

## **COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

October 30, 2019

DRAFT Facilitator's Summary

Facilitator: Emily Stranz; Notes: 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. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members. Official minutes can be found on the TMT website: <http://www.nwdwc.usace.army.mil/tmt/agendas/2019/>.*

### **Chum Operation**

Doug Baus, Corps, reported hourly data at Bonneville Dam. Project tailwater elevation on Wednesday, October 30 at 0700 hours was 9.9 feet, with total outflow of 121.6 kcfs. The NWRFC forecast shows inflows at Bonneville Dam between 90-95 kcfs over the next three days. Inflows are expected to drop to 83 kcfs on November 3, and rise back up to 125 kcfs on November 7 and remain there through end of 10-day period.

The 10-day QPF throughout the Columbia River Basin was for below average precipitation, with the southern portion at 25% of average. The 5-day forecast shows 25% of average precipitation throughout the Columbia River Basin, which could mean dry conditions for upcoming chum operations. Doug noted the drop in forecasted freezing levels, with the upper Columbia River Basin, northern and southeast Idaho, and northwest Montana freezing level in the 2,000-4,000 foot range.

The 6-10 day temperature outlook shows some variability throughout the basin, with normal to above average temperatures and below average precipitation in Oregon and Washington, and cooler temperatures in the upper Columbia Basin and northwestern Montana with a probability of below average precipitation. This remains true for the 8-14 day forecast. The 30-day outlook forecasted on October 17 shows an equal chance of normal, above, or below average temperatures and precipitation. Overall the month of October has been cold and dry.

Dave Swank, USFWS, reported chum ladder counts at Bonneville Dam, with a total of ~6 or 7 for the year (unable to access current data due to technical difficulties with the FPC website). Tony Norris, BPA, reported on observations from a trip to the Ives Island area and Hamilton Creek earlier in the week. He noted that the springs were flowing and there was enough water in Hamilton Creek to provide access. Chinook were observed and 2 chum were observed in Hamilton Creek. Tony noted that there is not enough water in the aquifer to allow for hyporheic flows in the gravel areas. With dry forecasts over the next 10-day period, access to Hamilton Creek will likely diminish.

Claire McGrath, NOAA, confirmed that NOAA is comfortable with starting chum operations no earlier than November 4, as discussed at the 10/23 TMT meeting. USFWS and WDFW were comfortable with a November 4<sup>th</sup> start date, however, requested that tailwater elevations do not fluctuate drastically before then. BPA agreed to a soft constraint maximum tailwater elevation of 11.0 until the chum operation starts.

Erick Van Dyke, OR, expressed preference for a start date as close to November 1 as possible, and felt that the decision on when to start needs to be biologically based. Additionally, Erick noted a preference for working to create beneficial conditions for chum utilizing areas outside of the Ives and Hamilton area and also supporting chum prior to spawning.

Some TMT members suggested that it would be good to have more in-depth discussion on how to improve operations in future years. One area for discussion is how to determine the start date and criteria for “chum presence”.

The group reviewed the chum spawning operation that is scheduled to start on November 4<sup>th</sup>. There was concern around setting the tailwater elevation to 11.3ft instead of 11.5ft. BPA and the Corps noted two reasons for the 11.3ft: 1. there is uncertainty in operating and having a minimum set at 11.3 ft will result in 11.5ft tailwater due to the degree of accuracy (i.e., the tailwater will be operated with about a 0.2-ft buffer above the minimum in order to account for uncertainty); and 2. field observations in recent years show sufficient access to spawning areas at 11.3ft. Oregon asked that documentation show the 11.5 feet as a target. Sheri Sears, Colville Tribe, noted that the 11.3ft elevation is more conservative, however, and helps balance out some of the risk to upper river impacts.

The chum operation is posted on the TMT website and states that as of Monday, November 4 at 0600 hours and until further notice, operate the Bonneville Dam tailwater elevation in the range of 11.3-13.0 feet, with subsequent steps for higher tailwater to pass increasing levels of flow.

**The next scheduled TMT meeting is a conference call on November 6, 2019, at 9:00 AM.**

*This summary is respectfully submitted by the DS Consulting Facilitation Team. Suggested edits are welcome and can be sent to Colby at [colby@dsconsult.co](mailto:colby@dsconsult.co).*

**Columbia River Regional Forum**  
**Technical Management Team OFFICIAL MINUTES**  
**Wednesday, October 30, 2019**  
**Minutes: Melissa Haskin, FLUX Resources**

Today's TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. See the end of these minutes for a list of today's attendees. Copies of documents discussed and meeting minutes are available on the TMT website.

**1. Chum Operation - Doug Baus, Corps NWD; Paul Wagner, NOAA Fisheries; Tony Norris, BPA, and David Swank, USFWS**

Doug Baus, Corps, gave an update on current and forecasted conditions related to the chum operation. As of 0700 this morning, Bonneville Dam outflows were 121.6 kcfs and project tailwater elevation was 9.9 ft.

The RFC forecast calls for inflows of ~90-95 kcfs over the next 3 days. Around November 3, flows should drop to about 83 kcfs and then should come back up on November 7 to ~125 kcfs through the end of the 10-day period.

The precipitation forecast calls for an equal chance of normal or below normal precipitation. In the Southern portion of the basin, however, the precipitation forecast is for 25% of normal.

Things are looking dry throughout the basin. Looking at the 5-day forecast, precipitation is 25% of average for the Columbia Basin.

There is a drop in forecasted freezing levels, in some regions the freezing level will drop to 2,000 ft. There is some precipitation expected Wednesday and Thursday, which will likely be snow. There likely will not be a large stream response over the next 10 days because of this.

The NWRFC 6-10 and 8-14 day climate forecasts show variability in temperatures throughout the basin. In the southwest portion of the basin, temperatures should be normal to above normal. The upper Columbia basin and Montana will likely see cooler temperatures and below average precipitation.

The NWRFC 30-day calls for an equal chance of normal, below normal or above normal temperatures and precipitation.

The NWRFC monthly temperature table shows that temperatures in the region have been colder than normal. Looking at the Snake above Ice Harbor, for instance, temperatures were more than 7 degrees below average for the month.

Claire McGrath, NOAA, and Dave Swank, USFWS, reported on chum counts. A "handful" have passed Bonneville. Swank reported that he thought the number was around 6 or 7, but the current data are unavailable due to the FPC website being down. Tony Norris, BPA, visited Bonneville/Ives Island on Monday to check hydrologic conditions and chum presence. There is enough water that there is access to Hamilton Creek, for now. Norris did observe some Chinook

in the area and WDFW observed 1 or 2 chum in Hamilton Creek above the bridge. Norris reported there is not enough water at the spawning grounds yet. There is no water coming out of the gravel right now, which means the chum would be more likely to go up to Hamilton Springs than to stay at the spawning grounds.

It is likely that access to Hamilton Creek will diminish, given the dry forecast.

McGrath reminded folks that the story today is pretty much the same as it was at the 10/23 TMT (a handful of chum counted at Bonneville and few observed). At that meeting, the start date for the chum operation was set at no earlier than November 4. In NOAA's opinion, nothing has changed and the agency believes that November 4 is a good start date for the operation.

Looking at last year, chum arrived early. By October 25, there were 132 chum observed. Chum flow started on November 2.

Flow conditions are not present to support spawning. This has spurred discussions about maintaining the current tailwater elevation and then gradually ramping up rather than fluctuating down on the 3<sup>rd</sup> as currently forecasted.

Swank said he thinks November 4 is a good start date, as well. He expressed a desire to discuss what could be done differently next year. The BiOp calls for the chum operation to start the first week of November or when chum are present. Dave has questions about the interpretation of this, for instance what number of chum would trigger the start of the operation. He also noted that the boat survey was cancelled yesterday due to high wind.

Swank then looked at a document that had been distributed to TMT members by Erick Van Dyke, OR. Last year, there was an initial rise in tailwater starting on October 23. Norris clarified this was due to above average precipitation in the area (~230% of average according to his memory).

This year, flows are lower than average. Swank noted concern that chum might attempt to spawn when elevation increases at a certain time of day. He asked if it was possible to keep tailwater elevations above 8 ft. until chum operations start.

BPA has not been asked for this type of pre-operation in the past and wondered what spawning areas could be accessed with only an 8 ft. tailwater. Hourly coordination ahead of the chum operation is a challenge due to uncertainty from non-federal dams that store and draft on the river. In the past, there has been a soft constraint to prevent Chinook from spawning where chum do.

Charles Morrill, WA, said he could only think of one place the fish might spawn at 8 ft. Morrill instead suggested that once flows come up to 11 ft., they stay there. He also asked if a tailwater elevation above 11 ft. allows Chinook the opportunity to move up and use Hardy Creek. If that were the case, raising above 11 ft. and then dropping down could have a potential impact on Chinook, he said.

The concern seems to be to keep the tailwater under 10.5 ft., per Charles Morrill, WA. "We don't want to get them up there and then take the water away," he said.

Tony reminded TMT members that chum arrive at various times and right now, the groundwater is not present to cue them to the areas that they spawn so the risk of exposure is low.

Swank asked for more information about the upwelling and chum spawning. Norris replied that chum key into the upwelling in the gravel. The tailwater and water surface inside the pocket that upwells is 6-7 inches above the downstream area. The water in that pocket is significantly warmer, so much so, that one can observe steam in December. It is this warm water that attracts chum.

Van Dyke replied that fish do not only spawn there but other places as well and that agencies should be cognizant of that, not only during spawning but also before and after. Van Dyke said it is reasonable for salmon managers to make modifications to the current plan. In OR's view, the closest to November 1 the chum operation can begin, the better, he said. Pointing to the document he distributed, he said that the start date often tends to be November 1.

Norris noted that the document may not tell the whole story since sometimes hydraulic conditions can be present early- to mid-October to attract the chum. Chum need access to the creek and the springs need to be flowing in order for the chum to arrive. Many of the early start dates were due to high flows and high precipitation.

Joel Fenolio, Reclamation, expressed concern for Grand Coulee. Drafting out water now could have ramifications later in the season. The agency has an end of November target of no lower than 1,275 ft. and operates to fill the reservoir by April 10. These types of discussions could be good in a big water year, but that is not the case this year, he said. He is a proponent of checking for water in Hamilton Creek over starting the operation on a specific date like November 1.

For this year, the operation moving forward is as follows:

Effective Monday, November 4, at 0600 hours, and until further notice, operate the Bonneville Dam tailwater in the following order of operating ranges as project outflow increases:

1. During all hours, operate project outflow to provide a tailwater elevation in the range of 11.3-13.0 feet.
2. 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.
3. Then, if necessary to increase project outflow, the tailwater may be operated up to 18.5 feet during nighttime hours (1700-0600).
4. 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).

Norris heard Morrill's request to stay no lower than 10.5 ft until November 4. He asked if 11 ft. would work as a soft constraint. Morrill agreed.

The above operation of an 11.3 ft minimum includes a 0.2 ft. buffer, which caused some confusion and contention with OR. OR expressed disappointment at small, incremental changes to documentation. He asked that the number be kept at 11.5 not 11.3 ft.

Norris, Baus, and Sheri Sears, Colville Tribe, expressed that over the years, the group has learned a lot about chum. Baus noted that the Corps is always selecting the operating range and elevation that is suitable for the environmental conditions and biological needs of the chum. What is being done now is the same thing as always, but physical observations have helped key in the exact elevation, reported Norris. Sears agreed that 11.3 ft is a good, conservative minimum considering the low forecast and that drafting water from Grand Coulee has a large impact on the Colville tribes. If the reservoir runs low, it cuts off access to the river as well as access to transport people to and from work and the reservation. Running out of water can have a large impact on the tribe, she noted. She expressed support for adaptive management.

Joel Fenolio, Reclamation, gave the OK to keep the elevation at 11.3 ft. and reminded members that with an end of November target of 1,275 ft., that there is not going to be as much flexibility in November as years prior.

## 2. Next TMT

The next meeting is an unscheduled conference call on November 6, 2019.

### Today's Attendees:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Paul Wagner, Claire McGrath
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	N/A
Montana	N/A
Nez Perce Tribe	N/A
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	Sheri Sears
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

### **Other Attendees (non-TMT members):**

Army Corps of Engineers – Jon Roberts, Steve Hall, Alexis Mills

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Columbia Basin Bulletin – Mike O'Bryant

Portland General Electric – Ruth Burris

Clearing Up – K.C. Mehaffey