

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM
March 6, 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/>.

Water Supply Forecasts

Joel Fenolio, BOR, began by updating the group on the official March Water Supply Forecast for Hungry Horse Dam. Snowpack in the Flathead Basin has increased from 82% of average on February 1, to 93% of average. The April to August forecast inflow volume is 1.75 MAF, or 90% of average. This slightly increases the minimum flows at Hungry Horse to 3,480 cfs at Columbia Falls, and 870 cfs right below Hungry Horse. The May to September forecast is 1,580 kaf, or 93% of average. The project is currently over-drafted to maintain the Columbia falls minimum.

Doug Baus, Corps, then provided an update on the Water Supply Forecasts:

- **The Dalles:** NWRFC April to August volume forecast (5 days QPF) is 77 maf, or 88% of average;
- **Lower Granite:** NWRFC April to July volume forecast (5 days QPF) is 20 maf, or 99% of average;
- **Libby:** Corps NWS forecast is not yet posted, however, was stated to be 5.5 maf;
- **Dworschak:** Corps NWS April to July volume forecast is 2,142 kaf, or 88% of average;
- **Grand Coulee:** NWRFC April to August volume forecast (5 days QPF) is 49 maf, or 86% of average; and,
- **Albeni Falls:** NWRFC April to August volume forecast (5 days QPF) is 10 maf, or 84% of average.

Looking at the current monthly precipitation table for the Snake River Basin, it continues to have near average water supply conditions, and near average precipitation. In contrast, the Upper Columbia River Basin continues to have below average conditions. Above Arrow Dam had 58% of normal, or 2.11 inches of precipitation, in February, and was below normal in January as well. There hasn't been much change since last week, with continuing trends below average in the Upper Columbia and near average in the Snake. In the Snake, near average precipitation with cold temperatures is resulting in snow, while the Upper Columbia has below average precipitation with below average temperatures.

Similarly, the pattern continues with near or slightly below average Snow Water Equivalent (SWE) in the northern part of the basin in Washington, Idaho, and northwestern Montana. Whereas, further south in Oregon and the Central and Southern Idaho basin there is above average SWE.

Looking ahead, the NWRFC meteorological forecasts, both the 5-day and 10-day QPF show average or above average precipitation in the Snake, and dry in the Upper Columbia. Finally, the climate forecasts show below average temperatures and below to normal precipitation in the Northwest over the next 6-10 day period. The 8-10 day outlook shows cold and dry conditions, while the 3-4 week temperature outlook shows a probability of above average temperatures. The 30-day outlook shows a continued probability of below average temperatures, and an equal chance of above, below, or near normal precipitation.

Chum Operation

There have been no operational changes to the chum incubation operation since it began on December 21, 2018. Operations at Bonneville Dam continue to maintain a project tailwater elevation no lower than a minimum of 11.3 feet at all hours, and will do so until otherwise coordinated with the TMT. There was discussion around whether to continue the chum incubation operation given that it is requiring that Grand Coulee is drafted and likely will mean that the project is unable to hit the current April 10 elevation target.

TMT members shared concerns that not maintaining adequate flow over the redds would risk drying them out and also adversely impact fall Chinook redds in the area, however; maintaining flows now directly impacts spring flow availability.

Joel noted that Reclamation's position was that it was time to abandon chum at this point given that the FCRPS BiOp and the Water Management Plan state that April 10 is a priority over maintaining the stage below Bonneville Dam for Chum. The outlooks for March show below average temperatures and that The Dalles forecast should continue to diminish over the month. Reclamation is concerned that snowpack in the northern part of the Columbia River is well below average. Overall by operating to Chum versus targeting April 10th (while still maintaining 65 kcfs at the Hanford reach) would draft Grand Coulee another 900 MAF by the end of March.

Given the rapidly rising forecasts in the Upper Snake River the question was asked if Reclamation could reshape its flood releases. Joel responded that they could not, because reshaping flood releases is speculative and may have an impact to refill of those systems. Also there is no federal authority to have Brownlee Dam pass that flow to the Lower Snake River. The Salmon Managers offered that flows from the Snake River could increase as they typically do in the month of March, and to help decrease Grand Coulee's draft rate. Reclamation's stance was that given the colder temperatures forecasted, below average streamflows in the Lower Snake River, and low snow densities, average conditions are unlikely to occur.

Salmon managers did not think it prudent to stop operating to the chum minimum yet and suggested that TMT reconsider early next week. They scheduled an FPAC meeting for Friday morning, and a tentative TMT call was set for Monday to address the chum decision.

→ ACTION: Salmon Managers will meet on Friday to discuss how to move forward with the chum operation given current and forecasted conditions. The TMT will tentatively meet at 9:00am on Monday, March 11 to discuss the chum operation. Paul will notify the Corps by COB, Friday, March 8 if the Salmon Managers agree that there is not a need to meet on Monday.

Libby Operations for KTOI Hatchery

Logan Osgood-Zimmerman, Corps, and Sue Ireland, Kootenai Tribe, informed the group of current operational changes at Libby Dam to address emergency water needs at the Kootenai Tribe of Idaho Hatchery downstream of Libby Dam. Due to freezing temperatures at the hatchery, Libby outflows were raised from 4 kcfs to 10 kcfs to keep surface water intake pumps submerged and from freezing over. The operation is tentatively in place until Tuesday, March 12, but if there is a need to extend the higher flows, an SOR will be presented to the TMT.

Shawn Young, Kootenai, emphasized that the Burbot currently incubating at the hatchery need river water to stay cold enough to survive, and even minimal temperature changes can be fatal. If emergency flows can't be maintained and the river continues to block up in deep freeze, the final option is emergency release out of the facility. He noted that even a week extension of emergency flows from Libby will enable staff to put the last options in place to keep the fish safe in hatchery.

The next TMT meeting is a tentative call on March 11, 2019 at 9:00 AM, to discuss the chum operation.

The following TMT meeting is a face-to-face meeting on March 13, 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.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES
March 6, 2019
Minutes: Melissa Haskin, FLUX Resources

1. Introduction

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

2. January Water Supply Forecast - Doug Baus, Corps

2a. Official Water Supply Forecasts - March

Doug Baus, Corps, and Joel Fenolio, Reclamation, updated TMT with the official March water supply forecast, which was released March 5. The official WSF is computed on the 3rd work day of the month, January through July, using the 5-day QPF 50% exceedance value.

Lower Granite Dam (LWG) April-July forecast is 99% of average at just under 20 maf.

The Dalles Dam (TDA) April-August forecast is 88% of average at 77 maf. Paul Wagner, NOAA, brought attention to the NWRFC forecast, which shows a range of possibilities. He mentioned that the official forecast is in the middle (50%), but that is only one possible outcome. A change of 2 maf would result in a Grand Coulee draft of 30 feet. Not much volume creates a large differential to how Coulee would be operated. This will be important in the discussion of chum.

At **Libby**, the runoff forecast for April-August is 5.5 maf (93%).

At **Hungry Horse** there was snowfall in the Flathead basin and runoff forecasts have increased slightly. The official March forecast for April-August is 1,750 kaf, 90% of average. This drops the minimum flows to 3,480 cfs at Columbia Falls and 870 cfs below Hungry Horse. May-September is predicted to be 93% of average at 1,580 kaf (up from a February forecast of 1,500 kaf). In order to meet Columbia Falls minimum flows through April, Reclamation will need to continue drafting.

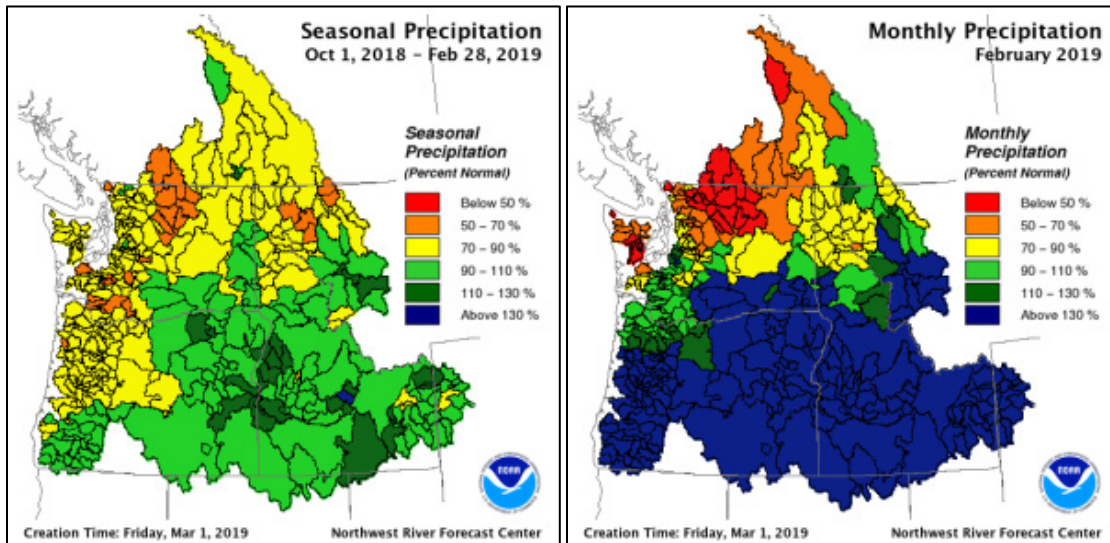
At **Dworshak**, the April-July forecast calls for 2,142 KAF (88% of average). This has increased from last month's official forecast of 1,951 KAF.

At **Grand Coulee**, the April-August forecast is for 49 maf (86% of average), slightly below last month's forecast of 90% of average.

At **Albeni Falls**, the April-August forecast is for 10 maf, or 84% of average, down from February's forecast of 89% of average.

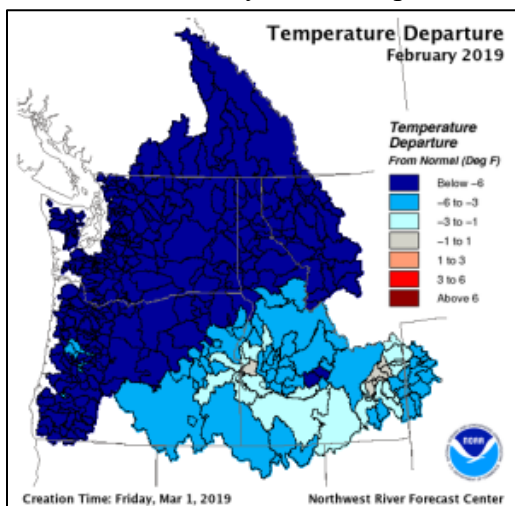
2b. NWRFC Monthly Precipitation Table

Doug Baus, Corps, took TMT through the NWRFC monthly precipitation summary. In the Snake River basin above Ice Harbor Dam, March precipitation has been 0.26 inches, which is 58% of average; however that only covers the first 6 days in March. Baus shared that overall water supply in the Snake River basin is near average. The Upper Columbia River basin continues to be below average. February precipitation in the Columbia River basin above Arrow Dam was only 58% of normal (2.11 inches). The summary overall has not changed much from last week, which is below average in the upper Columbia and near average in the Snake.



2c. NWRFC Monthly Temperature Table

Temperatures in February and March were below average throughout the basin, which is a shift from January when temperatures were mostly above average.



2d. NRCS Current SWE

As of 3/6, the snow water equivalent (SWE) is above average in the Snake River basin and near or below average in the Upper Columbia River basin.

2e. NWRFC Current Month Summary Graphics

NWRFC Current Month Summary Graphics show below average precipitation so far in March, but it is only 6 days into the month.

2f. NWRFC Forecast Precipitation Summary

NWRFC 5 and 10-day precipitation forecasts show dry in the north and average or above average in the Snake.

2g. Climate Forecast

The NWRFC Climate Forecast shows below average temperatures and normal to below normal precipitation in the next 6-10 days. Three to four weeks out, there is a likelihood of above average temperatures and equal chance of above, near, or below normal precipitation.

3. Chum Operations

The chum incubation operation continues with a Bonneville Dam tailwater minimum of 11.3 ft all hours. TMT faced a difficult decision today whether or not to dewater the chum redds. With flows especially low this year, agencies need to be careful not to overdraft early in the season. Balancing these two issues is difficult. As Russ Kiefer, ID, pointed out, this season shaped up to look dry but a few unexpected snow storms hit the area. With that in mind, salmon managers expressed an interest in not rushing into a decision, in the event that the upcoming forecast changes. Much of the conversation centered on whether to wait or not and how much water would be necessary to change conditions.

One thing on the minds of TMT members and a power marketer, Joe Taylor, Shell Energy, was the Hanford Reach requirement at Vernita Bar, located below Priest Rapids Dam. The area includes a huge set of gravel bars where many fall Chinook spawn. There is an agreement in place to protect these fish and minimum flows are currently 65 kcfs.

Tony Norris, BPA, expressed that there is NO intention to provide less water than is necessary to meet the Hanford Reach Fall Chinook Protection flow. He said that given current conditions, the support for chum also meets the minimum flow requirements at Hanford Reach. Both operations are expected to continue drafting Grand Coulee Dam. There is currently little to no chance of achieving the 1,283 ft April 10 elevation objective for flood risk management at Grand Coulee while meeting the downstream flows.

Charles Morrill, WA, noted that in his view it would be best to go week-by-week and see how things play out.

Joel Fenolio, Reclamation, advocated for making a decision now. If managers chose today to de-water chum it could save a differential of two feet of water over a week, estimated Fenolio. “We keep kicking the can down the road,” he said. The problem with this is that it could result in drafting water that is necessary later in the season. Joel pointed to drying conditions across the board in Northern Basin, where most of the Columbia’s water comes from. Hoping the Snake will bail us out is tenuous, he said. He called for salmon managers to make a decision on today’s call about whether or not to “abandon” chum.

Paul Wagner, NOAA, wondered if the forecast increased by 5 maf, what elevation Reclamation would hold Coulee at. Fenolio said that the April 10 target is based on the March water supply forecast and the target is 1,283 ft. Wagner pushed, “If the forecast changes you wouldn’t do 1283, you’d draft.” Fenolio agreed that would be the case if patterns changed.

Salmon managers wondered if there is there an opportunity to pull from the Upper Snake water supply reservoirs. Joel Fenolio, Reclamation, said no because Reclamation does not have the authorization to release above what it sees fit as a flood control release, which is what it is currently incrementally doing. The only way to release water from reservoirs is either for irrigation, flood control, or to meet minimum flows at the moment.

Tony Norris, BPA, noted that as it relates to Grand Coulee flood control and water supply, the jump in the forecast to make a change is significant. All a water supply increase would do is decrease the departure from the flood control elevation.

Another issue of concern during this discussion was the approximately 15,000 fall Chinook that also spawned below Bonneville. While they are not protected under the ESA, they would also be adversely affected by dewatering.

Sheri Sears, Colville Tribe wondered what would happen if only Hanford Reach was supported and if that would be enough to support chum. Tony Norris, BPA, said that if the Action Agencies were to only operate for Vernita Bar, the operation would not currently support chum. However if the Snake River came up across March, then yes, that would be an option. It’s concerning that the Columbia may not have the flows for fish this spring, but at the same time we would NOT want to dewater chum or Chinook, said Sheri.

Dave Swank, USFWS, agreed. A few days into that dewatering we could have flows in Snake pick up, noted Dave. “It’s a tough choice between a dewatering event and potential future lack of spring flows. That’s why we are kicking the decision down the road.” He said he is still trying get a sense of the difference in Grand Coulee elevation if it was just operated to meet Hanford Reach instead of chum. Julie Ammann, Corps, said the Corps and BPA are doing studies to look at that and will provide the information to TMT.

Joel also pointed out that Reclamation has no control over Idaho Power releases.

Charles Pace, a member of the public, spoke up about an agreement he knew about with Idaho Power. There is a way to get water out of the Snake, he said, while still respecting irrigation rights. It has to do with brokering water via a subscription to a water bank that allows for water users to have no loss of priority status. It would allow water users to “subscribe water” temporarily to the water bank and be compensated in exchange.

With the possibility of the forecast changing, salmon managers decided to continue operating to meet chum flows at Bonneville Dam and scheduled a TMT conference call for Monday, March 11, to revisit the issue. Doug asked salmon managers to think about specific operations they would like to run if they were to dewater chum.

4. Libby Update

Shawn Young, Kootenai Tribe of Idaho, notified TMT of an emergency issue at their hatchery downstream of Libby Dam that has required a temporary increase in Libby outflows. Late Sunday/early Monday, an intake pipe was frozen over. The Tribe was able to get people down there and clear it slightly. It is really cold in the region and river flow is well below average. Burbot are incubating and need river water in order to keep their eggs cold so they do not die. The Corps implemented an emergency operation on Monday night, March 4, to increase Libby outflows to 10 kcfs in order to keep the intake pipe in the water and prevent it from freezing over. The Corps will continue this operation until next Tuesday, March 12, and then ramp down and allow the tribe to solve the issue. If the hatchery needs to extend the operation, the KTOI will bring an SOR to TMT next week. The Tribe says that the hatchery is operational with the increased flows, but if they cannot maintain flows with the river locked in a deep freeze, they could be without options. Burbot are sensitive to temperature changes. A change of few degrees Celsius over a few hours would be catastrophic to the eggs, he said.

5. Next TMT. The next TMT meeting is an unscheduled conference call to discuss the chum operation on Monday, March 11 at 9 a.m.

Today’s Attendees:

TMT Members:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright, Julie Ammann
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Paul Wagner
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill

Agency	TMT Representative
Oregon	Erick Van Dyke
Idaho	Russ Kiefer
Montana	N/A
Nez Perce Tribe	Jay Hesse
Umatilla Tribe	Tom Lorz
Colville Tribe	Sheri Sears
Warm Springs Tribe	N/A
Kootenai Tribe	Sue Ireland
Spokane Tribe	N/A

Other Attendees (non-TMT members):

Corps – Logan Osgood-Zimmerman, Steve Hall, Aaron Marshall, Laura Hamilton, Alexis Mills, Greg Hoffman, Michelle Yuen

Reclamation – Eric Rothwell

Kootenai Tribe of Idaho – Shawn Young

Yakama Nation – Tom Iverson

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Clearing Up – K.C. Mehaffey

NPCC – Lynn Palensky

Shell Energy – Joe Taylor

Public – Charles Pace