

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

December 4, 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, began by reminding the group that the 2019 chum operation is posted on the TMT website. Currently, Bonneville tailwater elevation is being managed between 11.3 and 13.0 feet. Bonneville Dam project tailwater elevation as of December 4, at 0600 hours, was 11.9 feet. Project elevation has generally been on the low side, averaging yesterday at 11.96 feet.

The NWRFC forecast shows inflows of 120-135 kcfs at Bonneville over the next 10-day period. Looking ahead at the end of the 10-day, the precipitation forecast shows some improvements, with 125-150% of average precipitation in the Cascades and Eastern Columbia River Basin, and 90-110% of average in the Lower Columbia River Basin. The 5-day QPF forecasts below average precipitation (less than 25-50% of average); however, there are some areas in the Upper Snake that are expecting precipitation in the range of 125-150% of average.

The NWRFC 6-10 day climate outlook shows generally normal precipitation conditions throughout the basin, with above average temperatures in the western Columbia River Basin, near normal in the southern portion, and below average in the eastern portion. The 30-day outlook shows a probability of above average temperatures and precipitation throughout the basin.

Doug highlighted the current month summary graphics that show November 1 to December 3 precipitation has been below 50% of normal throughout the entire basin and temperatures of 1-6 degrees F above normal. The western Cascades have been the exception, with temperatures below average. The months of October and November were dry. The Snake River above Ice Harbor Dam got .66 inches of precipitation (25% of normal) in November; the Columbia River above The Dalles Dam got 1.12 inches (33% of normal).

Joel Fenolio, BOR, reported that at the end of November, Grand Coulee Dam forebay elevation was at 1,274.4 feet, below the target of 1,275 feet. The project continues to limit power operations to meet the April 10 target. He noted that this is one of the lowest pool elevations going back to 1950 for this time of year. The project will maintain an elevation of 1,272 feet for another week or so, while working to stay above 1,270 feet by the end of the month. If precipitation forecasts for the next 10-day period don't hold up, elevations could get as low as 1,265 feet. Reclamation recommends that it is still too early to abandon chum given the current reported numbers, however, expressed concern around April 10 targets.

Claire McGrath, NOAA, provided updated spawning numbers from Washington as of November 26; 543 live, 18 dead, 135 redds, with numbers increasing nightly. At the Ives/Pierce Island complex, Chinook counts are up as well. Claire was able to visit the Ives Island and Hamilton Creek spawning channels to observe effects of the low precipitation, especially on flows in Hamilton Creek. The springs are still providing sufficient water for spawning in the constructed channels, but a hydraulic log-stop below the adult trap is creating a barrier preventing fish from moving through the trap into the channels. NOAA is working with the field crews to improve flows over the log to allow access to the spawning channels. The field crew has begun placing sand bags to consolidate the flow, which has helped, but there isn't good

depth to allow the fish enough velocity to get up and over the log. Another idea proposed was to place a ramp for fish to get up, and Claire is waiting on an update on this. Chum operations look good, with steady flows below Bonneville, and good spawning in the Ives area. Claire and Scott Bettin, BPA, will share photos of these operations at the upcoming YER.

Zero Generation

Tony Norris, BPA, reminded the group that the triggers for the Snake River zero generation criteria are less than 10 wild steelhead (less than 20 total steelhead on a rolling 3-day average). The trigger has still not been hit yet, but will most likely happen in the next couple of days as temperatures have dropped into the 42 degree F zone. Claire will notify Action Agencies via email once the trigger is hit, and report back to the TMT on results at the next meeting.

Doug noted that the official Water Supply Forecast at Libby Dam will be posted by COB today, and the current elevation (unofficial) is 2,426.7 feet for the end of December. Jon Roberts, Corps, reported the official Water Supply Forecast for December 1 at Dworshak Dam is 1,789 KAF (April – July volume), or 73% of the 30-year average. This is a reduction from the November forecast of 1,904 KAF. A more accurate forecast that is representative of the basin SWE will be available on January 1. He noted that there is less snow in the basin than is typical for this time of year.

→ **ACTION:** The Corps requests that Washington and NOAA track the chum operation transition from spawning to incubation in preparation for an update at the December 18 TMT meeting.

The next scheduled TMT meeting is the Year End Review on December 11, at 9:00 AM, followed by a conference call and DSC process meeting on December 18 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.

Columbia River Regional Forum
Technical Management Team OFFICIAL MINUTES
Wednesday, December 4, 2019
Minutes: Melissa Haskin, FLUX Resources

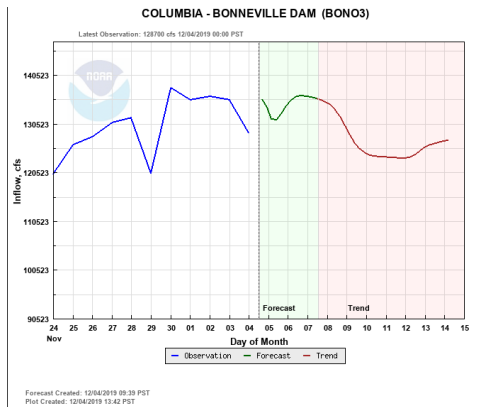
1. Introduction

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.

2. Chum Operation - Doug Baus, Corps-NWD; Claire McGrath, NOAA Fisheries; Joel Fenolio, BOR, and; Tony Norris, BPA

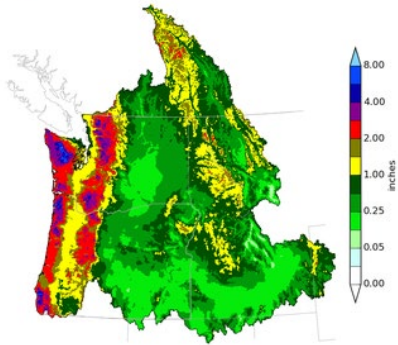
The chum operation has not changed since it was coordinated October 30 and implemented starting November 4. The water supply is still low and the Corps has been operating to manage project outflow to keep the Bonneville tailwater in the range of 11.3-13 ft. At 0600 this morning, the elevation at the Tanner Creek gauge was 11.9 ft. Average elevation yesterday was 11.96 ft.

The inflow forecast is for 120-135 kcfs over the 10-day period.



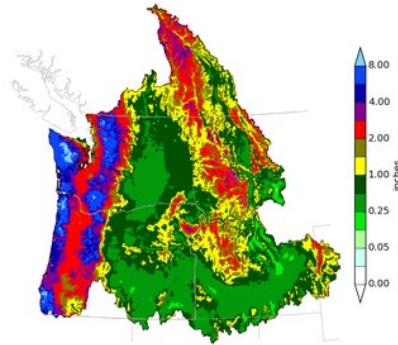
The RFC 10-day precipitation forecast shows an improvement with some areas receiving 100-150% of average precipitation. With expected precipitation in the Lower Columbia at 90-110% of average, less water should be required out of Grand Coulee to maintain the chum operation. The 5-day forecast shows less precipitation than the 10-day with some areas expected to receive less than 50% of average precipitation. Some localized areas, like the Upper Snake, may receive 125-150% of average.

Northwest River Forecast Center
5 Day Precipitation Climatology, Ending 12Z, 12/09/19



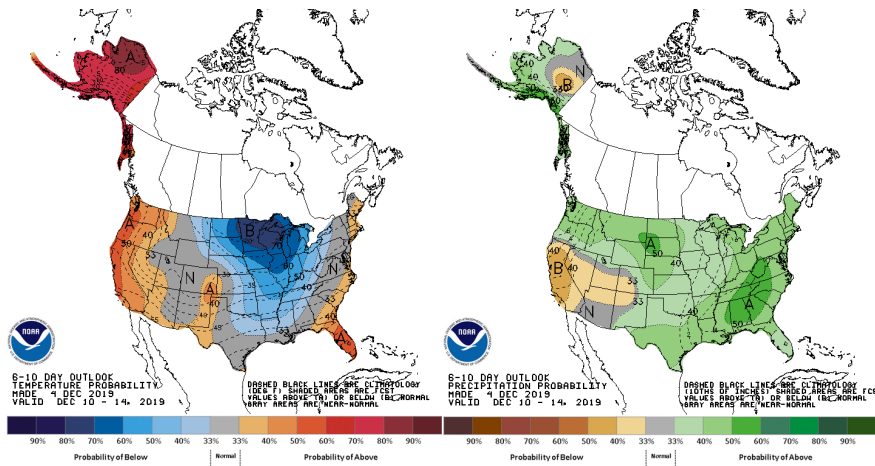
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Northwest River Forecast Center
10 Day Precipitation Climatology, Ending 12Z, 12/14/19

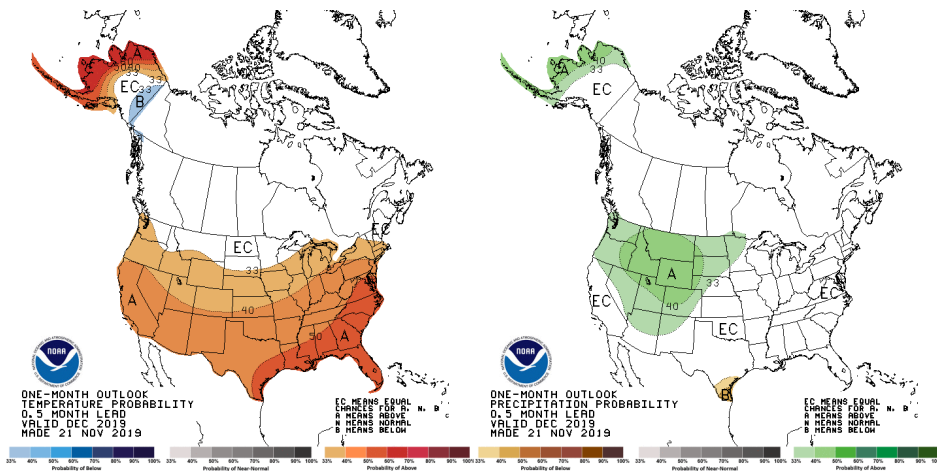


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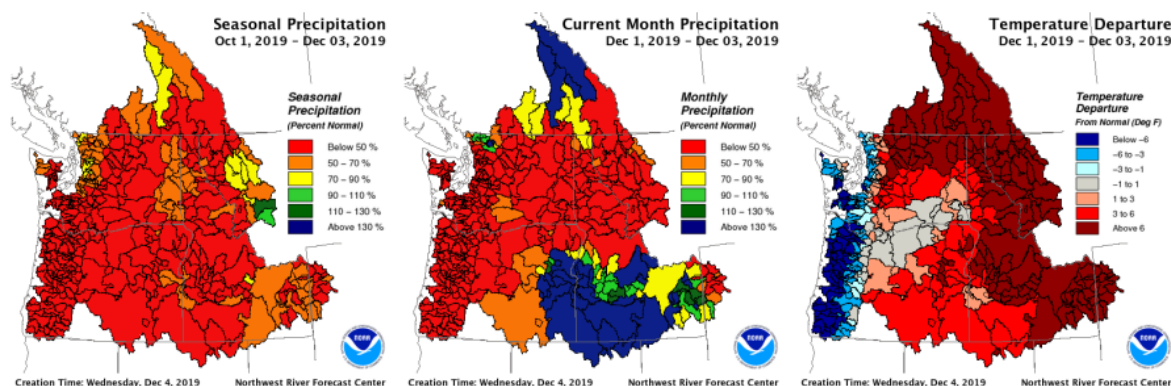
The NWRFC 6-10 day climate forecast shows variability throughout the Basin. With above average temperatures in the Western portion of the region, below average temperatures in the Eastern region, and near normal conditions in the Central region.



The 30-day forecast shows a probability of above normal precipitation with above average temperatures throughout the Basin.

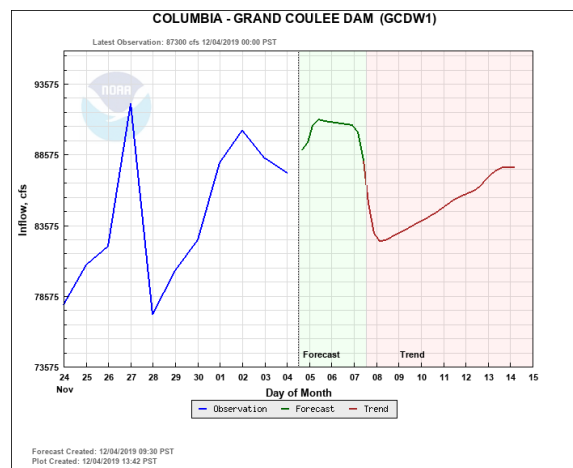


The Water Year Summary Graphics show that this has been a low water year, thus far. Looking at the season precipitation for October 1-December 3, many areas in the Basin have seen less than 50% of normal precipitation.



The monthly precipitation table for November shows that the Snake River above Ice Harbor received 0.66 inches of precipitation (25% of normal). The Columbia River Basin above The Dalles received 1.12 inches of precipitation (33% of normal).

Joel Fenolio, Reclamation, updated TMT on what this means for Grand Coulee. The end of November elevation came in at 1,272.4 ft., the second lowest end of November elevation since the 1950s. This is about 2.5 ft. lower than the normal end of November target of 1,275 ft. Over the last week, Grand Coulee has leveled out and maintained 1272 ft. With incoming storms, the reservoir should stay above 1270 ft. for the end of December. If precipitation is good, the end of December elevation could be as high as 1275 ft. If it is not as good as predicted, that elevation could be as low as 1,265 ft.



Chum counts were discussed later in today’s meeting, but Joel added that Reclamation’s standpoint is that it is too early to dewater chum.

Claire McGrath, NOAA, reported on spawning surveys. The November 26 survey showed 543 live, 18 dead, and 135 redds. Numbers are increasing nicely, she said. Claire also visited Ives Island and Hamilton Creek. She reported that the low precipitation is affecting flows in Hamilton Creek. The springs are sufficient for spawning in constructed channels but there is a constructed log weir creating a passage barrier and as a result, fish are piling up and not moving through the

adult trap into the channel. Claire has been troubleshooting with project personnel to solve this issue. She said there are hundreds of fish in the natural channel spawning and she would like to get them up to the spring-fed channels.

Field crews have tried putting sandbags in the area to make flow better but there is still not enough depth for the fish to get the speed they need to move past the log weir. Todd Hilson, WDFW, suggested a flume or ramp. He tried that yesterday and should report back to Claire soon.

The Corps will look to NOAA and WA for an update on the transition from spawning to incubation. Information on the incubation operation is available in the Water Management Plan on the TMT website. The default end date for spawning is December 31. Tony reported that typically the operation has ended around December 20-22.

There will be additional discussion at the Year-End Review where Claire McGrath and Scott Bettin, BPA, will show pictures and video footage of the area. Additionally, there has been talk of an FPAC/TMT working session related to chum. Claire would like to revisit the data of the season and discuss if decisions would have been made differently than they have been in the past.

3. Zero Generation - Tony Norris, BPA; Claire McGrath, NOAA Fisheries, and; Doug Baus, Corps-NWD;

Every year at this time, NOAA establishes a trigger for “few” steelhead to transition to zero nighttime generation on the lower Snake River. The trigger is based on the steelhead run this year. The trigger this year is set at fewer than 20 combined and 10 wild steelhead passing Lower Granite for three consecutive days. Both criteria must be met, and the Action Agencies typically use the same three consecutive days as a basis for establishing that the steelhead run is indeed over. On December 2, the initial trigger was hit for the first day. It is not time yet to transition to zero nighttime generation but it may be soon, especially as river temperatures have dipped into the 42 degree F zone. At 42 degrees, steelhead tend to stop migrating and passage numbers drop, said Tony. This shows in the last 5-6 days of data. Claire will report to TMT via email when the trigger is hit for 3 consecutive days.

4. Other

The water supply forecast for Libby will be posted today and sets variable draft limit for Libby. The current unofficial end of December forebay elevation is 2,426.7 ft.

Jon Roberts, Corps, reported on the water supply forecast for Dworshak Dam as of December 1. The April-July forecast is 1,789KAF (73% of 30-year average). This is a reduction from the November forecast. The next forecast is scheduled to come out January 1.

5. Next TMT

The next TMT is the Year-End Review scheduled for next Wednesday, December 11, at 9am.

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	Claire McGrath, Paul Wagner
US Fish & Wildlife Service	Dave Swank
Washington	N/A
Oregon	N/A
Idaho	N/A
Montana	N/A
Nez Perce Tribe	N/A
Umatilla Tribe/CRITFC	N/A
Colville Tribe	N/A
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

Other Attendees (non-TMT members):

Army Corps of Engineers – Jon Roberts, Alexis Mills, Eric Chow, Catherine Dudgeon, Steve Hall

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Columbia Basin Bulletin – Mike O'Bryant

Snohomish PUD – Scott Richards