

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 3, 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/>.

Review Meeting Minutes & Facilitator's Summary

TMT members approved minutes and facilitator's summaries for the February 27, March 6, 11, 13, and 20 meetings, with one minor edit from Dave Swank, USFWS, to the March 20 facilitator's summary. A comment from Charles Morrill, WA, in the Chum Cumulative Day Average Degree Days section should read, "emergence has not peaked yet" rather than, "incubation has not peaked yet".

Chum Operations

Doug Baus, Corps, stated for the record that the TMT did not end chum operations early, and thus the Chum operation will end on April 10 when spill season starts on the lower Columbia River. Charles Morrill, WDFW, noted appreciation that flows were able to support chum all season, however, he expects that emergence will be complete sometime after the April 10 end date. Charlie also included the hope that flows will be sufficient to maintain depth compensation in the Ives-Pierce area to avoid TDG concerns.

Bonneville Dam at 0700 hours had a total outflow of 158 kcfs, and a tailwater elevation of 13.9 feet. Inflows are forecast to increase to 228 kcfs by the end of the next 10-day period.

FOP Spring Spill at Snake River Projects

Dan Turner, Corps, updated the group on the State of Washington's short-term modification to their TDG criteria, which allows for spill up to 120% TDG in the tailwater (no forebay standard). This aligns with Oregon's water quality criteria and methodology. Dan clarified that the modification is for three years; however, both states may further revise standards to allow for TDG up to 125%. Julie Ammann, Corps, noted that the WA short-term modification is only for spring spill, and that if summer spill has high enough flows to reach the spill cap, the projects would operate to 115/120% criteria.

Dan walked the group through the spill & TDG data links on the Corps website. Links included a page for the spill caps that go into effect on a daily basis at 1600 hours; daily spill & TDG tables, and an hourly flex spill table. Flex hours will be posted with a three-day lag, and noted with an asterisk. Dan noted that the green dot on the flex spill table is an initial indication of whether a project might be at minimum generation.

→ ACTION: Charles asked to have the table headings in a darker color for better viewing.

Finally, Dan reviewed the current STP forecast for Lower Granite long-range inflow through August. Yesterday the average outflow was 60 kcfs and is forecast to increase to mid 90s, then steady out at 80 kcfs in early May.

Operations Review

Reservoirs: Joel Fenolio, BOR, reported on Bureau of Reclamation projects:

- **Hungry Horse:** started filling one week ago and is well below the FRM requirements for the end of April. The project is currently at 3,520.8 feet, and is still operating to Columbia Falls. The water supply forecast dropped from 93% to 83% of average.

- **Grand Coulee:** is currently filling and operating to Vernita Bar. Releases yesterday were about 60,000 cfs and inflows were 68,000 cfs.

Lisa Wright, Corps, reported on Corps of Engineers projects:

- **Libby:** midnight elevation was 2,405.8 feet, with average inflows of 4.5 kcfs and outflows of 4 kcfs;
- **Albeni Falls:** midnight elevation was 2,052.2 feet, with average inflows of 20 kcfs and outflows of 15.1 kcfs;
- **Dworshak:** midnight elevation was 1,532.0 feet, with average inflows of 7.7 kcfs and outflows of 5.1 kcfs;
- **Lower Granite:** average outflows were 60.2 kcfs;
- **McNary:** average outflows were 136.3 kcfs; and,
- **Bonneville:** average outflows were 165.0 kcfs.

Paul Wagner, NOAA, raised a concern from FPAC members that Dworshak is being maintained for outflows of 5 kcfs. The preference for Salmon Managers would be to move the draft further into April, when in-river flows decrease and more fish are migrating. He asked if the Corps would consider moving the draft further into April.

Jon Roberts, Corps Walla Walla, answered that the project is currently holding outflows of 5 kcfs for a limited period of time to help augment flow to Lower Granite Dam during a low period of inflow. The project expects to drop back down to a minimum discharge around April 6-7, when inflows at Lower Granite are expected to pick back up, and expect to hold minimum discharge through mid-April.

Russ Kiefer, ID, noted that Idaho would have preferred to be consulted on this change in operation, as it was perceived to have been for fish. Jon clarified that the operation wasn't solely for fish, and that operations are trying to ensure that the project doesn't spill any through the spring. He appreciated the feedback. Steve Hall noted that he did reach out to Paul and Jay Hesse, Nez Perce Tribe, before the change in operation.

Water Quality: Dan noted that although the gauges are working, there have only been 8 or 9 hours of incoming data on the Flex Spill operation. Lower Granite got up to 118.8% TDG, leveled off and came down a little bit. He noted that it will be interesting to see how the gauges react to such major changes, as they typically have a lag.

Fish: Paul reported that adult migration is just beginning at Bonneville Dam, with 48 spring Chinook, or 10% of the 10-year average, and 1,246 steelhead, or 50% of the 10-year average.

Juvenile migration is beginning, and traps in the watershed are operating and collecting fish as they migrate down-river. The relative number of yearling Chinook estimated at Lower Granite on April 1 was 24,500. [Facilitator's Note: It was noted via edits that since monitoring began on March 26, 2019, 51,903 yearling Chinook salmon have been estimated to have migrated through Lower Granite Dam.] 1,300 have passed at John Day, and Lower Monumental Dam is showing fish as well, although high counts likely are due to recent hatchery releases.

Juvenile steelhead passage has been estimated to be relatively low through Lower Granite, Lower Monumental and Bonneville dams. Lamprey were also observed at all of the projects, with John Day showing the most at 41,070 [Facilitator's Note: It was noted via edits that John Day had the largest total relative estimate for lamprey passage, even though it only samples every other day].

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Power System: Eve James, BPA, reported that wind has picked up, and looking ahead wind generation will stay pretty high.

Water Supply Forecast: Doug provided an update on the current water supply forecasts for Corps projects:

- The Dalles: NWRFC April to August volume forecast (5 days QPF) 74 maf, or 85% of average;
- Lower Granite: NWRFC April to July volume forecast (5 days QPF) is 18 maf, or 91 % of average.

He noted that the 10-day precipitation forecast looks wet, however the upper Columbia is still following a below average trend.

The next TMT meeting is a call on April 10, 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
April 3, 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 attendees.

1. Approval of Meeting Minutes and Summaries

Minutes and summaries for February 27, March 6, 11, 13, and 20 were approved, with one edit to the March 20 Facilitator Summary on page 1 to change chum “*incubation* has not peaked yet” to “*emergence* has not peaked yet”.

2. Chum Operation - Doug Baus, Corps

As a matter of record keeping, Baus reminded TMT that as in past years, unless otherwise coordinated to end early, the chum operation at Bonneville Dam will end when spring spill begins on April 10.

At 0700 today, Bonneville outflows were 158 kcfs and the tailwater elevation was 13.9 feet. The NWRFC forecast for the next 10-days has inflows increasing up to 228 kcfs.

There were no objections to ending chum operations on April 10.

3. FOP Spring Spill Update – Dan Turner, Corps

3a. State of Washington Short-Term Modification of TDG Criteria

Dan Turner, Corps, reported on FOP spring spill operations that started today at the lower Snake projects. New this year, the State of Washington issued a short-term modification of the TDG criteria at the eight fish passage projects to align with Oregon’s 120% tailrace standard and methodology. The short-term modification is effective during the spring only, April 3–June 20 at the lower Snake projects and April 10–June 15 at the lower Columbia projects.

Dave Swank, USFWS, inquired about one of the conditions in the modification:

“The water quality compliance for TDG established in this Order shall not apply when the stream flow exceeds the seven-day, ten-year frequency flood calculated for each dam in the lower Columbia and lower Snake rivers.”

Dan mentioned that this is just a standard exemption for extreme high flows. Since high flows result in involuntary spill, there would be no managing the Corps could do. The language is just to note that.

Since the short-term modification is only for spring, some TMT members wondered if it will eventually be extended through summer. Charles Morrill, WA, said it would involve another step but is of regional interest. He says the WA Department of Ecology will review the option

and have discussions about the possibility of extending it for summer in 2020 and 2021. **[NOTE: At the TMT meeting on April 17, Charles Morrill, WA, said his statement was incorrect. WA DOE will not be looking into extending the short-term modification for summer 2021 and 2021.]**

3b. Links to Spill & TDG Data

Turner also took TMT through some new and updated links and data sources available on the TMT website.

Spill Caps – This table was available last year but will look a little different this spring because of the short-term modification. There is a separate link to spill caps for 120% TDG (spring) and for 120/115% TDG (summer). Spill caps go into effect at 1600 every day.

Daily Spill & TDG – This is similar to the table available last year but has a different look. It reports a daily summary for the previous day and information on spill caps, daily average spill, the total number of hours of flex spill, and 12-hour TDG levels.

Hourly Flex Spill – This table has more detail about flex spill. Currently there is an error with the time zone in the table. Dan will have this fixed. This link will show Spill Caps, Observed Spill, and Percent Spill at each of the projects. Flex spill data will be on a 3-day lag and noted by an asterisk.

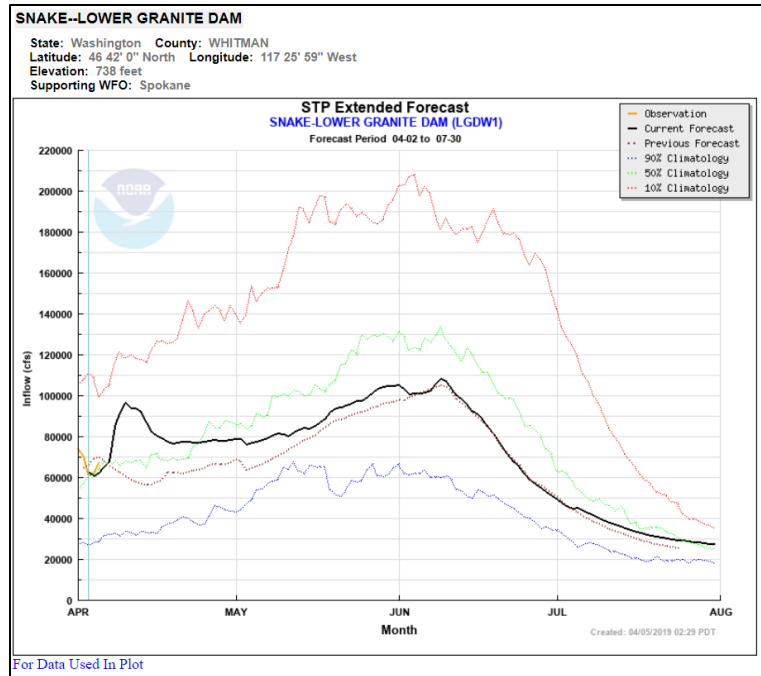
Lisa Wright, Corps, noted that Little Goose is on a set schedule for spill. There will be 4-hour blocks of 30% spill for adult passage so that data should be the same daily in this table. Erick Van Dyke, OR noted that this is not just for fish but also power.

Charles Morrill, WA, asked that the headers in the tables be changed from a light grey to something more visible. Laura Hamilton, Corps, said this is something she checked into but that IT said the coloring was per Corps standards. Charles said he would still appreciate it if the font color could be changed; Turner said he would put a request in.

Tom Lorz, Umatilla/CRITFC, asked why Ice Harbor was spilling before today. Turner replied he wasn't sure but it was probably due to unit outages.

3c. Lower Granite Long-Range Inflow Forecast

Yesterday's average outflow at Lower Granite was 60 kcfs. According to the RFC long-range inflow forecast for Lower Granite (see image below), inflows are expected to increase to the mid-90s and then come down through early May. Erick Van Dyke, OR, commented that the black line above would have him believe there should be enough water to meet the two different spill operations. Julie Ammann, Corps, noted it will really depend on actual flows and the spill caps. There is uncertainty in the forecast since it is a long-range forecast.



4. Operations Update:

4a. Reservoirs

Hungry Horse: Hungry Horse is drafting ¼' per day. Reclamation began filling the reservoir a little over a week ago and is holding well below Flood Risk Management levels. The current elevation is 3,520.8 feet. Reclamation is operating to Columbia Falls minimums. The water supply forecast dropped from 93% of average to 83% of average.

Grand Coulee: Releases were 60,000 cfs and inflows were 68,000 cfs. The project is operating to Vernita Bar.

Libby: Midnight elevation 2,405.8 ft, inflows 4.5 kcfs and outflows 4 kcfs.

Albeni Falls: Midnight elevation 2,052.2 ft., inflows 20 kcfs, outflows 15.1 kcfs.

Dworshak: Midnight elevation of 1,532.0 ft, inflows 7.7 kcfs, outflows 5.1 kcfs.

Lower Granite: Outflows 60.2 kcfs.

McNary: Outflows 136.3 kcfs.

Bonneville: Outflows of 165.0 kcfs.

Paul Wagner, NOAA, inquired about Dworshak operations. Members of FPAC were surprised by the discharges of 5 kcfs. The preference of salmon managers would have been to move the draft further into April. If the forecast for the project is similar to what was discussed earlier in today's TMT meeting (flows near 100 kcfs in the next few weeks and then receding), the preference would be to have a draft scheduled for when there are decreased flows in the river for reason that there will be more fish migrating, which would provide a better benefit. It is a more conservative use of water should the precipitation be in excess of the forecast.

Paul asked if the Corps would consider that option.

Jon Roberts, Corps Walla Walla, responded that the increased Dworshak outflow helped prop up a drop in inflows in the lower Snake, as seen by looking at the RFC 10-day inflow forecast. He said the Corps is trying to minimally augment flow to Lower Granite. On April 6-7, the Corps will drop back down to minimum discharge. He reported that the Corps will hold minimum discharges until later in April when it will be more beneficial to fish. He said, “We are just trying to fill in a valley in the hydrograph.”

Dave Swank, USFWS, and Paul Wagner said they were OK with that. Russ Kiefer, ID, said that his preference would have been to be consulted. He said that the water would have been better used later in April. He requested better coordination in the future. Jon said the Corps will coordinate better in the future.

4b. Water Quality – Dan Turner, Corps

The tailwater gauges are in and working. Lower Granite tailrace is at 118.8% TDG.

4c. Fish – Paul Wagner, NOAA

Adults: Adult passage is just beginning at Bonneville. So far 48 spring Chinook have passed, which is 10% of the 10-year average but it is early in the season. Steelhead, mostly winter steelhead, are at 1,246, which is 50% of the 10-year average.

Juveniles: Migration is just beginning. Traps in the tributaries are operating. Lower Granite saw 24,500 yearling Chinook as of April 1. It was a similar story at Lower Monumental, though there was a recent hatchery release and that may be where many of the fish are from.

There were not nearly as many steelhead in traps as yearling Chinook.

John Day is the action spot for lamprey right now, with 41,070 being observed thus far.

4d. Power System – Eve James, BPA:

Wind has picked up and wind generation will stay pretty high.

TMT members asked to review the current water supply forecasts. The Dalles runoff volume forecast for April-Aug with 5-day QPF is 74 maf (85% of average). The 10-day weather forecast calls for precipitation throughout basin but not in the upper Columbia basin where it is needed most, similar to the pattern that has persisted throughout the season.

5. Next TMT. The next TMT meeting is a conference call on Wednesday, April 10.

Today's Attendees:

TMT Members:

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Julie Ammann, Lisa Wright
Bonneville Power Administration	Eve James
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	Russ Kiefer
Montana	Jim Litchfield
Nez Perce Tribe	Jay Hesse
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):

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Corps – Dan Turner, Steve Hall, Alexis Mills, Laura Hamilton, Alfredo Rodriguez, Jon Roberts

CRITFC – Tom Skiles

Yakama Nation Fisheries – Tom Iverson

Oregon DEQ – Paula Calvert

Clearing Up – K.C. Mehaffey

PPC – Shane Scott

Portland General Electric – Ruth Burris

Puget Sound Energy – John XX

Snohomish PUD – Mike Shapley

Member of the public – Charles Pace