COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM
October 23, 2024
Facilitator's Summary
Facilitation Team: Emily Stranz & Colby Mills, DS Consulting

The following Facilitator's Summary is intended to capture basic discussion, decisions, and actions, as well as point out future actions or issues that may need further discussion at upcoming meetings; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: https://pweb.crohms.org/tmt/agendas/2024/ Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Review Meeting Summaries & Minutes – TMT Members approved the official meeting minutes from September 25, and the minutes and facilitator's summary from October 9.

Chum Operation – Doug Baus, Corps, provided an overview of the current conditions and forecasts for the start of chum operations. At 0700 hours the Bonneville Dam (BON) outflow was 76.4 kcfs, with a project tailwater elevation of 7.5 feet

The RFC inflow forecast over the next 10-day period shows an increase to slightly above 119 kcfs on November 1. Forecasted precipitation over the next 10-days is above average for western WA and OR and below average for southeastern ID; the 5-day QPF shows average to above average precipitation in western WA, OR, and central ID.

Looking further out at the climate forecasts, the 6-10-day outlook shows a probability of below average temperatures and above average precipitation; the 8-14 day shows a probability of below average temperatures and above average precipitation, primarily in the northern Columbia Basin in WA.

Tony Norris, BPA, noted that the Hood River gauge provides a good indication of local streamflow response from precipitation in the western region; flows into BON's pool are expected to rise with the forecasted incoming precipitation and expected inflows are 15-20 kcfs higher than last year for the first part of November. Timing looks favorable for a November 1 chum operation start date without any significant water management impact on Lake Roosevelt operations. As far as Tony could report at the time, Hamilton Creek is still dry for now but will likely get water with the incoming precipitation. Access to chum spawning areas will depend on the streamflow response in Hamilton Creek and Springs.

Eric Chow, Corps, provided Grand Coulee Dam (GCL) elevation modeling results from Ensemble Streamflow Prediction (ESP) traces, a longer-term forecasting tool, indicating a high probability that a November 1 start date can maintain the chum protection level with an approximate BON outflow of 125 kcfs while meeting Grand Coulee refill by the end of December. Tony emphasized that these forecasts suggest sufficient water availability to support chum operations without impacting Lake Roosevelt elevations; Chris Runyan, Reclamation, added that while these results are models, they show favorable conditions to support chum.

Kelsey Swieca, NOAA, clarified that 17 chum have passed over BON, with 15 over past couple of days (2 chum passed in June and July, not in January as previously stated). Zero chum have been observed via WDFW surveys in the Ives/Pierce area. Charles Morrill, WA, added that chum won't be observed at Ives/Pierce with the current low water levels in that area, even though chum are expected to be present, they cannot access the channel. However, with forecasted precipitation providing sufficient ground flow to initiate upwelling and sufficient water to meet the 11.3-13.0 TW elevations WA believes chum should be able to access the spawning area on 1 November.

Doug reported the TMT coordinated Chum operation (posted to the TMT website), starting on November 1 at 0600 hours to provide a BON tailwater elevation between 11.3 – 13.0 feet at all hours, continuing with a stepwise approach to manage project outflows as inflows to the project increase; this is consistent with 2022 and 2023 operations. AAs supported the November 1 start date.

Erick Van Dyke, OR, emphasized that major alternations at BON in the 1980s have had impacts on historic impressions of chum abundance and behavior patterns. He also asked if drum gate maintenance is expected to occur this year at GCL? Chris expanded on the technical details and importance for drum gate maintenance at the project, noting that it did not occur last year, and that Reclamation uses February forecasts for FRM elevation to determine when drum gate will occur to avoid conducting maintenance in a dry year. He confirmed that while Reclamation would prefer annual maintenance, they work to take advantage of wet years to balance multiple needs. If the February forecast this year calls for a GCL elevation of 1,265 feet or less, drum gate maintenance will occur. If maintenance is deferred this year, it will be forced next year.

There was no opposition from TMT Members on proposed chum operation and start date on November 1. The AAs will implement the operation as written and posted on the TMT website.

Questions or Comments from Non-TMT Members – there were no questions or comments from non-TMT Members.

The next scheduled TMT meeting is on November 6, 2024, at 9:00 AM.

Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, October 23, 2024
Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)

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

1. **Review Summary and Minutes**

   a. September 25 Minutes

      - Approved

   b. October 9 Minutes and Summary

      - Approved

2. **Chum Operations -** *Tony Norris, BPA; Chris Runyan, BOR; Kelsey Swieca, NOAA; Charles Morrill, WA; Doug Baus, Corps-NWD; Eric Chow, Corps*

   a. Bonneville Dam (BON) – Hourly Data – *Baus*

      - Outflow (Hour 7): 76.4 kcfs
      - Tailwater Elevation: 7.5 feet

   b. NWRFC – BON Inflow Forecast

      - BON inflow is forecasted to increase over the next ten-day period.
        - Nov 1: 119 kcfs

   c. NWRFC Forecast Precipitation Summary

      - 10 – Day Deviation from Climatology (lower left quadrant)
        - Oregon Cascades: Deviation is in the range of ¼ to 1" above average.
        - Average to above average conditions in W. Washington and Oregon.
        - Below average conditions for precipitation in SE Idaho.
      - 5 - Day QPF
        - Average to above average precipitation forecasted primarily for Western Washington, Oregon, and Southeastern Idaho.

d. NWRFC Climate Forecast – *Baus*

- 6 – 10 Day Outlooks:
  - Temperatures
    - Probability of below average.
  - Precipitation
    - Probability of above average.
- 8 – 14 Day Outlook
  - Temperatures
    - Probability of below average.
  - Precipitation
    - Probability of above average primarily in Washington and the Northern portion of the Columbia Basin.

e. NWRFC - Hood River Flow Forecast (Tucker Bridge) – *Norris*

- Timing is right for reasonable precipitation in the Columbia Basin.
- The Hood River gauge (HODO3) indicates what is expected with westside precipitation ad the associated streamflow response.
- Norris was unable to pull up the Hamiliton Creek gauge.
  - They are doing maintenance on their sites.
  - Hamilton Creek is still dry.
  - Precipitation coming in (starting this weekend) will probably get Hamilton Creek going.
- Norris thinks that timing looks good for Nov. 1 Chum Operation start date.
  - Ten-Day Forecast is reflective of what was provided by the Corps to the RFC relating to regulated operations for the start of the Chum Operation.
- BPA expects incremental into BON pool to go up with atmospheric events that are coming, and they hope that we continue to see those.
- This year, different from last, we are seeing 15 – 20 kcfs higher inflow in the first half of November so all signs indicate being able to start on November 1 without any significant water management impact from the Chum Operation on Lake Roosevelt elevations.
- Norris has received a report from Rick Heitz.
  - Norris noted that Rick reported that the back area leading up to the typical spawning area is choked with weeds due to the low flows for the last period of time.
  - It will take a little while for that to clear out and allow the hydrology going to what the chum are looking for in the spawning areas.

- This will be dependent on the streamflow response in Hamilton Creek and Springs.

f. ESP – Grand Coulee (GCL) – *Eric Chow*

- Corps provided a longer-term forecast using the ESP product from the RFC.
  - 43 traces modeled.
  - Two different scenarios.
- Scenario 1 (blue line) Chum Start: Nov 10
- Scenario 1 (orange line) Chum Start: Nov 1
- Different lines show the ranges of what is forecasted.
  - Median of 43 traces: Solid line
  - Also includes a 25th-percentile, 75th-percentile, Min, and Max lines.
- Takeaway: Most traces with both scenarios show that GCL is able to hold chum protection level of 125 kcfs and stay full or come back to full at the end of December.

Erick Van Dyke, OR, asked if the middle solid line is arithmetic mean or median.

Chow said that is a Median.

Van Dyke said that it fits the percentiles better.

Norris noted that these results indicate that there is sufficient water to maintain chum and not adversely affect Lake Roosevelt elevation. He said that there are still plenty of things that can happen November and December. It is the rainiest period of the year. There is flexibility to operate Lake Roosevelt and GCL as we manage water supply and streamflow conditions. He said the results show that forecasted system conditions indicate that there is more than enough water to support chum through spawning without a significant draft at Lake Roosevelt.

Runyan said that when he looks at the plot, he sees between the two lines there is a couple feet difference between the two operations. He said that even with 75%. 75% of those traces are not going to go below 1280'. He said that this is a good number for him to keep in mind for November 30, and making sure to be aware of impacts at Lake Roosevelt to resident fish and other resources. Runyan said that is a result that he is seeing that looks positive. He said that he is also seeing that there appears to be a fairly strong signal that typically December is wet and reliance on GCL for chum flows can back off a little bit. It appears that Lake Roosevelt is able to refill. He said obviously these results may actually miss what actually will happen. He said that we know that the model is not going to predict every potential, but most potentials look pretty good. He told Chow thank you for running this. He added the caveat that this is a model, but the model is showing some favorable conditions for GCL to be able to do so.

Norris added a final historical note. He said he pulled up October 23, 2023, STP forecast from last year. He said that it showed a draft as deep as 1265' by the end of December to

support chum. He said that current forecasts show a significantly less draftin support for forecast this year.

g. BON Adult Salmon Counts – *Swieca*

- Chum over BON
  - 17 chum over BON
  - 15 chum have passed in the last couple of day.
- Correction:
  - Swieca previously reported that 2 chum had passed in January. This was incorrect the 2 chum that passed previously had done so in summertime.
    - 1 chum in late-June
    - 1 chum in early-July

h. WDFW Chum Spawning Ground Surveys – *Swieca*

- Zero chum have been observed in the Ives and Peirce area.

i. WDFW Chum Update – *Morrill*

- Will not see Chum at the current tailwater levels in the Ives-Pierce.
  - If there is any water there it is marginal, there is no access for chum to get in.
  - It is not a function of no fish but rather no water where they would choose to find.

Stranz asked when next survey in the Ives-Pierce will be. She said that it looks like the last one was October 11. She asked if it would be soon.

Morrill said yes, probably soon. They do them weekly, every seven to ten days, so they will be out there. He said that he is appreciative of the positive outlook for conditions to support stat of 11.3/5 to 13 on November 1. This is a nice change from last year and it will enable chum to reach the available spawning area. He said that the other thing that is a really pleasant surprise is to see 15 Gorge-stock listed chum over BON at this point in time. It is WDFW's perception that chum are present and when the water conditions allow access to the spawning grounds, and we have sufficient ground flow we will see chum in there spawning.

j. TMT Coordinated Chum Operation – *Baus and Runyan*

1. Effective Friday, November 1, at 0600 hours, and until further notice, operate the Bonneville Dam tailwater in the following order of operating ranges as project outflow increases.
2. During all hours, operate project outflow to provide a tailwater elevation in the range of 11.3 - 13.0 feet.

3. Then, if necessary to increase project outflow, the tailwater may be operated up to 16.5 feet during nighttime hours (1700-0600). Concentrate highest elevations around 2400 hours.
4. Then, if necessary to increase project outflow, the tailwater may be operated up to 18.5 feet during nighttime hours (1700-0600).
5. Then, if increasing river flow precludes the ability to manage the tailwater within the steps above, operate to provide a tailwater in the range of 13.0-16.5 feet during daytime hours (0600-1700) and up to the maximum within project 24-hour ramp rate limits during nighttime hours (1700-0600).

- Baus said that based on current conditions and the conversations at FPAC and the discussion today at TMT the plan is to start the Chum Operation.
- Start Date: Friday, November 1
- Operations during Thanksgiving timeframe when there are higher flows will use a stepwise approach to pass the flows as done in previous years (2022, 2023)
- Runyan said that we had gone into most of the things, but he wanted to reiterate that the current forecasts are looking positive for Lake Roosevelt right now to not draft too deeply. The ten-day has rain in it which is also good so between now and the start date we should see some rain, much better than seeing a dry spell. Lask year we had a different projection where GCL was projecting to be drafting very heavily, that is not true for this year and that red flag is not present so far. It can always pop up later.
- Runyan said that he knows that chum over BON is not a perfect indicator of chum in the Ives area but looking at historical years back to 2012 once there is chum over BON chum season starts and it continues. Unlike 2021 when we did not get chum over BON until November 1. This indicates that chum maybe there as well as the chum that spanned over at Ives Island.
- Runyan said that unless the Salmon Managers (SM) have a strong opinion against starting this operation and the majority of SM agree on a different operation, Reclamation supports starting the chum operation from this year on November 1 based on the teletype shown.

Van Dyke said that when we think about historic chum numbers we have to go back before 1980. He said that there were some major alterations of BON that had some impacts on our impressions of how many chum are healthy and abundant. He said that he wanted to make that clear when we are talking about chum abundance and numbers on the behavior and patterns that we observe. He said last year we not only had a dry year but we also had drum gate maintenance issues that interacted with what was going on for planning for water. He said that there is a question on whether we should anticipate a need for drum gate maintenance this year and how that would influence what is expected for water management to provide a BON tailwater elevation in this operation. He asked Runyan if there has been any decision yet on how drum gate maintenance will be managed this year.

Runyan said first off, last year GCL did not do drum gate. He said that he wanted to make sure that everyone is aware of that. The year prior they did do it.

Van Dyke said he maybe it was his memory and apologized. He asked why we would not do it in a year when se had such a low elevation.

Runyan said that if we brought up elevations for last year, GCL was high all year. Runyan said that he thought they had an FRM of 1283'. He said if they had done drum gate last year and drafted it down to 1255' they could have been caught way over drafted. He said we use a process that uses a forecast to determine when they do it which minimizes the likelihood of doing drum gate in a dry year, which for last year would have been the case. Runyan gave some background of GCL, he said that for those that are not aware, GCL has 11 drum gates, essentially their spillway. Each gate is 135 feet wide and 28 feet high massive steel gates. He said that each gate runs 91 kcfs and the total capacity is about 1 million. He said that this is a big, massive spillway. He said that it also has much less impact to TDG than having to run through their outlet tubes. So, we really want these gates to be maintained, and you have to maintain them. They are massive gates; they have seals on each side and those seals wear out. The metal on the gates needs to be maintained and repainted and all sorts of very technical, not easy to complete work that they would actually do in the winter. So, the drum gate maintenance is really important. He said that they want to hedge against being caught doing the maintenance in low water year. How they do that is they use the February forecast and use that forecast to look at what their FRM elevation is going to be, if it is in that range and that will get them near that drum gate, they will make the decision to go ahead any do it this year. There is a potential that they may not get drafted, but they are hedging against not over drafting. For this year, 2025, because if we do not do it this year the following year we have to do it. It is a safety of dam thing, big gates that have to work, we cannot let these things not work. So because of that if there is a February forecast that calls for an FRM elevation at GCL of 1265' or less the BOR is going to say let's go ahead and do it, and then they will begin the draft down to the elevation needed to do the work. They will need eight weeks to do the work so they will be down there from middle of March through Early May. At that point GCL would be able to refill above that. Runyan explained that the main takeaway is this table:

Table 11. Grand Coulee Dam Criteria for Drum Gate Maintenance.

February FRM Requirement for Maximum April 30 GCL Elevation (feet)	Drum Gate Maintenance[1]
≤ 1255 feet	YES
1255 – 1265 feet	If following year would be a "forced" drum gate maintenance year: Yes If following year would not be a "forced" drum gate maintenance year: No
> 1265 feet	If in "forced" drum gate maintenance year: Yes If not in "forced" drum gate maintenance year: No

1. Drum Gate Maintenance is required to meet the 1 in 3, 2 in 5, and 3 in 7 criteria

Figure 1: Table 11 from WMP Draft 1 (WY 2025), pg. 33.

Runyan said that he remembered there was a lot of work and modeling at the BOR in 2015 trying to come up with this criteria period trying to minimize drafting in dry years which impact spring flows. For this year we are in that middle range and if we the February forecast produces an end of April FRM of 1265' or less the BOR is going to

plan to do drum gate. He asked if that helps Van Dyke with his question and others that are not as familiar with what the drum gates are, why they are important, and how the BOR came up with the methodology to determine when to do it.

Norris added another quick note. It is 1265' this year versus 1255 because if maintenance is deferred in 2025 it would be required in 2026 and we want to avoid forced drum gate years. This is why the trigger changes when it would be forced if it were deferred.

Van Dyke said thank you, he said that he thinks that it is very helpful when we revisit some of the details like was done there. He said that he thanks Runyan for that. He said that the February time period probably stands out because it is after the end of December decision for this tail water elevation discussion so every year there is some confusion on what actions actually impact what is delivered through the entire November 1 through April 10 chum operation. Van Dyke said that they are all linked in understanding at every phase. He said how it works is important to the Fish Managers (FM). He again thanked Runyan for that extra detail. He said that the FM will be interested and may have more questions about this particular topic.

Norris noted that when we hit the drum gate maintenance trigger it improves the likelihood that we can maintain the chum tail water through April 10 because it requires at least a draft to elevation 1255' by mid-March.

Van Dyke said that the confusion when we talk about this often flips between what is the purpose, so the chum operation as it was usually tries to keep up within a tight 1-foot band through most of the stages. He said that is the desire of an FM if you are going to try to manage the area that fish are spawning in. Vand Dyke said that he really believe this is that. The FM concern about the mainstem and it fluctuates maybe differs from how Norris is seeing it for the other purposes. He said that he thinks that we do need to talk more about that, but not today.

Stranz asked if Lotz had more to add.

Tom Lorz, Umatilla/CRITFC, said no they answered the question because there was a 1265', even though the draft is 1255', and so even if it is a 1265' year you do need to draft an additional 10 ft to actually do the work. He said that is the risk of the 1265', that if it dries up from there you are drafting much deeper than you would have anticipated that year. He said that he wanted to clarify and make sure that was his understanding and Norris did so.

Morrill said that it is his understanding that if we have consecutive wet years although the requirement is every other year or every third year, at the worst case, is that the need for maintenance BOR would prefer to do maintenance annually if we had enough water to do that. He said that he wanted to share that was his recollection from some discussions that we have had in the past. He asked if that was still a correct presumption that if the BOR had water conditions that allow annual maintenance that given the amount of work that is needed that Reclamation would try to do that.

Runyan said that this is true. He said that the chart kind of shows that. Reclamation does take advantage of when we are down there. He said that essentially if they are going to be

drafted below 1255', they have decided that they meet all the criteria, the 1 & 3, 2 & 5, 3 & 7, they are fairly restrictive, so they go ahead and utilize that.

Swieca said that she wanted to emphasize a couple of messages that others have already touched on and that is the differences between this year and last year. Last year we utilized a bit of a different operation because of the dry year conditions. From NMFS perspective that was a successful operation. This year we are not seeing the risk to GCL elevations and spring refill at GCL. So, NMFS is comfortable moving forward with the more traditional operation as laid out and as was doing in previous years. She said that she wanted to drive that how and make sure that everyone heard that one of the important points of the decision from NMFS' perspective and from others is the increased security in keeping GCL elevations in a comfortable place through the winter this year.

3. **Set agenda for next meeting – November 6, 2024**

   a. Chum Operations

Today's Attendees:

Agency	TMT Representative(s)
NOAA Fisheries	Kelsey Swieca
Oregon	Erick Van Dyke
Washington	Charles Morrill
Kootenai Tribe	
Confederated Tribes of Colville Reservation	Dennis Moore
Umatilla Tribe	Tom Lorz (CRITFC)
Yakama Nation	Keely Murdoch, Tom Iverson
Bureau of Reclamation	Chris Runyan
Army Corps of Engineers	Doug Baus, Lisa Wright
US Fish & Wildlife Service	Dave Swank
Idaho	Jonathan Ebel
Montana	Brian Marotz
Spokane Tribe	
Nez Perce Tribe	Jay Hesse
Warm Springs Tribe	
Confederated Salish and Kootenai Tribes	
Bonneville Power Administration	Tony Norris, Ben Hausmann

Other Attendees (non-TMT members):

COE – Dan Turner, Alexis Mills, Tom Conning, Eric Chow
BPA – Tammy Mackey
Washington Ecology – Thomas Starkey
DS Consulting – Emily Stranz (Facilitator), Colby Mills
CorSource – Andrea Ausmus (BPA note taker, Contractor)
Guzman Energy – George McLean
Clearing Up – K.C. Mehaffey
Chelan PUD - Jay Fintz, Kate von Reis Baron
NPCC – Kate Self