieca said yes, there was agreement that everyone is comfortable with Alternative 2 but she would pause briefly because they did not ask that exact question at the caucus.

Ebel said specifically poll on Alternative 2 and from a lot of the SM would recommend 2a as the style of implementation.

Stranz said that we would poll on Alternative 2. She asked if TMT members had a need for her to ask both for Alternative 2a and 2b, or if it could be simplified and polled on Alternative 2 with the 2a option.

Baus said that the Corps is okay with that approach polling on 2a. He asked for the record in process if TMT could clarify who the request is coming from. He said that he had heard from FPAC, he appreciated Swieca taking the lead as FPAC chair, but he felt like anytime we do operational adjustments in real-time, Alternative 0 shows what the default is, anytime we change operations (for future conversations) it is helpful to know who made the request. He asked Swieca if she could update him on who the request was coming from so when we poll on it we are clear on that.

Swieca said that this is where the logistics of the adjunct polling becomes a little complicated because as you will see in polling responses that SM are okay but that does not necessarily mean that they support the temperature criteria. She said that might be a process-related question for Stranz, she said that this is a different approach without a formal SOR and live discussion and polling. She said that this was not anticipated so she does not know how Stranz feels this should be presented or how TMT should handle the logistics of this.

Stranz said that she thinks that we should frame this as an in-season TMT decision, and we are doing the polling so that everyone has the awareness of what each individual TMT member feels and their perspective. She said that we will stick to the formal SOR polling even though this is not a formal SOR, it is in-season management. She asked Baus if that works.

Baus said that he understands that but it still, as laid out in the presentation, the Corps does not whimsically go haphazardly do operations, they have a plan in place, a default, that is what is identified in Alternative 0. They do not change operation unless they get a request from a TMT member or regional Sovereign. So Baus said he is just looking for clarification on and understand who the request is coming from.

Ebel said that if the Corps really needs to write someone down, they can blame him. If the Corps really needs a request, it can be IDF&G.

Baus said that helps him out. He said that moving forward today's conversation will be based on a request from IDF&G, this is the adjustment that we are focusing on. He said that addresses his concerns and TMT can move on.

Ammann said that Ebel used the word blame, she said why don't we credit Ebel with helping us push forward and coalesce on an alternative to poll on.

Stranz wanted to clarify that this process is consistent with TMT guidelines. She said that TMT's guidelines say *'During TMT meetings, the TMT will discuss and recommend operations to the Action Agencies based on the available information. These recommendations will be made by consensus whenever possible.'* (TMT Guidelines, pg. 2). She said that we are staying within the guidelines it is just not a formal SOR at this point. With that Stranz reminded TMT of the polling process for polling on Alternative 2/2a.

j. Polling Responses for Alternative 2/2.a

Support / Object / Abstain / No Objection

NOAA:	Support	Yakama Nation:	Support
OR:	Abstain	BOR:	Support
WA:	Support	Corps:	Support
Umatilla:	Support	USFWS:	No Objection

ID:	Support	Nez Perce:	Support
MT:	Support	BPA:	Support

k. Comments for Responses on Alternative 2/2.a

NOAA: As we had discussed in a number of our conversations, this is an ongoing issue where our cooling water is limited, and TMT has polled on this issue for a couple years. Each time NMFS has supported and provided the context that they understand that this is a trade off between species and we are trying to target an area of a temperature relaxation that aligns well with the anticipated lull in passage as we shift from the Sockeye run into the Fall Chinook run. She said that we are also trying to target a period that is least impactful to LWG trap operations. She said that this is a tradeoff and a difficult decision to make. She said that NMFS thinks there are opportunities to do this better and they look forward to exploring those in the future. For this year NMFS is comfortable with the time frame and the expected passage that will occur during that time frame to make the best of a not-so-great situation.

OR: No Comment

WA: Morrill said that he appreciated Swieca’s comment and agree with her. He said that this is an imperfect situation. There is the thermal stress occurring to those fish and he does not see any way that we address it under the current scenario. He said that he thinks that is the key takeaway that he would point out, it is not a desirable situation for fish, there are impacts however TMT does that. He said that Washington is supportive of future discussions to see if we can find better ways to address this one, but at the time being it is best decision for a tough scenario, so they appreciate the discussion, and they appreciate the adaptive management and the ability of the Corps to implement what the SM think is the best operation for this time period.

CRITFC: Lorz said that he supports what Swieca said, and he added that this year we have a change of spill operation on August 1, we will go to RSW only at LWG. He said that they would take that into account in future operation and hopefully that will guide them to come up with better operations as they can.

Yakama: No Comment

BOR: No Comment

Corps: Baus said that as noted earlier they look forward to future conversations. He said as discussed, they do talk about double testing in the Fish Passage Plan coordination, specifically in [Appendix A](#). He said those discussion will occur over this upcoming winter so he encouraged TMT to mark their calendars for more conversations on double testing and that will occur through the Fish Passage Plan draft process specific to Appendix

A. Baus said also that from a water management standpoint this should provide us with more flexibility as we get into the month of August.

*Walla Walla District:*

Walker said that they will plan to implement Alternative 2a by decreasing releases from DWR next week in order to have the relaxed temperature criteria in LWG tailwater of 69.5°F, they will use that full August 1 – 9 timeframe to save as much DWR water as possible so that they have the ability to spill and keep things cool during double testing, the end of August and any potential heatwaves that will occur. She said that they appreciated the opportunity to work with the SM and hear what they need to see, what information they need in order to make the best decisions for fish in the region.

USFWS: Swank said that he voted ‘No Objection’ because he was leaning slightly toward Alternative 2b. He said that suspects that there probably will not be that much of a difference between the two implementations of the two Alternatives and there are good arguments for why Alternative 2a may end up being better in the end. He said that this is a guessing game toward how temperatures are going to play out in August and there is no guarantee they are going to work out the same way they did last year, so he is okay with Alternative 2a.

ID: Ebel said that he appreciates Walla Walla District’s Water Management crew for putting the alternatives together to address what is the climate reality. He said that all one needs to do is look at any temperature gauge that is not being controlled by DWR right now to see the situation we are in. Ebel said that we can find a better solution in the future, but he thinks this is great for now given the reality and the management choices we have to make.

MT: Marotz said that he really appreciated the efforts by many people over many years on this problem. He encouraged TMT or urged them to work for a long-term solution. He said that this is going to be a reoccurring problem. He appreciates the work that has been done but it is time to figure out something in the long term that will prevent this from occurring as often as it has.

Nez Perce: Hesse said that he also appreciated the dialogue here by all TMT members and the prep work by Walla Walla to inform this discussion. He said thank you for that effort. The reality is that this is a risk management decision and the reality that we cannot meet the temperature criteria for reasons that are climate-based, that are hydro system presence-based, and hydro system maintenance-based and making those adjustments to best manage risk is what Hesse thinks that we have all engaged in. He said that the Nez Perce risk balancing was giving priority to conditions in the latter half of August, the middle and latter half of August associated with Fall Chinook brood stock collections and operation of the adult trap through that early portion of the year when

there is a higher proportion of older aged class and natural origin Chinook. He said that those efforts are in alignment with the HGMP objectives. He said that this is a little added justification in terms of TMT's balancing risk for this modified operation.

BPA: No Comment

- Walla Walla District will reduce flows starting July 29, 2024, in order to allow the temperatures to increase to target 69°F with the +0.5°F buffer. They will save as much water from DWR as possible to be used later.
  - Alt 2a.) Save as much water as possible during Aug 1-9 by targeting 69 degrees during that full timeframe.

Morrill said that he really appreciated the collaboration, the work, the efforts put in by Walla Walla District, Roberts, Walker, to provide even more and more detailed information, improve the modeling. He said that it does not solve the problem but their efforts to help identify the best alternatives in a bad scenario are really appreciated. Morrill told Walla Walla thank you.

### 3. Snake River Sockeye Update – Jonathan Ebel, ID

- PIT Tag Expansion
  - PIT tag expansion has not changed at Bonneville (BON) in over a week.
    - Means that there are no more PIT tags at BON.
    - To be expected, it indicates the end of the run.
  - Fish have been moving upriver
    - Things are not changing much.
    - Fish are slowing down, and most have already passed.
  - The count at LWG has exceeded the PIT estimate.
    - Expected.
    - Trap collectors are seeing what are perceived as Upper Columbia fish.
    - High straying into the Snake River.
- Conversion Rates
  - 16 of total PIT tags for Snake River have wandered up the Columbia.
    - MCN to a site upstream conversion is very high.
  - Probably going to be getting to the final numbers of conversion
    - Not a stellar year for BON>LWG conversion, but not as bad as last year or 2021.
- Travel Times
  - Fish are now slowing down

- Those still in the System and have not made it through are now detected in the next upstream dam.
  - Average travel times are decreasing.
  - Seen every year this time of year.
- Temperatures
  - Temperatures are extremely high above LWG pool.
  - Peak Temperatures
    - Anatone: 78.5°F
    - Salmon River (near Schoup) 76°F
  - Similar to 2021 when flows were very low.
    - 2021 had the record low flow at Schoup.
- Trapping Effort
  - Will see what conversion there will be of fish that are not trapped.
    - Fish that are passing will likely have a tough time getting to the Stanley Basin.
  - Trap and Transport finishes tomorrow.

Marotz said that Ebel was talking about the temperatures in the range of 76°F. He asked if Ebel was seeing morbidity in the fish in those reaches.

Ebel said to his knowledge they have not gotten any reports of dead fish. He said that there is not a lot of them, so it is not like someone is going to come out onto a pile of dead Sockeye. He said especially the reaches that are really hot right now and are in the wilderness. He said no, they do not know, but the fish, we can assume they do not use a lot of thermal refuges while they are migrating, even though there are some available in the Salmon River. The fish are either trapped in the LWG pool or trying to get through that hot water. Ebel said that every year there is a good portion, going back to IDFG work in the 1950s, that first pointed out when MCN was first built that a lot of fish go unaccounted for and presumably they are dying without being seen.

Marotz said that was useful. He said that it made him harken back to when they were doing research on possible mortalities caused by gas supersaturation. He said that they radio-tagged dead fish and released them. Many of them you would never have identified except for the radio signal because it does not take very long for that aquatic environment to start consuming those bodies. He said that it is no surprise to him that they are not seeing massive fish die offs. He said that it comes to mind the unaccounted fish that Ebel spoke of, we need to keep it in our minds. He said that they are having some Hoot-owl fishing closures in Montana, for the first time there is one in the Flathead Basin. He said that we have something to work on together so that we can fortify ourselves against high temperatures in the future because thermal refugia exist, like Ebel said, but they are few and far between. He said that sometimes even manmade like selective withdrawal.

Stranz asked if there will be another Sockeye update.

Ebel said that if TMT would like it, it is up to the group.

Morrill said that he would be curious for another update. He said in addition he would be interested in what the travel time is for the 16 Sockeye fish that contributed to the Upper Columbia.

Ebel said that he could pull those tags and take a look.

Van Dyke asked Ebel to add the one fish that reentered the Snake that was not detected at IHR, or others like it, to understand their timing.

Ebel said to clarify, there was 16 Sockeye that went above Priest Rapids, the one tag not detected at IHR was detected at Priest Rapids. It was just a fish that was missed at IHR and not a fish that was wandering around the Columbia.

Van Dyke said thank you for that. He said in the past there have been some that have done what was described that have not happened yet. If it has, it would be of interest.

Ebel said that he would take a look. He said it could be something to take a look at in the long run too.

**4. Set agenda for next meeting – July 24, 2024**

- a. Dworshak Update
- b. Final Snake River Sockeye Update



**Today’s Attendees:**

<b>Agency</b>	<b>TMT Representative(s)</b>
NOAA Fisheries	Kelsey Swieca, Trevor Conder
Oregon	Erick Van Dyke
Washington	Charles Morrill
Kootenai Tribe	
Colville Tribe	
Umatilla Tribe	Tom Lorz (CRITFC)
Yakama Nation	Keely Murdoch, Tom Iverson
Bureau of Reclamation	Chris Runyan
Army Corps of Engineers	Doug Baus (Chair), Julie Ammann, Lisa Wright
US Fish & Wildlife Service	Dave Swank
Idaho	Jonathan Ebel
Montana	Brian Marotz
Spokane Tribe	
Nez Perce Tribe	Jay Hesse
Warm Springs Tribe	
Confederated Salish and Kootenai Tribes	
BPA	Tony Norris

Other Attendees (non-TMT members):

COE – Eric Chow, Alexis Mills, Daniel Turner, Catherine Dudgeon, Michelle Yuen, Chris Peery, Willow Walker, Jonathan Roberts, Jessika Solleder, Elizabeth Holdren

BPA – Tammy Mackey

Washington Ecology – Thomas Starkey

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

Clearing Up – K.C. Mehaffey

Avista Utilities – Patrick Maher

NPCC – Kate Self

Chelan PUD – Jay Fintz

Snohomish PUD – Scott Richards

FPC - Erin Cooper