

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

December 20, 2017

Facilitator's Summary

Facilitator & Notes: Emily Stranz, 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/>

Meeting Summaries and Minutes

The group requested more time for review of the 11/15, 11/22, 12/6 meeting minutes and facilitators summaries; they will revisit the documents at the January 17th meeting.

Dworshak Update

Amanda Morelos, Corps, reported on operations at Dworshak. The current elevation is 1,522 feet and rising a little; however, they did not see inflows rise to the levels previously predicted with the last weather event, as most of the precipitation fell as snow. The region does not expect any significant increases in inflow within the next 10 days. The Corps plans to hold 1.8kcfs out, potentially increasing to 2 units during the cold snap, with the target of 1,520 feet elevation at the end of December. The official January forecast will be available on the 4th and will inform end of January targets. The Corps will provide the TMT with an unofficial forecast at the January 3rd meeting.

Chum Operations

Tony Norris, BPA, reported that BPA and WDFW have been coordinating on the chum operation and plan to conduct another site visit and redd survey on 12/21. Tony noted that on the 19th, only 3 live chum were observed in the Strawberry Island area, and no fish were seined on the 18th; in total 21 have passed Bonneville this year. Unless the upcoming survey suggests an alternate operation, the plan is to end the chum spawning operation at 1:00 on Thursday, December 21, due to an end to the spawning season. Once the spawning operation is complete, BPA will operate Bonneville tail water between 11.8-12.0 feet at all times in order to protect the redds, until further notice.

→ ACTION: The chum spawning operation will end at 1:00pm on December 21st, at which point the incubation operation will begin and this will maintain a minimum tailwater elevation of 11.8 feet on all hours at Bonneville Dam until further notice.

Doug Baus, Corps, updated the TMT on the NWRFC water supply and climate forecasts. He noted the water supply forecast for The Dalles with 5-day QPF is 102% of average (89maf). The climate forecasts predict below average precipitation and temperatures for the 6-10 day outlook and the 8-14 day outlook, above average temperature and below average precipitation for the 30 day outlook, and below average temperatures and above average precipitation for the 60 day outlook. Current hourly tail water at Bonneville Dam is 12.7ft. Russ Kiefer, ID, pointed out that two months ago the forecast was looking really wet, and now it appears to be drying up.

Operations Review

Reservoirs: John Roache, BOR, reported on Bureau projects:

- Grand Coulee elevation was at 1,284.7ft and is operating to support the chum operation.
- Hungry Horse elevation was at 3,542.5ft with 1,600cfs out and operating to meet the Columbia Falls flow requirements.

Lisa Wright, Corps, reported on Corps projects:

- Libby elevation was 2,420.5ft with 17kcfs out and 5.6kcfs in.
- Albeni Falls elevation was 2,051.5ft with 19.6 kcfs out and 27.9kcfs in.
- Dworshak elevation was 1,522.2 with 1.8 kcfs out and 3.6kcfs in.
- Lower Granite average inflows were 31.7kcfs.
- McNary average inflows were 131 kcfs.
- Bonneville average inflows were 138.6kcfs.

Fish: Paul Wagner, NMFS, reported on fish. He noted that adult steelhead are the main focus these days, however, the run is nearing its end for the season with only a few past Bonneville Dam each day. This year's saw poor steelhead returns with 35% of the 10-year average and 30% for wilds. The trigger for zero nighttime generation at the Lower Snake River projects was met (a three-day running average of fewer than 35 total steelhead and fewer than 10 wild steelhead). For other species the 10-year averages looked better than steelhead, however still below average: fall Chinook jacks were 49%, spring Chinook were 55%, summer Chinook were 89%, fall Chinook were 61%, coho were 63%, and sockeye were 27%. Lamprey returns looked the best relative to the 10-year average, at 340%.

Water Quality: Dan Turner, Corps, reported on water quality. He noted that the Warrendale gauge is down and the Corps is looking into it.

Power Supply Tony Norris, BPA, reported on the power supply. He noted that if the cold, dry weather holds, the region will likely not get much wind and thus the balancing reserves will reflect less variation in reserve use and need.

\The next scheduled TMT meeting will be a conference call on Wednesday, January 3rd.

**Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES**

December 20, 2017

Minutes: Pat Vivian

1. Introduction

Representatives of Washington, BPA, the COE, NOAA, BOR, CRITFC, Nez Perce Tribe, Oregon, Idaho, and others participated in today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Stranz, DS Consulting.

2. Review Meeting Minutes – November 15 and 22, December 6

Approval of the minutes and facilitator's notes for these meetings was deferred to give TMT members more time for review.

3. Dworshak Operations

Amanda Morelos, COE, reported. Current reservoir elevation is 1522 ft and rising. The COE plans to hold 1.8 kcfs for the next few days, then coordinate with BPA on an increase to two units on full load for the cold snap that's forecasted for the end of December through January 1. The official January water supply forecast, to be released on January 4, will determine the end of month elevation target, which is currently 1520 ft. There should be no problem meeting that target with cold temperatures coming. Scott Bettin, BPA, asked how deep the reservoir would draft if two units at DWR were to operate until January 9; Morelos said she will do some modeling to respond to that question.

4. Chum Operation

Tony Norris, BPA, reported that chum spawning is over, according to WDFW field crews. Only 3 live chum were observed yesterday in the Strawberry Island area and none in the seining operation. A minimum tailwater elevation of 11.8 ft should be sufficient according to redd surveys done in November, when the highest redd was submerged by almost 1 ft when the tailwater elevation was 12.6 ft. Results from another redd survey scheduled for tomorrow will be available at the next TMT meeting.

Accordingly, WDFW crews are planning to remove the Duncan Creek trap at 1 pm tomorrow, December 21. Norris proposed ending the chum spawning operation at that time, and Charles Morrill, Washington, agreed that's appropriate. The reservoir elevation is not expected to reach 11.8 ft until after the next TMT meeting on January 3.

Unless the redd survey tomorrow indicates otherwise, the spawning operation will transition to the incubation phase at 1 pm on December 21, with a minimum tailwater elevation of 11.8 ft below Bonneville Dam. The chum incubation operation will continue until sometime in March or until April 10, depending on a number of variable conditions.

4a. Chum Salmon Spawning Ground Surveys 2017-18. The survey results were last updated as of December 5; at that time there were no live chum spawners, Paul Wagner, NOAA, reported. Yesterday's report was 3 live fish, with none seined as of December 18.

4b. Bonneville Dam Adult Salmon Counts. The adult salmon count at BON is 21 with none arriving in the past week, Baus reported.

4c. NWRFC Water Supply Forecast. The April-August water supply forecast for The Dalles is 89 maf, 102% of average.

4d. NWRFC Climate Forecast. The 6-10 and 8-14 day forecasts both follow the same pattern, with below average temperatures and below average precipitation and continued cool, dry conditions. The 30 day forecast, however, shows a probability of above average temperatures and below average precipitation. And the 90 day forecast indicates temperatures will be below average and precipitation above average. Russ Kiefer, Idaho, pointed out that two months ago, 2018 was looking like a big water year, but at this point the forecast seems to be drying up. The probability of 2018 being a La Nina year is 80% or higher, Wagner said, which plays a role in the 90 day forecast.

4e. BON Dam Current Hourly Data. At 8 am today, the BON tailwater elevation was 12.7 ft with 123.4 kcfs total outflows, Baus reported. Tomorrow, December 21, at 1 pm, the COE will transition from operating BON for chum spawning to the incubation phase, with a minimum tailwater elevation of 11.8 ft during all hours. The chum incubation operation will continue until further notice.

5. Operations Review

5a. Reservoirs. John Roache reported. Grand Coulee is at elevation 1284.7 ft, currently operating to support chum spawning. Hungry Horse is at elevation 3542.5 ft discharging around 1600 cfs to meet Columbia Falls minimum flows.

Libby is at elevation 2420.5 ft with inflows of 5.6 kcfs and outflows of 17 kcfs. Albeni Falls is at elevation 2051.5 ft with inflows of 27.9 kcfs and outflows of 19.6 kcfs. Dworshak at elevation 1522.2 ft with inflows of 3.6 and outflows of 1.8 kcfs. Lower Granite average outflows are 31.7 kcfs, McNary average outflows are 131 kcfs, and Bonneville average outflows are 138.6 kcfs.

5b. Fish. Paul Wagner, NOAA, reported. The only species still active are adult steelhead. At Bonneville, just a few are passing per day along with coho. Steelhead counts at Lower Granite indicate that the criteria of 35 combined wild and hatchery steelhead passing per day have been met, so zero nighttime generation on the lower Snake River can begin.

This year, steelhead passage at BON was only 35% of the 10 year average, and wild steelhead passage was 30% of the 10 year average, Wagner said. The chinook run was 63% of the 10 year average; spring chinook, 55%. Summer chinook did better, passing BON at 89% of the 10 year average, fall chinook were 61% of the 10 year average. Fall chinook jacks were 49% of the 10 year average, but sockeye only 27%, and coho, 63%. Overall, the 2017 runs were significantly below average.

However, the star species this year was lamprey, passing at 340% of the 10 year average.

Morrill commented that the outlook for 2018 is not great, and Wagner agreed that in recent years ocean conditions have been unfavorable. It appears that sea lion predation at BON was slightly lower in 2017 than it has been in the past few years, with the highest levels of take reported in 2014 and 2015. The bad news, Morrill pointed out, is that Stellar sea lions have discovered chum are easy prey.

5c. Water Quality. For reasons yet to be determined, the Warrandale gage is not reporting data, Dan Turner, COE, reported.

5d. Power System. There was nothing of significance to report today. When the weather is cold and dry, Norris explained, typically wind generation is low, which means variability on the power system is less and the need for reserves declines.

6. Next TMT Meeting

TMT will meet next in a conference call January 3, 2018.

Name	Affiliation
Charles Morrill	Washington
Tony Norris	BPA
Dan Turner	COE
Lisa Wright	COE
Julie Ammann	COE
Doug Baus	COE
Charles Wiggins	DSC
Paul Wagner	NOAA

Phone:

John Roache	BOR
Tom Lorz	CRITFC
Scott Bettin	BPA
Amanda Morelos	COE Walla Walla
Eric Chow	COE
Jay Hesse	Nez Perce
Scott Richardson	Snohomish PUD
Michael Bryant	CBB
Chris Runyan	BOR
Erick Van Dyke	Oregon
Peter Cooper	BOR
Russ Kiefer	Idaho