

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 19, 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 Notes

The Official meeting minutes and Facilitators' Summary for the July 5th meeting were approved. Those for the July 10th and 12th meetings will be posted and reviewed at the next face to face meeting.

Juvenile Transportation

Paul Wagner, NOAA, and Doug Baus, COE, reported on juvenile transport operations. Paul noted that after much discussion at FPAC it was agreed to continue with juvenile transport, transport at Little Goose and Lower Monumental after transport stops at Lower Granite on August 2 for construction of the upgraded juvenile bypass system, with the caveat that transport can be terminated in season if later desired. The juvenile bypass at Lower Granite Dam will go out of service on August 2, ending barge operations at Lower Granite. However, barging will continue from Little Goose and Lower Monumental Dams until August 15, after which trucking will begin. The Fish Passage Plan calls for transportation to continue through the end of September at Lower Monumental Dam and the end of October at Little Goose Dam.

SOR 2017-C1 Extension

Kyle Dittmer, CRITFC, announced an additional extension of the summer tribal fishing season. The extension request is for a 1.5ft operating band in the Bonneville, The Dalles and John Day pools. The extension request is for July 19 to July 22, and from July 24 to July 28. This extension will close out the summer fishing season; the autumn season will begin in late August. Kyle noted that last week's net flight revealed a total of 244 nets: there were 86 in the BON pool, 49 in the TDA pool and 109 in the JDA pool. Another net flight is scheduled for July 20, and a final one next week. Kyle acknowledged the request for more notice to partners regarding dates for the autumn fishing season, and thanked the Action Agencies for implementing this extension. Doug noted that the Action Agencies are implementing the extension and will follow it by implementing the July 24-28th season extension.

Dworshak Operations

Alfredo Rodriguez, COE, summarized operations at Dworshak Dam. The facility has been passing 10.5-11.1 kcfs over the last week, with TDG levels between 117.5% and 120.1%. TDG levels at the hatchery averaged 103.5%. Water temperature at the Lower Granite tailwater has been around 68.5 degrees F. The 7-day forecast for Lewiston calls for air temperature to be cooler for a few days before rising again at the weekend, which could cause water temperatures in the Lower Granite Dam tailwater to go above 68 degrees F. The Dworshak Dam is passing the coldest water possible (43 degrees F) from the bottom of the outlet; Steve anticipates that the Dworshak Dam outflows will warm to about 45 degrees F by the end of the summer. Paul complimented the Corps' efforts to manage temperatures and TDG given the situation.

Dave Swank, USFWS, reported that TDG levels at the hatchery have increased slightly above 103.5%, which is not ideal for fish, especially due to their smaller size and being exposed to moderately high levels of TDG for an extended period of time. No mortality has been observed to date, but there have been reports of GBT and they are unsure of the impacts of longer term exposure to high gas levels. When examined, 4/10 young Coho had no food in their stomachs, which is unusual and not a good sign. Because of this uncertainty over long-term consequences, conditions will be monitored weekly.

Dworshak Unit 3 Update

Steve Hall, COE, reported that on-site work on Unit 3 is progressing. Onsite work will be wrapped up by the end of September, and contractors will remobilize in February 2018. New stator bars are now being fabricated in Austria and will be tested in February 2018. The revised return to service date is now July 2018. Because the turbine is dismantled, it cannot pass water this winter.

Operations Review

Reservoirs: John Roche, BOR, reported on Bureau of Reclamation projects:

- Hungry Horse midnight elevation was 3,555.7 ft., current discharge is 2 kcfs, and inflows are 2 kcfs.
- Grand Coulee midnight elevation was 1,287.7 ft.

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

- Libby midnight elevation was 2,447.8 ft., current inflows are 13.5 kcfs, and discharge is 9 kcfs.
- Albeni Falls midnight elevation was 2,062.4 ft; current inflows are 16.3 kcfs and outflows are 16.8 kcfs.
- Dworshak midnight elevation was 1,586.5 ft; inflows are 2 kcfs and discharge is 10.9 kcfs.
- Lower Granite average outflows are 43.5 kcfs.
- McNary average outflows are 212.7 kcfs.
- Bonneville average outflows are 190.3 kcfs

The spillway weir at Lower Granite Dam was closed after the last TMT meeting, and will stay closed unless coordinated by TMT. The Little Goose Dam spillway weir will be closed this week, and will remain closed through August 31 which will be the end of the summer spill season.

BPA noted that there will likely be a shift from Lower Granite Unit 2 to Unit 3 due to decreasing flows and the desire to not impact spill. Tom Lorz, suggested that the project adjust the angle of the locked Unit 2 blades instead of shift to Unit 3 as it does not offer as good of attraction flow for fish. Trevor Conder, NMFS, noted that it should only take an hour to change the blade angle. This conversation will be continued at FPOM.

Doug reminded TMT that Little Goose is currently being operated at MOP + 0.5 ft in order to maintain navigation safety at the entrance to the navigation lock in the tailrace of Lower Granite Dam. The trigger to implement the increase in MOP is specified in the FOP and is a tailwater elevation of 633.0ft at Lower Granite. Due to the current Lower Granite tailwater elevation, there may be a need to go to MOP +1 in the near future. The same operation may also be necessary at Ice Harbor. Any changes will be reported out to the region at the next TMT meeting.

Fish: Paul reported on fish. Bonneville adult summer Chinook numbers are at 91% of the ten-year average; jacks are at 94%; steelhead 21%; and wild steelhead 21% of the 10-year average. Paul pointed to poor ocean conditions over the past few years as greatly impacting the adult runs this year. However, he noted that lamprey are doing better than other stocks this season, at 486% of the 10-year average. Dave Statler, Nez Perce noted that when compared to the 10-year average, lamprey numbers look good; however, they are still extremely poor by longer-term historic standards. Upstream passage of lamprey from Bonneville to The Dalles is encouraging. Paul continued that sockeye passage is winding down, averaging 239 per day at Bonneville, for a total of 86,193 (28% of the 10-year) so far this year. Rock Island sockeye are at 28% of the 10-year, and at Lower Granite, 26%. This indicates good transition through the Columbia River system. At Lower Granite, summer Chinook are at 50% of the 10-year, with jacks at 54%. Russ Kiefer, ID, noted that he has asked researchers to let him know if they have concerns over sockeye passage and he has not heard any concerns to date.

Paul also reported on juveniles, noting that 10,000 passed Lower Granite (this spike may be due to the RSW closing), 2,700 at Little Goose, and 3,000 at Lower Monumental. Bonneville juveniles are showing a big bump because of upstream hatchery releases.

Water Quality: Laura Hamilton, COE, reported that all gauges are working. The Chief Joseph tailwater gauge was down for 3 days, however, has been fixed.

Power Supply: Scott Bettin, BPA, shared there was nothing to report.

The next regular TMT meeting will be a conference call on July 26, at 9:00.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

July 19, 2017

Minutes: Pat Vivian

1. Introduction and Review Meeting Minutes – July 5

Representatives of Montana, the COE, BPA, NOAA, USFWS, Washington, Colville Tribe, CRITFC, BOR, Idaho, Warm Springs Tribe, Oregon, the Yakama and Nez Perce tribes, and others participated in today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Stranz, DS Consulting. The July 5 facilitator's notes and official minutes were approved as final.

2. Juvenile Transportation

With the Lower Granite juvenile bypass system expected to go out of service on August 1 and the last transportation barge scheduled to leave August 2, Paul Wagner, NOAA, reported that yesterday FPAC raised the question of whether to continue juvenile transportation at the other Snake projects after August 2.

Last year, SOR 2016-2 stated that transportation this year would continue after reviewing available information. In light of what is known to date, FPAC has decided to recommend continuing transportation at Little Goose and Lower Monumental this year. Some members were more supportive than others, but the consensus was to continue after August 2 while keeping an eye on fish counts and their condition, then re-assess if counts are low and/or condition is poor (e.g., columnaris disease). It was noted that trucking is a more flexible operation than barging. The last barge will leave Little Goose on August 15, then transport will transition to trucking.

Tom Lorz, CRITFC, asked about the status of the long term transportation contract, which is up for renewal according to FPOM discussion. Eric Hockersmith, COE, said he will email the renewal contract to the Salmon Managers for review. Baus asked, from a contractual standpoint, if TMT recommends stopping transport early at Little Goose and Lower Monumental this year, what are the procedural requirements? The contractor would need notice by Thursday to stop barge transport the following week, Hockersmith replied. Stopping truck transport requires a day's notice. Scott Bettin, BPA, asked how many fish have been barged to date. About 6,000 from Lower Granite and 2,500 from Little Goose, Hockersmith said.

Unless TMT advises otherwise, the COE plans to implement truck transport every other day starting in mid-August at Little Goose through the end of October, and at Lower Monumental through the end of September. TMT will keep an eye on juvenile transportation over the coming weeks.

3. SOR 2017-C1 Extension

Kyle Dittmer, CRITFC, reported. Within the past 24 hours, the lower Columbia River tribes met and decided to extend summer treaty fishing for 3½ days this week, from 6:00 am, Wednesday, July 19, through 6:00 pm, Saturday, July 22; and for 4½ days next week, from 6:00 am, Monday, July 24, through 6:00 pm, Friday, July 28. During these times, CRITFC asked the Action Agencies to keep the three lower Columbia River pools (Bonneville, The Dalles and John Day) within a 1.5 ft forebay operating range.

The Action Agencies are already implementing the SOR extension this week and plan to implement it next week, Baus said. Scott Bettin, BPA, said the Action Agencies need more than 14½ hours to prepare for treaty fishing operations and requested more advance notice for fall fishery system operational requests. Dittmer said CRITFC and the lower river tribes thank the Action Agencies for the fishery operation and will give notice of subsequent fisheries as soon as possible based on catch data.

According to a CRITFC net flight on July 13 there were 244 nets in the lower river, with 106 of those on the Oregon shore and 118 on the Washington shore. The Bonneville pool had 86 nets, 35% of the total; The Dalles had 49 nets, 20% of the total; and John Day had 109 nets, 45% of the total. CRITFC will launch net flights tomorrow morning and again next week to wrap up the summer treaty fishery.

4. Dworshak Operations

Alfredo Rodriguez, COE, presented the latest information regarding summer temperature flow augmentation from Dworshak Dam.

4a. Current Operations Data. Based on last week's TMT conversation, Dworshak has been releasing 10-11 kcfs for the past 3-4 days.

4b. TDG Report. TDG saturation levels have been 117.5-120.1%, with the highest readings in the afternoon between 2-3 pm.

4c. Snake and Clearwater Temperatures. Lower Granite tailwater temperatures have been around 68.5 degrees F and are expected to rise.

4d. Model Scenarios (posted July 18, 1:00 pm). Temperatures will go down a bit and then rise again, causing the Lower Granite tailwater to exceed 68 degrees F.

4e. Dworshak Hatchery TDG Data. TDG saturation levels have been about 103.4% in the hatchery. The COE plans to confer with hatchery managers today regarding TDG management.

4f. Weather Forecast for Lewiston, Idaho. The seven day weather forecast for Lewiston, Idaho, is for high temperatures in the 90s through Sunday.

4g. Dworshak Unit 3 Milestone Update. Steve Hall, COE, reported that unit 3 onsite work is progressing well and should be complete by the end of September. The contractor, Andritz, is fabricating new stator bars for testing in February 2018, and the return to service date for Dworshak unit 3 has been extended to July 1, 2018.

In response to a question from Tom Lorz, CRITFC, regarding discharge temperatures, Hall said the project is already releasing the coolest water available from the bottom of the reservoir outlet, currently 43 degrees F. The collector gates are as high as they can go, and water is flowing directly into the intake. Paul Wagner, NOAA, congratulated the COE on maintaining 11 kcfs out.

Baus asked Dave Swank, USFWS, about conditions in the Dworshak National Fish Hatchery. The average TDG level in the raceways is now 103.5% TDG, which is not ideal for fish but at least it's under 105%, the level at which hatchery managers worry about survival. Swank said some fish are beginning to develop gas bubbles in their gills. While not a severe symptom it's concerning. In the last coho sampling, 4 of 10 had empty stomachs. Hatchery managers are unsure how these small fish will respond to many months of relatively high TDG exposure. Weekly monitoring of all species in the hatchery will continue.

5. Operations Review

5a. Reservoirs. John Roache, BOR, and Lisa Wright, COE, reported. Hungry Horse is at elevation 3555.7 ft passing inflows of 2 kcfs. The project is expected to draft slowly as inflows drop off. Grand Coulee is at elevation 1287.7 ft. Libby is at elevation 2447.8 ft with inflows of 13.5 kcfs and discharges of 9 kcfs. Albeni Falls is at elevation 2062.4 ft with inflows of 16.3 kcfs and discharges of 16.8 kcfs. Dworshak is at elevation 1586.1 ft with inflows of 2 kcfs and discharges of 10.9 kcfs. Lower Granite outflows are 43.5 kcfs, McNary outflows are 212.7 kcfs, and Bonneville outflows are 190.3 kcfs.

According to last week's TMT coordination regarding spillway weirs, the RSW at Lower Granite was closed a week ago, July 12. The Little Goose TSW is scheduled to be closed today or tomorrow for the remainder of fish passage season. The Lower Granite weir will remain closed unless TMT advises that it be reopened.

Lorz requested that the Action Agencies modify the angle of the fixed blades on unit 2 at Lower Granite Dam from the current upper end of the 1% operating range (~18 kcfs) down to the lower end of the 1% range (~12 kcfs) in order to maintain FOP spill at lower flows. Trevor Conder, NOAA, said he will confer with his coworkers regarding this suggestion. Further details will be coordinated in FPOM.

Baus reminded everyone that when flows get low on the Snake, operations are challenging. Little Goose is currently operating at MOP+0.5 ft and might have to increase to MOP+1 ft to ensure that the Lower Granite tailwater remains above 633 ft elevation as required for navigation safety at the Lower Granite navigation lock entrance. As documented on page 7 of the Fish Operations Plan, there are similar provisions for going to MOP+1 at Ice Harbor Dam. The COE will report to TMT if it becomes necessary to change Little Goose or Ice Harbor operations to MOP+1 for navigation.

5b. Fish. Adults: Paul Wagner reported. Cumulative summer chinook returns to Bonneville are 80,484, which is 91% of the 10 year average. Summer chinook jack returns are 9,667, which is 49% of the 10 year average. Steelhead are not doing well at 10,285 returns to date, only 21% of the 10 year average. Wild steelhead are also 21% of the 10 year average at 4,751 returns to date. While it's unclear why steelhead counts are lagging, ocean conditions were poor in 2015 and again in 2016, which is probably a big factor.

Adult lamprey returns to Bonneville are 61,850 to date, a stellar 486% of the 10 year average. However impressive that sounds, these numbers are a mere fraction of historical lamprey returns, Dave Statler, Nez Perce, said. We need to keep that perspective in mind.

Sockeye numbers are low but upstream migration rates appear to be good, Wagner said, with 86,193 arrivals at Bonneville to date, 23% of the 10 year average. At Rock Island cumulative sockeye counts are 63,051, also 23% of the 10 year average. To date 197 adult sockeye have arrived at Lower Granite, which is 26% of the 10 year average. And 376 adult sockeye have arrived at Ice Harbor. Adult passage is definitely winding down. Perhaps removal of the Little Goose weir will have an effect.

Summer chinook adult returns to Lower Granite are 50% of the 10 year average, and chinook jack returns are 54% of the 10 year average.

Adult lamprey passage is 676% of the 10 year average at both The Dalles and John Day. Steelhead returns to Lower Granite are 3,119 to date. Russ Kiefer, Idaho, said IDFG researchers have not reported any problems with adult Snake River sockeye passage to him.

Juveniles: At present, migration is limited to subyearling chinook at Lower Granite, with 10,000 the most recent index count, up from 6,000 on July 4. It is not known whether shutting down the Lower Granite RSW on July 12 will affect juvenile passage, but these counts include both spillway- and turbine-passed fish.

Daily index counts at Little Goose were 2,500-2,700 for the past week or so, and are now around 3,000. The index count at Lower Granite was 4,811 on July 12. Jim Litchfield, Montana, asked whether closing the RSW will change the index

calculation. No, because index counts are based on collection numbers and the proportion of flow through the spillway and powerhouse. A big bump in juvenile passage at Bonneville reflects recent hatchery releases.

5c. Water Quality. Laura Hamilton, COE, reported. All gauges on the Columbia and Snake rivers are working. From July 7-11 the Chief Joseph tailwater gauge was out of service due to a power outage.

5d. Power. There was nothing to report

6. Next TMT Meeting

TMT will meet next in a July 26 conference call.

Name	Affiliation
Jim Litchfield	Montana
Doug Baus	COE
Lisa Wright	COE
Scott Bettin	BPA
Paul Wagner	NOAA
Dave Swank	USFWS
Eric Chan	COE
Charles Wiggins	DSC
Michelle Yuen	COE
Aaron Marshall	COE
Charles Morrill	Washington
<i>Phone:</i>	
Sheri Sears	Colville
Tom Lorz	CRITFC
John Roache	BOR
Kyle Dittmer	CRITFC
Wayne Jousma	COE Walla Walla
Alfredo Rodriguez	COE Walla Walla
Steve Hall	COE Walla Walla
Chris Runyan	BOR
Laura Hamilton	COE
Dave Benner	FPC
Peter Cooper	BOR
Shane Scott	PPC
Michael Bryant	CBB
Laura Berg	Clearing Up
Leslie Bach	NPCC
Russ Kiefer	Idaho
Eric Hockersmith	COE Walla Walla
Jen Graham	Warm Springs

Erick Van Dyke
Tom Iverson
Dave Statler
Trevor Conder

Oregon
Yakama
Nez Perce
NOAA