

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 7, 2023

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/2023/>. 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 May 24 official meeting minutes and facilitator's summary. Minutes and summary from June 2 will be reviewed at the next TMT meeting.

Official June Water Supply Forecasts – Joel Fenolio, Reclamation, reported the official June water supply forecast for Hungry Horse Dam, noting below average snowpack and well above average runoff going into May. June through July volume is 450 kaf, or 51% of average; April through August is 82%; May through September is 83% of average. The boost in percent of average is due to the May runoff (besides the June-July).

Doug Baus, Corps, reported official June water supply forecasts for Corps of Engineer projects:

- **The Dalles:** NWRFC April to August volume forecast is 80 maf, or 89% average;
- **Lower Granite:** NWRFC April to July volume forecast is 20 maf or 102% average;
- **Libby:** Corps runoff forecast April to August is 4,803 kaf, or 79% of average; and
- **Dworshak:** NWRFC runoff forecast April to July is 2,229 kaf, or 90% of average.

Charles Morrill, WA, asked for clarification on plans for Dworshak drafting 1-foot in the last week of June. Aaron Marshall, Corps, clarified that the STP forecast, detailing Dworshak operations later in June and July, are generic at this point. The project is operating to refill by the end of June, then plans to draft down to elevation 1,535 feet by the end of August.

Brian Marotz, MT, asked what operations will be to shape flows at Libby Dam to optimize conditions for sturgeon this year. Doug noted that per the Corps' last update at TMT, there will not be a sturgeon pulse this year. Brian will connect with Greg Hoffman, Corps, offline to follow up.

Juvenile Transportation – Chris Peery, Corps, reported that juvenile barge transport is nearing completion for the season, with fish collection and transport numbers dropping. The plan is to stop barging on June 19 (similar to recent years), there was no objection to this date from TMT Members. So far, about 7.2 million fish have been collected, and almost 5.9 million transported. Collection is for 48 hours, with barging every other day. Prior to 2019, truck transport began as soon as barging ended, however, over the past few years there has been a gap between the two ranging from 2 weeks to a month. It was clarified that the default start date for truck transport is August 1, unless TMT Members request otherwise.

Operations Review

Reservoirs – Joel reported on Bureau of Reclamation projects:

- **Hungry Horse:** midnight elevation was 3,549 feet, with releases of 2,000 cfs, and a decrease in inflows to about 6,500 cfs. The basin should hopefully see some precipitation within this week and next. Refilling the reservoir will likely be dependent on rainfall, as snowpack has melted off for the most part, about 3-4 weeks earlier than normal. The plan is to hold at 2,000 cfs and cross over to Columbia Falls minimum operations at some point this summer.

- **Grand Coulee:** midnight elevation was 1,284.6 feet. Inflows have significantly decreased down to 120,000 cfs from 240,000 cfs on May 22. Releases have been almost 100,000 cfs for the last week, dropping below the 10th percentile for the last 30-year-average period. Things are looking bleak on the northern part of basin and the southern part of the basin in the Snake River plain where the project is controlling for refill-type flood operations.

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

- **Libby:** midnight elevation was 2,444.7 feet, average inflows of 20 kcfs, and outflows of 10 kcfs;
- **Albeni Falls:** midnight elevation was 2,061.3 feet, average inflows of 35 kcfs, and outflows of 22 kcfs;
- **Dworshak:** midnight elevation was 1,590.2 feet, average inflows of 7.8 kcfs, and outflows of 1.6 kcfs;
- **Lower Granite:** average outflows of 96.9 kcfs;
- **McNary:** average outflows of 225.6 kcfs; and
- **Bonneville:** average outflows of 232.6 kcfs.

Aaron Marshall, Corps, reported that John Day Dam is coming out of spring high pool operations for Caspian Tern nesting deterrence in the Blalock Islands area. Current reservoir elevation is 264.6 feet (1/10th foot above top of minimum irrigation pool range) and is transitioning to draft down to minimum irrigation pool (262.5-264.5 feet). The draft will be complete no later than June 10, as coordinated with BPA and project operators, and once within the minimum irrigation pool range will hold through August 31.

Water Quality – Dan Turner, Corps, reported that USGS sampling downstream of Ice Harbor had a GBT rate of 7%; this meets the conditions to return to 125% gas cap on the lower Snake River projects. Spill caps to meet the 125% gas caps will go into effect at 1600 hours today. Projects on the Columbia River are starting to move into minimum generation spill the rest as flows are coming down. Jonathan Ebel, IDFG, asked for insights on why TDG is significantly higher in the Ice Harbor forebay than in the Lower Monumental tailrace? Dan noted the challenge of Lower Granite continuing at a gas cap of 125%, which passes TDG down the system through the powerhouses. Additionally, low winds, warmer water temperatures, and barometric pressure can contribute to higher TDG. The gauges at Lower Monumental and Little Goose are on the spillway side, and do not serve as perfect indicators of the mixed river. If the powerhouse is releasing higher TDG than the spillway, you typically won't see the mixed condition until further downstream.

Fish – Tom Lorz, Confederated Tribes of the Umatilla Indian Reservation/CRITFC, reported on adult fish counts. Summer Chinook are in the low 1,000s to almost 2,000/day passing over Bonneville, which is normal to the 10-year average. Fish are moving through the system. The Snake River projects had a bump as flows receded, and counts seem to be falling back in line with expected travel times and passage. Charles provided an update from yesterday's TAC meeting: the updated spring/summer Chinook run size is 135,000 at the Columbia River mouth, and 9,000 wild natural origin Chinook through the Snake River.

For juveniles, Tom reported that spring Chinook and steelhead migration is winding down, with a few sockeye in the system as well. Sub-yearlings are the predominant species out-migrating at this point (index in 20,000s at Lower Granite) and are expected to continue for some time. Tom hoped fish continue to move through quickly with receding flows, as river temperatures are warmer than the 10-year average. Salmon Managers will continue to monitor temperatures moving forward. In response to a query about the first fishing treaty season, Tom noted that the typical duration is 3 days; he will confirm this internally and notify Scott Bettin, BPA, via email.

Dave Swank, USFWS, noted that the lamprey run, while still early, continues to be strong for this time of year; currently 194% of the 10-year average, 5,530 YTD. This is well above last year at this time (602).

TMT – June 7, 2023

Power System – Tony Norris, BPA, noted stability in the system. The current high-pressure system isn't producing much wind.

Questions and Comments from Members of the Public – there were no questions or comments from members of the public.

The next scheduled TMT meeting is on June 14, 2023, at 9:00 AM.

**Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, June 7, 2023
Minutes: Andrea Ausmus, BPA (contractor, CorSource Technology Group)**

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 Summaries and Minutes – May 24

- May 24 – Summaries and Minutes – Approved

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

June

a. Hungry Horse - *Reclamation*

- Below average snowpack going into May.
- Well above average runoff in May.
- June – July
 - 450 kaf
 - 51% of average
- Apr – Aug
 - 1660 kaf
 - 82% of average
- May – September
 - 1475 kaf
 - 83% of average
- The boost in percent of average is due to the May runoff in those other time frames – other than the June through July.

b. The Dalles - *Corps*

- April – August
 - 80 maf

- 89% of average
- c. Lower Granite
 - April – July
 - 20 maf
 - 102% of average
- d. Libby
 - June
 - 4803 kaf
 - 79% of average
- e. Dworshak
 - April – July
 - 2229 kaf
 - 90% of average

Charles Morrill, WA, asked about the Dworshak operation. He looked at the STP trace and Dworshak will hit its highest elevation of 1289' a week prior to the end of the month. It will then drop a foot prior to July 1. He asked with the inflow coming in, why do they need to give up a foot of water in the last week for summer operations. He asked if TMT could discuss reaching the 1289' at the end of the month.

Baus said there are two parts to this question. First somebody from RCC can give an update on the STP because the STP as it relates to that work product may have subtle differences on what Walla Walla has plans to do

Aaron Marshall, Corps, said that on Monday when they updated details about Dworshak operations later in June and July they are still generic at this point. Dworshak is operating to refill by the end of June and then what they showed in the forecast was a general outline to draft down to elevation 1535' by the end of August, putting it on the trajectory for the outflow shown in the STP forecast.

Morrill said that that made sense. He said that if Jon could address that, he would presume that they would not give up the foot of water if they could avoid that.

Brian Marotz, MT, asked for a repeat of Libby's elevation. He also asked what people have decided to do in response to the Tier 1 white sturgeon flow releases. He asked what the plan was for shaping the flows that are available to optimize them for sturgeon.

Baus said that the current elevation for hour 7 is 2444.87 feet. He asked whether Seattle District, Leon Basdekas was on the call, and he was not. Baus shared that the Corps' last update was the update regarding the fact that they would not have a pulse this year,

(0503_Minutes.pdf (crohms.org)). Without having Seattle District on the line Baus said he would have to leave it at that.

Marotz said that is fine, he was trying to set up a call with Greg Hoffman but he was unavailable so he will catch up with him at get his answer.

Scott Bettin, BPA, said that they have coordinated throughout FPIP, so Hoffman is intimately involved in this.

3. Juvenile Transportation - Chris Peery, Corps-NWW

- They are getting close to end of season.
 - The numbers of fish collected and transported are dropping quickly.
- Tentatively scheduled stop to barging: June 19, 2023

Table 7. Number of smolts collected and transported in 2022 versus recent history (2018-2021) at Lower Granite Dam, Little Goose Dam, Lower Monumental Dam and overall.

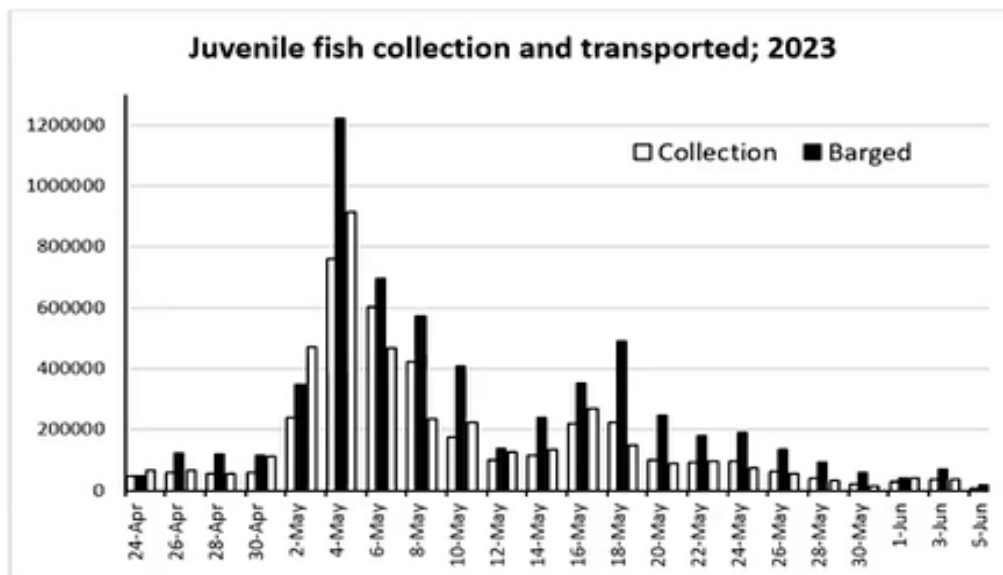
Collected	2018	2019	2020	2021	2022	2023	10y avg.
Lower Granite Dam ¹	6,473,432	5,089,044	1,487,841	768,441	2,532,632	3,084,403	4,636,095
Little Goose Dam	4,607,478	3,270,406	1,225,858	453,442	1,480,816	2,260,917	2,976,925
Lower Monumental Dam	2,761,746	3,020,476	897,572	306,847	1,561,672	1,944,228	2,084,712
Overall	13,842,656	11,379,926	3,611,271	1,528,730	5,575,120	7,289,548	9,697,733

Transported	2018	2019	2020	2021	2022	2023	10y avg.
Lower Granite Dam	5,125,679	3,119,028	1,165,554	489,010	2,206,159	2,914,949	2,737,924
Little Goose Dam	3,669,880	2,360,042	1,046,698	351,709	1,376,006	1,528,889	2,197,850
Lower Monumental Dam	2,306,873	2,135,952	795,494	209,181	1,328,113	1,455,925	1,582,387
Overall	11,102,432	7,615,022	3,007,746	1,049,900	4,910,278	5,899,763	6,518,161
Barge transport	15 Aug	30 Jul	21 Jun	20 Jun	19 Jun		

¹Data does not include fish sampled March 25-31 (2022; 23,689 smolts).

Screenshot 1: Peery shared during presentation – Juvenile Transport.

- Collected: ~7.2 M (June 5, 2023)
- Transported: ~5.9 M (June 5, 2023)



Screenshot 2: Peery shared during presentation -- Juvenile Transport

- As shown in the graph, the numbers being collected and transported are significantly lower as we have approached June.
- Barge transportation has ended typically at this time of year in previous years, around June 19 & 21.
- Next consider when to start truck transport.
- Previously, prior to 2019, they started truck transport as soon as they ended barging. The last three years, there has been a gap between the barging and truck transport that has varied between two weeks and a month.
- Peery asked if there was a preference. If there were any problems with it ending on June 19, 2023. And if there was any input on when to start trunk transport.

Stranz asked if there were any input from TMT members for the ending date for barging.

Jonathan Ebel, ID, asked if they would be running empty barges for the next ten days.

Peery said that there are some pretty lonely fish in there.

Ebel asked if Peery had considered moving up the June 19 date, for efficiency.

Peery said that being on June 7 now, the soonest would be June 14/15 because they have to give the tugboat contractor at least a week's notice. He said that he could do that. He does prefer to keep going to the middle of June. The flows might pick up over the next week, looking at the STP forecast, and the fish numbers might pick up over the next week. He feels that it is a good compromise between ending too early and ending too late, they used to go through August.

Ebel said that he has no issue going through the 19th, he just thought he'd mention it.

Jay Hesse, Nez Perce, asked about the graphic, in terms of fish collected and barged. He asked why there was a difference between fish collected and fish barged. He asked if they were tagged fish that were returned to the river.

Peery said that they collect for 48 hours and barge every other day. The open bars are the two days of collection and go into each day of barging.

Stranz asked about input on starting truck transport.

Peery said that is not something that needs to be decided today. They have a couple of weeks but the sooner they know the better so they can get the trucks and drivers lined up.

Stranz asked what his default is if Peery does not hear back from TMT.

Peery said that they will probably start trucking as soon as June 21, 2023.

Stranz said that TMT has some time. She told FPAC to talk about this and let Peery know if they have any dates that they would like him to consider other than starting on June 21.

Hesse had thought they had suspended transportation until August 1

Elizabeth Holdren, Corps, said that they do typically pause between barge transport and trucking. They typically start on August 1. There was one year that they started on July 4 because of low flows.

Peery thanked Holdren for the clarification.

Stranz clarified not June 21, August 1 for truck transport.

4. Operations Review

a. Reservoirs

Reclamation – Joel Fenolio

- Hungry Horse Dam
 - Midnight elevation: ~3549 ft.
 - Outflows: 2 kcfs
 - Inflows: 6.5 kcfs
 - Precipitation possible into the basin this week and into next.
 - Refilling the basin will be dependent on rainfall – snowpack is now depleted for the most part (3 – 4 weeks earlier than normal).
 - General plan: Hold 2 kcfs and cross over to Columbia Falls minimum operations at some point this summer.
- Grand Coulee Dam
 - Midnight elevation: 1284.6 ft.
 - Outflows: 100 kcfs
 - May 22 Inflows: 240 kcfs
 - Current Inflows: 120 kcfs

- Inflow drops below the tenth percentile for the 30-year averaging period.
- It is bleak for the northern part of the basin unlike the southern part of the basin is still in ongoing flood operations, controlling for refill flood operations.

Corps – Lisa Wright

- Libby Dam
 - Midnight elevation: 2444.7 ft.
 - Inflows: 20 kcfs
 - Outflows: 10 kcfs
- Albeni Falls
 - Midnight elevation: 2061.3 ft.
 - Inflows: 35 kcfs
 - Outflows: 22 kcfs
- Dworshak Dam
 - Midnight elevation: 1590.2 ft.
 - Inflows: 7.8 kcfs
 - Outflows: 1.6 kcfs
- Lower Granite average outflows: 96.9 kcfs
- McNary average outflows: 225.6 kcfs
- Bonneville average outflows: 232.6 kcfs

b. Reservoirs – *Aaron Marshall, Corps*

- John Day Operations
 - Coming out of Spring High Pool Operation for Caspian Tern nesting deterrence in the Blaylock Island area.
 - Currently in that transition period drafting down to minimum irrigation pool.
 - Current Reservoir Elevation: 264.6 feet
 - Tenth of a foot above the top of minimum irrigation range.
 - Complete draft no later than June 10, 2023
 - Coordinated with BPA and the project coordinators.
 - Once they draft John Day to minimum irrigation pool range (262.5' – 264.5') it will be held there until through August 31, 2023.

c. Water Quality – *Dan Turner, Corps*

- USGS sampled GBT downstream of Ice Harbor on June 6, 2023
 - GBT rate was at 7%
 - Meeting conditions to return to the 125% gas cap on the Lower Snake River, at the lower three projects.
- The 125% gas caps will go into effect at 1600 hours, today.
- Starting to move into “Minimum Generation Spill the Rest” on the Columbia River.
 - Flows are coming down, see how the forecasted bump in the flow affects things if they see the bump in the flow in the Snake River.

Ebel asked for more detail about why there is higher TDG in the forebay of Ice Harbor than in the tailrace of Lower Monumental.

Turner said that one of the challenges they have had is that Lower Granite’s gas cap is continuing at 125%. He said that you would have to go back to the top of the system. LGNW, representing the tail water of Lower Granite, has been going at 124 – 125% TDG and that is being passed down through the powerhouses and through the system. Turner said that there has also been minimal wind so there has not been any degassing and then there have been rising temperatures which can add a little TDG to the system. This is all being passed downstream from upstream.

Ebel said that it did not completely answer his question, he asked if the temperature, barometric pressure, and biologic processes going on that are causing a 3% increase in TDG from the Lower Monumental tailrace to Ice Harbor Forebay. What he heard Turner say was that the gas was being carried downstream, but by the time that it is at Lower Monumental tailrace it is at 116% TDG but then at the Ice Harbor forebay it is at 119%. He does not understand that increase.

Turner said that there is a lot going on. A part of it is barometric pressure and temperature, also the gage at Lower Monumental and Little Goose are on the spillway side so they are not perfect indicators. They are good indicators of what is coming out of the spillway, but they are not necessarily good indicators of what a mixed river is. In this situation when the powerhouse can be releasing higher TDG than the spillway you do not see that mixed condition until you get downstream. Turner said that there is a lot going on and he does not have those numbers offhand.

Ebel said that he appreciates the answer, he is trying to reconcile how they are applying the water quality criteria under that much complexity.

d. Fish – *Tom Lorz, Umatilla/CRITFC*

- Adults
 - Bonneville Dam counts have changed over to Summer Chinook

- Bonneville Dam
 - Counts of low thousands; ~2000 going over Bonneville per day
 - Normal to ten-year average.
- Snake River
 - Fair size bump of fish as flows receded.
 - Counts are falling back in line to what is expected on travel times and passage.
 - Passage delays are no longer a concern.
- Juveniles
 - Spring Chinook and Steelhead are close to done.
 - A few Sockeye still making way out.
 - Subyearling Chinook are predominant species of migration
 - Indexes in ~20K
 - Expect to continue for some time.
 - Hope fish move through quickly as flows recede.
 - River temperatures are a couple of degrees warmer than the 10-year average.
 - They will be tracking and looking at that.

Bettin said that the first Treaty fishing season is coming up. He asked Lorz if he knew the duration.

Lorz said that it is usually three days. He said that he will reach out to his TAC rep and he will get an actual date and he will email Bettin the duration.

- Lamprey – *Dave Swank, USFWS*
 - Lamprey run, though early, continues to be strong for this time of year.
 - 194% of the 10-year average.
 - Current Counts: 5530
 - Last year Counts: 602
 - So far a very good lamprey run.
- TAC Note Update from Charles Morrill via chat
 - TAC updated Spring Chinook Run size to 135 K at Col R Mouth
 - Snake River Natural origin Chinook 9 K

e. Power System – *Tony Norris, BPA*

- Things are stable.
- Still have water in the river.
- There is a little wind on the system when we get these systems through.
- High pressure right now is not producing a lot of wind.

5. Public Comments: None

6. Set agenda for next meeting – **May 31, 2023**

Today’s Attendees:

Agency	TMT Representative(s)
Army Corps of Engineers	Doug Baus (chair), Julie Ammann, Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin, Ben Hausmann
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	Erick Van Dyke
Idaho	Jonathan Ebel
Montana	Brian Marotz
Nez Perce Tribe	Jay Hesse
Umatilla Tribe	
Colville Tribe	Kirk Truscott
Warm Springs Tribe	
Kootenai Tribe	
Spokane Tribe	

Other Attendees (non-TMT members):

Corps – Dan Turner, Alexis Mills, Aaron Marshall, Chris Peery

DS Consulting – Emily Stranz (Facilitator), Colby Mills

BPA – Andrea Ausmus (note taker, Contractor with CorSource Technology Group)

Oregon DEQ – David Gruen

Clearing Up – K.C. Mehaffey

Columbia Basin Bulletin – Mike O’Bryant

Portland General Electric – Ruth Burris

Douglas County PUD – Andrew Gingerich

Chelan PUD – Jay Fintz