

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM  
February 13, 2019  
DRAFT Facilitator’s Summary  
Facilitator: Donna Silverberg; 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/>.

### Water Supply Forecasts

Doug Baus, Corps, began by updating the group that the official Water Supply Forecasts for the month of February was posted on the 5th, although those are now out of date. Corps and Reclamation projects official forecasts from February 5<sup>th</sup> are:

- **The Dalles:** NWRFC April to August volume forecast (5 days QPF) is 75 MAF, or 86% of average.
- **Lower Granite:** NWRFC April to July volume forecast (5 days QPF) is 17 MAF, or 86% of average.
- **Libby:** NWRFC April to August volume forecast is 5318 KAF, or 90% of average.
- **Dworshak:** NWRFC April to July volume forecast is 1951 KAF, or 80% of average.
- **Grand Coulee:** NWRFC April to August volume forecast (5 days QPF) is 51 MAF, or 90% of average.
- **Albeni Falls:** NWRFC April to August volume forecast (5 days QPF) is 11 MAF, or 89% of average.

Joel Fenolio, BOR, provided an update on the Water Supply Forecast for Hungry Horse Dam: The April to August volume forecast is 1700 KAF, or 88% of average. Minimum flows downstream are down from January with 3450 CFS at Columbia Falls and 825 CFS right below Hungry Horse. The May to September forecast was 1500 KAF, or 89% of average, which set elevations about 20 feet higher for the end of April than current conditions forecast. The Dalles forecast ended up being 75.3, which sets the Grand Coulee end of April target to 1275 ft. As a result, drum gate maintenance has been called off at Grand Coulee.

Russ Kiefer, ID, asked about the effect of the official forecasts coming in before getting heavy precipitation in the area, specifically efforts in planning drum gate maintenance. Joel clarified that this task is more opportunistic, as the full maintenance requires preparation at least two months ahead of time. The Upper Columbia Basin hasn’t seen as much of an increase in snowpack as the southern areas from the recent storms.

Doug then provided data for the current Water Supply Forecasts: He noted that, although both projects have promising rising volumes, it’s important to acknowledge that it’s only one event in a water year of no events.

- **Lower Granite:** NWRFC April to August volume forecast (5 day QPF) increased to 19 MAF, or 92% of average.
- **The Dalles:** April to August volume forecast (5 day QPF) increased to 78 MAF, or 89% of average.

Looking at the current monthly precipitation table, the current month percentages of normal were significantly above normal throughout the Snake River Basin. Above Ice Harbor Dam is at 1.35 inches, or 159% of normal. The Upper Columbia River Basin above Arrow Dam is at 96% of normal precipitation, while the mainstem above The Dalles was observed at 1.17 inches, or 123% of normal. Contrastingly,

above Grand Coulee is still below normal at 1.02 inches. While there is variability, trends are heading in the right direction to get much needed precipitation, at least in parts of the basin. The monthly temperature table shows cold trends, with the Snake River Basin above Ice Harbor Dam at -4.7 degrees F below average, the Columbia River above Arrow Dam is -16.1 degrees F below average, and the main stem above The Dalles is -9.0 degrees F below average. The seasonal precipitation from October 1 through February 12 started at normal to below average throughout the basin, but from November onward, precipitation was below normal and temperatures were warm. This resulted in low snow accumulation, which drove volume forecasts down. This recent weather event has increased volume, but not enough to reach normal at The Dalles or Lower Granite.

Erick Van Dyke, OR, asked if the Corps is using data from the beginning of the month for operational changes. Doug noted that April 10 operation decisions are driven by volume forecasts and FRM elevation requirements. Julie Ammann, Corps, added that the official flood risk management elevations are determined off the official water supply forecast, as well as current conditions and mid-month forecasts to help inform a direction.

The Westwide SNOTEL current Snow Water Equivalent (SWE) ‘percent of normal’ is now trending more towards 100% of average, where January was in the 80-90% range. The Cascades are drier in the 70-89% range, but generally heading towards normal throughout the basin.

Looking ahead at the NWRFC meteorological forecasts, the 10-day QPF shows 150-175% of normal precipitation in the Upper Snake, in contrast to the Upper Columbia, which is 50-75% of normal. The 5-day QPF shows similar drier trends the northern parts of the basin.

Finally, the climate forecasts show a probability of below average temperatures over the next 6-10 day period throughout much of the United States with normal to above average precipitation in the Northwest. The 3-4 week outlook shows an equal chance for temperatures and below average precipitation. The 30-day outlook shows below average temperatures and below average precipitation in the western portion of the Columbia, the Cascades, western Washington and northwestern Oregon, with an equal chance of precipitation in Idaho and northwestern Montana. The 90-day outlook shows warm temperatures and normal precipitation.

### **Chum Operation**

Doug reported no operational changes to chum incubation since implementation began on December 21, 2018. Operations at Bonneville Dam continue to maintain a tailwater elevation no lower than a minimum of 11.3 feet at all hours, and will do so until otherwise coordinated with the TMT.

Current hourly data at Bonneville show a total outflow at 0800 hours of 138 kcfs and a project tailwater elevation at 12.7 feet. RFC inflow forecasts show a slight increase up to 150 kcfs, and then back down over the 10-day period to 120 kcfs. Joel updated the group on Grand Coulee operations relative to chum and April 10: With the February forecast, the April 10 target is set at 1283.3 feet. Currently the project has been drafting to maintain chum flows, down to 1275.8 feet. This is well below the April 10 guideline and Coulee is still not up to average in many places. He noted that the TMT might want to start discussions on the April 10 date and possible impacts on chum, as it’s looking like there is a dry sequence of weeks leading up to it. Other TMT members agreed that this concern/discussion is needed and asked to include discussion of the Snake River’s availability to help flows in the lower river at the next meeting.

**The next TMT meeting is a face-to-face meeting on February 27, 2019, at 9:00 AM.**

**A process meeting will follow for TMT Members.**

*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**  
**February 13, 2019**  
**Minutes: Melissa Haskin, FLUX Resources**

**1. Introduction**

Representatives of Corps, NOAA, USFWS, BPA, Umatilla Tribe, Colville Tribe, WA, ID, OR, Reclamation, and others participated in today’s TMT meeting chaired by Doug Baus, Corps, and facilitated by Donna Silverberg, DS Consulting. See the end of these minutes for a list of attendees.

**2. Water Supply Forecasts - Doug Baus, Corps, and Joel Fenolio, Reclamation**

***2a-c. Forecasts***

Doug Baus, Corps, and Joel Fenolio, Reclamation, updated TMT on the February water supply forecast. Baus and Fenolio noted that this week’s heavy winter storm has increased water supply volume forecasts since the official water supply forecasts were issued on February 5. However, even with the recent precipitation accumulation throughout the Columbia Basin, the runoff forecast overall is still below average. The storm was just one event in an otherwise dry year, remarked Baus.

Hungry Horse: The official February forecast (issued February 5) for April-August is 1,700 kaf, about 88% of average. This drops the minimum flows to 3,450 cfs at Columbia Falls and 825 cfs below Hungry Horse. May-September was 1,500 kaf, 89% of average. The flood risk management (FRM) elevation is about 20 feet higher for the end of April than it is right now.

The Dalles: The official February forecast (February 5) for April-August is 75.3 maf, 86% of average. This sets the Grand Coulee Dam end of April FRM elevation to 1,275 ft, which means that drum gate maintenance will not be completed this year. Even if the storm had brought the FRM elevation down to the maximum required for drum gate maintenance (1,255 ft), at this point there would not be enough time to prepare for it. Fenolio mentioned that it takes 2+ months to order the supplies and get the walkway in place to perform maintenance. The storm brought about 7-8 maf to the area but places like Montana did not see much change. The new forecast shows an increase to 78 maf or 89% of average.

Lower Granite: The official February forecast (February 5) for April-July is 17 maf, 86% of average. The current forecast, taking into account the precipitation from the storm, is 19 maf, or 92% of the 30-year average.

Libby: The official February forecast for April-August is 5,318 kaf, 90% of average.

Dworshak: The official February forecast for April-July is 1,951 kaf, 80% of average.

Grand Coulee: The current forecast for April-August is 51 maf, 90% of average.

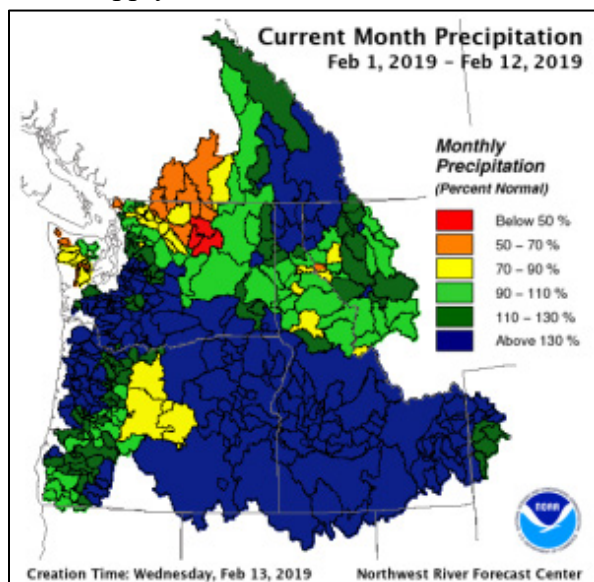
Albeni Falls: The current forecast for April-August is 11 maf, 89% of average.

### ***2d-i. NWRFC and NRCS Forecasts and Summary Graphics***

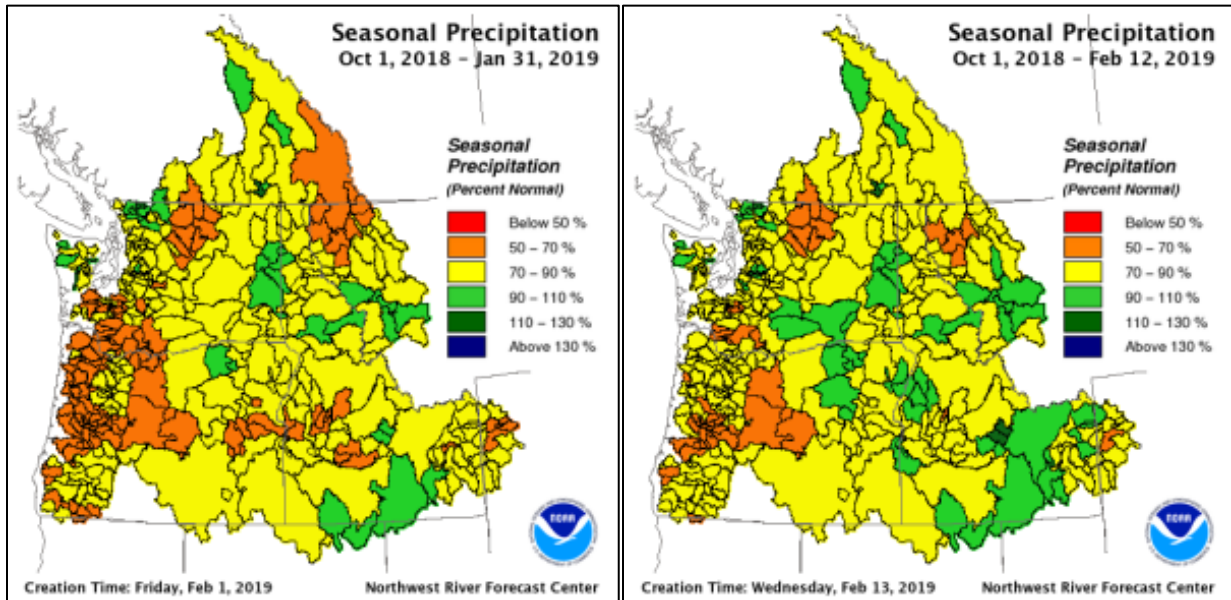
Despite the recent precipitation event, the NWRFC precipitation table for the water year shows below normal precipitation throughout the Columbia River Basin. From October 1, 2018, through February 12, 2019, the observed precipitation in the Snake, Upper Columbia, and Columbia River Mainstem is:

1. Snake River Basin observed precipitation above Ice Harbor Dam is 8.9 inches, which is 85% of normal (10.4 inches).
2. Upper Columbia Basin observed precipitation above Arrow Dam is 23.6 inches, which is 88% of normal (26.7 inches).
3. Columbia River Mainstem observed precipitation above The Dalles Dam is 11.0 inches, which is 84% of normal (13.2 inches).

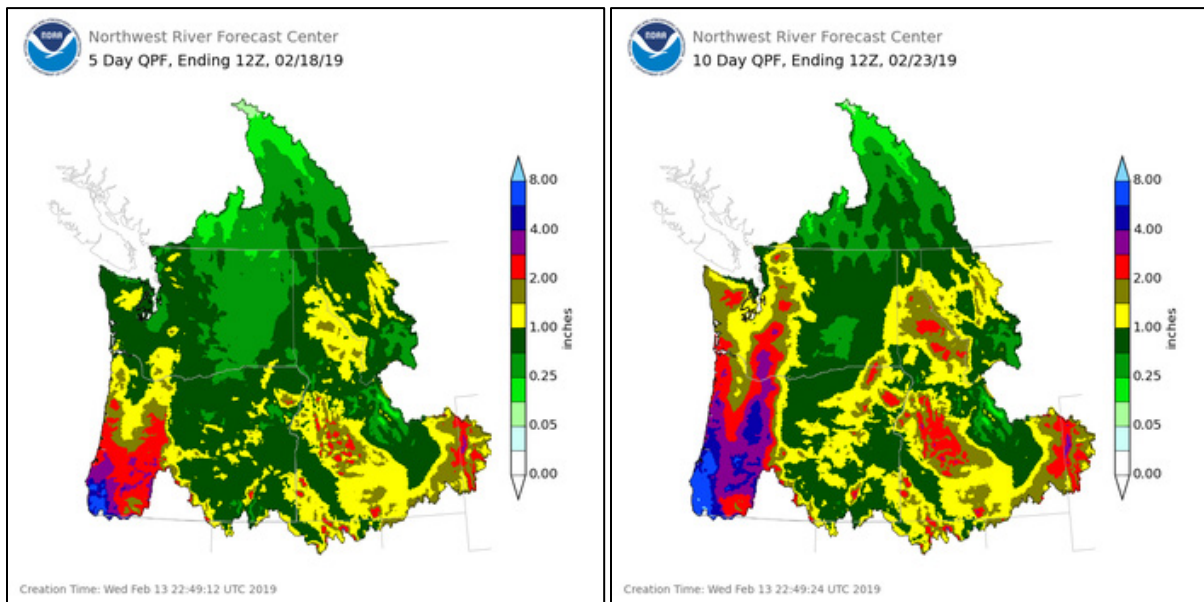
Baus also discussed the Water Year Summary Graphics. He noted that precipitation was normal to below normal in October. In November, December and January, precipitation was below average and temperatures were above average. That drove volume forecasts down. Doug stressed that precipitation was below average throughout the season. Doug emphasized that the recent above average precipitation for February (see figure below) has increased water supply volume throughout the Columbia Basin since the official forecasts were issued on February 5, but current water supply volumes are still below normal at The Dalles and Lower Granite for the water year.



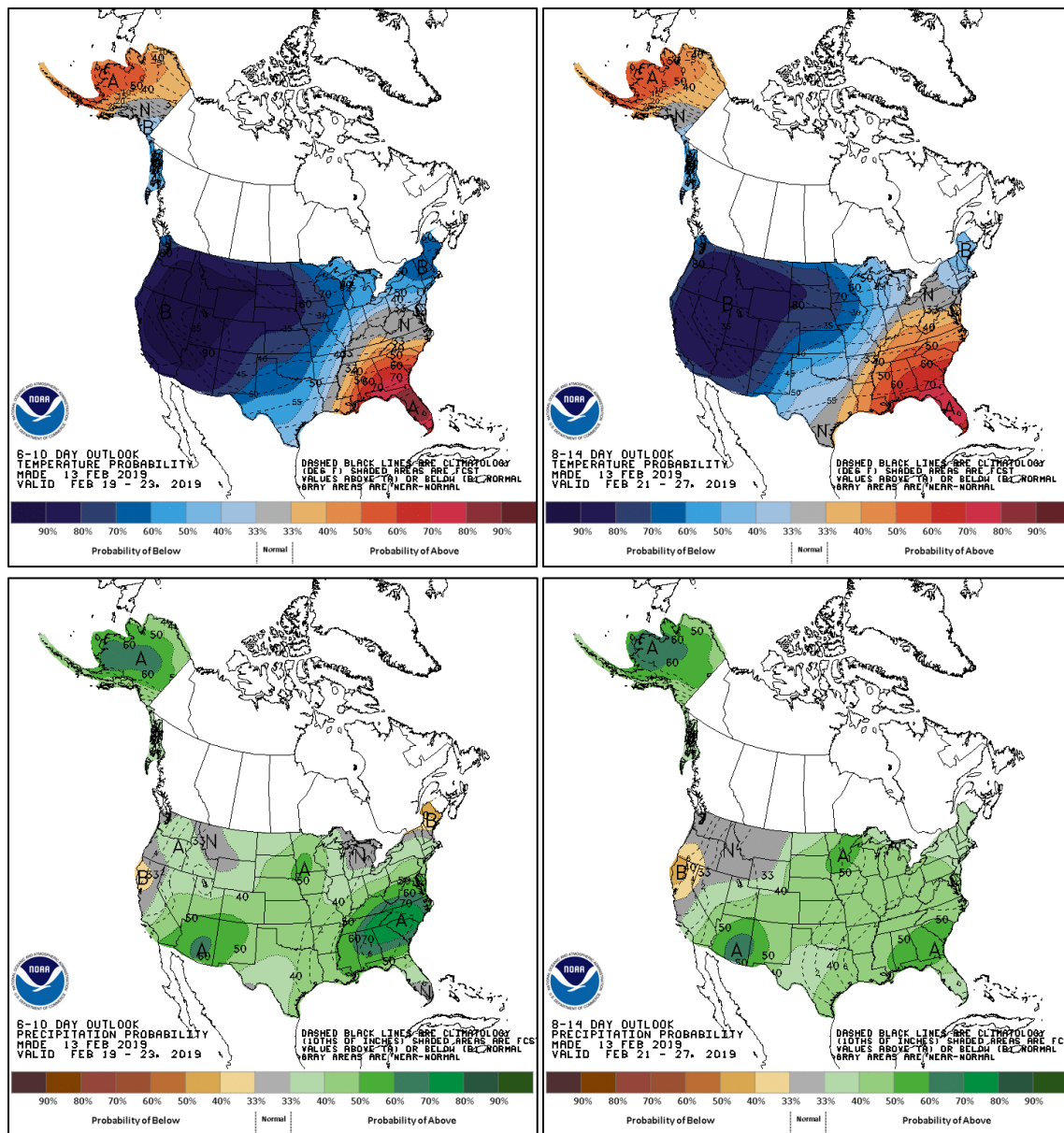
For the most part, seasonal precipitation is still below average, as illustrated in the comparison of seasonal precipitation for the water year through Jan 31 (left) and through Feb 12 (right).



The current 5 and 10-day weather forecasts show the Snake receiving significant precipitation. Meanwhile, precipitation in the upper Columbia is expected to be less than normal.



For the climate forecasts, both the 6-10 and 8-14 day forecasts show a probability of below average temperatures. There may be more snow accumulation.



### 3. Chum Operations

There is nothing new to report. The chum incubation operation continues with a Bonneville Dam tailwater minimum of 11.3 ft. at all hours. Today’s tailwater was 12.7 ft. and outflows at 0800 were 138 kcfs. The inflow forecast is for a slight increase to 150 kcfs and then back down at the end of the 10-day period to near 120 kcfs.

Joel Fenolio, Reclamation, noted that the current Bonneville Dam tailwater operation for chum is forecasted to draft Grand Coulee Dam by April 10 to 1252 feet, which is 31 feet below the April 10 FRM elevation of 1283.3 feet based on current below average water supply conditions. As described in the Water Management Plan, the TMT should continue to coordinate the chum operation and make adjustments as necessary to ensure Grand Coulee Dam achieves the April 10 elevation because spring flows have priority over maintaining the chum tailwater operation.

**4. Next TMT**

The next TMT meeting is face-to-face on February 27, 2019, at 9 a.m. at the Corps NWD office in Portland, OR.

**Today’s Attendees:**

**TMT Members:**

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

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

Corps – Dan Turner, Steve Hall

DS Consulting – Donna Silverberg (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Columbia Basin Bulletin – Mike O’Bryant

Northwest Power and Conservation Council – Lynn Palensky