

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

March 2, 2022

Facilitator's Summary

Facilitation Team: Emily Stranz & 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; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: <http://pweb.crohms.org/tmt/agendas/2022/>. Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Review Meeting Summaries & Minutes

TMT Members approved the official meeting minutes and facilitator's summaries for the February 16 meeting.

- **ACTION:** Facilitator, Emily Stranz, asked TMT Members to submit any edits for the 2021 YER summary prior to the next TMT meeting on March 16.

Chum Operation

Doug Baus, Corps, reported on the chum operation, noting no change from the last update. As coordinated through TMT, the incubation phase is being implemented (since December 24, 2021). During the incubation phase, Bonneville Dam will operate to a minimum tailwater elevation of 13 feet all hours. This operation will continue through April 9, until the beginning of spring spill on April 10, unless otherwise coordinated at TMT. On March 2 at 0700 hours, Bonneville tailwater elevation was 18.1 feet, with a total outflow of 209 kcfs.

Looking at the RFC inflow forecast for Bonneville, heavy precipitation and snow melt will increase flows significantly. Today the low is forecast to be 163 kcfs, with flows anticipated to peak around 250 kcfs and taper off to 220 kcfs by the end of the 10-day period.

Operations Review

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

- **Hungry Horse:** midnight elevation was 3,538 feet, with releases at 3,600 cfs, and flows averaging about 2,000 cfs (3,500 cfs yesterday) with the current precipitation event. The project is targeting an elevation of 3,535 feet by the end of the month. This will potentially put the project under the VDL and could be below the upper rule curve going into April. The current operation is to minimize spill this spring. There are currently 2 units available for the modernization project (until about June 25), followed by a return to 3 units and then 1 this summer. Joel did not expect the 1-unit operation to be an issue, as all projections are showing less than 3,000 cfs (July-September) to be 10-feet from full in the fall.
- **Grand Coulee:** midnight elevation was 1,260.3 feet, with releases of 9,500 cfs, and average inflows of 9,700 cfs. The project is currently targeting an elevation of 1,255 feet by March 15 for drum gate.

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

- **Libby:** midnight elevation was 2,363.6 feet; average inflows of 4.3 kcfs, and outflows of 4 kcfs;
- **Albeni Falls:** midnight elevation was 2,051.6 feet; average inflows of 24.1 kcfs, and outflows of 16.2 kcfs;
- **Dworshak:** midnight elevation was 1,518.3 feet; average inflows of 11.7 kcfs, and outflows of 1.7 kcfs.
- **Lower Granite:** average outflows of 24 kcfs;
- **McNary:** average outflows of 156 kcfs; and,
- **Bonneville:** average outflows of 176 kcfs.

Water Quality: Dan Turner, Corps, reported that TDG on the system is below 110%. There was a bump up to 108% at Lower Granite due to the planned spill for steelhead on the Lower Snake River and McNary, starting March 1. The Corps anticipates TDG levels at or below 110%, and will continue to monitor.

In response to a query, Dan noted that the Corps plans to implement the steelhead spill operations via 4 consecutive hours, and if TDG exceeds 110%, they will try the strategy used last fall (splitting spill into blocks of shorter

duration or over more days) to limit TDG. The Corps will coordinate any changes in operation with NOAA and will report back to TMT.

Fish: Claire McGrath, NOAA, reported that juvenile sampling began at Bonneville yesterday; McNary was scheduled to start on March 1, but was delayed until March 4 due to a broken drain issue (the Corps will provide more information at FPOM). The Imnaha trap has been sampling for the past couple weeks, with only a handful of yearling Chinook and steelhead captured. Bonneville and Little Goose dams are counting adults; both projects have seen a modest increase in daily passage of steelhead. Adult counts at Lower Granite started yesterday, and more passage data will be available in the coming weeks.

Dave Swank, USFWS, reported on lamprey passage. The annual summary of Bonneville adult Pacific lamprey passage (including night-time video counts) had a total estimated passage of 83,983. This is an improvement over the past couple of years, although still under 10-year average. Of those, 41% of all adult Pacific lamprey passage at Bonneville occurred via the lamprey passage structure routes (within a fairly typical range). The WA shore lamprey flume structure passed 8 lamprey; Dave suggested revisiting the effectiveness of the structure.

Power System: Tony reported that BPA has updated the TMT emergency protocols with the TMT coordinated update to the Power System Emergency Action Plan's Contingency Actions List. Regarding power system conditions, currently there is a lot of water in the system and storms are producing a fair amount of wind generation.

Questions or comments from members of the public: There were no questions or comments from members of the public

The next scheduled TMT meeting is a conference call on March 16, 2022, at 9:00 AM.

Columbia River Regional Forum

Technical Management Team

OFFICIAL MINUTES

March 2, 2022

Minutes: Melissa Haskin, BPA (contractor, FLUX Resources)

Today's TMT meeting was held via conference call and webinar, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. A list of today's attendees is available at the end of these minutes.

1. Review of Official Minutes and Summaries

The facilitator's summary and official minutes for the February 16 meeting were approved with no additional edits. TMT members and agencies should review the facilitator's YER. It will be up for review at the next meeting.

2. Chum Operation – Doug Baus, Corps

Baus updated the TMT on chum operations coordinated at TMT and available on the TMT website. As coordinated, the chum operation transitioned from spawning to incubation on December 24, at 0001 hours with a Bonneville Dam minimum tailwater elevation of 13 feet at all hours. Incubation will continue until the start of spring spill on April 10, unless coordinated otherwise at TMT.

There have been no changes to the operation since the last update.

The Bonneville Dam tailwater elevation at 0700 was 18.1 ft. Outflow was 209.5 kcfs. The RFC inflow forecasts calls for significant flows due to snowmelt and precipitation. Over the next 10 days, flows will range from a low of 163 kcfs to a high of 250 kcfs. By the end of the week, flows should be around 220 kcfs.

3. Operations Review

3a. Reservoirs – Joel Fenolio, Reclamation; Lisa Wright, Corps

Reclamation projects:

Hungry Horse – Midnight elevation 3,538 ft., releasing 3.6 kcfs. Inflows have picked up due to precipitation and are averaging 2 kcfs (yesterday flows were 3.5 kcfs). Targeting 3,535 ft. by the end of the month. This may put the project under the VDL and below the upper rule curve heading into April. Currently, only 2 units are available for the modernization project. The operation is to minimize spill during spring. A third unit should come back online around June 25. Following that, the transformer connections will be switched out and only one unit will be available through December. All projections are showing releases less than 3 kcfs and an elevation 10-feet from full in July.

Grand Coulee – Midnight elevation 1,260.3 ft. Releases were ~95 kcfs and inflows averaging ~97 kcfs. Targeting 1255 ft. by March 15 for drum gate maintenance.

Corps projects:

Libby Dam – Midnight elevation 2,363.6 ft., average inflows 4.3 kcfs and outflows 4 kcfs.

Albeni Falls – Midnight elevation 2,051.6 ft., inflows 24.1 kcfs and outflows 16.2 kcfs.

Dworshak Dam – Midnight elevation 1,518.3 ft., inflows 11.7 kcfs, and outflows of 1.7 kcfs.

Lower Granite – Yesterday’s average outflows were 24 kcfs.

McNary Dam – Yesterday’s average outflows were 156 kcfs.

Bonneville Dam – Yesterday’s average outflows were 176 kcfs.

3b. Water Quality – Dan Turner, Corps

Dan Turner, Corps, reported that TDG is below the 110% water quality criteria. Lower Granite bumped up to 108% due to planned spill for steelhead on the Lower Snake River, which started March 1. The Corps will start spill with 4 consecutive hours and then reassess if there are issues. Should TDG exceed 110%, the Corps will try the strategy it did last fall, where spill is broken into shorter blocks. If that occurs, it will be coordinated with NOAA.

3c. Fish – Claire McGrath, NOAA

McGrath reported that juvenile sampling likely began at Bonneville yesterday and will start at McNary on March 4. It was scheduled to start earlier but delayed due to a broken drain. Over the past few weeks, sampling at the Imnaha trap near Hell’s Canyon has shown a handful of yearling Chinook and steelhead. For adults, counting is underway at Bonneville and Little Goose dams. Steelhead are starting to pass both projects in solid numbers. Sampling began at Lower Granite yesterday. Data for that project should be available soon.

Dave Swank, USFWS, reported on lamprey passage. A few days ago, The Annual Summary Of Bonneville Adult Pacific Lamprey Passage was released. It noted a corrected total estimated passage of 83,983 for 2021 based on video reviews. While this is below the 10-year average, it is above 2020’s count of just below 42,000 and 2019’s count of just under 71,000. Swank noted that of all adult lamprey passing the project, 41% used the lamprey passage structure routes – this percentage varies but 41% is within a typical range. Scott Bettin, BPA, asked how many went through the WA adult LPS. Dave reported that number at 23,998. That side of the river usually has the highest counts. The flume counts were low, and somewhat unsuccessful at 8, noted Swank adding that the future of that structure may need to be discussed.

3d. Power – Tony Norris, BPA

Norris noted that the TMT emergency protocols in the Power System Emergency Action Plan’s Contingency Actions List have been updated based on recent TMT coordination.

Tony showed the graph of BPA Balancing Authority Load and Total VER, Hydro, Fossil/Biomass, Nuclear Generation, and Net Interchange, Near-Real-Time. There has been water in the system as well as wind. There is little to report.

Today’s Attendees:

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	Claire McGrath
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	
Warm Springs Tribe	Jen Graham
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps – Aaron Marshall, Alexis Mills, Dan Turner, Scott St. John, Catherine Dudgeon, Eric Chow, Eric Gabrel
 DS Consulting – Emily Stranz (Facilitator), Colby Mills
 BPA – Melissa Haskin (CONTR, FLUX Resources, Notetaker)
 Oregon DEQ – Marilyn Fonseca, David Gruen
 Columbia Basin Bulletin – Mike O’Bryant
 Chelan PUD – Kate von Reis Baron, Jay Finch
 FPC – Erin Cooper
 Clearing Up – K.C. Mehaffey
 PPC – Shane Scott