

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 1, 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. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Review Meeting Minutes

The official TMT Minutes and the Facilitator's Summaries for the May 18th meeting was reviewed and approved by TMT members, pending the following correction:

- Under Operations Review, regarding the Upper Snake augmentation volume: change 1,420 MAF to 427 KAF.
- **ACTION:** DS Consulting will make this edit and send a revised version to Doug Baus for posting.

SOR 2016-1A Lower Monumental Operations

Russ Kiefer, ID, reported on the status of the sockeye run, noting that researchers looked at PIT tag data and concluded that the majority of the run is expected to be past Lower Monumental by Friday, June 3rd. Russ shared that the PIT detections at Lower Granite are dropping dramatically and only five sockeye were detected at Granite yesterday, whereas a few days before 300 were detected. It is typical for sockeye to migrate quickly and in a tight window, which is what they are seeing so far this year. Russ pointed out that the wild runs started migrating earlier this year and passage numbers are winding down as well. From Idaho's perspective, the SOR has been successful in helping to move the fish through the system and Russ thanked the region for implementing the operation. He noted that Idaho is comfortable with ending the operation as planned on June 3rd at 1700 hours.

Erick Van Dyke, OR, asked about the proportion of tagged fish that have passed Lower Granite and if that information is available. Russ noted that the information is on the DART website. He noted that the researchers looked at it and their conclusion was that the bulk of the run should be past Granite by today. Erick asked if Idaho is taking travel time into consideration in the passage timing estimates. Russ responded, yes, they are factoring travel time in and have been watching passage at Lower Monumental, Lower Granite and Little Goose to inform their assessment.

Doug Baus, USACE NWD, noted that SOR 2016-1A was implemented for three weeks and the end date is June 3rd at 1700 hours and as coordinated, they will revert back to a bulk spill pattern at Lower Monumental at that time.

- **ACTION:** The Corps will conclude SOR 2016-1A on June 3rd at 1700 hours. The project will then revert back to a bulk spill pattern.

Operations Review

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

- Hungry Horse midnight elevation was 3,548.5ft, with 8.4kcfs inflow and 5.7kcfs outflow. Mary reported that they are 12ft from full and plan to drop discharge down to 4kcfs tomorrow, and then 3kcfs the following day to refill.
- Grand Coulee elevation was 1,275.6ft; they are on a sharp refill curve at this point.

Doug reported on Corps projects:

- Libby midnight elevation was 2,420.1ft, with 17kcfs outflow and 25.4 inflow.
- Albeni Falls midnight elevation was 2,060.0ft.
- Dworshak midnight elevation was 1,592.7ft, with 8.5kcfs inflow and 1.6kcfs outflow.
- Lower Granite average outflow was 67.6kcfs.

- McNary average outflow was 223.7kcf.
- Bonneville average outflow was 224.4kcf.

Joel Fenolio, USACE Seattle District, reported on SOR FWS#1. He noted that on May 26th they finished 10 days at full powerhouse and have been ramping down since. They are targeting an elevation 2,445ft by the end of June. This elevation gives a slight chance of having to increase releases in July and August to be at 2449 ft at the end of August. Charles Morrill, WA, asked if there are any updates on sturgeon staging and movement in response to the flows. Joel noted that he has heard that they have seen more adults above Bonners Ferry due to the habitat work. This is promising because they want the sturgeon to spawn in Montana.

Fish: Paul Wagner, NOAA, reported on fish. For adults:

- Bonneville: Chinook – 94% of the 10-year average; Jacks 44% of 10-year average. Normally, the jack counts would be worrisome, however, this is not unlike last year’s jack count and the adult run this year was better than the prior year’s jack count would have suggested. Lower Granite: Jacks 50% of 10-year average.
- Rock Island: Chinook 98% of the 10-year average; Jacks 32% of the 10-year average.
- Lamprey returns are promising at Bonneville relative to the 10-year average. The Dalles and John Day passage numbers are above the 10-year average, however, returns are not as strong compared to Bonneville. This could be due to detection issues, passage, or genetics. Dave Statler, Nez Perce, said that genetic markers that trigger long distance migration may not be transferring to fish. He continued that the longer distance migrants, like those in the Snake River, tend to migrate earlier.

Paul reported on juveniles. He noted that yearling migration is tapering down dramatically on the Snake and Columbia Rivers. Sub-yearlings are picking up, which is typical for this time of year. Yearling migration is early, and some are surprised to see how quickly they are migrating up the coast.

Russ added that yearling Chinook counts are declining dramatically, with less than 1,000 at Granite. Coho are still dropping down as well. Sub-yearlings have hit 26,000 and are climbing. Steelhead counts are declining, last week they were in the 10-12,000 range, and now they are down to 3,000 at Granite.

Russ reported that similar to last year, they are seeing issues with hatchery sockeye smolt conditions at the Snake River dams. They are not sure what is causing the issues, however suspect that it is something with our loading and hauling procedures, potentially a combination of TDG, transporting sockeye smolts during the peak of smoltification, and a pump issue. They have taken measures to reduce gas this year, however, are concerned that a new pump may be harming fish. A pathologist is studying the fish and the facility is doing all they can to determine and address the causes.

Water Quality: Scott English, USACE NWD, noted that all gauges are operational, functional and transmitting properly. TDG is relatively low and the water temperatures throughout May rose in the Columbia and Snake Rivers.

The group looked at water temperature graphs for Bonneville, McNary, Ice Harbor and Lower Granite. Generally, the temperatures dipped last week and are rising again. At this point, temperatures range between the 10-year average and 2015 temperatures. It was noted that the sockeye run has started passing Bonneville.

Power System: Nothing to report.

The next TMT meeting will be a conference call on June 8th at 9:00am.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM MEETING OFFICIAL MINUTES

June 1, 2016
Notes: Pat Vivian

1. Introduction

Representatives of BPA, NOAA, COE, Washington, Montana, USFWS, Idaho, Oregon, BOR, CRITFC/Umatilla, Nez Perce Tribe and others participated in today's TMT meeting chaired by Doug Baus, COE, and facilitated by Emily Plummer, DS Consulting. This summary is an official record, not a verbatim transcript.

2. Review Meeting Minutes – May 18

Mary Mellema, BOR, said the amount of flow augmentation coming from the upper Snake should be 427 kaf in the facilitator's notes. With this change, the notes and minutes for May 18 were approved as final.

3. Lower Monumental Dam Operations

Russ Kiefer, Idaho, gave an update on this year's juvenile sockeye run in light of the uniform spill operation being implemented at Lower Monumental Dam as requested by SOR 2016-1A. According to IDFG's recent PIT tag data, most of the juvenile sockeye will have passed Lower Monumental by 1700 hours on June 3, the end date of the special operation, when the dam is scheduled to revert to bulk spill.

Juvenile PIT detections were down to 5 fish yesterday at Lower Granite Dam compared to 300 fish a few days ago, a brief passage window that's typical for sockeye. This year brought surprisingly good natural production of juveniles despite last year's poor migration conditions. What's more, the 2016 juvenile sockeye run got an early start with the unusually warm spring weather.

Erick Van Dyke, Oregon, asked how many of the tagged fish have already passed Lower Granite. With only 5 fish passing yesterday, IDFG researchers concluded the bulk of the run would be downriver by today. The researchers are also looking at index counts and travel time to Little Goose and Lower Monumental. Accordingly, Baus said, the COE will transition Lower Monumental to bulk spill at 1700 hours this Friday.

Kiefer also reported sockeye smolt conditions under Operations Review below.

4. Operations Review

4a. Reservoirs. Mellema reported that Hungry Horse is currently at 3548.5 ft elevation, about 12 ft from full. Inflows are 8.4 kcfs and discharges are 5.7 kcfs. In a push to refill, the

BOR will drop discharges to 4 kcfs tomorrow and 3 kcfs the next day, which is June 3. Grand Coulee is at elevation 1275.6 ft, refilling on a steep curve.

Baus reported that Lower Granite inflows are 67.6 kcfs, McNary releases are 223.7 kcfs, and Bonneville releases are 224.4 kcfs. Dworshak is at elevation 1592.69 ft with inflows of 8.5 kcfs and releases of 1.6 kcfs. Albeni Falls is at elevation 2060 ft. Libby is at elevation 2420.1 ft with inflows of 25.4 kcfs and releases of 17 kcfs.

Joel Fenolio, COE, gave an update on the Libby sturgeon operation. On May 26, 10 days of powerhouse releases ended and the project started ramping down to bull trout minimums of 7 kcfs through June. They are targeting an elevation 2,445ft by the end of June. This elevation gives a slight chance of having to increase releases in July and August to be at 2449 ft at the end of August. About 2 kaf of the sturgeon volume remains; it will be expended by June 13. Morrill asked how sturgeon have responded to the increased flows this year, and Fenolio said more adults have been observed in the area above Bonners Ferry. This is a good sign – apparently the sturgeon pulse is having the desired effect on spawning behavior.

4b. Fish. Paul Wagner, NOAA, reported.

Adults: Spring chinook passage to date is around 133,000 at Bonneville, which is 94% of the 10 year average. Jacks are at 45% of the 10 year average – better than expected, given positive PDO readings and poor ocean conditions this year. Despite these impediments, the fish are in relatively good condition, according to trap samples. At Lower Granite, adult returns are 113% of the 10 year average and jack returns are 50% of the 10 year average. At Rock Island, adult returns are 98% of the 10 year average, but jack returns are only 32% of the 10 year average.

Lamprey returns at Bonneville are well above the 10 year average, with 3,800 adults to date. However, the high returns at BON are not reflected upriver, with The Dalles and John Day passing fewer than 100 adult lamprey to date. Dave Statler, Nez Perce Tribe, said most long-distance lamprey migration occurs early in the season, but early migrants don't convert well past The Dalles and John Day dams, which doesn't bode well for lamprey returns to the Snake River.

Juveniles: Yearling migration is tapering down on the Snake and Columbia, and subyearling migration is just getting started which is typical for this time of year. Yearling chinook and coho numbers are dropping dramatically. Steelhead passage a week ago was as high as 12,000 per day at LGR, now down to 3,000 per day; yearling sockeye counts are also dropping. A few juvenile lamprey have been observed at Granite.

Russ Kiefer said sockeye smolts are showing up at lower Snake projects in as poor shape this year as last, despite measures that were taken to reduce TDG levels associated with the condition of last year's fish. IDFG has been collecting fin clips from healthy and unhealthy juveniles in an attempt to trace these problems back to specific raceways and transport loading events. The fish were loaded at the peak of their smolting process, making them unusually fragile. Next year IDFG plans to reprogram the smolts so they won't migrate

when they're smolting; future runs will be released in the last week of April. A pump the hatchery uses to pull fish from raceways into transport trucks is also being replaced. Kiefer said Idaho appreciates the regional collaboration to implement uniform spill at Lower Monumental on short notice this year. Next year Idaho intends to plan the spill operation in advance of sockeye migration.

4c. Water Quality. Scott English, COE, reported. All water quality monitoring stations are operating as expected. TDG levels are generally low; however, temperatures are rising on both the Columbia and Snake rivers. Morrill wondered how daily average forebay temperatures at Bonneville, Ice Harbor and Lower Granite this year compare to last year and the 10 year average. According to the Fish Passage Center website, Ice Harbor has cooled off, and Lower Granite has also cooled but temperatures there are increasing. Temperatures in the lower river (Bonneville, The Dalles and John Day) are reasonable and sockeye passage is well underway.

In a tradeoff allowing spill for passage enhancement, Ice Harbor has been operating to greater than 115% TDG levels in the tailrace, but spill will be curtailed if TDG levels in the Ice Harbor forebay hit 119%. Fine-tuning of water quality management will be needed when Lower Monumental reverts to bulk spill on June 3.

4d Power. There was nothing to report today.

5 Next TMT Meeting

TMT will meet next in a June 8 conference call.

Name	Affiliation
Tony Norris	BPA
Paul Wagner	NOAA
Doug Baus	COE
Michelle Yuen	COE
Tory Hines	DSC
Julie Ammann	COE
Laura Hamilton	COE
Scott English	COE
Karl Kanbergs	COE
Makary Hutson	BPA
Charles Morrill	Washington
Ross Wickham	COE Walla Walla
Jim Litchfield	Montana
Dave Swank	USFWS

Phone:

Russ Kiefer	Idaho
Erick Van Dyke	Oregon
Tom Lorz	CRITFC/Umatilla
Mary Mellema	BOR

Joel Fenolio
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Ann Setter
Dave Statler

COE Walla Walla
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Energy News Data
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