

Columbia River Technical Management Team

August 17, 2016

Facilitator's Summary

Facilitator: Emily Plummer, Notes: Tory Hines, 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. This summary is not intended to be the "record" of the meeting, only a reminder for TMT members.

Meeting Minutes and Facilitator's Summary - TMT members present approve the July 20th, 27th, and August 10th meeting minutes and facilitator's summaries.

Dworshak Dam Operations - Steve Hall, COE-NWW, reported on current water temperatures in the Snake and Clearwater Rivers. Presently, water temperatures are fairly cool in both systems, with Lower Granite tailwater temperatures at 65.3 degrees Fahrenheit. Due to a warm spell in the region, discharge has been increased to avoid temperature exceedances in the coming week. The Corps will continue to operate Dworshak Dam at full powerhouse through the end of the week, then drop down to one small and one large unit in order to achieve the target elevation of 1,535ft by the end of August. Charles Morrill, WA, asked for an update on the temperature station in the Lower Granite pool. Steve noted that the weather station is operating as of last week, however, they are still working on transmitting the data. Additionally, another weather station, midway up the reservoir pool, is set for installation next year. The hope is that information from these stations will help inform next years modelling.

- **ACTION:** The Corps will continue to operate Dworshak Dam at full powerhouse through the end of this week and will drop down to one large and one small unit the following week to achieve the target elevation of 1,535ft by August 31st.

Treaty Fishing SOR 2016 C-2 - Doug Baus, COE-NWD, reported that the Corps received SOR 2016 C-2 and will implement it as written. Kyle Dittmer, CRITFC, will provide an update on the SOR at the next TMT meeting on August 24th.

- **ACTION:** The Corps will implement SOR 2016 C-2 beginning at 0600 hours on August 22nd. Kyle Dittmer will provide an update on treaty fishing at the August 24th TMT meeting.

Spill Priority List - Doug Baus noted that the link to the draft Spill Priority List (SPL) is located on the TMT agenda. The SPL is utilized by the Action Agencies during lack of load situations to manage system wide TDG. The timeframe for the list is from September 1st to no later than March 31st. Paul Wagner, NOAA, noted that FPAC reviewed the list and there were no concerns expressed.

- **ACTION:** The Corps will implement the SPL as written beginning on September 1st.

Operations Review

Reservoirs: Mary Mellema, BOR, reported on Reclamation projects:

- Hungry Horse midnight elevation was 3,555ft, with 2kcf's outflow and drafting 10ft for the end of September.
- Grand Coulee elevation was 1,283.5ft and the reservoir is being drafted to the end of August target elevation of 1,277.6ft.

Mary also noted that Banks Lake is being drafted to the end of August target elevation of 1,565ft.

Lisa Wright, COE-NWD, reported on Corps projects:

- Libby midnight elevation was 2,447.5ft, with 6.8kcfs inflow and 7kcfs outflow.
- Albeni Falls midnight elevation was 2,062.4ft, with 6.7kcfs inflow and 7.2kcfs outflow.
- Dworshak midnight elevation was 1,550.0ft, with 0.7kcfs inflow and 10.1kcfs outflow.
- Lower Granite average inflow was 29.5kcfs.
- McNary average inflow was 128.0kcfs.
- Bonneville average inflow was 114.2kcfs

Tony Norris, BPA, noted that the MOP operation ends on August 31st, and the Lower Snake projects will transition to a no net fill operation during the Dworshak draft of 200 kaf in September per the Nez Perce agreement.

Fish: Paul Wagner, NOAA, reported on fish. At Bonneville, summer Chinook numbers are strong (119,591, 125% of the 10-year average); however, Jacks are considerably below average (50% of the 10-year average). Current steelhead numbers are low (88,953 total, 47% of the 10-year average, with an average of 1,500-2,500 passing per day); wild steelhead numbers are also low (42% of the 10-year average). Lamprey numbers are very strong (26,262 total, 237% of the 10-year average); and Sockeye numbers are also strong (342,003, 120% of the 10-year average). Fall Chinook at Bonneville are trending high, with counts at 163% of the 10-year average. It is forecasted that fall Chinook will have a strong run this year.

At Lower Granite, summer Chinook numbers are down (11,914, 71% of the 10-year average); Jacks are also below average (2,083, 32% of the 10-year average). The Sockeye run is wrapping up at Lower Granite (85% of the 10-year average); and Lamprey numbers are also considerably higher than previous years (84 total, 1400% of the 10-year average).

Russ Kiefer, ID, noted that through August 15th, 310 Sockeye were trapped in the Sawtooth Basin. On August 15th alone, 38 adults were trapped, this was a record day for this year. Strong Sockeye numbers can be attributed to the cooler temperatures and July rains.

For juveniles, sub-yearling Chinook numbers are winding down, with less than 1,000 per day at Lower Granite. At Little Goose and Lower Monumental, fewer than 100 sub-yearling Chinook are passing per day. Low counts at all of the projects are partly attributed to reduced sampling due to high water temperatures (70-71 degrees Fahrenheit) in the mainstem of the Columbia.

Water Quality: Karl Kanbergs, COE-NWD, noted that all gauges appear to be operational and there are no problems or issues to report.

Power System: Nothing to report.

The next TMT meeting will be a conference call on August 24th at 9:00am.

Agenda: Dworshak Update, Fall Season Treaty Fishing

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM MEETING—OFFICIAL MINUTES

August 17, 2016

Minutes: Pat Vivian

Representatives of the COE, BOR, Montana, BPA, USFWS, NOAA, Oregon, Washington, Warm Springs, Umatilla and Colville tribes, Idaho and others participated in today's TMT meeting. Doug Baus, COE, chaired the meeting and Emily Plummer, DS Consulting, facilitated the conversation. This summary is an official record, not a verbatim transcript.

2. Review Meeting Minutes – July 20, 27 and August 10

The minutes and facilitator's summaries for all three meetings were deemed final today.

3. Dworshak Dam Operations

Water temperatures remain fairly cool, currently 65.3 F in the Lower Granite Dam (LWG) tailwater, Steve Hall, COE, reported. Yesterday's modeling results indicated that increased augmentation from Dworshak is needed with temperatures in the Portland area forecast to reach 100 degrees F over the next few days. So the Action Agencies are operating Dworshak at full powerhouse through the end of this week. At that time, the project will drop down to one big and one small unit through the rest of August, with a goal of drafting the reservoir to 1535 ft elevation by August 31.

Paul Wagner, NOAA, asked about the recent change to 2013 as an analog year for modeling temperature trends. That's because most other years didn't reflect the temperature spikes we're seeing now, Hall replied. Typically temperatures decreased in August with shorter days and less solar radiation.

Dave Swank, USFWS, asked about the difference between the forecasted and observed temperatures shown in the modeling. Releases from Idaho Power's Hells Canyon complex have peaked over the past few days, raising the temperature of downstream inflows, Hall replied. Because the model doesn't take into account factors that could affect temperatures, the COE assumes error bounds of 1 degree C (about 1-1/2 degrees F), targeting 67 degrees F instead of 68 degrees F in its modeling. Charles Morrill, Washington, asked about the new temperature monitoring station at Lower Granite. Hall said it was installed in recent weeks, with satellite communications still being worked out. Next year, the COE plans to install an additional weather station in Lower Granite pool. TMT will revisit Dworshak operations in an August 24 conference call.

4. Treaty Fishing SOR

Baus told TMT the COE will implement SOR 2016 C-2 (linked to today's agenda) on August 22, as requested by CRITFC on behalf of the lower Columbia River tribes. Kyle Dittmer, CRITFC, who could not attend today's meeting, will give a treaty fishery report on August 24.

5. Spill Priority List

On September 1, the COE will implement the spill priority list linked to today's agenda, Baus said. From September 1 through March 31, the spill priority list governs which projects will spill during times of insufficient load. The typical priority starts with spill at Bonneville Dam and progresses upriver, as does this year's list.

During yesterday's FPAC call, the Salmon Managers reviewed the list and agreed the proposed order is acceptable, Paul Wagner, NOAA, reported. The COE will implement the list beginning September 1 when spill season ends.

6. Operations Review

6a. Reservoirs. Mary Mellema, BOR, and Lisa Wright, COE, reported. Hungry Horse is at elevation 3555 ft, releasing 2 kcfs and drafting down 10 ft by end September. Grand Coulee is at elevation 1283.5 ft, drafting toward an end of August elevation target of 1277.6 ft. Banks Lake is also on a 5 ft draft from its current elevation of 1566.5 ft to a target of 1565 ft at end August. Libby is at elevation 2447.5 ft with inflows of 6.8 kcfs, releasing minimum flows of 7 kcfs.

Albeni Falls is at elevation 2062.4 ft with inflows of 6.7 kcfs and releases of 7.2 kcfs. Dworshak is at elevation 1550.0 ft with inflows of 0.7 kcfs, discharging full powerhouse flows of 10.1 kcfs. Lower Granite average outflows are 29.5 kcfs, McNary average outflows are 128.0 kcfs, and Bonneville average outflows are 114.2 kcfs.

End of MOP Operations – Minimum operating pool restrictions officially end August 31, Tony Norris, BPA, reported. BPA plans a no net fill operation as it has in the past, while drafting Dworshak to 1520 ft on approximately September 20.

6b. Fish. Paul Wagner, NOAA, reported. Adults: At Bonneville Dam, fall chinook adults are arriving now, and returns are forecasted to be 163% of the 10 year average. Summer chinook likewise are having a good year, with 119,591 total adults returning, or 125% of the 10 year average. Jacks haven't fared as well at 1,963 returns, 50% of the 10 year average. Steelhead returns to Bonneville are 88,953 to date with 2500-1500 passing per day, but that's only

47% of the 10 year average. Wild steelhead returns are similarly low at 42% of the 10 year average. Lamprey, however, had a stellar season, with 46,262 adults arriving at Bonneville, the biggest return in years—237% of the 10 year average. Lamprey returns this year are breaking records at all projects. Sockeye passage is finished at Bonneville, with 342,000 adult returns, or 120% of the 10 year average.

Summer chinook returns to Lower Granite are relatively low at 11,914, or 71% of the 10 year average. Jack returns are 2,083, only 32% of the 10 year average. Sockeye returns to Granite are 806, or 85% of the 10 year average. Lamprey returns to Granite are 84, a whopping 1,400% of the 10 year average.

Russ Kiefer, Idaho, gave an update on the closely watched adult Snake River sockeye return to Redfish Lake. Through August 15, IDFG trapped 310 sockeye in the Sawtooth Basin. Cool weather in July helped make this a good year for sockeye after last year's doomed run.

Juveniles: Passage is winding down. Subyearling chinook were passing Lower Granite at the rate of 1,000-2,000 per day, now at less than 1,000 per day, according to passage indices. At Little Goose, subyearling passage is a few hundred fish per day, and at Lower Monumental less than 100 per day. Counts are similarly low at McNary, John Day and Bonneville. Due to temperatures of 71-74 degrees F on the mainstem Columbia, all projects are on reduced sampling protocol to avoid stressing fish.

6c. Water Quality. There was nothing to report today.

6d. Power System. There was nothing to report today.

7. Next TMT Meeting

TMT will meet next in a conference call on August 24, with updates on Dworshak operations and treaty fishing on the agenda.

Name	Affiliation
Doug Baus	COE
Chris Runyan	BOR
Lisa Wright	COE
Jim Litchfield	Montana
Mary Mellema	BOR
Tony Norris	BPA
Dave Swank	USFWS
Steve Hall	COE Walla Walla
Michelle Yuen	COE
Tory Hines	DSC
Karl Kanbergs	COE

Paul Wagner	NOAA
Erick Van Dyke	Oregon
Bill Hevlin	NOAA
Scott Bettin	BPA
Charles Morrill	Washington

Phone:

Jen Graham	Warm Springs Tribe
Tom Lorz	CRITFC/Umatilla
Sheri Sears	Colville Tribe
Trevor Conder	NOAA
Russ Kiefer	Idaho
Lynn Palensky	NPCC
Wayne Jousma	COE Walla Walla
Scott Richards	Snohomish PUD
XX	Energy News Data
Paula Calvert	ODEQ
Shane Scott	PPC
Dave Benner	FPC
Russ Kiefer	Idaho