

## COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 27, 2022

Facilitator's Summary

Facilitation Team: Emily Stranz & Colby Mills, DS Consulting

*The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2022/>. 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 will approve the official meeting minutes for the June 10, 15, 22, 29; July 13 and 20 meetings, as well as the facilitator's summaries for June 29, July 13 and 20 at the August 3 TMT meeting.

**Dworshak Dam Operations** – Jon Roberts, Corps, reported on operations at Dworshak Dam. The project is currently discharging 12.6-7 kcfs (maximum powerhouse flow with additional 3k spill). Pool elevation is 1,582 feet (about 18 feet from full) and will drop about 1 foot/day for the next week.

Temperatures in the Snake River at Anatone have been ranging from 71 to almost 75 degrees F; likely temperatures will increase another 2-3 degrees F through the end of the week with the heat wave. Average flow down the Snake system is fluctuating between 16-26,000 kcfs. The Clearwater at Orofino has dropped off significantly from beginning of the month, causing temperature fluctuations due to shallower depths. There will be greater temperature fluctuation for both cooling and heating (up to 78-9 degrees F), and overall temperatures will remain cool in the Clearwater due to the cold water from Dworshak (which makes up 80% of the Clearwater). At Lewiston, water temperature will likely range between 52-56 degrees F. In response to a query from Charles Morrill, WA, Jon will report back at the next TMT meeting with information on temperature depths taken at the Anatone, Orofino and Lewiston gauges.

➤ **ACTION:** Jon will bring temperature depth data to the next TMT meeting.

Yesterday, temperatures in the Lower Granite forebay hit 67.5 degrees F at times and will likely fluctuate between 66.5-67 degrees F. Additional flows are helping to manage temperatures and provide a buffer to the extreme heat as surface temperatures rise to 79-80 degrees F. The bottom of the pool has dropped to 63.5 degrees F, with continued stratification at the 15-20-meter mark. Fish ladder temperatures are remaining cool, although the trap and entrance gauges are still out (ideally back in place by the end of next week).

The 10-day regional weather forecast is very warm; Seattle, Portland, Boise, and southern Idaho will stay hot through the weekend. Lewiston will stay in the high 105–110-degree F range. Temperature relief should come on Monday, with a cooling spell throughout the first week of August, and nighttime temperatures in the 60s at night will help cool the reservoir.

Jon and his team modeled two scenarios for operations: the first being to reduce to the powerhouse only, which would ultimately push stratification down and result in tailrace temperatures reaching above 68 degrees F. The second scenario will keep the Lower Granite tailwater at 68 degrees F or lower, by continuing to spill 3,000 kcfs in addition to the full powerhouse. There may be an opportunity to reduce spill by the weekend if the forecast holds, and still provide about 7 days of water for August temperature mitigation. The project will monitor and adjust operations to be as efficient as possible with the remaining water.

**Adult Sockeye Update** – Jonathan Ebel, IDFG, provided an update on Snake River adult sockeye passage, noting that passage is slowing down, which is common for this time of year. PIT-tag data were not available for last week. The conversion rate from Bonneville to Lower Granite is 0.65, which aligns with recent normal sockeye years. Travel times aren’t changing much and are slowing down; trends continue to reflect that fish are slower in the Columbia River and faster in the Snake River this year. Jonathan thought that most fish passed through the system before the current heat wave.

Regarding temperatures in the Salmon River, the USGS temperature probe is out of the water and registering air temperatures; it likely won’t be fixed until the first week of August as conditions allow.

Trevor Conder, NOAA, noted that data show 17-20% fallback; this year’s data may provide an opportunity to assess whether the Lower Granite summer RSW operation is contributing to sockeye fallback. FPAC will review data in the off season and bring findings back to TMT.

**Summer Transport** – Jonathan Ebel presented an SOR that captured FPAC’s previous recommendation from last week’s TMT meeting. The SOR requests returning juvenile salmonids to the river at Lower Monumental, instead of collection and transport down river via truck from August 1 – September 30. TMT coordinated a similar request in 2021. Given the operation’s variability in benefit to sub-yearlings and low collection numbers at the project in recent years, FPAC deems it unnecessary to transport from the project this year.

Chris Peery, Corps, reported that based on sampling, they expect collection numbers between 1,000-1,200 fish per load (safe capacity for Lower Monumental truck) and currently the river is warm. From the Corp’s perspective, transport would be good based on current conditions. In response to inquiry, Chris added that there are different trucks for each transport operation; the truck for Lower Monumental transport can hold about 150lbs of fish. The truck can technically hold up to 2,000 fish, but the Corps does not feel comfortable loading that many fish into one tank at once to avoid overcrowding. Significant cost savings are not likely at this point in the season, as the coordination has already occurred, and truck transport is not a significant cost. He also noted that the timing of this coordination brought some frustration because the project worked to prepare for the operation. TMT members and project staff support pre-coordination for any future changes to operations during the 2023 FPP planning conversations.

TMT Member	Polling Response	Rationale (optional)
NOAA	Support	No additional comments.
Oregon	Abstain	No additional comments; this is an operation used in the recent past.
Washington	Support	No additional comments.
Confederated Tribes of the Umatilla Indian Reservation	Support	No additional comments.
Reclamation	Support	No additional comments.
Corps	No Objection	The Corps looks forward to discussing the FPP language to implement this change ahead of time.
USFWS	Support	USFWS respected the Corps’ position, and in this case, the uncertainty around the benefits of truck transport and the lack of data on truck vs barge transport remain causes of concern.
IDFG	Support	No additional comments.
Montana	Support	No additional comments.
Nez Perce Tribe	Support	No additional comments.

Bonneville	Support	No additional comments.
<i>Confederated Tribes of the Colville Reservation, Kootenai Tribe of Idaho, Spokane Tribe of Indians, and the Confederated Tribes of Warm Springs were not present to register a polling response.</i>		

*Action Agency Decision* - Action Agencies will implement the SOR as written, and they look forward to further discussion on changes to language in the FPP. TMT partners appreciated the project’s efforts to prepare the operation and understand their frustration at the timing of requested change.

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

- **Hungry Horse:** midnight elevation was 3,556.35 feet; the project reduced outflows down to 2,500 cfs this last weekend, and will likely be in that flow range from now until the end of September while it targets a 10-foot draft (3,550 feet September target). Flows at Columbia Falls are about 9,300 cfs, and continue to slowly recede.
- **Grand Coulee:** midnight elevation was 1,289.2 feet; the project has an end of August draft requirement of 1,279 feet (11-foot draft). Inflows last week averaged 160 kcfs.

Upper Snake Flow Augmentation target volume is 376 kcfs. Flow passed Milner has been released; Boise will be done next week; and the Payette is releasing now and will continue through August (total of 178 kaf).

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

- **Libby:** midnight elevation was 2,453.6 feet, with average inflows of 14.8 kcfs, and outflows of 13 kcfs;
- **Albeni Falls:** midnight elevation was 2,062 feet, with average inflows of 17.6 kcfs, and outflows of 19 kcfs;
- **Dworshak:** midnight elevation was 1,582.9 feet, with average inflows of 1.6 kcfs, and outflows of 12.7 kcfs;
- **Lower Granite:** average outflows of 35.6 kcfs;
- **McNary:** average outflows of 208.4 kcfs; and
- **Bonneville:** average inflows of 203.4 kcfs.

*Water Quality:* Alexis Mills, Corps, reported that the lower 8 fish passage projects are at summer spill levels. There have been some exceedances of the summer 115% forebay / 120% TDG water quality standards due to the high temperatures and low winds in the gorge, the Bonneville forebay did hit above 115% yesterday. She noted that high incoming TDG across the international boundaries are what caused an exceedance of 110% in the Chief Joseph tailrace.

*Fish:* Trevor reported pretty good numbers of sub-yearlings going through the Snake River system; between 1,000-5,000/day through Lower Monumental which is not typical for this time, however, likely due to the cooler temperatures and higher flows in late spring/early summer. Peak passage at McNary and Bonneville has passed and is declining throughout the Columbia River. Yearlings are pretty much done for the year.

At Bonneville: Summer Chinook adult passage is 99,000, and is about to surpass last year’s average and the 10-year average; the same is true for Chinook jacks and steelhead (1,000-2,000/day). Shad are over 6 million, and are now in decline. Sockeye are at 658,000, which is an all-time count record at the project (since 1938), and continue to climb. A couple of coho and pink salmon have also passed.

Sockeye conversion at McNary (586,000) is similar to Bonneville. Conversion of summer Chinook is 70%, this is likely from harvest picking up. Sockeye are starting to dwindle at Ice Harbor after quite a good run (1,821); 2,021 at Lower Granite. Fallback looks to be high, and Trevor guessed that the RSW could be an influence, which is something to consider in the offseason. Shad are down to 5,000 at Lower Granite, and seem to be having a hard time getting through the projects.

Charles Morrill, WA, noted that TAC will be meeting later today, and provided sub-cumulative passage graphs for Bonneville and McNary dams:

- **Bonneville:** [www.fpc.org/smolt/smolt\\_queries/R\\_smoltcumulativepassindex\\_resultsv7.php](http://www.fpc.org/smolt/smolt_queries/R_smoltcumulativepassindex_resultsv7.php)
- **McNary:** [www.fpc.org/smolt/smolt\\_queries/R\\_smoltcumulativepassindex\\_resultsv7.php](http://www.fpc.org/smolt/smolt_queries/R_smoltcumulativepassindex_resultsv7.php)

Dave Swank, USFWS, reported that adult lamprey counts continue to be above last year's average and increasingly above the 10-year average, although returns have been a bit delayed (up to 2-3 weeks later than average at some projects). At this point in the run, counts at Bonneville are 132% of the 10-year average, 176% at John Day, 65% at McNary, and 46% at Ice Harbor. Juveniles continue to trickle in at projects, highlighting and extended run timing in relation to other salmonids.

*Power System:* Tony Norris, BPA, reported that extreme weather will continue to build through the remainder of the week, with temperatures cooling down next week. Forecasts for the Tri-Cities area show temperatures around 110 degrees F. Due to grid limitations, this increases the likelihood of a power system emergency, which could result in changes in planned spill operations. BPA will work to minimize any impacts and reductions in spill, however, if there is an emergency there is no alternative route to get energy into the Tri Cities and no flexibility to increase Ice Harbor powerhouse discharge. BPA will keep TMT in the loop on any emergency actions. Scott Bettin, BPA, noted that the physical limitation issue in Tri-Cities first became apparent in 2017 and is due to the continued growth of the area and infrastructure not being able to keep up with the growth.

**Questions or Comments from Members of the Public** – There were no questions or comments from members of the public.

**The next scheduled TMT meeting is on August 3 at 9:00 AM.**

**Columbia River Regional Forum  
Technical Management Team  
OFFICIAL MINUTES  
July 27, 2022**

**Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)**

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

**1. Review Meeting Summaries & Minutes – *Minutes for 6/10, 6/15, 6/22. Summary & Minutes for 6/29, 7/13, 7/20***

- Trevor had not been able to read the minutes or summaries.
- Consensus to wait until next week.

Questions and Comments:

None

**2. Adult Sockeye Update – *Jonathan Ebel, IDFG***

a. Snake River Adult Sockeye Passage (as of 7/20)

- Snake River sockeye passage is slowing down, as expected.
- No PIT-tags have passed Bonneville in last week and should be complete.

b. Conversion rates

- Bonneville to Lower Granite conversion rate is 0.65 and aligns with expectations for a normal sockeye passage year.

c. Travel Times

- Travel times aren't changing a lot, they are slowing down.
- Fish are a little bit slower in Columbia and quite a bit faster in the Snake River
- Fish are hopefully somewhere between Lower Granite and Stanley Basin. They have appeared to have moved through the hydrosystem before the heat dome.

Questions and Comments:

- Charles Morrill, WDFW, asked what the temperatures in Salmon look like, whether they are moderated or climbing rapidly.
- Ebel explained that IDFG monitored last year beneath the trap in White Bird and took temperatures at Shoup, ID (above the confluence of the middle fork

and the main stem). IDFG does not have the temperature logger this year. The USGS temperature probe is out of water and registering air temperature. Ebel contacted USGS, they are not going to fix until the first week of August, dependent on fire conditions.

- Trevor Conder, NOAA, mentioned that an unusual increase in sockeye numbers by counts as the fish moved upstream. Conder believes that this is due to fall back data in the counts. Looking back at the data there is a high fallback rate occurring, in the 17-20% range. He feels that this year presents opportunity to look at these data, as there are ~ 100 PIT tags to provide a decent dataset. It is a good opportunity to look at RSW operation to see if it is providing benefit. Flag out to look at RSW detections to see if there is fallback and consider another operation if it is occurring.
- Ebel believes that it is important but the numbers provided are purely PIT tag expansions and not influenced by the count at Lower Granite. He agrees that there is something off about the counts and it is something to look at in the off-season. Snake River sockeye have passed the hydrosystem.
- Stranz, Facilitator, took note to add this task to a future FPAC agenda and they will bring back any takeaways to TMT.
- Erick Van Dyke, ODFW, confirmed that the expansion using PIT tags accounts for multiple ascents. He asked if the numbers in the counts of PIT tags are already accounting for any fish moving through multiple times. He also wanted to confirm that the data are showing the numbers are decreasing in counts and not increasing as Trevor referenced.
- Ebel confirmed in the positive. He added that when looking at McNary to Ice Harbor, the 20% referenced a few weeks prior. 20 tagged fish were detected in Priest Rapids, and then the majority of fish were subsequently detected in Wenatchee. One fish from Priest Rapids was later detected in Lower Granite.
- Charles Morrill, WDFW, added that Blane gave a good summary previously about PIT tag fall back. Information is available for those interested. Kelsey Swieca, NOAA, clarified that those counts were only for Chinook.

### 3. Dworshak Dam Operations – *Jonathan Roberts, Corps NWW*

#### d. Hourly Project Data (AM of 7/27)

- Dworshak is currently discharging at 12.6 – 12.7 kcfs. That is the maximum powerhouse flow with an additional 3k spill.
- The pool is at elevation 1582 feet. It is 18 foot from full and is currently dropping a foot per day, and will continue for the next week.

#### e. Current River Temperatures

- Snake River (Anatone) and Clearwater River (Orofino) are ranging 71-75°F right now (7/27). They expect to continue to drift up about another 2 – 3° over the remainder of the next week with the extremely hot weather.
  - Average flow down the Snake River system is fluctuating between 16 and 26 kcfs.
  - Orofino and the Clearwater flow have dropped off to summertime flow. With the flow being less there is more fluctuation (due to lower depth in water and the canyons heating up) in Orofino. Temperatures will have large fluctuations between the heating spells (potentially 78 – 79°F) and then cooling spells will rapidly cool faster than the Snake.
  - After Dworshak flow has mixed with Clearwater there are still very cool waters due to Dworshak now making up ~80% of the whole Clearwater. Cold water is still mixing well and they are seeing 52 – 56°F depending on time of day at Lewiston (entrance to Lower Granite).
  - Lower Granite tailwater temperature was 67.5°F during the first day of extreme heat. Expect to 66.5 – 67.9°F fluctuating as the surface temperature interacts with the intense heat.
- f. Current LWG Forebay Temperature
- Surface temperatures over the last few days have been rising up to 79°F. They are expected to reach ~80°F today (7/27) due to the intense heat.
  - The cooling water from Dworshak has begun to arrive. The bottom of the pool was 65°F but it has been steadily falling and as of this morning, it is ~63.5°F.
  - They are keeping a pronounced stratification in the reservoir to continue keeping the cool water in the tailrace.
- g. Current LWG Fish Ladder Temperatures
- As mentioned last week, the Fish Trap and Entrance gauges are still out. Work to fix will begin this week and hope to have completed by end of next week.
  - Overall temperatures are keeping cool.
  - They are keeping the stratification in the pool higher; typically, the 15/20m depth is a good indication of the temperature range found in the fish ladder. They are keeping the buffer at the 15/20m mark to take a conservative approach with temperature gauges being out.
- h. 10-Day Regional Weather Forecast
- It continues to be extremely warm into the weekend. Ideally, it will begin to break up Sunday evening.
  - Significant cooling should begin Monday and continue into first week of August. Cooler in the summer is expected highs in the 90s but with the opportunity of reaching low 60s at night.
  - Currently the lows have been reaching the 70s at night and it is not helping to pull the heat off the reservoir.
- i. Weather Forecast for Lewiston, ID

- Local temperatures are extremely warm over the last two days. It will continue to be in the high 105 – 110°F range.
- They typically experience some operational issues at above 100°F range but there is relief after the weekend with the reduction of heat.

j. Dworshak Operation Scenario (posted Tues 7/26 8:15am)

Powerhouse Only

- Alternative model shows a reduction to the powerhouse later today.
- We would continue to remain cool but the natural systems, as well as the Snake River (flow coming from Hells Canyon) we would see the warmer water push stratification down and ultimately see a warmer tailrace temperature as the warmer water monopolizes the reservoir.

12,600 cfs Total Flow

- The planned operation is to continue discharging 12,600 cfs, which includes 3 kcfs spill.
- There is an opportunity, possibly Friday/Saturday, to make adjustments to reduce spill and conserve water, depending on a reduced heat wave or the addition of cool air.
- As of now, they will continue to use flow from Dworshak with a possible reduction on Saturday or Sunday.
- This still provides an additional 7 days for the rest of August to ensure there is water for any more 100 – 110°F heat and preserve the stratification for the fish run.
- They are continuing to monitor and make adjustments by running models every day and some nights to continue to be efficient with the water

Questions and Comments:

- Morrill asked for a refresh of the depths of the temperature gauges at Orofino, Anatone, and Lewiston.
- Roberts does not have that information currently, he will make them available at next TMT meeting.
- Brian Marotz, MT, commented that it was an excellent report.

**4. Summer Transport - Jonathan Ebel, IDFG, and Chris Peery, Corps NWW**

a. SOR 2022-5

- As discussed at last week's meeting, FPAC recommended that there be no truck transport from Lower Monumental.
- The Action Agencies requested that this be presented as an SOR.
- SOR (SOR 2022-5) recommends that juvenile salmonids, primarily subyearling Chinook, be returned to the river at Lower Monumental rather than collected and transported via truck transport.

- FPAC submitted a similar SOR in 2020 and 2021.
- A 2018 report by Steve Smith et al. looked at the transport of juvenile salmonids from the late 2000s-2012. The biological rationale showed that transported salmonids released in 2018 generally showed a highly variable response of transport from Lower Monumental. Sometimes fish did better, sometimes worse. This was very different from the finding for Lower Granite and Little Goose. Given that it is a roll of the dice for benefit and perennially low collection at Lower Monumental, FPAC feels it is unnecessary to transport in 2022.

Questions and Comments:

- Chris Peery, Corps, added that even though there are usually low numbers they can also be high, and this year they are collecting sufficient loads to fill the trucks. The conditions are proving to be a good year for transport to get fish out of the warm river.
- Van Dyke asked if Peery is collecting at Lower Monumental. Peery explained that they are not currently collecting but rather sampling or system monitoring the fish, but if they were to collect, the numbers show 1000-1500 fish/load, which are what the trucks could handle.
- Ebel asked how Peery would expect the abundance of fish in the system to change once transport is initiated at Little Goose.
- Peery responded that the numbers typically drop off as they move through August. The trigger they have is when the collection falls below 50 fish/day for 3 days. They believe that the numbers show this to be in the latter part of August.
- Conder asked about the cost savings by not transporting from Lower Monumental.
- Peery explained that they have their own truck (dually) with two tanks. Each tank can hold 150 lbs of fish. At about 14 fish per pound, that's a 1000 – 1200 fish. The cost savings would come down to the labor costs of collecting fish and then driving to Bonneville and back. This is not the same scale as barging. Though they can share costs with other trucks the plan is for Lower Monumental to provide their own transport.
- Peery added that the timing of this SOR means that all appropriations have already been done and sooner discussion would have lessened the investments made. He added that the project was frustrated with the timing of the request.
- Ebel responded that FPAC made the recommendation last week. Request was that the recommendation be in the form of SOR and as such, the request did not come out of the blue. In addition, they have not transported in 2 years and in 2019 there were only two trips.
- Peery understands the reasoning but there was no discussion prior to last week. They had proceeded with the assumption they were transporting.
- Stranz added that she totally understands that early coordination is helpful for a number of reasons and it is something that we try to put a focus on at TMT. She recalled that this was something that was decided on last week that this would be put on a future agenda for FPOM conversations to be ahead for next year.
- Scott Bettin asked if it would be worth asking if FPAC wants to caucus with the added information. The assumption was that there were not many fish to transport, but because there will be full trucks and hot conditions it might change their recommendation.

- Stranz called on FPAC to check whether they needed to caucus.
- Ebel said that as FPAC chair if some representatives would like to discuss more they are welcome to speak now.
- Conder relayed that he has pause. He believes that the stops transporting when there are fewer than 50 fish criteria covers the bases and his preference was to let it ride; but with the Smith document and the counts dipping soon and given that the benefit appears neutral he is fine with supporting the SOR.
- Morrill added a comment that at Lower Monumental as the temperatures warm up, columnaris has been an issue in past years with rapid warming it would likely be an issue in August. In addition to the variable results from transport, there is the addition of columnaris is not uncommon at Lower Monumental.
- Marotz asked if columnaris is more present in trucks than it would if they were in the river.
- Morrill explained that as water temperatures increase the prevalence of columnaris increases. In past years when they transported they stopped transport and had to release fish back into the water because of columnaris in fish collected in the sample.
- Ebel added that he is not sure that they have looked but we work generally under the assumption that if you add symptomatic fish with other fish it will spread. He is unaware if there is a test of that assumption.
- Marotz said that this was reasonable assumption but it has not been determined with sampling.
- Morrill added that going back a number of years as fish started showing symptoms at Lower Granite, the fish pathologist for Oregon, Warren Wilberg, gave the opinion that it would be better to return than transport as the chance of transmission could be high (this was over 20 years ago).

b. Poll SOR

Agency	Poll	Notes
NOAA Fisheries	Support	
Oregon	Abstain	
Washington	Support	
Kootenai Tribe		
Colville Tribe		
Umatilla Tribe/CRITFC	Support	
Bureau of Reclamation	Support	
Army Corps of Engineers	No Objection	Peery captured Corps concerns. Look forward to the FPP process so they can plan ahead in the future
Fish and Wildlife Service	Support	Concerned about the lack of knowledge about truck transport and how they can lead to stray rates
Idaho	Support	
Montana	Support	
Spokane Tribe		
Nez Perce Tribe	Support	
Warm Springs Tribe		
BPA	Support	

- ➔ **Action: Lisa Wright, Corps, reported that the Corps will implement the SOR as written and looks forward to the FPP change form discussion at FPOM for future planning.**

Ebel appreciates the Corps being ready for the operation and he understands why this would be frustrating for project personnel.

## 5. Operations Review

### a. Reservoirs - Reclamation, Corps

- Reclamation

Chris Runyan, Reclamation, reported on Reclamation reservoirs.

#### Hungry Horse Dam

- Hungry Horse midnight elevation of 3556.35 ft.
- Reduced outflows to 2500 cfs and projected to be in that flow range until end of September while they target a 10 ft draft
- Targeted end of September elevation of 3550 feet.
- Columbia Falls flow is currently at 9500 cfs and continuing to slowly recede.

#### Grand Coulee Dam

- Midnight elevation of 1289.2 ft.
- The end of August draft requirement is to elevation 1279 feet, an 11 ft. draft.
- Inflow last week averaged 160 kcfs

#### Flow Augmentation

- Total flow augmentation out of the Upper Snake is 376 kaf
- Flow past Milner Dam is already done.
- Flow augmentation out of the Boise continues and should be done next week.
- Payette, as normal, flow augmentation continues through August. Currently releasing now with a total volume out of the Payette of 178 kaf.

Questions and Comments:

None

- Corps

Lisa Wright reported on Corps reservoirs.

#### Libby Dam

- Midnight elevation 2453.6 feet. Yesterday's average inflows 14.8 kcfs and holding outflows of 13 kcfs.

Albeni Falls

- Midnight elevation 2062.3 feet. Yesterday's average inflows 17.6 kcfs and outflows of 19 kcfs.

Dworshak

- Midnight elevation 1582.9 feet. Yesterday's average inflows 1.6 kcfs and holding outflows of 12.7 kcfs.

Lower Granite

- Yesterday's average outflows 35.6 kcfs

McNary

- Yesterday's average outflows 208.4 kcfs

Bonneville

- Yesterday's average outflows 203.4 kcfs

Questions and Comments:

None

b. Water Quality – Corps

- Alexis Mills, Corps, reported that the lower eight fish passage projects are at summer spill levels.
- There was a solid stretch of days within the summer 115% forebay, 120% TDG on the lower river.
- With the high temperatures and low winds in the gorge, the Bonneville forebay popped up above the 115% yesterday.
- Still have high incoming TDG across the international boundary so the exceedance of the 110% TDG standard at Chief Joseph is not due to any spill at Chief Joseph Dam or Grand Coulee Dam.

c. Fish - NOAA Fisheries

Trevor Conder, NOAA Fisheries:

- Starting with the two-week juvenile passage index, there has been nothing for yearlings but continue to have good numbers of subyearlings with anywhere between 1000 and 5000 per day going through the Snake projects.
- Unusual to have this high of numbers but due to the cooler water and the higher flow being later it makes sense.
- We passed the flow peak at McNary and Bonneville by 7/15. Flow is declining now through the Columbia River.
- Adult summer Chinook at Bonneville are ~99,000 and about to surpass 100,000. This is above the 10-year average slightly and last year.
- It is the same for jacks, above the 10-year average.
- Steelhead are 1000 – 2000 per day going over Bonneville. It is well above last year (had about 13,000 by this time last year) and slightly above the ten-year average.
- Shad at Bonneville are over 6 million and daily counts are declining.
- Sockeye at Bonneville is 658,000. It is an all-time count record (614,000 in 2014) and we continue to climb.
- Couple coho and pink are coming in early.
- McNary similar to conversion rates of sockeye at Bonneville.
- Only 70% of summer Chinook are coming through. This may be because harvest is going up which is to be expected.
- Ice Harbor is starting to dwindle for sockeye, did get 18,021 through.
- With the situation in the Snake River where adult counts increase at upstream projects, Conder believes that the fish managers should look at fallback and he expects that the Lower Granite RSW has something to do with the fallback numbers.
- Shad at Lower Granite down to 5,000; it is clear that they are having a difficult time getting through projects. They are similar to lamprey in that regard.

David Swank, US Fish and Wildlife Service:

- Swank showed the passage graphs from the FPC website for Bonneville, McNary, and Ice Harbor.
- Adult lamprey returns are well above last year and increasingly above ten-year average.
- There was a bit of delayed return and did not hit or exceed the ten-year average until recently. Numbers are late and appear to be running 2 – 3 weeks late at some of the dams.
- At this point of the run, we are at 132% of the ten-year average at Bonneville.
- At John Day, we are at 176% of the ten-year average.
- They do not appear to have made it to McNary, only 65% of the ten-year average and only 46% at Ice Harbor.
- We appear to be having an above average run that is just late in returning.
- In terms of juveniles, still see numbers trickling in at the dams showing that there is an extended run time when compared to the salmonid species.

Questions and Comments:

Morrill added some links in the chat for “Cumulative Sub-yearling passage summaries for McNary and Bonneville”.

d. Power System – BPA

- Extreme weather underway and building into the week. Fortunately there is a cool down for next week.
- Tri-Cities area is going to see temperatures approaching 110°F. The Tri-Cities connection to Ice Harbor Dam is a unique as it requires the support of generation from Ice Harbor. During these extreme events we may need to declare a power system emergency and interrupt planned spill operations to support the Tri-Cities.
- We expect to minimize any reductions of spill to support the Tri-Cities.
- There is no other way to get energy to the Tri-Cities and other measures that are identified in the emergency protocols are not effective there.
- There is no real flexibility to increase powerhouse discharge with exceeding 1% as the available units all have fixed blades.
- We will report to TMT if anything occurs

Questions and Comments:

- VanDyke how long has the Tri-Cities limitation in infrastructure been in place.
- Bettin explained that 115kv line limitations into Tri-Cities has been in place since construction. However, this has been more of an issue because the Tri-Cities population keeps growing and the system is not growing fast enough to keep up.

**6. Public Comments:**

None

**7. Set agenda for next meeting - August 3, 2022**

- a. Dworshak update
- b. Sockeye update

Today's Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Lisa Wright (chair), Julie Ammann
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Chris Runyan
NOAA Fisheries	Trevor Conder, Kelsey Swieca
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz

Colville Tribe	
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps – Jonathan Roberts, Chris Peery, Alexis Mills, Aaron Marshall

DS Consulting – Emily Stranz (Facilitator), Colby Mills

BPA – Jalen Ray, Andrea Ausmus (note taker, Contractor with CorSource Technology Group)

Clearing Up – K.C. Mehaffey

Oregon DEQ – Marilyn Fonseca, David Gruen

Columbia River Basin – Mike O’Bryant

Chelan PUD – Jay Fintz, Kate von Reis Baron