

## COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

October 5, 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 approved the official meeting minutes and facilitator's summaries for the September 21 meeting.

**Operations Review** – *Reservoirs*: Peter Cooper, Reclamation, reported on Bureau of Reclamation projects:

- **Hungry Horse**: midnight elevation was 3,547.93 feet, inflows have been around 550 cfs, with outflows of 2,750 cfs (minimum generation requirement for 90 megawatts due to outage work). Outflows will be dropping back down later tonight to 2,250 cfs to target the minimum flow at Columbia Falls, and will continue to do so for the foreseeable future. The 10-foot draft requirement was reached for the end of September (1.4 feet lower than the target).
- **Grand Coulee**: midnight elevation was 1,282.5 feet; the project will work to operate close to 1,283 feet until mid-October. Inflows and outflows have been around 60,000 cfs.

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

- **Libby**: midnight elevation was 2,448.7 feet, with average inflows of 4 kcfs, and outflows of 4 kcfs (October minimum outflow);
- **Albeni Falls**: midnight elevation was 2,060 feet, with average inflows of 15.2 kcfs, and outflows of 20.8 kcfs;
- **Dworshak**: midnight elevation was 1,518.7 feet, with average inflows of just under 1 kcfs, and outflows of 2 kcfs;
- **Lower Granite**: average outflows of 16.3 kcfs;
- **McNary**: average outflows of 70.5 kcfs; and
- **Bonneville**: average inflows of 83.1 kcfs.

In response to a query, Ashlynn Tate, Corps, confirmed that testing for unit 3 at Dworshak is occurring today or tomorrow, and flows have increased to 3.7 kcfs to support the work.

*Water Quality*: Dan Turner, Corps, reported that the Corps is continuing with the adult steelhead spill operation; 4 of the 5 projects are spilling in 4-hour blocks between 0500-0900 hours, 3 days/week. Lower Monumental is operating with an additional soft constraint in the forebay of 537-538 feet, to limit amount of spill over the surface weir and control TDG.

Lower Granite continues to see exceedances of the 110% TDG criteria; the project is spilling for 2 hours, 6 days/week from 0700-0900 hours. This has helped some to control TDG, but there remain occasional exceedances, Dan thought, due to hydraulic conditions in the tailwater (powerhouse flow). The Corps is monitoring the issue, and if there are multiple exceedances in a row, the Corps will look at shifting spill to an earlier time in the morning when it's cooler and might produce less TDG. Tom Lorz, Confederated Tribes of the Umatilla Indian Reservation/CRITFC, expressed concern that the operation intended to assist steelhead passage, is not meeting that intention with the shortened timeframe.

Dan noted that the Corps has been coordinating with NOAA regarding the biological benefits or impacts of the operation, noting that the 2-hour blocks is not ideal. Kelsey Swieca, NOAA, added that the agency generally supports a larger time block of 4 hours, and when not possible, she reiterated NOAA's requirement of a 2-hour block minimum. Jay Hesse, Nez Perce Tribe, noted that state water quality agencies should be responding to the submitted joint technical memo soon. (See discussion and action below regarding the spill operation start time at Lower Granite.)

*Fish:* Kelsey reported that the juvenile passage index shows low numbers of salmonids (primarily sub-yearling Chinook) throughout the entire system, which is expected for this time of year. She noted that DART is currently down until about 4 pm PT, and her report is based on yesterday's counts.

At Bonneville, fall Chinook adults have been passing at roughly 800-2,200 per day; YTD passage is 495,000, or 103% of the 10-year average. Steelhead YTD passage is just under 123,000, or 73% of the 10-year average. Coho YTD is 109,000, or 144% of the 10-year average.

At Lower Granite, fall Chinook passage has ranged from 300-800/day; YTD passage is 41,000, or 129% of the 10-year average. Steelhead has ranged from 804-3,000/day; YTD passage at 41,000, or 75% of the 10-year average. Coho range from 200-475/day; YTD just under 3,000, or 93% of 10-year average. Since October 1, only 2 steelhead have been detected (yesterday) at the Lower Granite RSW.

Dave Swank, USFWS, reported that lamprey juveniles had a pulse at the Lower Granite sample, although not much at other projects. The cause of the pulse is unknown, as there has been no real change in flows. Adult passage is about 130-140% of the 10-year average at Bonneville, and this is likely the very tail end of the adult run. The next significant update on adult counts will be in December, or when the Corps has their final tally from the LPS passage system.

*Power System:* Scott Bettin, BPA, noted that things have been pretty quiet on the system, and that Grand Coulee is working on refill.

### **Steelhead Spill Operations**

Jonathan Ebel, IDFG, reported on the challenges of trying to operate to 110% TDG at Lower Granite, noting that the 2-hour spill blocks are not proving to be enough time to support fish movement. Until clarification is provided from Washington Department of Ecology, Jonathan suggested shifting the spill period closer to dawn (1-2 hours earlier) to move more fish. Typically, these operational decisions are coordinated between the Corps and NOAA with guidance from state water quality agencies; Jay expressed a desire to have in-season adjustments coordinated within the full TMT group. The Colville, Umatilla and Nez Perce Tribes, along with USFWS, NOAA, MT, all agreed with ID that the spill block should be shifted earlier to better support passage timing. Many reiterated the desire to return to a 4-hour spill block, noting that 2-hours does not seem to be sufficient, as most fish move in hours 3 and 4. NOAA requested that the operation starts at 0600 hours to align closer with dawn.

After further discussion, TMT members present reached consensus on shifting the operation earlier in the morning. Doug Baus, Corps, confirmed the plan to shift the spill block at Lower Granite to start at 0600 hours starting tomorrow, Thursday October 6, with opportunity to adjust further at the next TMT meeting (or earlier) if needed. Dan will coordinate this plan with the project, and will let the TMT know if any issues arise.

**Questions or Comments from Non-TMT Members** – there were no questions or comments from members of the public.

**The next scheduled TMT meeting is on October 19 at 9:00 AM.  
A DS Consulting Process Meeting for TMT Members will follow the business meeting.**

**Columbia River Regional Forum  
Technical Management Team  
OFFICIAL MINUTES  
Wednesday, October 5, 2022  
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 & Minutes – 9/21**

- Approved September 21 summaries and minutes

Questions and Comments:

None

**2. Operations Review**

a. Reservoirs

*Reclamation – Peter Cooper*

- Hungry Horse
  - Midnight elevation of 3547.93 feet
  - Inflows: 550 cfs
  - Outflows: 2750 cfs (minimum of 90 MW – outage work)
  - Outflows will drop to 2250 cfs to target the Columbia Falls minimum flow
  - Plan is to continue to target Columbia Falls minimum flow
  - Reached the end of year draft requirement at the end of September – came in about 1.4 feet lower than the target due to the minimum flow requirements.
- Grand Coulee Dam
  - Midnight elevation of 1282.5 feet.
  - Operate ~1283 feet until mid-October
  - Inflows and outflows ~60 kcfs

Questions and Comments

None

*Corps – Lisa Wright*

- Libby Dam
  - Midnight elevation of 2448.7 feet.
  - Yesterday's average inflows 4 kcfs.
  - Project is holding outflows of 4 kcfs (October minimum).
- Albeni Falls
  - Midnight elevation: 2060 feet.
  - Inflows: 15.2 kcfs.
  - Outflows: 20.8 kcfs.
- Dworshak Dam
  - Midnight elevation: 1518.7 feet.
  - Inflows: 1 kcfs.
  - Outflows: 2 kcfs.
- Lower Granite average outflows: 16.3 kcfs
- McNary average outflows: 70.5 kcfs
- Bonneville average outflows: 83.1 kcfs

Questions and Comments:

Jay Hesse, Nez Perce Tribes, asked if the testing of unit 3 at Dworshak was still planned for this week.

Ashlynn Tate, Corps, responded that Dworshak is currently testing unit 3, they are testing either today (10/9) or tomorrow (10/10). Dworshak increased their flows to 3.7 kcfs to help support the testing.

*Water Quality – Dan Turner, Corps*

- Continuing with the adult steelhead spill operation.
- At four of the five projects, they are spilling 4 hours a day, 3 days/week, from 0500-0900.

- At Lower Monumental, there is an additional forebay constraint of 537-538 to reduce the spill over the surface weir to maintain TDG below 110%.
- Lower Granite continues to see exceedances of the 110% criteria; there were 2 consecutive exceedances on 10/2 and 10/3.
- At LWG, they are spilling for 2 hours, 6 days a week, from 0700-0900.
- The exceedances look to be due to hydraulic conditions in the tailwater; either tailwater depth or powerhouse flow in addition.
- They will continue to watch the levels of TDG. If it continues to exceed an option would be to shift it earlier in the morning when it's cooler.

Questions and Comments:

Tom Lorz, CRITFC, commented that continuing to parsing down the spill is going to go against the biological benefits. He does not feel that by reducing the 4 hours to 2 hours will not allow fish to find passage because the fish typically find passage in the third and fourth hours.

Lorz asked if the Corps is in consultation with NOAA about whether it still meets the biological requirements.

Turner has been in coordination with NOAA. The Corps understands that it is not ideal but they are trying to balance with 110% TDG requirement.

Kelsey Swieca, NOAA, has been in communication with Turner and team. NOAA generally supports a larger time block (preferably the four hours) and she reiterated the requirement of 2-hour minimum but they are under the constraints of 110% TDG requirement.

Hesse reminded TMT that there is a joint technical recommendation letter to the state water quality agencies. He is expecting clarification soon.

Jonathan Ebel, IDFG, asked whether LWG is implementing spill from 0900-1100. The data he's looking at show spill during the hours of 0900 and 1000..

Lisa Wright, Corps, said that the data reports are hour ending. LWG is spilling from 0700-0900 (local time).

Ebel commented that there are difficulties with knowing the times due to time changes. He wondered if his data query hours were shifted since he is on mountain time. Turner recommended looking on the website for the hourly data and noted the hours are in local time (currently Pacific Daylight Time).

b. Fish – Kelsey Swieca, *NOAA Fisheries*

- Juveniles

- Passage index is showing low numbers of salmonids as expected, primarily comprised of subyearling Chinook. As expected for this time of year.

Note: DART is down until 4pm pacific, YTD based on yesterday's results (10/6)

- Adults
  - Bonneville
    - Fall Chinook
      - 800-2200/day
      - YTD totals 495,000
      - Higher than last year's YTD.
      - 103% of ten-year average
    - Steelhead
      - YTD totals 123,000
      - 183% of last year YTD.
      - 73% of ten-year average
    - Coho
      - YTD totals 109,000
      - Lower than last year.
      - 144% of ten-year avg.
  - Lower Granite
    - Fall Chinook
      - 300-800/day
      - YTD totals 41,000
      - 129% of ten-year average
    - Steelhead
      - 804-3000/day
      - YTD totals ~41,000
      - 144% of last year YTD.
      - 75% of ten-year average

- Coho
    - 200-475/day
    - YTD totals just under 3,000.
    - 93% of ten-year avg.
  - Since October 1, two adult steelhead have been detected passing the Lower Granite RSW, both detections occurred yesterday (10/4). Data are not available on DART yet but are available on PTAGIS.
- c. Lamprey – Dave Swank, *US Fish and Wildlife*
- Juveniles
    - There was a pulse in numbers at Lower Granite.
    - Nothing happening at the other projects.
  - Adults
    - ~130-140% of ten-year average at Bonneville.
    - Lamprey at the tail end of adult run.
    - Next update on adult counts will be around December when there is a final tally from Corps. They will have the final numbers of lamprey that passed through the LPS system with the video correction factor.

Questions and Comments:

None

- d. Power Report – Scott Bettin, *BPA*
- Low flows to try to refill Coulee.

**3. Steelhead Operations** – Jonathan Ebel, *IDFG*

- a. It seems that Data Query may shift the hours to the time zone of where it's downloaded and may not be reported as hour ending (might be instantaneous), depending on the source. The hourly project data on the website is always hour ending and always in local time for the project, currently Pacific Daylight Time.
- b. Steelhead Overshoot Operation
- With the difficulty meeting EPA standards of 110% TDG, particularly at Lower Granite, Ebel looked back at a report published by Pacific Northwest National Library (PNNL) evaluating the diel passage at McNary.
  - Ebel believes that there is a better way to match the two-hour spill to the fish passing by moving it earlier in the day.

- Passage of adult steelhead through the spillway weir may be capturing part of the peak but if it was moved an hour or two earlier it would allow more fish to move over the spillway, as is NOAA's goal with the spillway operation.
- In general, 40% of steelhead passing were detected at the spillway weir at Lower Granite during the earlier period of spill (4-hour spills three days/week).
- After September 22, about 40% of passage happened at the spillway weir (2-hour spills six days/week).
- Same proportion of passage over the spillway weirs over both periods.

Note: Steelhead tags of those falling back over the dam; most are fish tagged at Lower Granite trap, some are of unknown origin, some are tagged at the Bonneville Adult Fish Facility, and a few from Priest Rapids. Only a handful are tags put out as juveniles.

- The hours that the spillway weir is open, there is an even distribution and there is a chance to gain more fish if the two-hour spill block moved earlier.
- Ebel would appreciate some discussion for whether the spill should be moved closer to dawn or earlier.

#### Questions and Comments:

Emily Stranz checked with Turner, as these are discussions typically coordinated between the Corps and NOAA.

Turner said an open discussion would be used in the coordination between the Corps and NOAA, unless there is consensus at the TMT meeting in which case there would still be coordination to have NOAA interpret the needs of TMT.

Brian Marotz, MT, said that the data are sparse but looking at when the bulk of fish are moving there is an advantage.

Hesse concurs but reiterates his preference for longer spill but in the meantime moving it earlier is something he would support.

Ebel agrees the longer period is important but given the constraints and until there is clarification of the criteria he is suggesting the time change.

Hesse reiterated the desire for the full spill operation be a fish manager discussion beyond NOAA.

Swank likes Ebel's suggestion to match it up to the PNNL study. He is also frustrated that even the two-hour spills are causing exceedances and hopes that the TDG would be reduce as water temperatures lower. He thinks that changing the hours of spill is a good idea given the constraints.

Swieca is supportive of this proposal. She would like to reiterate that the 4-hour block is preferred. Under these conditions, they would like to see if it helps. She noted that the preferred time would be aligning with dawn, 0600, because it is still very dark in the morning before that.

Kirk Truscott, Colville, believes that trying to align with when fish are moving makes sense.

Lorz thinks this is the bare minimum and it is unfortunate. Looking at the graphs, he sees the biggest peak of passage is during the third and fourth hours. He believes that the 2-hour block is too short for fish to find it. Moving it back may help some but the purpose of the spill is to prevent fallbacks and he does not feel that TMT is doing a good job of it.

Marotz asked about gas exceedance and whether the exceedance is only during a short period during the day or if it is a daily average.

Turner said that they are daily maximums of TDG and they are seeing a spike during the spill.

Marotz is concerned that the focus on the exceedance is limiting the gain for a short-term concern. The fish that are a meter deep are compensating for the gas pressure, they can be damaged but it takes a long time. A small exceedance during the block of passage does not seem to outweigh the gains of a full passage.

Stranz mentioned the technical memo to Washington Department of Ecology (DOE). The Corps and the Action Agencies rely on the DOE to provide the boundaries.

Doug Baus, Corps, understands that TMT general consensus was to shift Lower Granite spill earlier to 0600-0800 hours. The Corps is flexible on this operation and is looking to get fish manager input.

Swieca agrees with the timing, until the lighting is earlier and it may be adjusted later in the season.

Turner will coordinate with the project and will come back with any issues with implementing the change.

Bettin referred to the FPP daylight table, he asked if the sunrise to sunset table for operations should be used.

Baus appreciates the comment but believes that for the short term it would be better to start the operation as it stands.

Wright mentioned that using the FPP table would start the operation at 0730, and the goal is to go earlier.

Baus said coordination with NOAA and Corps would be done to make decisions in time methodology.

Turner added that TMT should see the change by tomorrow.

**ACTION: Lower Granite will shift spill to 0600-0800 starting tomorrow, Thursday, October 6.**

**4. Public Comments:**

None

**5. Set agenda for next meeting - **October 19, 2022****

- a. Chum Operations
- b. TDG update

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**Today's Attendees:**

<b>Agency</b>	<b>TMT Representative(s)</b>
Army Corps of Engineers	Doug Baus (chair), Lisa Wright
Bonneville Power Administration	Scott Bettin
Bureau of Reclamation	
NOAA Fisheries	Kelsey Swieca
US Fish & Wildlife Service	Dave Swank
Washington	
Oregon	
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, Scott St. John, Ashlynn Tate, Leon Basdekas

Reclamation – Peter Cooper

DS Consulting – Emily Stranz (Facilitator), Colby Mills

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

Oregon DEQ – Marilyn Fonseca, David Gruen

Clearing Up – K.C. Mehaffey

Energy Keepers – Eve James

Snohomish PUD – Jesse Pruess