

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

June 4, 2014

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 of Meeting Minutes

The group approved the May 21st and 28th official Meeting Minutes and Facilitator's Summary pending the following changes/additions to the May 28th Meeting Minutes:

In regards to the discussion on the Spring to Summer Transition:

- In Section 5, paragraph 2, change "subyearling Chinook" to "yearling Chinook".
- In Section 5, paragraph 3, data were provided for each project not only Lower Granite.
- In Section 5, paragraph 4, the methodology proposes using the 5 year running median, not the 5 year running average.
- In Section 5, paragraph 4, it should be amended to read that "there were some comments received suggesting that the dates were too early".

Vernita Bar

Russell Langshaw, Grant County PUD, provided an update on the Vernita Bar Operation. He reported the end of emergence on May 20th, however, they are still operating within the daily delta constraint to protect juveniles rearing in the reach and expect to do so until June 20th. Russell shared that the operation went as planned and there were no exceedences. Additionally, Jeff Fryer of CRITFC is currently tagging fish, and plans to tag 10,000. CRITFC also plans to tag 200,000 pre-smolts with coded wire tags, however, at this point they are unsure if they will be able to reach that goal.

Wanapum Dam Update

Russell Langshaw, Grant County PUD, provided an update on the Wanapum Dam adult ladder performance. He reported that the bulk of spring Chinook have past and the project is awaiting Sockeye and summer Steelhead. They were able to account for 95% of the fish they PIT tagged and that conversion between Priest Rapids and Rock Island is good. Next week the project plans to install a spiral flume that will lower the ramp drop from the ladder to the tailrace. Additionally, Russell noted that they are projecting to raise the pool to the intermediate elevation by the end of the 4th Quarter.

Treaty Fishing - SOR 2014-C2

Kyle Dittmer, CRITFC, shared an operation request for spring fishing support. The request is to hold the BON, TDA and JDA pools steady within 1.5ft forebay operating range from the morning of June 3rd through the evening of June 6th. Kyle noted that the spring Chinook run size estimations have been upgraded from 214,000 to 217,000, which is above average. There are 244 nets in the pools: 48% in the BON pool, 25% in TD pool and 27% in the JDA pool. Kyle noted that this is likely the last spring Treaty Fishing SOR, however, the summer season is approaching soon. Doug Baus, USACE, reported that Corps has received the SOR, coordinated with the projects and is implementing the request. Kyle expressed appreciation to the Corps for implementing the SOR.

McNary Operations

Doug Baus, USACE, reported that the elevated descaling of juvenile Sockeye has continued; he recapped operations implemented up to this point, including reoccurring debris removal and three mid-point operations. A calendar of the operations and descaling rates has been posted on the TMT website (http://www.nwd-wc.usace.army.mil/tmt/agendas/2014/0604_MCN-mid-point-descaling-calendar.pdf). Ann Setter, USACE Walla Walla, shared that the project has been working diligently to keep the screens clean, removing 3 dump truck loads yesterday; however, the project has reported that tumbleweeds are increasing again, likely due to wind, and are accumulating on the trash racks. The project will will debris removal today, of primarily floating tumbleweeds. She also noted that summer Performance Standard Testing will initiate June 11th and the project will resume normal operations in order to implement testing. Doug Baus, USACE, requested input from the Salmon Managers on how to proceed.

The group discussed options moving forward, the following comments were made by the group:

- There was interest in having the screens as clean as possible during the next mid-point operation in order to measure impact of the operation.
- It was recognized that the data from the mid-point operations are not perfect, and that there are uncertainties. Salmon Managers voiced that even though the data may not yield a clear picture, the operation may be beneficial to fish. Additionally, it was noted that the data can help point to whether descaling is occurring upstream, whether the new headgate position could be a factor, or if debris is abnormally bad this year.
 - It was noted that part of the descaling criteria is that the descaling is “fresh” and thus upriver conditions are likely not contributing to the increased percentages.
 - Ann Setter noted that up to this point the data do not show the mid-point operation having any impact on descaling.
 - Doug Baus noted that the descaling and mid-point operation data are not clearly related and the current change in species composition and decreasing Sockeye sample size further limits what meaningful information may be ascertained from the descaling data.
 - The Salmon Managers noted that the data may not provide a clear picture of what factor or combination of factors is contributing to the high descaling rates, but most managers felt it was beneficial for the fish to gather more information during at least one more midpoint operation.
- Tony Norris, BPA, noted that as a result of the mid-point operation, TDG levels increase and are exceeding State standards in the tailrace and JDA forebay. Tom Lorz, Umatilla/CRITFC, responded that they have not yet noticed any biological impact from the increased TDG.
- Ann Setter noted that the headgates have remained in the same position since March and descaling percentages increased in May. Therefore, something other than the headgate position is likely contributing to high descaling rates.

The Salmon Managers expressed appreciation to the Action Agencies for their willingness to implement the mid-point and debris removal operations thus far, as well as the 4th mid-point operation.

- **Action:** Beginning at 0700 hours on June 5th, through 0700 hours on June 6th, the Corps will maintain mid-point operations on the specified 7 units with head gates in the standard (lowered) position (units 2, 3, 5, 6, 8, 9, and 10). FPAC will review the mid-point operation data on June 7th and if desired, provide recommendations to the Action Agencies via Paul Wagner. At which point the Corps will identify operations moving forward. The Corps will continue screen/rack cleaning as scheduled.

TSW Removal at McNary

Doug Baus and Lisa Wright, USACE, informed the group that per the FPP and FOP, the TSW weirs at McNary are scheduled to be operated through June 6th and removed on June 9th for the benefit of subyearling Chinook which have lower survival through the TSWs than through spillbays. However, due to the current descaling concerns at McNary, Corps would like FPAC feedback on whether or not they would prefer that the TSWs remain open to pass debris until they are removed from service on the 9th. Ann Setter, USACE Walla Walla, noted that the TSW helps to pass debris, including tumbleweeds, and debris removal is most efficient with the TSWs in place. However, benefits associated with debris passage at the project may come at a cost associated with a reduced benefit to subyearling Chinook that pass via the TSWs. The Salmon Managers appreciated the Corps' suggesting to leave the TSWs operating longer and OR, WA, ID, USFWS, Umatilla and Colville Tribes all expressed preference for operating the TSWs as long as possible before removal on the 9th. NOAA needed to consult internally prior to expressing preference.

- **Proposed Operation:** Close both TSWs on June 9 prior to removal. Paul Wagner, NOAA, will provide NOAA's preference to the Corps by tomorrow June 5, 2014.

Lower Snake River Spring to Summer Transition:

Doug Baus, USACE, reported the Corps has not yet produced a decision regarding NOAA's proposed options for the spring to summer transition operation. If a decision is made prior to the next TMT meeting, it will be captured in the Summer FOP and distributed to the region. If not, Doug will provide TMT with an update at the next meeting.

Operations Review

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

- Grand Coulee elevation was 1,269.7ft. Grand Coulee has discontinued spill.
- Hungry Horse elevation was 3,527.84ft with 5.2kcfs outflow with an expected decrease to 3kcfs by tomorrow.

Lisa, USACE, reported on Corps projects:

- Libby was at elevation 2,417.1ft, with 45.1kcfs inflow and 25.9kcfs outflow. The second sturgeon pulse operation started and may be a longer pulse due to full powerhouse operations associated with flood control release.
- Albeni Falls was at elevation 2,060.9ft, with 92.3kcfs inflow and 90.9kcfs outflow.
- Dworshak was at elevation 1,570.5ft with 19kcfs inflow and 4.4kcfs outflow.
- Lower Granite average inflow was 118kcfs.
- McNary average inflow was 318kcfs.
- Bonneville average inflow was 348.4kcfs. The new Bonneville FPP spring Chinook adult trigger is in effect (starting on Monday, June 2) as a result of adults outnumbering juveniles for two consecutive days (May 31-June 1). This trigger warranted a switch in PH2 operation from the mid-point to the full 1% operation as necessary to pass flow. Tom Lorz noted that sockeye descaling increased with the shift in operation.

Fish: Paul Wagner, NOAA, reported on fish. He noted that juvenile yearling Chinook counts are decreasing and have been in the 1,000-2,000 range for the past few days for Little Goose and Lower Monumental. Sub-yearling passage counts are also starting to increase up to the 40,000 range for Lower Granite and Little Goose, Lower Monumental has yet to see sub-yearling passage. Steelhead

passage pulsed with the increased flows, with an increase to around 10,000 at Lower Granite, and numbers decreasing at upstream projects. Sockeye are nearing the end of their run with a decrease from 200,000 to 6,000 at Lower Monumental and a decrease from 40,000 to 5,000 for Bonneville between May 21st to June 1st. Lamprey are picking up with 1,000-2,000 at Lower Granite, similar numbers are also seen at Lower Monumental and McNary. Additionally, the adult spring Chinook run is done at Bonneville, with passage 140% above the 10 year average; June 1st marks the date of the transition to summer Chinook. Paul also noted that the Sockeye are beginning to appear at Bonneville and 76 have passed since yesterday. A handful of Sockeye have passed Priest Rapids already.

Water Quality: Scott English, USACE, reported that there TDG is high at McNary as a result of involuntary spill. Additionally, he noted that Bonneville tailwater TDG is consistent around 125%.

Power System: Nothing to report.

The next TMT meeting will be a conference call on June 11th at 9:00am.

Agenda items include:

- Spring to Summer Transition Operation Update
- McNary Dam Update

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES

June 4, 2014
Minutes: Pat Vivian

1. Introduction

Doug Baus, COE, chaired this TMT meeting facilitated by Emily Plummer, DS Consulting. Representatives of the COE, BPA, Montana, Oregon, Washington, CRITFC, BOR, Idaho, USFWS, Colville Tribe and others participated. This summary is an official record of the proceedings, not a verbatim transcript.

2. Meeting Minutes – May 21 and May 28

Paul Wagner commented on section 5 of the minutes regarding lower Snake River spring to summer spill operations. In the second paragraph, second to last line, change “subyearling” to “yearling” chinook. In the third paragraph, change “at each project” to just “Lower Granite Dam.” In the fourth paragraph, change “average” to “median,” and the last line should say “some comments were received suggesting these dates were too early.” With these changes, the notes and minutes for both dates are considered final.

3. Vernita Bar Operations/Wanapum Dam Update

Russell Langshaw, Grant PUD, reported. Emergence ended as of May 20 due to warming temperatures in the Hanford reach, thus ending most operational constraints except daily delta flow bands. The 2014 Hanford Reach Protection Program is expected to continue until June 20. There have been no exceedances to date since protections began on April 22, and the operation is going well. For the first few weeks, flows were in the 160-180 kcfs range with 60 kcfs daily delta constraints. For the first 30 days of the program, mean daily discharges were 186.8 kcfs with a mean daily delta constraint of 45.8 kcfs. Through the remainder of the season, minimum flow constraints have been 150 kcfs. For the past week, flows have been averaging 212.5 kcfs, with a daily delta constraint of 59.5 kcfs. Each year CRITFC attempts to tag 200,000 pre-smolts of natural origin in the reach, but this year it might not be possible to tag that many because flows have been high.

Spring runs have already passed Wanapum Dam and summer sockeye will be arriving soon. Conversion rates are greater than 95% for PIT tagged fish passing from Priest Rapids to Rock Island Dam. The spiral flume installation at Wanapum will begin next week. An intermediate pool raise is expected in the fourth quarter of this year. Langshaw will give TMT another update in two weeks.

4. Treaty Fishing – SOR 2014-C3

Kyle Dittmer, CRITFC, presented this SOR for a third and probably final spring treaty fishery from 6 am, June 3, through 6 pm, June 6. The fishery was scheduled in response to an upgrade in the BON spring chinook run forecast of 217,000 adult returns from 214,000 the previous week. The SOR requests the typical treaty fishery operation of 1.5 foot elevation bands as a hard constraint to minimize fluctuations for tribal fishers in the lower Columbia pools, BON, JDA and TDA. A CRITFC-sponsored net flight on May 29 tallied about 244 nets in the three pools, with 48% in the BON pool, 25% at TDA and 27% at JDA. The COE is implementing the treaty fishery operation as requested; Dittmer thanked the COE for doing so.

5. McNary Dam Operations

Ann Setter, COE Walla Walla, reported on debris removal at MCN in light of the effort underway to reduce high adult sockeye descaling rates. Yesterday project staff cleaned the trash racks in an effort to eliminate the concern debris is the source of current descaling levels. Because so many operations are simultaneously underway at MCN, the COE posted a calendar of the operations and descaling rates to today's agenda. Activities on the calendar include collection of descaling data, debris removal, three mid-point turbine operations coordinated at TMT to minimize descaling, and summer performance testing set to begin June 11.

Baus asked the salmon managers to consider how debris removal should be handled, given that the goal of having clean fish screens in order to evaluate effects of the mid-point operation might not be possible in time for performance testing to start.

Setter reported that three truckloads of debris were removed yesterday from the bottom of the trash rack and beyond. Most of the descaled fish to date have been sockeye, and their numbers are declining because the run is nearing its end. Tony Norris, BPA, noted the mid-point operation raises TDG levels downstream which is bad for fish, so perhaps the special operation should end with the sockeye run. Subyearlings are beginning to arrive at the project, and they are also easily descaled, Charles Morrill, Washington, said. Subyearling descaling rates have been around 6% the past few days and should be monitored.

Setter said her review of last week's descaling data found no benefit to sockeye from the mid-point operation. She said there's a slight chance of finding a window to collect a 24-hour data sample under clean conditions before performance testing begins. Operations at full the 1% range will be implemented during performance standard testing that begins on June 11. The head gates at MCN have been lowered since March and there were no descaling issues until May, so the head gates are not a likely cause of descaling. Small sample sizes, the introduction of subyearlings, and declining numbers of sockeye will make it difficult to correlate the data with previous samples.

Paul Wagner, NOAA, said FPAC's conclusion yesterday was to recommend another mid-point operation from 7 am, June 5, to 7 am, June 6, after the project was cleaned; the COE has scheduled that operation. The goal is to investigate whether descaling could be resolved this way. While we may not get a clear picture of the cause of descaling, Morrill said, another 24 hours of mid-point operation would probably be beneficial for fish. The data collection is based on fresh descaling, which indicates the problem is at MCN, not elsewhere. Russ Kiefer, Idaho, suggested the mid-point operation continue through the weekend, with a test of the full 1% operation before performance testing begins. Baus and Setter said the COE also wants data on a mid-point operation at MCN with clean fish screens, but the limited sample size and relative decline in sockeye numbers will make it difficult to reach agreement on what the data mean.

The temporary spillway weirs (TSWs) at MCN are typically scheduled under the FPP and FOP to be closed on June 6 and removed from the spill bays by June 8 or the next business day for the benefit of subyearlings which have lower survival through the TSWs than through the spillway. This year, removal falls on Monday, June 9. Lisa Wright, COE, asked TMT to consider whether the TSWs should remain open until they are removed from service on the 9th to help pass debris. This change from the FOP would not affect spill or the mid-point operation. Setter agreed the TSWs could help with debris removal but expressed concern that changing the spill pattern might allow predators to linger in the tailrace.

The salmon managers present (**Idaho, Washington, Oregon, CRITFC, USFWS** and the **Colville Tribe**) were generally in favor of extending spillway weir operation after June 6 until removal on June 9, but **NOAA** wanted to confer internally before giving the action agencies a definitive recommendation. Wagner will coordinate with the action agencies no later than tomorrow, June 5.

The salmon managers all expressed appreciation to the action agencies for all their efforts to address descaling, including four mid-point operations, ongoing debris removal, and possibly an extended TSW operation. TMT will revisit MCN operations at its next meeting June 11.

6. Spring to Summer Spill at Lower Snake River Projects

There was no update today, as the COE has not decided yet how the transition from spring to summer spill will be handled. TMT will revisit this issue at its next meeting June 11. If a decision is made before then, the COE will likely notify the region via notification through the RIOG.

7. Operations Review

a. Reservoirs. Hungry Horse is at elevation 3527.84', releasing 5.2 kcfs with plans to drop outflows to 3 kcfs tomorrow. Grand Coulee is at elevation 1269.7' with no

more spill over the drum gates. Mary Mellema said the BOR will begin releasing 487 kaf of flow augmentation next week from above Milner Dam and the Boise basin.

Libby is at elevation 2417.1' with average inflows of 45.1 kcfs and releases of 25.9 kcfs. The second sturgeon pulse scheduled for this year coincided with a flood control draft.

Dworshak is at elevation 1570' with inflows of 19 kcfs and releases of 4.4 kcfs. Albeni Falls is at elevation 2060.9' with inflows of 92.3 kcfs and releases of 90.9 kcfs. Lower Granite daily average inflows are 118 kcfs. McNary daily average inflows are 318 kcfs.

Bonneville daily average inflows are 348.4 kcfs. The project has been operating in accordance with the FPP Change Form for BON turbine operations recently approved at FPOM. Through May 30, the juvenile trigger was in effect and PH2 operated in the 1% mid-range. Adult spring Chinook began outnumbering juveniles on May 31 and the adult trigger went into effect after two consecutive days on June 2 at 11:05 am, when the project began operating PH2 above the mid-range as necessary to pass flow, Wright reported. Tom Lorz said CRITFC is tracking Snake River sockeye descaling at BON, which reached 20% when the turbines operated above the mid-point.

e. Fish. Paul Wagner, NOAA, reported.

Juveniles: Yearling passage is declining, with 1,000-2,000 fish passing per day at LGR, LGS and LMN. Subyearling passage is picking up, with 40,000 fish passing per day at LGR and LGS. Steelhead are following the same trend as yearling chinook. A third pulse of steelhead followed the increase in flows, with 10,000 passing at LGR but less than 2,000 per day at MCN and other projects downriver. Sockeye passage is nearing its end. The MCN sockeye passage index dropped from 200,000 on May 21 to 6,000 on June 1. Sockeye passage at BON is following the same trend. LGS, LMN and MCN are all passing about 1,000-2000 lamprey per day.

Adults: Spring chinook passage at BON ended at 140% of the 10 year average, with upriver projects having even higher percentages. Sockeye passage at BON is just beginning with 76 adults yesterday. A discussion of spring fishery counts elicited the fact that statistically, the spring fisheries run continues through June 15 and includes fish counted at the river mouth.

c. Water Quality. Scott English reported that involuntary spill is causing higher TDG saturation at MCN. The TDG saturation levels in the BON tailwater remain below 125%.

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

7. Next TMT Meeting

The next TMT meeting will be a conference call on Jun 11, with a MCN update and the transition from spring to summer spill on the agenda.

<i>Name</i>	<i>Affiliation</i>
Tony Norris	BPA
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Erick Van Dyke	Oregon
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Kathryn Kostow	Oregon
Greg Lawson	Thompson Reuters
Margaret Filardo	FPC
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Sheri Sears	Colville Tribe
Shane Scott	PPC
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Russell Langshaw	Grant PUD
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