

## COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

March 22, 2023

Facilitator's Summary

Facilitation Team: Emily Stranz & Colby Mills, DS Consulting

*The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2023/>. Suggested edits for the summary are welcome and can be sent to Colby at [colby@dsconsult.co](mailto:colby@dsconsult.co).*

**Review Meeting Summaries & Minutes** - TMT Members approved the March 8 meeting minutes and facilitator's summary, with no additional edits.

**Chum Operation** - Doug Baus, Corps, reported on the chum operation. Bonneville Dam project outflow was 123 kcfs at 0700 hours this morning, with a tailwater elevation of 11.5 feet.

The NWRFC inflow forecast for the next 10-days shows a general decline in inflows, ranging from 118 kcfs to 103 kcfs by the end of 10-day period. Long term forecasts show a similar and continued trend of below average water supply conditions; current inflow forecasts are quite low, below 90% climatology at Bonneville. Forecasted precipitation is below average over the next 10-day period.

Observed precipitation across the current Water Year (October 1, 2022 to current) is still below normal. The Snake River is 88% of normal, the Columbia River mainstem above The Dalles is 76% of normal, and the Willamette River is 67% of normal for the WY.

Doug reminded the group that the current TMT coordinated Bonneville Dam tailwater operation for chum is a 10.2 feet tailwater minimum at all hours, which will continue to be implemented through April 9 at midnight. April 10 is the transition to spring spill operations at the project. Tony Norris, BPA, reiterated that forecasts are consistently low. He noted that Priest Rapids will transition to running to the minimum to provide the minimum flows at Hanford Reach for fall Chinook, and Tony expects the Bonneville tailwater in the 10.2-10.5 feet range in coming days and weeks.

Kirk Truscott, Confederated Tribes of the Colville Reservation, expressed continued and elevated concern that maintaining chum and Vernita Bar flows results in getting further behind the FRM at Grand Coulee, and may seriously affect late April and early May flows in the Columbia River extant anadromous zone for juvenile migration. Jonathan Ebel, IDFG, shared Kirk's concern and added that the current operations do not seem to be a "fish operation" at this point. Tony noted that AAs have been operating to take advantage of variable input into the system and precipitation events. He said that the AAs will manage closely to Vernita Bar minimums in the coming days, which can result in a more variable tailwater.

Regarding Vernita Bar minimums, Kirk suggested looking at where fish spawned and to verify what flow is needed to support the redds this year, rather than assuming the standardized 60 kcfs flow minimum at Priest Rapids. This conversation was tabled for a later time.

Charles Morrill, WDFW, reported that crews have not been able to provide chum emergence data yet, and that he will provide information as it is available.

**Spill Priority List** - Dan Turner, Corps, reported on the 2023 spring Spill Priority List (SPL), which is used to manage lack of load spill on the system. He noted that it is the same as coordinated in spring 2022. Dan did update the example spill levels to be more reflective of where spill will start based on current estimates; rounding into 5 kcfs increments to acknowledge uncertainty.

Tom Lorz, Confederated Tribes of the Umatilla Indian Reservation/CRITFC, noted that Salmon Managers may have a requested tweak to the SPL. FPAC will discuss the issue at their next meeting in an effort to provide their best recommendation.

Regarding Grand Coulee at level 2, Kirk asked why spill wouldn't be maximized over the drum gates, and minimized over the outlet tubes which could result in less TDG below Grand Coulee. Dan answered that they will either spill through the outlet tubes or over the drum gates, not both.

**Upper Snake River Flow Augmentation Prospects 2023** - Joel Fenolio, Reclamation, reported on current flow augmentation prospects for this year, which are mixed between the Payette, Boise and upper Snake above Milner. Reclamation is only estimating to get about 60 kaf from the rainbow chart for flow augmentation, even with good snow pack there is extremely low carry over and delayed runoff; refill has been slow.

Natural flows are the typical 77 kaf. On the upper Snake River, the final accounting above Milner shows about 500-acre feet of Palisades Powerhead, and isn't expected to get many rentals. The Payette system is estimated at 154 kaf (between normal rental patterns and contracted space). The Boise system is estimated to get about 84 kaf, with well above average carry over in the system and 125% of average snow pack; Reclamation expects to fill all accounts in the Boise system.

Joel noted this could be another year below 427 kaf (target is 487 kaf), if they start using powerhead from Anderson Ranch or Palisades, they are limited to 427 kaf. This is the 2<sup>nd</sup> year in a row that could miss target volumes, however, is within what was estimated in the BiOps. Joel estimated that the earliest release of any flow augmentation could be early May. The TMT can expect another flow augmentation update in the 2<sup>nd</sup> week of April.

### **Operations Review**

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

- **Hungry Horse:** midnight elevation was 3,513.2 feet; the project is operating to the Columbia Falls minimums, drafting about 3 inches/day. Culvert repair at Knief Creek is going well, although slightly behind schedule, with new piping being placed this week. Refill is still expected by the end of June, with low flows in May and decent flows in June and July.
- **Grand Coulee:** midnight elevation was 1,247.6 feet; the draft rates dropped some and inflows have been in the 40-50 kcfs range with outflows in the 50-60 kcfs range to support chum.

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

- **Libby:** midnight elevation was 2,403.5 feet, with average inflows of 2.1 kcfs, and outflows of 4 kcfs;
- **Albeni Falls:** midnight elevation was 2,051.6 feet, with average inflows of 11.6 kcfs, and outflows of 9.4 kcfs;
- **Dworshak:** midnight elevation was 1,521 feet, with average inflows of 3.7 kcfs, and outflows of 1.7 kcfs;
- **Lower Granite:** average outflows of 31.3 kcfs;
- **McNary:** average outflows of 107.7; and
- **Bonneville:** average outflows of 111.4.

*Water Quality* – Dan followed up questions on the Warrendale gauge, reporting that USGS moved the gauge location to a different dock last year (former needed to be rebuilt), which is about 175 feet upstream. The current spot is deeper which should alleviate depth concerns; USGS does raise the gauge slightly in September to adjust for low tailwaters in the fall and winter. At the time of installment, there were duplicate gauges in order to confirm that values were the same. Documentation for this change can be found in the

annual TDG report (appendix A). Also of note, the Corps has not received word back from ODEQ regarding clarification on the 105% TDG criterion. David Gruen, ODEQ noted that their efforts are ongoing as they work internally to provide clarification.

The Warrendale gauge continues to exceed 105% TDG. The next upstream gauge, in The Dalles tailwater, has a most recent TDG reading of 106% (no spill at the Dalles). Dan thought these exceedances have been in part due to natural processes; including warming in the river, barometric pressure, and low wind, which can lead to naturally higher TDG. Additionally, steelhead spill is producing some TDG upstream.

On March 15, the Corps implemented a low pool operation at Bonneville, which may be having a slight influence, but is masked by incoming upstream TDG. This operation will continue, as it may continue providing some reduction. A new risk is exceeding the 110% TDG water quality standard. Historically, a similar low tailwater situation occurred in 2010, at which point it was coordinated at TMT to close the sluiceway, close spill from bays 1 & 18, then close the corner collector. Closing the corner collector was very effective in bringing down TDG. The Corps noted that per the FPP, as of March 26, the B2 corner collector will be open for 24 hours/day.

*AA Implementation Plan:* Dan will continue to conduct weekday reviews of TDG data, looking for 2 days of exceedance in a row of 110% before suggesting any action, unless TDG spikes up to a more extreme value (e.g., 115%). The Corps will coordinate with NOAA on any actions taken, and report back to TMT. ODFW emphasized that water quality agencies be kept informed of the situation and process, Dan affirmed that he will report any exceedances to ODEQ. The state of Washington does not have the same criteria for this time of year.

*Fish* – Trevor Conder, NOAA, reported the arrival of some adult spring Chinook at Bonneville Dam, although still in low numbers. Steelhead are between 20-61 in the last week. Spring Chinook are not being detected upstream up to Lower Granite. Lower Granite is seeing good steelhead numbers, with over 100 counted a couple days ago.

For juveniles, yearling Chinook at Bonneville are single to double digits; with quite a few sub-yearlings (generally holdover fish), almost 1,000/day, and a few coho. There have been some PIT detections in corner collector of yearling Chinook and 6 adult steelhead; 1 adult steelhead has been detected in the bypass system. Quite a few adult steelhead have been detected at the Lower Granite RSW (over 30). Some of these are from the Mid-Columbia, but most were tagged in the adult trap (origin unknown). A few adult steelhead have been detected in the bypass system. More juveniles have been detected in the bypass system than the RSW currently. Trevor noted that NOAA wants to work with IDFG to determine origins using DNA, which will be a long-term process. Dave Swank, USFWS, reported that Bonneville smolt collection counts from last couple of weeks are showing juvenile lamprey trickling in.

Jay Hesse, Nez Perce Tribe, noted that PIT-tag detections in the Lower Granite spillway are not the total number of fish passing, only a portion of the fish with tags. Scott St. John, Corps, noted in the meeting chat that the Lower Granite bypass was watered up in primary bypass on 15 March, therefore, they are seeing juvenile PIT detection through the full-flow bypass at the project.

*Power System* – Scott Bettin, BPA, had nothing to report.

**Question 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 April 5, 2023 at 9:00 AM.

**Columbia River Regional Forum  
Technical Management Team  
OFFICIAL MINUTES  
Wednesday, March 22, 2023  
Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)**

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

**1. Review Meeting Summaries and Minutes – March 8 (March 15 pending)**

- March 8, 2023 summaries and minutes were approved

**2. Chum Operation – *Doug Baus, Corps-NWD; Tony Norris, BPA; Joel Fenolio, BOR, and; Kelsey Swieca, NOAA Fisheries***

a. Bonneville Dam - Hourly Data – *Doug Baus, Corps*  
(Hour ending 7)

- Total Project Outflow: 123 kcfs
- Project Tailwater Elevation: 11.5 feet

b. Bonneville Dam – NWRFC Inflow Forecast (10-Day)

- General decline over ten-day period
- Low: 103 kcfs
- High: 118 kcfs

c. Bonneville Dam – NWRFC Inflow Forecast (120-Day)

- Continues to show below average inflow
- Noteworthy: Current inflow forecast is below 90% climatology

d. NWRFC Forecasted Precipitation Summary

- 10-Day QPF: below average precipitation forecast over next ten day period

e. NWRFC – Water Year Precipitation Table (October 1 – March 21)

- Snake River – above Ice Harbor Dam
  - Observed: 11.8 in.
  - Normal: 13.3 in.
  - 88% of Normal

- Columbia River Main Stem – above The Dalles
    - Observed: 12.7 in.
    - Normal: 16.6 in
    - 76% of Normal
  - Western Oregon – Willamette River Basin above Portland
    - Observed: 32.4 in.
    - Normal: 48.6 in
    - 67% of Normal
- f. Summary of 2022/2023 TMT Coordinated Chum Operations
- Continue the current TMT Coordinated Tailwater Operation for Chum
    - 10.2 feet tailwater minimum on all hours
    - Continue to implement operation through April 9 @ midnight.
    - April 10 at 0001 hours transition into Spring Spill operations.

Norris shared that TMT will continue to see low percentage forecasts and a small response out of the Snake River. We will be transitioning to running to minimum at Priest Rapids to provide the minimum for the Hanford Reach Fall Chinook. Norris expects tailwater will transition closer to the 10.2-10.5 range in the coming days and weeks.

Kirk Truscott, Colville, said that it was notable that the area above Coulee is only 70% of average. Truscott added that this is as we continue to dig a hole in Coulee to provide chum flows and Vernita Bar flows TMT gets further and further behind the FRM. His concern continues and is increased given the late April and May flows in the extent for juvenile migration. Truscott believes it will be a problem.

Stranz said that there is shared concern and she appreciates that he shares his concerns with TMT.

Ebel shares concern. Ebel pointed out that the most recent hourly datum for the tailwater elevation at Bonneville was 11.5 ft. Ebel sees that the time series shows a classic double peak and that Bonneville is not operating to a minimum. It is varying between 10.5 and 11.3 and it should not be called a fish operation at this point given the times of day things are dewatered. The day to go to minimums was weeks ago, as Truscott and Ebel had vouched for.

Norris said Bonneville has been operating different than they typically operate. They had a minimum elevation but they had coordinated with TMT that they would take advantage of the variable inputs from the Snake River (coming from the precipitation from recent events), local precipitation, and flow in the Willamette. The outcome was coordinated as variable. Norris pushed back on Ebel's assertion that Bonneville is not operating as agreed, Norris felt that Ebel mischaracterized how Bonneville is operating. They are running closer to Vernita Bar but that means that it will be a more variable tailwater at Bonneville based on what is going on in the lower river and how the water is shaped in

the Mid-C. It will get tighter and the tailwater will drop. For the last couple of weeks they have been taking advantage of the precipitation events and any increment above for any given hour is going to benefit the chum that may or may not have emerged from the Redds.

Ebel does not believe that he has mischaracterized it, he said taking advantage is probably more accurate. It depends on what the end goal the advantage the various flows are used. He does not believe that it is a chum operation.

Stranz asked if there is a need of coordination of change in operations. TMT is here to coordinate in season operations. If there is a need for a change or a discussion for a change this is a time to discuss otherwise use the process meeting to discuss disagreements.

Ebel asked what day is it predicted to move to manage to Vernita Bar minimums.

Norris said that they should be close today and tomorrow (March 22 and 23) and by Friday and Saturday (March 24 and 25), they should be getting close. They do not operate Mid-C projects so they need to estimate what they release from Grand Coulee and they need to manage through Chief Joseph, Grand Coulee, and the Mid-C's. Norris said to track what is coming out of Priest Rapids, hopefully tracking a minimum of 60 kcfs in the coming days.

Truscott would like to discuss the Vernita Bar flows. It is an important fishery. It may be worth looking at where fish is spawned and what flow is necessary rather than the 60 kcfs min at Priest Rapids.

Norris asked if Truscott was suggesting that they should dewater Hanford Reach Fall Chinook.

Truscott answered in the negative, he recommended that TMT look at 2022 for where the Redds were made and what elevation they were at. He would like to look to see of the elevation of 60 is more water than is required to keep the Redds under water.

Kelsey Swieca, NOAA, wanted to check in and asked if Charlie Morrill had time to get the emergence data.

Stranz suggested waiting on Truscott's comments.

Morrill does not have emergence data. He has reached out but the field crews are extremely busy at this time of year and he has not gotten any feedback. When he has the information available, he will share it.

### **3. Spill Priority List – Dan Turner, NWD Corps**

#### **a. Spring**

- Level 1: reflects what was coordinated last spring
  - Lower Granite: priority order 6
  - Lower Monumental: priority order 7

- Little Goose: priority order 8
- The Corps updated the example spill levels to be more reflective of where it is likely to start and flows were rounded to 5k increments to acknowledge that there is uncertainty (is a general guideline it will be changed on day one).
- Reminder this is to manage lack of load spill on the system.
- Turner is open to feedback on the order of the list.

Stranz asked if this was talked about in FPAC yesterday or does it need to be looked at in the future.

Tom Lorz, Umatilla/CRITFC, talked about in FPAC. There is a possible tweak that they may have but it is not completely agreed upon. FPAC will talk about it at next meeting on April 3. Given the low flows it is likely it will not be implemented right away and he feels that they have time to do their due diligence and come up with the best recommendation.

Truscott asked for clarification on the example spill levels for Grand Coulee. He wanted to know about the spill between drums and outlet tubes. He asked at level two why they would not maximize the drum gate spill and minimize the outlet tubes to minimize the TDG below Coulee.

Turner said it is an “either/or” not “and” scenario based on the elevation of Grand Coulee.

#### **4. Upper Snake River Flow Augmentation – Joel Fenolio, BOR**

##### a. March 13, 2023

- Current Flow Augmentation is a mixed bag between the three basins: Payette, Boise, Upper Snake (Above Milner)
- Upper Snake
  - Rainbow Chart: 60 kaf
  - Low carryover from snowpack
  - Wyoming and E Idaho: 25%
  - Palisades Powerhead: 500 af (not accounted for)
- Natural flows
  - Total: ~77 kaf
- Payette System
  - Total: ~154 kaf
  - Between normal rental patterns and uncontracted space (97 kaf)
- Boise System
  - Total: ~84 kaf

- Between some rentals and reclamation space
- Above average carryover: ~125% average snow pack
- Expecting to fill all accounts in Boise System
- Upper Snake not having a good carryover year.
  - Not a lot of rentals
  - Last to fill on the powerhead
- Look like another year below 427 kaf
  - The target is always 487 kaf
  - If they use powerhead from Anderson Ranch or Palisades, they are limited to the 427 kaf.
  - Second year in a row. Well within what was estimated in the BiOp which estimated 3 out of 10 years would not hit 400 kaf. Still within what was contemplated in the BiOps

Next update second week of April. The accounting group and contracting group work with the Irrigators to figure out what the rentals will be and that will give a better idea of where the water districts are in terms of April. Earliest release of any Flow Augmentation would be out of Milner in May. On the Boise System, they are going into flood operations first week of April so they will not be able to release any flow augmentations until that is over but he believes it will not be over until late June or early July.

## 5. Operations Review

### a. Reservoirs

*Reclamation – Joel Fenolio*

- Hungry Horse Dam
  - Midnight elevation: 3513.2 ft.
  - Average Outflows: 3 kcfs (Columbia Falls min.)
  - Knieff Creek
    - They have been able to plow to the site, access it, and excavated out the old tunnel.
    - They are placing the new 60” pipe in this week.
    - Has not had an update on how far behind they are. It was a week and half two weeks ago. They wanted to get the pipe in and do the back fill before they gave an estimate of how far behind they are.

Brian Marotz, MT, asked if there is any more data of indicating refill.

Fenolio said they are seeing refill by June. With the low base flows and the way they are drafting he thinks this is a year they might just miss refill. Just operating to Columbia Falls minimums they are still 3.5 – 4 feet below. Just like everywhere else, they are



seeing low base flow 10 – 25 percentile at Hungry Horse. Might be a year that they miss refill (would have been possible even w/o Knieff Creek)

- Grand Coulee Dam
  - Midnight elevation: 1247.6 ft.
  - Inflows: 40 – 50 kcfs
  - Outflows: 50 – 60 kcfs (support chum flows and low system needs)

*Corps – Lisa Wright*

- Libby Dam
  - Midnight elevation: 2403.5 ft.
  - Inflows: 2.1 kcfs
  - Outflows: 4 kcfs
- Albeni Falls
  - Midnight elevation: 2051.6 ft.
  - Inflows: 11.6 kcfs
  - Outflows: 9.4 kcfs
- Dworshak Dam
  - Midnight elevation: 1521.0 ft.
  - Inflows: 3.7 kcfs
  - Outflows: 1.7 kcfs
- Lower Granite average outflows: 31.3 kcfs
- McNary average outflows: 107.7 kcfs
- Bonneville average outflows: 111.4 kcfs

b. Water Quality – Dan Turner, Corps

i. Warrendale Gauge

- Checked in with USGS
- USGS moved the gauge location to a different dock.
  - Last dock needed rebuild. No room on new dock for the gauge house.
- Moved 175 feet upstream. It is a deeper spot.
  - Do not have the concerns about depth
- USGS raises the gauge in September for lower tail waters
- When they installed the new gauge they used duplicate gauges to confirm TDG values for the new location.

Eric Van Dyke, OR, asked if there will be documentation of this gauge location change so that it will be in the records. So that TMT can remember some of the nuances faced.

Turner said that the best place to look for up to date information on gauge locations is the Annual TDG Report, Appendix A. It is reflective of the current Warrendale gauge.

Van Dyke asked if it captures the moving of the gauge and the check for continuity.

Turner said that yes, there is a discussion of moving the gauge in the TDG report.

ii. Oregon DEQ clarification

- The Corps has reached out to ODEQ seeking clarification on the 105% TDG criterion.
- Have not received word back, efforts are ongoing.

iii. TDG Data

- Warrendale gauge (WRNO) continues to exceed 105% TDG.
- The Dalles Tailwater (TDDO) most recent is 106% TDG.
- More things going on upstream due to natural processes; warming of the river, productivity, barometric pressure and low wind speeds.
- Can lead to naturally higher TDG as well as some upstream steelhead spill could also be contributing to higher TDG.
- On March 15, the Corps implemented a low pool operation at Bonneville Dam and it may have slight influence on TDG production.

iv. Warrendale Hourly TDG

- The influence is masked by the natural upstream TDG.
- The nightly minimums are only getting down to 106% TDG.
- The B2CC seems to be producing 2% additional TDG instead of the 2-3% TDG but we are still getting readings over 105%.
- We will continue with the lower forebay operation because it is possible that it giving some reduction.
- Now we are looking at possibly exceeding 110% TDG.
  - This criteria is much more clearly written and acceptable.
  - Rare condition but saw exceedance of 110% TDG in 2010 with a similar low tailwater.
  - Coordination with TMT in the past has focused on closing ice and trash sluiceway, closing spill from bays 1 and 18, closing corner collector (collector was most effective)
- General Process:

- Weekday review of TDG data.
  - Looking for two days of exceedance before suggesting action.
  - Unless there is a spike of an extreme value like 115% TDG.
  - The Corps will coordinate with NOAA with anything time pertinent.
  - The Corps will then bring it to the next TMT meeting.

Julie Ammann, Corps, asked if there are plans to make changes to the B2 Corner Collector operation for the Fish Passage Plan on March 26.

Turner said that they are and it will be 24 hours a day

Amman said if it seems possible to exceed the 110% TDG when they go to higher operation for the B2 Corner Collection.

Turner said yes.

Van Dyke asked when the Cascade Island gauge would go in.

Turner said sometime between April 1 – April 10.

Van Dyke said getting in earlier would be helpful for getting information for conditions.

Turner said he asked them to prioritize the gauge for the Bonneville forebay but he will ask them to also prioritize the Cascade Island gage. They are not contracted to get them in until after April 1.

Ebel said the Corps went to the lower forebay operating level but TDG increased during that transition (and he thinks that this can likely be categorized as background from The Dalles). He asked if they could mark it as non-solution.

Turner is not as convinced. He sees the upstream TDG as important. He has not been able to do a complete analysis. He would like to look at the daily swings in TDG, between the minimums and the maximums; it may be a better way to evaluate the operations.

Ebel said he does not see it offsetting the increase in the background TDG. He finds it interesting and it is a tough game.

Turner said it is a subtle effect if there is one.

Jay Hesse, Nez Perce, asked if the lower Bonneville Pool is a factor in the tailwater conditions in The Dalles in terms of generation of TDG.

Turner had not considered it. He has not looked into TDG sources at The Dalles. His instinct is to say not much but that is not based on data. He will look into it for certainty.

#### Steps and Coordination

- The B2 Corner Collector will be opened 24-hours per day starting March 26 at 0600.
- Process:
  - Weekday review of TDG data.

- Two consecutive days of 110% exceedances before taking action.
- Extreme TDG exceedances (113-115%) may require action after 1 day.
- Any change to the operation will be coordinated with NOAA real-time.
- Report to TMT.

Van Dyke shared that he has emphasized in the past that the Water Quality agencies regulate operations based on water quality issues. He has made a request that they should be informed and in the loop. He appreciates Ammann bringing it up and ensuring that all are aware.

Stranz confirmed that there is still coordination happening between the Corps and ODEQ.

Turner said that is correct and he added that he would also need to notify Oregon DEQ if TDG goes over 110%.

Stranz asked if this was true for Washington as well.

Turner said that it was not. They have a different set of rules and because this is a fish passage program they have a different set of criteria in place.

Trevor Conder, NOAA, asked if Oregon DEQ gave a timeline for their response back. Conder also said that he assumed that the question to ODEQ was only about the 105% TDG and not 110% TDG because the 110% is clearer and does not require clarification.

Turner confirmed that they are not seeking clarification on the 110% TDG. He also does not have a timeline.

David Gruen, ODEQ, said that they are working internally to provide their response. They understand the time sensitive nature but there is not a specific timeline.

Morrill asked for clarification about whether the 105% TDG is no longer the primary concern and that the concern is now 110%.

Turner said that the 105% TDG is still a concern because they are still looking for clarification from Oregon DEQ on when and where that applies.

Morrill asked why there is a concern for the 110% TDG.

Turner said that there is not really a question about whether there should be a concern about the 110% TDG. There should be according to ODEQ.

Hesse said that he believed that Washington's water quality standards clarify that if it was a fish operation, regardless of time of year, the 115% - 120% applies. He asked if something similar applies for Oregon. He also asked if they could then connect the fish operation to the corner collector.

Turner said that they have not yet received clarification from Oregon equivalent to what Washington gave last year.

Gruen responded that Oregon does not have the same equivalent. Oregon's water quality standards in the TDG modification order (come into effect April 1). His understanding is that Washington has more flexibility on timing. He shared that the order does allow a

DEQ director to provide a waiver outside of the time period specified in the order subject to certain restrictions and certain rational about balancing risk and benefits to salmon. There is not a direct parallel to Washington's standards.

Morrill thanked Gruen for clarification.

c. Fish – Trevor Conder, *NOAA Fisheries*

- Yearling Chinook
  - B2 Corner Collector                      single to double digits
- Subyearling Chinook
  - Bonneville (Hold over fish)      ~1000/daily
- Coho
  - PIT detections early release
- Adults
  - Bonneville
    - Adult Spring Chinook: low single digit numbers
    - Steelhead:                      20 – 61 fish
    - Coho:                              6 fish
  - McNary
    - No fish detected
  - Ice Harbor
    - No fish detected
  - Lower Granite
    - Fish holding in river
    - Steelhead:                      >100 fish
  - Origin unknown. They wish to pursue working with Idaho to get a finer point on their DNA

Hesse reminded that the numbers are not the totals of fish it is just the portion tagged using the passage route.

Ebel added that he does not believe that there are any bypass collections. He said that counting any of the fish going over the RSW is only open a small portion of the time. A lot of the fish tagged at the Lower Granite trap were fall back fish that cross Granite in October and November and overwintered somewhere. Either that or kelts but he doubts that because of the time of year and the weather, it is more likely they are overshoots that overwintered the dam.

Baus asked if this rational could also be used at Bonneville dam.

Ebel said that he had looked briefly but he is not an expert in downriver steelhead stocks. He did look and the PIT tags appeared to be Klickitat nursery. Spawn timing will vary across the basin and given that Steelhead spawning above Lower Granite dam is above 2500' – 7000' above sea level and their timing will be different.

*Scott St. John added via chat:*

*Lower Granite bypass was watered up in primary bypass on 15 March.*

*Therefore, we are seeing juvenile PIT detection through the full-flow at Lower Granite.*

Conder said that they did water up the bypass at Granite on the 15<sup>th</sup>. There have been quite a few fish detected since at Granite. Brandon gave the update at FPAC yesterday.

Baus asked for an update on kelt passage at Bonneville.

Conder said that it is easy to look it up. Search for B2CC. There are 6 steelhead from various locations as well as some juvenile spring chinook from Klickitat hatchery. There are fish from Wind River, Klickitat River, Deschutes River, and varying locations along the mid-gorge complex area. These fish are typically the first detected. They tend to spawn early and move out early, they act more like a winter fish tendency. They kelt and migrate out after their early spawn. Unlike the upper basin the winter fish get it done in February or early-March. Six adults and not much in bypass (represents closer to 60 – 600 fish).

Morrill said the detections over the INSW at Granite a couple of years ago there were detections from the lower antenna array coming up to the base of the spillway. He would like to ensure that they are being picked up across the array and not only the lower array. He believes that this a tool to separate that move up to the base of the array versus moving over.

Hesse wanted to clarify steelhead spawning and kelt movement in the snake basin. Steelhead spawning occurs in elevations less than 1000 ft. in January. He has direct observations of fish spawning in Lapwai Creek in early February this year and it is typical from their kelt reconditioning project that steelhead moving downstream past Lower Granite would be kelts.

Morrill wanted note that they have evidence if the steelhead below Granite and are PIT tagged they can be picked up at the lower array.

d. Lamprey – David Swank

- Smolt collection counts
  - Juvenile lamprey are steadily trickling in Corner Collector

e. Power Report – Scott Bettin, *BPA*

- Nothing unusual

**6. Public Comments:** None

**7. Set agenda for next meeting – April 5, 2023**

Today’s Attendees:

<b>Agency</b>	<b>TMT Representative(s)</b>
Army Corps of Engineers	Doug Baus (chair), Julie Ammann, Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Trevor Conder, Kelsey Swieca
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps – Dan Turner, Aaron Marshall, Alexis Mills, Chris Peery, Heather Baxter, Scott St. John

NOAA – Chris Magel

DS Consulting – Emily Stranz (Facilitator), Colby Mills

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

Columbia Basin Bulletin - Mike O’Bryant

Chelan PUD - Jay Fintz

Clearing Up - K.C Mehaffey

Grant County PUD - Peter Graf

Douglas County PUD - Andrew Gingerich

PGE - Kate Von Reis Baron

Oregon DEQ - David Gruen

Public - Charles Pace