

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

August 02, 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/>

Meeting Minutes and Facilitator's Summary

TMT minutes and summaries for the July 10 and July 19 TMT meetings were approved; with a slight edit to the July 10 minutes (added clarification to the time duration of decreased spill at Ice Harbor). Additional edits are going to be provided on the minutes and summaries for the July 12 and July 26 meetings, thus approval was deferred until the next face-to-face TMT meeting.

Dworshak Operations

Steve Hall, Corps, updated TMT on Dworshak conditions and operations. Currently the reservoir elevation is 1,570.4 feet. Inflows are 1.5 kcfs, and outflows are at are between 11.1 to 11.2 kcfs, with most as spill through the RO gates. At 9am today total dissolved gas (TDG) in the Dworshak Dam tailrace (DWQI) was 119.1%. The project has been backing off project outflows slightly when temperatures cool at night.

Temperatures in the Lower Granite Dam tailwater were slightly above 69 degrees F, at 69.4 F yesterday. Steve highlighted two water temperature model scenarios. Given the forecast for very high ambient air temperatures at Lewiston, perhaps approaching 108-9 degrees F, and maintaining the current discharge of 11 kcfs, each model showed water temperature levels hugging the 69-70 degree F line for the foreseeable future.

Steve noted that the project will continue to operate to the 120% target identified in the TDG waiver, with the intention of keeping downstream water temperatures below 68 degrees F. He noted that this operation will likely be necessary for the next 10 days and that there is nothing else that the project can do at this point.

Dave Swank, USFWS, reported on hatchery conditions. TDG levels in the collection channel yesterday measured 103.3-4% during the day, and 102.8% nighttime. Some gas bubble disease has been observed in gills and lateral lines, but no mortality is reported. There is concern that sampling results show no food in the stomachs of about 40% of the steelhead and 50% of the Coho sampled fish. However, Dave noted that the feeding protocol recently changed from manual to mechanical and the sampling was conducted in the morning instead of the typical evening sampling; both factors could contribute to the empty stomachs. He noted that the conditions are not ideal; however, the hatchery is not yet panicking.

Operations Review

Reservoirs: Lisa Wright, Corps, reported on Corps projects:

- Libby midnight elevation was 2,448.6 ft.; inflows are 9.7 kcfs, and outflows are 9.0 kcfs.
- Albeni Falls midnight elevation was 2,062.3 ft; inflows are 11.7 kcfs and outflows are 10.3 kcfs.

- Dworshak midnight elevation was 1,570.7 ft; inflows are 1.5 kcfs and outflows are 11.2 kcfs.
- Lower Granite average outflows were 40.2 kcfs.
- McNary average outflows were 165.2 kcfs.
- Bonneville average outflows were 159.6 kcfs.

Doug advised that operating rules require Little Goose Dam to transition from a 30% to a constant spill operation when outflows fall below 32 kcfs. He noted that the Corps anticipate that point is within the current 10 day forecast. Depending on flows, the constant pattern will be 11, then 9, then 7 kcfs.

Mary Mellema, BOR, reported on BOR projects:

- Hungry Horse midnight elevation was 3,555.7 ft., current inflow is about 1.5 kcfs, and outflows are 2.0 kcfs.
- Grand Coulee midnight elevation was 1,283.9 ft.

Fish: Paul Wagner, NOAA, reported on fish. The Bonneville adult summer Chinook run is completed. Numbers for the season are about 88,000, or 90% of the ten-year average. Sockeye are also about done, and the run followed normal timing; they are now averaging less than 100 fish per day, with a season total of 87,455 (28% of the ten-year average). Steelhead are coming on, but numbers are still low, at 23,714 (22% of the ten-year average). Wild steelhead are 11,736 (24% of the ten-year average). Lamprey are at 72,000 (500% of the ten-year average). While these numbers are impressive, they are still poor by longer-term historic standards.

Summer Chinook numbers at McNary are at 55,962 (84% of the ten-year average), whereas sockeye are at 57,880 (26% of the ten-year average).

At Lower Granite, summer Chinook are at 85,080 (52% of the ten-year average) and jacks are at 3,563 (54% of the ten-year average). Sockeye are at 225 (22% of the ten-year average), with none observed in the past week. It is too early for steelhead at Lower Granite. It was noted that the YTD steelhead counts between Little Goose and Lower Granite look drastically different (LGS: 1,922 and LRG: 7,636). Russ Kiefer, ID, noted that the counts are on the calendar year and thus account for overwintering steelhead in the reach below Lower Granite as they pass the project. Russ also noted that the first sockeye of the season had been trapped in the Snake River Basin, and was on time.

Paul continued that smolt and sub-yearling passage is wrapping up on time. Operations at Lower Granite will transition from bypass to spillway, all fish will not pass through the spillway. Barging will continue until August 15 at Little Goose and Lower Monumental. Due to increased temperatures, sampling has been reduced at John Day, McNary, and Bonneville.

Water Quality: Dan Turner, Corps, reported that the projects are spilling per the Fish Operations Plan. Forebay TDG levels are all below required levels at all 8 of the lower river projects.

Power Supply: Tony Norris, BPA, reported that BPA has prepared for the hot weather and increased load, and so far everything is working well. He noted that BPA has made adjustments to accommodate increased needs in the Tri-Cities area.

The next regular TMT meeting will be a conference call on August 9, at 9:00.

**Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM MEETING**

August 2, 2017

Minutes: Pat Vivian

1. Introduction

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

2. Review Meeting Minutes – July 10, 12, 19 and 26

The July 19 official minutes and facilitator's notes were declared final. Paul Wagner, NOAA, commented on the description of the Ice Harbor transmission emergency in the July 10 minutes. The sentence that reads "As a result, spill at Ice Harbor dropped from 85% of inflows to about 67%" should specify that it was "for about an hour." With that addition, the July 10 minutes and notes will be considered final.

Mary Mellema, BOR, wants to clarify in the July 12 minutes that the 487 kaf of Snake River flow augmentation includes discharges from the whole upper Snake basin including the Payette River. The minutes will be reposted to the website with her changes and finalized at the next TMT meeting. The July 26 minutes and facilitator's notes still needed TMT review and will be finalized at the next meeting.

3. Dworshak Operations

3a. Current Operations Data. Steve Hall, COE, reported. Dworshak has been drafted to elevation 1570.4 ft. Inflows are 1.5 kcfs and the project is consistently discharging 11 kcfs.

3b. TDG Report. TDG has been around 119% total saturation, touching 120% yesterday for about an hour.

3c. Clearwater and Snake River Temperatures. Unfortunately, water temperatures at Lower Granite tailwater have been above 69 degrees F and reached 69.4 degrees yesterday, with more hot weather on the way.

3d-e. Model Scenarios. Steve Hall, COE, introduced two scenarios, July 31 and August 1, noting that the July 31 scenario was mislabeled July 1. Both suggest that Lower Granite tailwater temperatures will remain around 69 degrees F for the foreseeable future. The scenarios are based on two different analog years, 2008 and 2014, and the latter indicates water temperatures at Lower Granite tailwater could approach 70 degrees F, which is considered a realistic expectation.

With ambient air temperatures predicted to go as high as 110 degrees F, the best the COE can do at this time is to maintain 11 kcfs augmentation flows out of Dworshak Dam.

3f. Dworshak Hatchery TDG Data. Total dissolved gas levels in the hatchery collection channel have been as high as 103.4% in the afternoons, dipping to 102.8% at night. While there have been no unusual mortalities, a recent survey found 50% of coho and 40% of steelhead smolts had no food in their stomachs. Hatchery managers changed the feeding protocol and are keeping an eye on the results.

Baus asked why there was almost a 1% drop in hatchery TDG levels on July 25 when that didn't correspond to ambient air conditions. Could anything be learned from this in terms of keeping TDG levels down? Hatchery managers have not been able to identify the cause of the drop, Swank replied.

3g. Weather forecast for Lewiston, Idaho. Ambient air temperatures could go as high as 108-109 degrees F. The good news is it might cool off next week. TMT will revisit Dworshak operations at its next meeting August 9.

4. Operations Review

4a. Reservoirs. Lisa Wright, COE, and Mary Mellema, BOR, reported.

Libby is at elevation 2448.6 ft, with inflows of 9.7 kcfs and outflows of 9.0 kcfs. Albeni Falls is at elevation 2062.3 ft with inflows of 11.7 kcfs and outflows of 10.3 kcfs. Dworshak is at elevation 1570.7 ft with inflows of 1.5 kcfs and outflows of 11.2 kcfs. Lower Granite average outflows are 40.2 kcfs, McNary average outflows are 165.2 kcfs, and Bonneville average outflows are 159.6 kcfs.

Hungry Horse is at elevation 3555.7 ft, discharging 2.0 kcfs with inflows of 1.5 kcfs. Grand Coulee is at elevation 1283.9 ft.

Baus reminded everyone that Little Goose is approaching the low flow criteria (less than 32 kcfs outflows) that triggers an operational change from 30% spill to constant spill rate of either 11, 9 or 7 kcfs based on project outflows. This is the same operation coordinated with the TMT in previous years. Little Goose inflows are forecasted to reach 31 kcfs on August 9.

4b. Fish. Paul Wagner reported.

Adults: At Bonneville, the summer chinook migration is done, but that's not the case further upriver. To date, 88,000 summer chinook have arrived at Bonneville, which is 90% of the 10 year average. Today marks the transition from summer to fall chinook there. Sockeye passage at Bonneville is almost done, which is typical for this time of year, with about 50 a day passing. The total sockeye run is 87,455 to date,

28% of the 10 year average. Steelhead passage is 23,714 to date, 22% of the 10 year average. Wild steelhead passage is 11,736 to date, 24% of the 10 year average.

Lamprey numbers are outstanding: 72,000 to date, 500% of the 10 year average at Bonneville, but Wagner reminded everyone the lamprey run is significantly reduced in relation to past years.

At McNary, summer chinook adult passage is 55,962 to date, 84% of the 10 year average. Sockeye passage is wrapping up with 57,880 to date, 26% of the 10 year average.

At Lower Granite, summer chinook adult passage is 85,080 to date, 52% of the 10 year average. Summer chinook jacks are 3,563 to date, 54% of the 10 year average. It's too early to report on steelhead; they are still making their way up the system. Sockeye arrivals at Granite are 225 to date, 22% of the 10 year average, and no sockeye have shown up at Granite for a week. With only 3 reaching Little Goose in the past week, the sockeye run is almost over.

Tony Norris, BPA, asked why the numbers indicate fewer steelhead adults arrived downstream than upstream, with a smaller number at Little Goose than at Granite. The counts are done on a calendar year basis and don't include overwintering steelhead in the Snake that spawn in March/April, Russ Kiefer explained. Current counts are focused on adults that arrive now and will spawn next spring. Sockeye are starting to show up in the Snake basin on time, and things are looking good for adult steelhead survival this year despite the low numbers.

Juveniles: Smolt passage is on time this year, Wagner reported. Subyearling passage is wrapping up at all projects, from Lower Granite to the lower Columbia River projects. This is typically the tail end of juvenile passage season, with the last index count for Granite occurring today or tomorrow. The juvenile bypass will be taken out of service due to upgrades so all fish will pass via the spillway going forward. To sum it up, steelhead passage is below average for both wild and hatchery fish, while summer chinook did well at most of the projects, Wagner said.

To help reduce stress on fish in hot weather, crews at John Day have gone to sampling the first 100 fish in 6 hours of passage time, instead of 300-500 fish as usual for 24 hours a day, Brandon Chockley, FPC, reported. The information is used to extrapolate index counts for the project. McNary and Bonneville crews are still doing 24-hour sampling, but they also stop at 100 fish instead of 300-500 fish as usual.

4c. Water Quality. All projects are spilling per Fish Passage Plan guidelines, and all forebay and tailwater TDG readings are below threshold levels identified in the TDG waivers, Dan Turner, COE, reported.

4d. Power. BPA is well prepared for heavy air conditioning loads this week as long as all equipment stays in service, Tony Norris said. Adjustments have been made to accommodate high electric demand in the Tri Cities area.

5. Next TMT Meeting

TMT will meet next in a conference call August 9.

Name	Affiliation
Jim Litchfield	Montana
Tony Norris	BPA
Aaron Marshall	COE
Eric Chau	COE
Dan Turner	COE
Lisa Wright	COE
Doug Baus	COE
Paul Wagner	NOAA
Laura Hamilton	COE
Charles Wiggins	DSC
Alyssa Bernini	DSC
Michelle Yuen	COE

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Mary Mellema	BOR
Steve Hall	COE
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Alfredo Rodriguez	COE
Michael Bryant	CBB
Laura Berg	Clearing Up
Dave Swank	USFWS
Scott Bettin	BPA
Russ Kiefer	Idaho
Tom Lorz	CRITFC
Jay Hesse	Nez Perce
Brandon Chockley	FPC