

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

November 29, 2023

Facilitator's Summary

Facilitator and Summary: Emily Stranz, 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.

Review Meeting Summaries & Minutes – TMT Members approved the official meeting minutes and facilitator's summary from the November 15 meeting with no additional edits.

Chum Operation – Doug Baus, Corps, updated the TMT on the current chum operation (posted on the TMT website). The Bonneville Dam tailwater elevation at 0700 hours this morning was 12 feet. Doug reminded the TMT that there are two phases of the coordinated chum operation: the spawning phase, and the incubation phase. Coordination for the incubation phase includes setting a minimum tailwater protection level based on surveyed elevations of redds; planning for the incubation phase will occur at the December 20th TMT meeting.

RFC inflow forecasts at Bonneville Dam over the next 10 days show a range of 116-156 kcfs. The 10-day meteorological forecast shows lowering of snow levels, cooling, and increased precipitation throughout the Columbia River Basin. The 10-day QPF (and 5-day QPF) show about 4 inches of precipitation west of the Cascades is expected, which will likely increase flows in the Willamette River and result in less flow needed from Bonneville and Grand Coulee to support the chum tailwater. Doug pointed out that there is some variation between forecast precipitation in the upper Columbia River Basin and Oregon/SE Idaho – the upper basin is expected to have below average precipitation, whereas Oregon/SE Idaho are forecast to be above average. Climate forecasts for the next 6-10 days show a probability of above average precipitation. The 30-day outlook shows an equal chance of above or below average temperatures and precipitation.

Doug reviewed the water year precipitation table, specifically:

- The Snake River above Ice Harbor Dam is 82% of average,
- The Upper Columbia River above The Dalles Dam is 70% of average, and,
- The Willamette above Portland is 78% of average.

Tony Norris, BPA, noted that he will be in the field tomorrow (11/30) with surveyors to measure the elevation of redds ahead of the planned December 20th incubation phase coordination. Once coordinated, the incubation tailwater elevation will be the minimum constraint to until April 10, 2024. Kirk Truscott, Colville Tribes, noted that in the Upper Basin conditions are dry and that the TMT will need to watch conditions upstream and locally to adaptively manage the operation. Tony anticipated that there will be some filling of Grand Coulee if the localized precipitation that is forecasted occurs.

However, Tony noted that last week's conditions at Ives Island and Hamilton Creek/Springs were challenging for chum. Water levels were low, and chum were having difficulties moving upstream above the log in Hamilton Spring. WDFW surveyors moved some sandbags to support passage and there may be an opportunity next summer to modify this location to improve passage for future dry conditions. That said, it is positive that they've counted over 600 chum passing through Bonneville Dam so far this year. If flows come up, there may be another pulse of chum.

Zero-Generation – Tony reported that adult steelhead passage at Lower Granite is getting closer to the criteria to trigger the availability of the zero-generation flexibility on the lower Snake River. The trigger is

based on 2 criteria, a date and abundance. The date criteria are December 1 to February 28, and the abundance criteria this year is less than 35 total and 10 unclipped steelhead.

Due to planned maintenance at LGS (outage for 7 hours yesterday) and LWG (daily outage planned starting tomorrow), and potential subsequent delays in passage, the following stipulations were agreed on by BPA and NOAA:

1. If the total and unclipped steelhead abundance triggers *are met* prior to the start of the LWG powerhouse outage, zero flow (generation) operations may be implemented starting December 2.
 - a. Rationale - Steelhead passage may have been impacted by high spill at LGS due to a transmission outage on November 28. Because passage delays can occur with high spill at LGS, these fish should be given the additional time to move through the system prior to zero flow (generation) implementation.
2. If the total and unclipped steelhead abundance triggers *are not met* prior to the start of the LWG powerhouse outage, zero flow (generation) operations may be implemented once triggers have been met, but no earlier than December 8.

Once the trigger is met, NOAA will send email coordination to TMT.

- **ACTION: Kelsey and Tony will provide the plan in writing for Doug to post on the TMT website to today's agenda (11/29).**

Questions and Comments from Members of the Public – Erin Cooper, FPC, requested that the coordinated zero generation operation is provided in writing.

The next regularly scheduled TMT meeting is the Year End Review on December 6, 2023, at 9:00 AM. Please RSVP to emily@dsconsult.co if you plan to attend in person.

**Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, November 29, 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 & Minutes – November 15

- Summaries and Minutes were approved.

2. Chum Operations – Doug Baus, Corps-NWD; Tony Norris, BPA; Joel Fenolio, BOR; Charles Morrill, WA; and Kelsey Swieca, NOAA Fisheries

Reminder: Baus reminded TMT that there are two parts to the Chum Operation. First part, which we are in right now is the *Spawning Phase* which starts the first week of November and goes through late December. This is what has been coordinated to date. Come **December 20**, the next TMT meeting, members will need to be ready to talk about the second part of the Chum Operation, the *Incubation Phase*. This involves setting minimum Bonneville Dam tailwater elevation and the date that the Incubation Phase will be initiated. Today we will be continuing the Spawning Phase and look forward to the December 20 to talk about the Incubation Phase.

a. Bonneville Dam – *Baus*

- Project Tailwater Elevation (Hour 7): 12 feet

b. NWRFC - Inflow Forecast – *Baus*

- RFC Inflow Forecast (Ten-Day)
 - High: 156 kcfs
 - Low: 116 kcfs

c. NWRFC 10-Day Meteorological Forecast – *Baus*

- Baus said that it is exciting to note that we are finally getting winter weather.
- Day 1-3: See lowering of forecasted snow levels – getting cooling trends throughout the Columbia Basin.
- Friday and continuing through the entire ten-day period: Measurable and significant amounts of precipitation throughout the Columbia Basin.
 - Highlight cooling temperatures and increasing precipitation.

d. RFC Forecasted Precipitation Summary – *Baus*

- Bonneville Dam tailwater operation is a component of Columbia flows but it is also impacted by the Willamette River.
- 10-day QPF
 - Climatology in Oregon and Cascades over ten-day period of record

- Cascade precipitation forecast: ~4 inches.
- 10-day QPF (Percent of Climatology) – as it relates to percent of average
 - Western Oregon: In excess of 2 inches above the period of record.
 - Healthy amounts of precipitation forecasted in the Willamette.
 - See impacts in the chum operation, because more water out of the Willamette decreases the amount of water from Bonneville Dam needed to maintain the tailwater elevation.
 - Western Oregon: 150 – 175% of average
- 5-day QPF (Percent of Climatology)
 - Similar pattern.
 - Noting differences between the Upper Columbia Basin (forecasted below average precipitation) and Oregon and S.E. Idaho (forecasted well above average precipitation).
- e. Water Year Precipitation Table (through November 28)
 - Baus showed TMT the RFC [Water Supply - Water Year Summary \(noaa.gov\)](https://www.noaa.gov/water-supply-water-year-summary)
 - Highlighted the points that illustrate the success of this year's Chum Operation, tend to be mindful of the operation when we have dry water years.
 - Snake river above Ice Harbor Dam
 - 82% of normal (observed precipitation)
 - Upper Columbia River Basin above The Dalles
 - 70% of normal
 - Western Oregon – Willamette River Basin above Portland
 - 78% of normal
 - Been dry; it is changing and that is a good thing. Baus highlighted that we are finally getting some precipitation in the basin.
- f. NWRFC Climate Forecast – *Baus*
 - 6 – 10 Day Outlooks:
 - Temperature – above average
 - Precipitation – above average
 - 8 – 14 Day Outlook
 - Temperature – above average
 - Precipitation – above average
 - 30 Day Outlook
 - Temperature – equal chance
 - Precipitation – equal chance

Kirk Truscott, Colville, asked for a reminder about whether the Incubation Phase is greater or lesser than the Spawning Phase.

Norris said that TMT sets a protection level that becomes the minimum tailwater elevation constraint until April 10 based. We use data from the elevation surveys to inform the protection level. Norris said that he is doing the first elevation survey tomorrow. The survey data will be brought back to TMT to set the protection level once spawning is complete.

Truscott said looking at the 30-day Outlook and looking at what is occurring in the Columbia Basin as a whole in the area above Grand Coulee it appears to be dry. He said that we had quite a bit of precipitation locally. Truscott said it will be a wait and see what happens and TMT will manage adaptively as we move through the course of spawning and incubation. He said he assumes that is the path forward.

Norris said yes, and he will address more of that shortly.

g. BPA Update – *Norris*

- Bonneville Dam
 - Prior to November 28, we have been running as close to the bottom tailwater elevation range as possible without going through the minimum.
 - Yesterday (November 28), had extra unplanned water out of the Mid-Cs, Wanapum drafted ~3 feet unexpectedly. There was no place to store it.
 - Will be back down to bottom once the slug of water gets through the system.
- Willamette at Salem (SLMO3) Forecast
 - The rise in the Willamette will give us some number of days of reduced Bonneville discharge to meet the 11.5' tailwater minimum.
 - This will minimize the augmentation needed from Columbia water as we continue to recognize the dry conditions and run as close to the tailwater minimum as possible.
- Grand Coulee
 - Likely to see some fill into Grand Coulee during this period of reduced required outflow from Bonneville to support the 11.5' tailwater.
 - Hopefully in December we will get some more storms that will help save water for the winter.
- Ives Channel and Hamilton Creek/Springs
 - Dry conditions.
 - Significant East winds has increased the flow needed out of Bonneville to meet 11.5'.
 - Bonneville outflow as high as 130+ kcfs has been required depending on tide and wind strength.
 - Moved more water than we would have liked to support the 11.5' due to dry conditions and the east wind.

- Hopefully the forecasted change in conditions with some Willamette flow and West winds ease the impact on Grand Coulee’s elevation.
- With the dry conditions Hamilton Creek and Springs flow has dropped which has proved challenging for fish in the Springs.
- Heard a report from surveyors in the field that they were only seeing males. All but three in the Springs were males.
- They noted that female chum were unable to ascend the log there until changes were made with the sandbags to get fish over with the lower flows.
- Hopefully, repairs can be made this summer so that in the coming season we will not have problems with lower flows.
- Not great that we were not able to get females into the Springs earlier.
- Surveyors
 - Norris is meeting the survey team tomorrow to measure redds location and elevation.
 - Report back to TMT what they find in the coming weeks.

Kelsey Swieca, NOAA, asked when Norris said that there were only males observed in the Springs during the last survey was that the case in the previous survey or if it is something that has been observed in the last week.

Norris said that he does not know for certain so he does not want to say definitively. He said that he thinks that it was just in this last week when the flows had dropped off. He said that cannot say if that was the case when we had higher flows, it is possible that some of the fish had spawned and left, or the carcasses flowed downstream. He said that it was just the observations that were seen during this last week. Norris said that he will ask Ricky tomorrow when Norris is out there and talk more about that. He said that it is notable too that Ricky said that the numbers in the Ives area have dropped off but especially when we have strong chum returns sometimes, we get a second wave of fish that show up in December. Norris said that he is holding out hope that we will see another round of redds built and fish arrive in the area in the coming weeks. Maybe the precipitation will bring them in.

- h. Bonneville Dam Adult Salmon Count – *Swieca*
 - Chum counts: 600+ YTD
 - i. Ives/Pierce Spawning Surveys (November 9) – *Swieca*
 - No updated survey data.
3. **Zero Generation**– *Tony Norris, BPA; Kelsey Swieca, NOAA Fisheries; and Doug Baus, Corps-NWD*
- a. Criteria
 - Adult Steelhead Counts
 - Close but not there.
 - Counts on November 25, 2023

- Total: 24
 - Unclipped: 10
 - Counts on November 26, 2023
 - Total: 29
 - Unclipped: 8
 - Counts on November 27, 2023
 - Total: 37
 - Unclipped: 14
 - Little Goose Dam
 - Powerhouse outage yesterday for 7 hours.
 - Resolved and not expected to recur.
 - Potential that there has been some delay of migrating adults.
 - Lower Granite Dam
 - Powerhouse outage is not expected to start until tomorrow.
 - Should have passage numbers through today.
 - There is potential to hit steelhead trigger before the end of the month.
 - In that case BPA would consider starting on December 2, recognizing that some of those fish that were delayed at Little Goose would need a little time to pass.
 - If steelhead do not hit the trigger until after Dec 1, BPA would wait to allow zero flow until December 8, considering that Lower Granite will have daily powerhouse outages that could cause delay.
- b. Lower Granite Ladder Temps
- Water temperature in the ladders is consistent with when steelhead counts drop.
 - Consistently Low to Mid - 40° F.
 - If not under the trigger by December 8, BPA would follow the trigger based on the counts.
 - If steelhead stay above the trigger, BPA would begin when the Lower Granite ladder goes out of service Jan 1.

Swieca asked a clarification, she said NOAA heard from the Corps yesterday that the powerhouse outage at Lower Granite is set to start today (November 29). She asked if Norris has updated information that indicated that it is not actually starting until tomorrow (November 30).

Norris said from what he knew it would not start until tomorrow, they had equipment that was delayed arriving on site.

Baus concurred.

- c. NOAA Update

- Last TMT NOAA gave the trigger for the Steelhead Abundance at Lower Granite.
 - Total: rolling 3-day average of less than 35
 - Unclipped: rolling 3-day average of less than 10
 - Trigger the option to implement Zero Flow Operations on or after December 1 in a typical situation.
- There have been a number of maintenance issues at Little Goose and anticipated work at Lower Granite starting tomorrow that may impact the counts at both of those projects and potentially lead to passage delays.
- NOAA suggested that we potentially push back the start date and not start Zero Flow Operations on December 1. Instead,
 - If the trigger for the steelhead counts is met prior to the Lower Granite work, then the option to implement would potentially start over the weekend.
 - If the trigger is not met prior to the Lower Granite work than it would not become available until December 8.
 - If the trigger is still not met and it is December 8, we would operate to the trigger.

Baus asked as a process comment if Swieca anticipates this year sending an email to the Action Agencies regarding the status of what occurs, when it occurs. He asked if she would comment on her communication with the Action Agencies when the trigger is achieved.

Swieca said that she will communicate with the Action Agencies, she has already drafted the email and will be prepared to send it once the triggers are met.

Baus said he appreciated that. He said that it will help them navigate as noted in this update there are some aspects and he appreciates the clarification from NOAA Fisheries.

from Erin Cooper, FPC, to everyone: 9:29 AM

Can we get all those if-then statements around the trigger and start dates in writing?

Stranz chatted back that there will be an update about the if-then statements and start dates when the minutes and summaries are released.

Jonathan Ebel, ID, provided an example for his question. He said if the count of unclipped steelhead tomorrow is 7 then the trigger would be considered met and the operation would technically start on December 2.

Swieca said correct.

Ebel said then if it is 7, but then the maintenance starts tomorrow and then the count goes back up (we are talking very small differences because of where the average is) then the count goes back up to 14 then we are back above the trigger. He asked how that is reconciled.

Norris said in the past, once we hit the trigger, then the trigger has been hit. Sometimes there are day to day variations. If we do not hit the trigger prior to the start of the outage than we would start no earlier than December 8 assuming we were still under the trigger. If we do not hit the trigger prior to the start of the outage we would start no earlier than December 8, we would not start on December 9 unless we were also under the trigger. If we were over the trigger on December 9, we would wait until we hit the trigger.

Ebel thanked Norris for the clarification.

from Erin Cooper to everyone: 9:31 AM

Great, when will the meeting summary be available? My understanding is that it's often not available for a week or so. If so, is there a way for the COE and/or NOAA to put in writing what they've been saying in this meeting? Obviously somebody has it in writing somewhere and I'm wondering if that can be distributed in the next day or so.

Stranz said that there was a request from Erin Cooper to have that language in writing. Stranz said that we will include this in the summary. It is usually posted in about a week. She asked if Swieca could provide the language in writing to FPAC as well.

Cooper said that these are dates are coming up pretty fast and this is a complicated if-then decision tree. She was wondering if they can get that in writing or if they are supposed to scribble in their notes if they want that information available when it is actually pertinent.

Stranz asked if Swieca felt that it made sense for her to provide it to FPAC.

Swieca said that she was anticipating to do this anyway understanding that this is a highly nuanced situation with multiple maintenance operations happening at multiple projects. It would be beneficial to capture it in writing and send it out to everybody. She said that she will do that.

Norris said that Swieca and he should make sure that they have it written out correctly and have Baus distribute it to TMT.

Baus said that when he receives that language he would post it on today's agenda under "[Zero Gen](#)" and then the language can be there and if anyone has any questions regarding what we are doing and when we are doing it please look at today's agenda and we will have it available.

Norris said that works for BPA.

Stranz asked if that would happen in the next day or so.

Norris said that it would happen before the end of the day.

4. Public Comments:

5. Set agenda for next meeting – **December 6, 2023 Year End Review**

- a. Stranz reminded TMT that next week is the Year End Review. She said if you are planning on attending in-person she would like people to RSVP to her because they will be providing a catered lunch for \$15.

Today’s Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Doug Baus, Lisa Wright, Aaron Marshall
Bonneville Power Administration	Tony Norris, Ben Hausmann
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Trevor Conder, Kelsey Swieca
US Fish & Wildlife Service	
Washington	
Oregon	
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe	Tom Lorz (CRITFC)
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

COE – Dan Turner, Alexis Mills, Chris Peery, Catherine Dudgeon

DS Consulting – Emily Stranz (Facilitator)

CorSource – Andrea Ausmus (BPA note taker, Contractor)

Energy Keepers – Eve James

Dave Gruen – Oregon DEQ

Grant PUD – Peter Graf

TotalEnergies – Michael Lee

Chelan PUD – Jay Fintz

Snohomish PUD – Mike Shapley

Fish Passage Center (FPC) – Erin Cooper