

## COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 12, 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 from May 8 and the facilitator's summary from June 5. Minutes from May 17 and 22 are pending and will be reviewed at a future TMT meeting.

**June Water Supply Forecasts** – Chris Runyan, Reclamation, reported the official June water supply forecast (WSF) for Hungry Horse Dam (HGH). June through July was 660 kaf, or 73% of average; April through August was 1,515 kaf, or 74% of average; and May through September was 1,277 kaf, or 72% of average. Chris noted that water supply has been consistently around 70% of average all year, and precipitation in May has been helpful.

Minimum flows from HGH are 3,390 cfs at Columbia Falls and 710 cfs directly below the dam. The project is mitigating some of the dry year forecast via a deeper draft (full 20-foot draft), bringing the end of September target to 3,540 feet.

In response to a query about sending water through the outlet tubes at the project, Chris noted that HGH is currently experiencing a short duration spill, in coordination with Montana. The project is releasing 8,000 cfs (since Monday), only about 3,000 cfs through one unit and the rest through outlet tubes while experts work to get the other unit back online. Even with the short duration spill. The reservoir is about 1.5 feet from full.

Brian Marotz, MT, noted that gas saturation below the project is of less concern than most projects as there is a significant amount of degassing with the tubes and deeper sections of the river.

Chris also noted that the shape of runoff has been good this year, supporting stream flows into HGH and Flathead Lake. Around 20 inches of SWE remain in the highest elevations, which puts the Flathead Basin in a better position than originally projected.

Doug Baus, Corps, reported the June WSF for Corps of Engineers projects:

- The Dalles: NWRFC April to August volume forecast is 67 maf, or 75% of average.
- Lower Granite: NWRFC April to July volume forecast is 17 maf, or 84% average.
- Libby: Corps June runoff forecast is 5,050 kaf, or 83% of average.
- Dworshak: NWRFC April to July forecast is 1,608 kaf, or 65% of average.

Doug confirmed that the end of September target for Libby Dam is 2,449 feet.

**Treaty Fishing** – Kyle Dittmer, CRITFC, presented SOR 2024 C-1 (posted on the TMT website) for the summer 2024 Tribal treaty fishery. 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 June 17 at 0600 hours through June 19 at 1800 hours, and from June 24 at 0600 hours to June 27 at 1800 hours.

The fish forecast from the Technical Advisory Committee (TAC) shows about 53,000 adult summer Chinook and almost 402 sockeye, which is above average. Kyle noted that the Tribal fishery summer season will likely extend through mid-late July, CRITFC will update the Corps with additional fishing periods following modeling and catch data, as well as data from net flights.

Kyle noted that this summer season Tribal fishery consists mainly of ceremonial and subsistence fishing for the Tribes, with commercial fishing more prevalent in the fall season. Tribal fishers are selling at Cascade Locks; visit CRITFC's website for more information on sale opportunities.

*Corps Implementation:* Aaron Marshall, Corps, reported that the Corps will implement the SOR as requested, beginning on Monday, June 17.

**Spill Priority List** – Alexis Mills, Corps, reported on the draft 2024 summer Spill Priority List (SPL), noting it is identical to the SPL used to manage lack of load spill in summer 2023. At this time, FPAC had no recommended modifications to the order. Alexis emphasized that the SPL is a living document and can be updated with recommendations from Salmon Managers as needed, although the Corps does not foresee any lack of load spill in the current forecast.

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

- **Hungry Horse:** inflows over the last week have been steady, with 11.1 kcfs coming into the reservoir yesterday. Outflows are at 8 kcfs and midnight elevation was 3,558.3 feet. The project has filled 2.9 feet since last week and is currently 1.7 feet from full. Reclamation expects to hold the 8 kcfs through this week, although they may come down if inflows drop off. Inflows have been averaging 11,000 cfs for about 9 days from the steady snow melt, which bodes well for Flathead Lake elevations. Stream flow at Columbia Falls was 26,000 cfs last week.
- **Grand Coulee:** inflows yesterday were 140.1 kcfs, about 71% of average for the week. Outflow was around 111.8 kcfs and midnight elevation was 1,284.9 feet. The project is 5.1 feet from full, filling about 2.6 feet since last week, and is operating to meet downstream flow objectives heading into the Independence Day holiday weekend. After the holiday, the full pool elevation target will be 1,289.3 feet (0.7 feet from full) to account for water delivered under the Lake Roosevelt Incremental Storage Release Program. Full elevation should occur between July 8 and 15.

In response to a query about an increase of inflows into Grand Coulee (GCL) via the STP, Action Agencies confirmed that inflows into the project did come up in June in response to higher outflows out of Arrow Dam. The STP forecast shows the GCL reservoir might go above the end of June target elevation and then draft back down, expected around June 25/26. The target elevation is between 1,284-1,286 feet on July 3 before the July 4 holiday, to minimize fill and avoid impacting lake recreators. The Corps noted that the STP forecast does not always reflect how operations will be implemented.

Aaron reported on Corps of Engineers projects:

- **Libby:** outflows of 8 kcfs with an elevation of 2,431.9 feet; the project plans to continue holding outflows at 8 kcfs.
- **Albeni Falls (ALF):** outflows of 34 kcfs, with 17 kcfs through the powerhouse and 17 kcfs of spill; Lake Pend Oreille elevation is 2,060.96 feet and will continue filling up to the summer range over the next couple weeks.
- **Dworshak:** outflows of 6.9 kcfs with an elevation of 1,599.76 feet; the project is managing final fill and is within ¼ foot from full.

- **Lower Granite:** outflows 89 kcfs with an elevation of 733.88 feet; all 4 lower Snake projects are operating within the normal MOP range. Peak inflow was on June 4, at 112 kcfs, and the Corps anticipates receding flows moving forward.
- **McNary:** outflows of 229 kcfs with an elevation of 338.9 feet; operating in the normal forebay range.
- **Bonneville:** outflows of 240 kcfs and an elevation of 72.3 feet; operating in lower part of the forebay range. Peak inflow was on June 7 at about 273 kcfs.
- **John Day:** currently in minimum irrigation pool (drafted down on June 3).

**ALF:** In response to a query about the challenges in managing long-term maintenance issues at ALF and Lake Pend Oreille, the Corps reported that the spillway gate issue is still being evaluated, more information is needed, and future impacts are still being determined. Salmon Managers requested open communications on this issue as the situation progresses. Further, it was noted that the Water Management Plan Seasonal Updates will record changes and actions taken in season. Official public releases can be found on the Corps' website: <https://www.nws.usace.army.mil/Media/News-Releases/Article/3800814/albeni-falls-dam-raises-lake-pend-oreille-levels/>.

**LMN:** Doug provided an update on Lower Monumental (LMN) spill operations. The Corps resumed the 125% gas cap spill operation for 24 hours/day on June 9. The project had decreased to 40% outflow for 8 hours/day due to adult delay issues discussed at prior TMT meetings. Doug noted that if delay issues occur (according to the DART tool), spill would decrease to the adult delay criteria identified in the FOP. The Corps will continue to use the daily cohort original departure calculation method to monitor adult delay through the remainder of spring spill.

Spring spill operations end on June 20 and summer spill operations (17 kcfs) will begin on June 21.

Some TMT Members offered their perspective:

- Tony Norris, BPA, noted the uptick in passage prior to reducing spill to 40%, specifically in the north ladder, when the project hit the gas cap and was above minimum generation.
- Erick Van Dyke, OR, noted the need to consider fish migration behavior through the river system and not simply at one project, and that from OR's perspective, black dots on the DART tool do not equate to actual delay. Erick highlighted that the two DART calculation methods utilize different ways of looking at fish behavior: one, using PIT-tagged fish to understand behavior, and the other a count of fish moving through the ladder. He reiterated that many parties are closely monitoring and exploring the details of how fish are behaving in relation to operations. OR recognizes the need and desire to dive deeper into this issue in the pending off-season meeting.
- Kelsey Swieca, NOAA, felt that the operational changes achieved the intended goal of moving a concerning backlog of adult Chinook in the Ice Harbor (ICH) to LMN reach past LMN in a timely manner. She too recognized the nuances associated with this issue and resulting discussions and emphasized NOAA's commitment to evaluate this issue off-season.

The path forward on information sharing and deep dive off-season discussions will likely start in FPOM, although this has not been fully confirmed yet.

**HH:** Brian Marotz, MT, reported productive conversations between MT, Reclamation, and Senator Jon Tester's office, regarding TMT actions taken in response to dry conditions in the Flathead Basin. MT has finalized a written brief to summarize these actions, per the request of Senator Tester's office. Brian noted that natural conditions have greatly helped the situation.

*Water Quality:* Alexis reported that during the early June peak, spill caps were hit at the 3 upstream projects on the Snake, with one exceedance of 125% in the Lower Granite (LWG) tailrace. She noted that 3 other exceedances recorded are in the LMN forebay, which is not a compliance point for spring, but does often see values above the observed TDG in the Little Goose (LGS) tailrace. Alexis clarified that gas levels have been consistently higher than the LGS tailrace in the spring, even before the 125% gas cap operation, and various factors (gauge positioning, various environmental influences) have made it hard to determine the exact cause. Minimum-generation-spill-the-rest is expected for the remainder of spring season on the Lower Snake River.

On the lower Columbia, summer spill will begin on Sunday. Flows never reached quite high enough to support the gas cap at McNary, and the highest daily TDG value observed this spring was 123%.

*Fish:* Kelsey Swieca, NOAA, reported that juvenile passage is slowing down throughout the system, with a couple hundred yearling Chinook and coho, a few thousand steelhead and very few sockeye periodically passing in the Snake River. As expected, sub-yearling Chinook are dominating passage and will likely continue over the next couple months.

For adults, Chinook and steelhead continue to pass Bonneville, though steelhead passage is low for this time of year. Adult sockeye passage at Bonneville is rapidly increasing, with fish expected to move through the system for a few weeks throughout the early summer season. Hopefully relatively mild temperatures continue to persist well into the upstream migration period.

Dave Swank, USFWS, reported that adult lamprey appear to be running a bit below the 10-year average, about 30%, although it is still somewhat early in the run.

*Power System:* Tony Norris, BPA, reported that BPA is preparing for the transition to summer spill.

**Questions and Comments from Members of the Public** – Erin Cooper, FPC, noted that passage at LMN had increased 166% before the operational change to 40% spill.

**The next scheduled TMT meeting is on June 26, 2024, at 9:00 AM.**

**Columbia River Regional Forum  
Technical Management Team  
OFFICIAL MINUTES  
Wednesday, June 12, 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 – May 8 Minutes and June 5 Summaries**

- May 8 Minutes – Approved
- May 17 and 22 Minutes are still pending, they will be reviewed at a future TMT meeting.
- June 5 Summaries – Approved

**2. June Water Supply Forecasts – *Doug Baus, Corps-NWD; Chris Runyan, Reclamation***

*Reclamation*

- Hungry Horse (HGH)
  - Jun – July
    - 660 kaf
    - 73% of average
  - Apr – Aug
    - 1515 kaf
    - 74% of average
  - May – Sep
    - 1277 kaf
    - 72% of average
    - Note: May – September for all months it jumped around from 65% to 73%, now we are at 72%. Essentially, we have been consistently in the 70% of average all year.
      - We got some precipitation in May and that helped bring that back up to 72%.
  - Note: Minimum flows downstream of HGH were set from March final flows forecast.
    - Flathead River near Columbia Falls: 3390 cfs
    - S. Fork below HGH: 710 cfs

- Because of the dry year forecast at HGH they are mitigating it by doing a deeper draft.
  - End of September Draft: 20-foot draft
  - End of September Target: 3540 feet

Brian Marotz, MT, asked about the current conditions in sending water through the outlet tubes. He asked if Runyan could describe that a little bit more.

Runyan said that they are releasing 8 kcfs out of HGH today. He said that they went up to 8 kcfs on Monday. They have about ~3 kcfs going through a unit but the remaining ~5 kcfs is being let out through the outlet tubes because they have a unit that tripped off about week or so ago. They have not been able to get that back online, so they are spilling right now. Runyan said that he looked at it today and he thinks that they are 111% TDG below the dam. He said unfortunately they are having to spill a little bit of water. They have experts up at HGH this week looking into it to try and get the second unit back online.

Marotz told Runyan thank you. He shared for those who do not remember that the gas super saturation below HGH is a little less of a concern than most places because there is a certain amount of degassing that occurs when the water comes out of the outlet tubes and then because the river section is so deep the fish have an ample ability to be much deeper than the meter or two that is required to become neutral. The gas never gets above 117% TDG, Marotz said he believes that is the highest that has ever been measured below HGH, so there is a certain amount of degassing deep river. It is not as large of a concern as it would be at another facility.

Runyan added a little more insight for this year as well because it was such a dry year and they had felt to help mitigate drought and other conditions downstream that they wanted maximize refilling HGH. They wanted to make sure that they had a full reservoir so that they could get the full 20-foot of draft. Working with Marotz and Matt Boyer, and others, they talked about the potential of spill and balanced that with trying to mitigate potential low water for the drought conditions and they went ahead and balanced that to ensure that we had a full reservoir at HGH. We are currently ~1.5 feet from full which is a really good position to be in but we are also having this short duration spill at the moment.

- Run off timing has been fortunate because it did not come off fast and it is keeping instream flows up into HGH as well as Flathead Lake.
  - Month prior projections were looking like things were coming off early. Doing much better than those projections.
  - Still have 20” of SWE up in the highest elevations of the mountains.
  - There is a little bit more time, and streamflows should not drop off extremely quickly. Overall Runyan thinks that we are looking pretty good in the Flathead.

### Corps

- The Dalles (TDA)
  - April to August

- 67 maf
- 75% of average
- Lower Granite (LWG)
  - April to July
    - 17 maf
    - 84% of average
- Libby (LIB)
  - June Runoff Forecast (June – August)
    - 5050 kaf
    - 83% average
- Dworshak (DWR)
  - April to July
    - 1608 kaf
    - 65% of average

Kelsey Swieca, NOAA, asked for a reminder for the end of September at LIB.

Baus said it was 2449 feet.

**3. Treaty Fishing SOR – Kyle Dittmer, CRITFC and Aaron Marshall, Corps-NWD**

- Treaty Fishery is doing an initial 2 week opening.
  - June 17 @ 6:00 am – June 19 @ 6:00 pm
  - June 24 @ 6:00 am – June 27 @ 6:00 pm
  - Bonneville and The Dalles dams to a 1.5-foot operating band.
  - John Day dam to a 2-foot operating band.
- Fish Forecast
  - TAC Committee (as measured at the Columbia River mouth in Astoria)
    - ~53K Adult Summer Chinook
    - 402K Sockeye (above average)
- Good harvest opportunities for the Tribe.
  - Using both platform and gill net methods.
- Likely will extend the Summer Fishing period.
  - Normally the season goes to about mid- to late July.
  - A few times they had to close early due to harvest limitations.

- As they get updated catch data and the models that are being run in-house at CRITFC, they will update and notify the Corps' Reservoir Control Center of what additional fishing periods will be.
- Based on the forecast it will probably go out to the middle of July.
- CRITFC also sponsors net flights once a week during the Treaty Fishery, about two to seven day after they get the data collected Dittmer will be sharing the data along with the Corps' Reservoir Control Center Staff, as far as, number of nets in pool and go from there.
- Reminder: This is a major activity for the Tribes. This is part of their ceremonial and subsistence fishing.
  - Commercial value for fish is typical in the Fall.
- Implementation - *Marshall*
  - The Action Agencies will implement as requested beginning on Monday June 17, 2024.
- Dittmer shared that the Tribal Fishers are out there at Cascade Locks, Hood River, and so forth.
  - Most are back after the pandemic shut a lot of them down, there is close to a full compliment out there.
  - <https://critfc.org/> (go to the top right tab "Fishing") – for more information about fishing and sale opportunities.

#### 4. Spill Priority List – *Alexis Mills, Corps-NWD*

- Mills shared that the Spill Priority List for Summer 2024 is identical to the Spill Priority List to manage lack of loads in Summer 2023.
- Mills shared that they heard back from Swieca, representing FPAC, that there are no recommended modifications to the order at this time.
- Reminder: The Spill Priority List is a living document, and while we do not foresee any lack of load spill in the current forecast Salmon Managers are always welcome to make suggestions on the order shown.

#### 5. Operations Review

##### a. Reservoirs

##### *Reclamation – Chris Runyan*

- Hungry Horse Dam
  - Inflows (6/11): 11.1 kcfs
  - Outflows: 8.0 kcfs
  - Midnight elevation: 3558.3 feet
    - Filled since last week: 2.9 feet



- Feet from Full: 1.7 feet
- Current Operation: Retain some space going into the weekend and into early next week. There is precipitation potential next week that may come in a little cooler.
  - Anticipate holding the 8 kcfs through this week, may come down a little if inflows drop off.
- Streamflow @ Columbia Falls: 26,000 kcfs

Marotz asked Runyan to remind him of the inflows that he had been seeing recently.

Runyan said that it has been 10-11 kcfs for about a week now. He said that it has been about 9 days of averaging 11 kcfs, it has been pretty close to 11 kcfs each day. Runyan said that they have had a nice steady melt there.

Marotz said that is so encouraging and thank you.

Runyan said that it has been a good runoff shape. He said he would just note that he does not know the specifics of Flathead Lake. He said that he knows that they are close to full and they are releasing well over their minimum flow. He said that is encouraging to see a full Flathead Lake for this time of year.

- Grand Coulee Dam
  - Inflows (6/11): 140.1 kcfs
    - Weekly average: 71% average
    - Below average inflows into GCL.
  - Outflows: 111.8 kcfs
  - Midnight elevation: 1284.9 feet
    - Feet from full: 5.1 feet
    - Filled since last week: 2.6 feet
  - Current Operation: Meet downstream objectives and to come into the Independent's Day holiday below full. After July 7, they will be targeting a Full Pool elevation of 1289.3 feet. That is 0.7 feet from full and that is to account for the water delivered under the Lake Roosevelt Incremental Storage Release Program.
    - GCL will hit Full Elevation between July 8 and July 15.

Tom Lorz, Umatilla said that they noticed in the STP that there might be an increase, he said he is assuming that is due to some Canadian operation.

Tony Norris, BPA, asked if it was an increase in inflow.

Lorz said that they had noticed that there is going to be some increased flow coming into GCL. They assumed that it must be either treaty flows or streamflows

Norris said that Canadian flows did come up in June.

Marshall asked for the specific date range he was looking at where he saw the increase in flows.

Lorz said that it was mid to the last 2/3rds of June. He said that he does not know if Arrows flows were predicted to come up sometime in that time or if this is just proportional draft.

Jonathan Ebel, ID, said specifically what Lorz is talking about occurs in the STP around June 23 where GCL is filling and then starts to draft again and then refills.

Norris said that could be managing around the July 4 holiday weekend operation.

Marshall said that inflows to GCL increased in June with higher outflows coming out of Arrow. Arrow's outflows were on minimum of 5 kcfs for much of the Spring this year and once we got to June the outflows increased, so they did see an increase in GCL inflows in response. With respect to GCL reservoir elevation in the latest STP forecast Marshall said that the forecast did show that it might go above the end of June target elevation and then draft back down to around 1285' to 1286' at the end of June.

Lorz said that if they are going to have to draft in June do it smoothly and as beneficially as we can. He said that he was surprised because it is an interesting operation.

Norris said that other than we expect to target 1284' and 1286' on the Wednesday night prior to the holiday weekend (July 3). They will minimize the fill to no more than 0.5 foot to avoid impacting recreators on the lake. STP has its own streamflow that their modelers manage around that. What we actually get might be something different, but the AA typically manage the river as best they can to have smooth outcomes downstream.

*Corps – Aaron Marshall*

- Libby Dam
  - Outflows: 8 kcfs
  - Midnight elevation: 2431.9 feet
  - Operation: Continue holding outflows at 8 kcfs for the foreseeable future.
- Albeni Falls (Lake Pend Oreille @ Hope gage)
  - Outflows: 34 kcfs
    - 17 kcfs through the Powerhouse; 17 kcfs spill
  - Midnight elevation: 2060.96 feet
  - Operation: Lake Pend Oreille will continue to fill up to the Summer range over the next couple weeks.
- Dworshak Dam
  - Outflows: 6.9 kcfs
  - Midnight elevation: 1599.76 feet
  - Operation: Managing final fill; project is within the final quarter foot of full pool.

- Lower Granite Dam
  - Outflows: 89 kcfs
  - Midnight elevation: 733.88 feet
  - LWG and the other four lower Snake River projects are within the normal minimum operating pool (MOP) range.
  - Peak seasonal inflow: June 4
    - Inflow: ~112 kcfs
    - Anticipate just receding flows from here on.
- McNary Dam
  - Outflows: 229 kcfs
  - Midnight elevation: 338.9 feet
    - Operating in the normal operating forebay range
- Bonneville Dam
  - Outflows: 240 kcfs
  - Midnight elevation: 72.3 feet
    - Operating in the lower part of the forebay range.
  - Peak seasonal inflow: June 7
    - Inflow: ~273 kcfs
- John Day
  - Currently at minimum irrigation pool (MIP)
  - Drafted the project down to MIP on June 3.

Ebel said he heard via other routes the difficulties and the potential long-term nature of managing Albeni Falls and Lake Pend Orielle. He asked if that is something that he should look toward finding a change in the Water Management Plan (WMP) in the coming years of how the Corps are going to deal with some of the maintenance issues at the dam.

Baus said that he thinks it would be, per Ebel's inquiry, if he heard it correctly or looking ahead to Pend Orielle or Albeni Falls operations that he does think that it is reasonable that if there are any updates to provide to put those in the seasonal update. He said that he would like to say that he hears Ebel, and looking ahead if the Corps has any updates, they will look to the WMP if there is an opportunity when information may be available. Baus told Ebel that it sounds reasonable to him.

Ebel said that there is a lot going on up there. He said that the Corps knows about the confusion and frustration from those up in the North. He said that this is also going to be long-term, so we do need to think about how to communicate and fit it into the construct as well, through the WMP. He said that he appreciated Baus' response.

Norris reminded Ebel that this is a new issue so it is something recently came up so the Action Agencies are still getting their heads around any future impacts and what the rest of the season looks like and into the following years. He said that it is a developing issue and there is more to come.

Ebel said that he appreciates that, and he understands that fully. He said that he is glad not to be in their shoes. He said that open communication is appreciated.

Stranz asked so that everyone was aware could someone give two sentences on the issue that they were talking about.

Marshall responded given that there was no one available from the Seattle District. He said that the issue is the spillway gates. There are some structural deficiencies found in one of the spillway gates earlier this Spring. So, they have modified operations between the spillway and powerhouse. They also have delayed refill for Lake Pend Orielle this year. This is to manage flood risk with restrictions on outflows.

Ebel added that there is a possibility that that structural deficiency of its characteristic of delaminating steel could be found in all spill gates. So, all spill gates need to be fully inspected before use.

Marshall said yes that is right. He said the Corps is operating under the assumption that all of the spillway gates have the same structural deficiency since they were constructed at the same time and by the same manufacturer.

Norris said that maybe TMT could post the link from the Seattle District's webpage to the official public releases on that and that could keep people up to date whenever they post new information.

| *from Tom Conning to everyone: 9:36 AM*

| *There are a few news releases about this:*  
<https://www.nws.usace.army.mil/Media/News-Releases/Article/3800814/albeni-falls-dam-raises-lake-pend-oreille-levels/>

b. LMN Spill Operations - *Baus*

- Baus updated TMT on the LMN spill operations.
- Sunday June 9, 2024, the Corps resumed the 125% TDG Gas Cap spill operation 24-hours per day.
  - This is the operation that is identified in the FOP.
- Prior LMN had decreased to 40% of project outflow 8 hours/day during morning hours.
  - Due to the adult delay issues as were discussed at the June 5 TMT meeting.
- For the remainder of Spring Spill (June 20)
  - There is no TMT meeting scheduled June 19 (Juneteenth Holiday). The remainder of Spring spill season the Corps will continue the 125% TDG Gas Cap spill operation as identified in the FOP.

- If there are delay issues, as we saw previously, as identified in the FOP on page FOP-19 they would decrease spill to achieve the adult delay operation identified in the FOP.
- To clarify, it was discussed in the TMT meeting, on the DART website there is a daily cohort original departure calculation logic, and the Corps would continue to use that feature to monitor adult delay between now and the rest of Spring spill.
- Summer Spill: June 21
  - 17 kcfs spill

Bettin said that one thing that they did see at LMN was they did see an uptick of passage before they reduced the spill to 40%, when they did pick up generation. He said that we had talked about that last week.

Norris said that was when we hit that gas cap, and we were above minimum generation.

Van Dyke said that he appreciated the input that TMT heard from BPA. He said that there are nuances that we should be more aware of, and he believes there is going to be effort to try to dive deeper into this issue and topic. He said that the only thing that he wanted to say that makes sense to him is that really the indicator was the black dots on a tool. Whether there is a delay or not is a topic that will be looked into further. So, the response was the tool had provided the details that were linked to what we planned to do more than the fish behavior. So there needs to be some sensitivity to how that is messaged at this meeting from his perspective.

Stranz said from Van Dykes perspective black dots may not mean delay.

Brian Marotz noticed in previous meeting minutes that we had agreed to circle back to provide updates to TMT on what was discussed with Senator John Tester's Office.

- He said that he was not sure if Chad Campbell was still on, but they had a great discussion.
  - Marotz said that they gave him ~1.25 hours and had great questions and later followed up with a request for a summary in writing.
  - Marotz worked on the summary with Runyan, Boyer, and Tom McDonald. Everyone had a chance to review it and then they finalized a brief in writing talking about all of the TMT actions that were taken to respond to the dry conditions up in the Flathead. Fortunately, nature is providing a little reprieve with a slow snow melt.
  - All went well and he is happy to see that Campbell is continuing to keep an eye on all of this.
- c. Water Quality – Alexis Mills, Corps
- TDG
    - During the early-June peak we hit spill caps at the three upstream Lower Snake projects.

- From the daily TDG values you can see one exceedance in Lower Granite tailrace of the 125% TDG water quality standard.
- The other three values above 125% are in the LMN forebay which is not a compliance point for Spring. This gage does typically see values above the TDG observed in the LGS tailrace.
- Anticipating min gen, spill the rest for the remainder of spring on the Lower Snake.

. Summer spill starting on the Lower Columbia Sunday. Flows were not high enough this spring to reach the spill cap at McNary. Van Dyke asked if Mills had a feeling on why we are seeing gas levels over 125% in the LMN forebay.

Mills said that LMN is often higher than LGS tailrace in the Spring even before we were doing the 125% TDG gas cap operation. There could be a number of environmental factors ; there is speculation that there could be an inputs of higher levels of TDG from inputs like Palouse Falls

Van Dyke thanked Mills. He said that he thinks that one other item that might play a role is bio-gassing, things like that, just that natural formation of planktons or other animals producing some gas. He asked if that is something that they include in their evaluation of this usually.

Mills said yes, they do try to consider all of those environmental factors, it is difficult to separate them and to tease out what is at play for this particular location.

d. Fish

*Salmon – Swieca, NOAA*

- Juveniles Index Estimates
  - Juvenile migrating stock has continued to tick down over the last couple of weeks.
  - Snake River Passage
    - Chinook/Coho: Couple Hundred
    - Steelhead: Few Thousand
    - Sockeye: Very Few
  - Subyearling Chinook are dominating the passage indices are and expected to do so over the next couple of months.
- Adult Salmon Counts
  - Chinook and Steelhead continue to enter the system at BON.
    - Steelhead passage numbers are quite low – not surprising for this time of year.

- Adult Sockeye passage at BON is increasing rapidly and NMFS expects the fish to move through for a number of weeks throughout the early summer season.
- Last Wednesday there was an operational change implemented at LMN to address what NMFS considered to be a concerning backup of adult Chinook in the Ice Harbor to Lower Monumental Reach.
  - Swieca said that she is aware that there is nuance associated with this operation.
  - From NMFS perspective that temporary operational change to 8 hour at 40% spill achieved its goal of moving the slug of fish past LMN in a timely manner.

*Lamprey – Swank, USFWS*

- The adult lamprey run is running at about 30% below the 10-year average.
  - It is still early in the run so we will see in the next month or so where we end up.

Van Dyke reiterated that there is certainly a lot of us looking at these details about how fish are behaving in relation to operations, and they will be exploring that closely. He said that others have pointed out why they are not sure how to respond to NOAA's impression at this point, but he just wanted to share openly that the details are still out on interpretation of things. Van Dyke said that he wanted to make that point again.

- e. Power System – Tony Norris, BPA
  - Preparing for transition to summer spill.

**6. Public Comments:**

| *from Erin Cooper to everyone: 9:52 AM*

*Let's not forget that passage had increased 166% \*before\* NOAA's problem-solving operation was implemented.*

Erin Cooper, NWPPC, said that she feels that her point is made. She said let us be careful about the mission accomplish mindset on that.

| *from Ben Hausmann to everyone: 9:53 AM*

| *Let's also remember that we switched off of min gen the day of the 166% increase and increased passage at the north ladder*

Stranz said that these points are really helpful to jot down in the notes now so that TMT remembers to touch on them when they have their offseason meeting.

Swieca said that Stranz already covered what she was going to say. She wanted to reiterate that there is a commitment to evaluate this offseason. It is a highly nuanced discussion on all points that have been presented and NMFS looks forward to having that discussion in the offseason. Swieca said that she thinks that it is important to

contextualize everything that has been put out there and it is important to remember that this is highly nuanced and there is a lot of discussion to be had and NMFS looks forward to having that.

Van Dyke said that Swieca put it well and Oregon is sensitive to that, of course. He said that his point to bring up here is these two details utilize two different ways of looking at how fish behave. One is using the tool which uses PIT-tagged individuals to understand their behavior, the other that Hausmann brought in is an account of a number of fish that are moving through a ladder. These nuances are something that we need to explore more because they often muddle our conversation a bit in that they occasionally give us an opposite impression of how things are working. The PIT-tagged data set actually has a time stamp on it for individuals that can be combined to understand date and time of use. In that respect, that tool indicated that things started to shift on June 1, in terms of how things were working for behavior of movement. Van Dyke said that he sees that Hausmann's is about looking at a ladder, in fact, one side of the system, that one has two ladders, where a count is representing what people think occurred. He said that we have to remember that when fish swim from the ocean all the way up to their natal stream their behavior from the starting point to the end is the contextual piece that many of us are focusing on to try to understand how to benefit populations. So, although we are looking at this narrow space in this discussion because it is about the hydro system there is a lot more to it. He said that he thinks that is what Swieca was trying to bring in.

Stranz said because there is so much nuance and so much information to look at and think about on this one it is probably helpful for TMT in their side conversations and offline conversations to be thinking about how to share that information with each other when you get to that offseason conversation. She said that she believes that is happening in FPOM. She asked if that was correct.

Swieca said that was the current understanding because that is what was signed onto on the MOU and then was also captured in the FOP, but they are having some discussions about the timeline for that and who should be involved. She said that they are just starting that now, but the working assumption is that it would at least start being associated with FPOM. Swieca said that the path moving forward on that has not been fully solidified yet.

**7. Set agenda for next meeting – June 26, 2024 (In-Person at NOAA office)**



**Today’s Attendees:**

<b>Agency</b>	<b>TMT Representative(s)</b>
NOAA Fisheries	Kelsey Swieca, Trevor Conder
Oregon	Erick Van Dyke
Washington	
Kootenai Tribe	
Colville Tribe	Dennis Moore
Umatilla Tribe	
Yakama Nation	Keely Murdoch
Bureau of Reclamation	Chris Runyan
Army Corps of Engineers	Doug Baus (Chair), Julie Ammann, Lisa Wright, Aaron Marshall
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, Scott Bettin, Ben Hausmann

Other Attendees (non-TMT members):

COE – Alexis Mills, Tom Conning

CRITFC – Kyle Dittmer

Montana Senator Tester’s Office - Chad Campbell

Washington Ecology – Thomas Starkey

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

Snohomish PUD – Scott Richards

Chelan PUD – Jay Fintz

Energy Keepers – Eve James

Clearing Up – K.C. Mehaffey

Columbia Basin Bulletin – Mike O’Bryant

NW Power and Conservation Council – Kate Self