

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 21, 2017

Facilitator's Summary

Facilitator: Emily Stranz; Notes: Charles Wiggins, 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.nwd-wc.usace.army.mil/tmt/agendas/2017/>

Review Meeting Summary and Minutes

TMT approved the May 31, June 2, 5, and 7 meeting summaries and minutes. They will review the June 14th summary and minutes at the next face to face meeting.

Libby Operations

Joel Fenolio, Corps, presented on the Libby Dam sturgeon and summer operations. He shared that the May 1st Libby April-August runoff volume (i.e., water supply) forecast was 8.2 MAF. Per the BiOp the May forecast sets the 1.2 MAF volume allocated for the sturgeon operation, and the minimum flow of 9kcfs for bull trout. Based on The Dalles April-August water supply forecast of 110 MAF, Libby would be targeting a forebay elevation of 2,449 by the end of September.

Joel continued that the sturgeon operation was completed on June 18th. The Corps will operate to refill Libby Dam by late July or early August, setting up the summer operation to support the request for the Kootenai Tribe sturgeon habitat restoration work with a maximum 6kcfs release from the Dam through September. He noted that in order to do so, the project will target 2,449ft by the end of August instead of September, because average inflows in September are 6 kcfs. Joel pointed out that with this operation, the project could be above 2,449 ft by the end of September due to unforecastable precipitation events. Flows through the end of June are expected start off at 14 kcfs with a potential decrease to 12 kcfs, and then between 9-12 kcfs through the rest of the summer. This operation is also intended to try and minimize double peaking, increasing releases instead of decreasing as desired for fish purposes to reach 2,449 ft, by 2 kcfs above the summer flat flow in July and August.

Jim Litchfield and Brian Martoz, MT, shared that the operations looked good from Montana's perspective, noting that they appreciate the Corps keeping the double peaks as low as possible.

Treaty Fishing – SOR 2017 C-1

Kyle Dittmer, CRITFC, provided an overview of the Treaty Fishing SOR on behalf of the Columbia River Inter-Tribal Fish Commission members. SOR 2017-C1 requests a 1.5 foot band for the Bonneville, The Dalles and John Day pools during the treaty fishing periods: June 19-22 and June 26-29. He noted that there will likely be subsequent requests for additional fishing periods. Kyle shared that due to the run conditions, the fishing season will be shortened this year, likely concluding in mid-July instead of the end of July as normally occurs. The fall fishing season will begin in August.

Kyle noted that CRITFC will conduct net flights and report back to the TMT when the data are available. He also shared that if people are interested in buying fish from the tribal fisherpeople, the CRITFC website provides details on where to buy fish.

Doug Baus, Corps, noted that the Corps has already begun implementing the SOR and will continue to do so. Scott Bettin, BPA, asked Kyle whether the fishing days can be shifted from Tuesday through Friday, to Monday through Thursday. Kyle agreed to check with the fisherpeople to see if this shift works for their fishing schedules.

- **ACTION:** Kyle will check to see the feasibility of shifting the fishing periods a day earlier to be Monday-Thursday, instead of Tuesday through Friday.

Little Goose Dam Update

Doug Baus and Paul Wagner (NOAA) reported on special spill operations for adult fish passage at Little Goose Dam. Doug pointed TMT to a summary of the operations coordinated through TMT starting on June 2nd; the summary is available on the TMT web site.

Pursuant to the consensus agreement at the June 7 meeting, 30% spill occurred each day between 4AM and Noon, spill then increased to pass inflow until 4PM, when spill increased again to return to MOP if possible by 4AM without exceeding 130% TDG in the tailrace. Flow was capped at 140 kcfs to keep TDG below 130% at the tailrace. It was clarified that the chart provided in the summary shows hourly minimum and maximum flows throughout the day, as well as the average 24 hour flow. Doug noted that as coordinated, the operation is set to conclude today. No additional requests to extend the operation were provided by FPAC, and the inflows are receding, eliminating the need for the operation. Lisa Wright, Corps, noted that the operation has not caused MOP exceedances since June 13th.

Paul reported that adult Chinook passage has improved since starting the 30% spill operation and that the deficit between counts at Little Goose and Lower Monumental is within 2,000 fish (from ~9,000 when the operations were initiated). Russ Kiefer, ID, explained that a portion of the 2,000 fish not counted passing Little Goose are actually destined for the Tucannon River, a tributary that comes in between the two projects. He continued that IDFG has looked at the average conversion rates between Ice Harbor and Lower Granite, compared to in season counts, and the passage numbers are matching up well.

Lisa noted that the Snake River FOP summer spill operations have begun, effective today, June 21st. Erick Van Dyke, OR, asked whether any of the projects had been able to drop down to the FOP spill values yet or if flows are still too high. Lisa responded that projects are still spilling more than the target FOP summer spill rates due to the high flows.

Operations Review

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

- Hungry Horse midnight elevation was 3,552.2ft, with 8.9kcfs inflow and 3.2kcfs outflow. Mary noted that the project will refill sometime around July 10th.
- Grand Coulee elevation was 1,282.9ft.

Lisa Wright reported on Corps projects:

- Libby midnight elevation was 2,431.2ft, with 15kcfs outflow and 33.6kcfs inflow.
- Albeni Falls midnight elevation was 2,061.3ft, with 58.7kcfs inflow and 42.1kcfs outflow.
- Dworshak midnight elevation was 1,600ft, with 9.3kcfs inflow and 7.1kcfs outflow.
- Lower Granite average outflow was 120.6kcfs.
- McNary average outflow was 316.1kcfs.
- Bonneville average outflow was 315.8kcfs

Doug noted that as previously coordinated at TMT, the Corps will maintain a uniform spill pattern at Lower Monumental until flows drop below 105kcfs. At this point, they are anticipating that they will shift to a bulk pattern next week.

Fish: Paul reported on fish. For adults at Bonneville, he noted that the summer Chinook runs are looking better than the spring runs thus far, at 80% of the 10-year average. Jacks are not fairing as well, they are at 50% of the 10-year. Sockeye are stepping up, but currently are only at 35% of the 10-year. Lamprey are looking great at Bonneville, at 425% of the 10-year. At McNary, summer Chinook are at 43% of the 10-year, and Sockeye are just starting to show. It is a bit early to report on summer Chinook at Lower Granite, however, the spring Chinook counts were 44% of the 10-year.

For juveniles, yearling passage is complete and sub-yearlings are starting a bit early. Counts are looking good, exceeding the 10-year average, partly due to hatchery releases. Paul noted that the spillway passage percentage has been high this year.

Water Quality: Laura Hamilton, Corps, reported on water quality. She shared that there are TDG exceedances throughout the system due to high flows and involuntary spill. The Cascade Island gauge (below Bonneville Dam) that was reported down at the last TMT meeting has been fixed and is reporting.

Power System: Scott Bettin, shared that all is good on the power system.

The next TMT meeting will be a conference call on June 28th at 9:00.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

June 21, 2017
Minutes: Pat Vivian

1. Introduction and Review Meeting Minutes – May 31, June 2, 5, and 7

Representatives of the COE, NOAA, Washington, BOR, CRITFC, Montana, USFWS, BPA, Warm Springs and Nez Perce Tribes, Oregon, Idaho, and others participated in today's TMT meeting. Doug Baus, COE, chaired the meeting with facilitation by Emily Stranz, DS Consulting. The official minutes and facilitator's summaries for May 31, June 2, 5, and 7 were approved as final.

2. Libby Dam Summer Operations

Joel Fenolio gave a presentation attached to today's agenda. As of the May 10 TMT meeting, the Libby water supply forecast for April-August was 8.2 maf, 140% of average. Since then, precipitation in May turned out to be only 50% of average in the Kootenai basin, so the Libby forecast dropped to 7.6 maf, 130% of average. This is consistent with ESP traces which predict a 7.4 maf April-August runoff volume.

According to the May water supply forecast, the sturgeon volume this summer is 1.2 maf, and bull trout minimum flows are 9 kcfs after the sturgeon pulse ends. Currently the dam is passing for refill, not VarQ flows. The May water supply forecast for The Dalles of 110 maf puts the end of September BiOp draft target for Libby at 2449 ft elevation, 10 ft from full.

As in past years, the COE plans to accommodate the Kootenai Tribe's request for 6 kcfs releases in September for sturgeon habitat restoration work while also meeting the intent of the BiOp by drafting Libby to 2449 ft by the end of August. If inflows in September are greater than 6 kcfs, that could put Libby reservoir at an elevation above 2449 ft by the end of September. The operation aims to avoid double peaks by releasing flat flows in July, thus minimizing the risk of having to bump up discharges by 2 kcfs in July and August. The goal is for Libby to reach maximum summer pool elevation in late July or early August.

When the sturgeon volume was released as of June 18, Libby discharges dropped to 14 kcfs, then to 12 kcfs through June 24. With higher inflow projections, an average of 13 kcfs will be discharged after that to minimize the risk of having to increase flows later in the summer. The projected summer elevation is 2439 ft at the end of June, with a median summer elevation of 2451.7 ft and draft to 2449 ft by end August. The median refill elevation is 2451.7 ft in August. Jim Litchfield and Brian Marotz said this plan looks good from Montana's perspective.

3. Treaty Fishing

3a. SOR 2017-C1. On June 14, CRITFC submitted SOR 2017 C-1 which asks the Action Agencies to implement a 1.5 ft elevation band at Bonneville, The Dalles and John Day for the summer treaty fishery on June 19-June 22 and again on June 26-29, Kyle Dittmer, CRITFC, reported. Given the

size of the run this year, summer treaty fishing will probably continue until mid-July, so there will no doubt be another SOR. The expected run sizes of 59,700 adult summer upper Columbia chinook and 198,000 sockeye are both below average compared to previous years. CRITFC did a net flight yesterday but does not have the results yet.

Sites where tribal fishers are selling their summer chinook catch can be found on the CRITFC website at www.critfc.org/harvest/. The Action Agencies have already coordinated implementation of SOR 2017 C-1, Baus noted.

Scott Bettin, BPA, asked if future fisheries could be scheduled on Tuesday through Friday instead of Monday through Thursday, and Dittmer said he will convey that message to his coworkers.

Little Goose Dam Operations

5a. Summary of LGS Operations for Adult Passage. On June 2, TMT coordinated a special 40% spill treatment at Little Goose from 4 am-10 am daily to aid adult passage. The operation was modified to 30% spill on June 5, then extended to an 8-hour period 4am to noon from June 8 through June 21. Since the COE has received no request to extend the operation, it will end today, Baus said. A summary of the operation is posted to today's agenda. The operation allowed MOP exceedances so excess water could be stored in the Little Goose forebay to keep spill at 30% of outflows during those hours of peak adult passage.

The operation appeared to improve the conversion rate of adult spring Chinook from Lower Monumental to Little Goose, but now that inflows are down, a special operation is no longer necessary. In fact, MOP exceedances have not been needed since June 13 to maintain 30% spill, Lisa Wright, COE, noted.

5b. Adult Fish Counts. The disparity in adult counts between Lower Monumental and Little Goose decreased from 2,000 to 1,000 fish per day, Paul Wagner, NOAA, reported. This indicates the 30% spill treatment was effective.

5c. Little Goose Percent Spill. Because project inflows have decreased, spill can be maintained at 30% with no need to store excess water in the forebay. Russ Kiefer, Idaho, added that conversion rates for spring and summer Chinook between Ice Harbor and Lower Granite are closer to normal now, which indicates that limiting spill to 30% was the right thing to do. Jim Litchfield asked about the adult population count for the Tucannon River. Charles Morrill, Washington, will follow up on that.

5e. LGS Inflow Forecast. A recession in inflows is forecast on the Snake River. As of today, June 21, FOP summer spill operations began on the Snake River projects, with Lower Monumental transitioning to 17 kcfs spill, and Lower Granite to 18 kcfs spill, Lisa Wright reported. Little Goose continues 30% spill and Ice Harbor continues to alternate spill treatments. However, flows are still high enough that projects are spilling more than the target FOP summer spill rates.

6. Operations Review

6a. Reservoirs. Wright and Mary Mellema, BOR, reported. Hungry Horse is at elevation 3452.2 ft with 3.2 kcfs discharges and inflows of 8.9 kcfs. Grand Coulee is at 1282.9 ft elevation. Libby is at 2431.2 ft elevation, with 33.6 kcfs inflows and 15 kcfs discharges. Albeni Falls is at elevation 2061.3 ft with inflows of 58.7 kcfs and discharges of 42.1 kcfs. Dworshak is at elevation 1600 ft with inflows of 9.3 kcfs, releasing 7.1 kcfs. Lower Granite inflows are 120.6 kcfs, McNary inflows are 316.1 kcfs, and Bonneville inflows are 315.8 kcfs.

Baus added that the uniform spill pattern continues at Lower Monumental due to high inflows, as coordinated at TMT. The uniform spill pattern will continue until inflows drop below 105 kcfs, then the project will transition to the bulk pattern for summer spill.

6b. Fish. Paul Wagner reported.

Adults: Some projects are already passing summer Chinook, with a count of 35,170 to date at Bonneville, about 80% of the 10 year average. Jacks are faring less well at 4,055, which is 50% of 10 year average, but it's still early in jack season. Sockeye counts at Bonneville are approximately 23,379 to date, which is 35% of the 10 year average. Lamprey counts at Bonneville are 18,866, a record-setting 425% of the 10 year average. However, adult lamprey passage is lagging at The Dalles with only 257 returns to date.

At McNary the adult summer Chinook count is 13,444, 72% of the 10 year average. The jack count of 1,546 is 43% of the 10 year average. Sockeye are just beginning to show.

It's early to report on summer Chinook returns to Lower Granite, but the spring run is done at 27,357, which is 44% of the 10 year average. Spring Chinook jacks were 63% of the 10 year average.

Juveniles: Yearling passage exceeded the 10 year average throughout the system, despite high levels of spill and higher percentages of spillway passage than normal. Subyearlings arrived early in great abundance, reflecting early hatchery releases in the Snake basin. Daily passage numbers for subyearlings are in the 20,000 range at most of the Snake projects, with McNary having the highest count of 86,000 a week ago. Lamprey passage is still going strong at the Snake projects, with the biggest counts at Bonneville and John Day dams. This year is similar to 2012, Charles Morrill noted, when peak passage occurred around July 20, so there should be more fish to come.

6c. Water Quality. Laura Hamilton, COE, reported. There have been multiple exceedances throughout the system due to high levels of spill. Now that inflows are slowly receding, TDG exceedances are going down. The Cascade Island gauge below Bonneville dam had a membrane malfunction, and high tailwater elevations prevented USGS workers from making the repairs for several days. That accounts for missing data on the water quality page of the TMT website.

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

7. Next TMT Meeting

TMT will meet next in a conference call June 28.

<i>Name</i>	<i>Affiliation</i>
Steve Hall	COE Walla Walla
Paul Wagner	NOAA
Charles Morrill	Washington
Mary Mellema	BOR
Lisa Wright	COE
Kyle Dittmer	CRITFC
Doug Baus	COE
Eric Chau	COE
Laura Hamilton	COE
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Jen Graham	Warm Springs
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Oscar Zimmerman	COE Seattle
Michael Bryant	CBB
Margaret Filardo	FPC
Dave Benner	FPC
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Brian Zigler	Snohomish PUD
Laura Berg	Clearing Up