COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

November 4, 2015

Facilitator's Summary

Facilitator & Notes: Emily Plummer, DS Consulting

The following notes are a summary of issues that are intended to 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.

Chum Operation – Paul Wagner, NOAA, reported that as of midnight on November 3rd, Bonneville tailwater elevation was 11.2ft and flows were between 108-110kcfs. Paul continued that on Monday, BPA and NOAA visited Hamilton Springs and Hamilton Creek to see if the streams were watered; both were flowing well and pictures are available on the TMT agenda. Charlie Morrill, WDFW, shared that chum were sighted in the springs on Tuesday.

The group discussed when to initiate the chum operation. It was noted that at this point, there is not enough inflow at Bonneville to support a constant 11ft tailwater elevation without moving water from Grand Coulee, which takes three days to travel downstream to Bonneville. Tony Norris, BPA, noted that one option would be to hold off on implementing the chum operation and use flows to continue filling Grand Coulee for future use. Joe Skalicky, USFWS, explained that salmon managers would like to start the operation as soon as possible to ensure that chum have access to habitat, which, Charlie noted is stated in the BiOp to be available at 11.3ft.

→ **ACTION:** Joe Skalicky and Scott Bettin will coordinate a site visit later this week to the mouth of Hamilton Creek to look at what habitat is available at 11ft.

The group discussed two options for an interim operation prior to starting the previously coordinated chum operation (see operation outlined below):

- Set a maximum tailwater elevation of 12.5ft and start the 11.5-13ft chum operation on Tuesday, November 10th.
- Set a minimum tailwater elevation of 11ft and start the 11.5-13ft chum operation on Tuesday, November 10th.

After discussion, TMT members coalesced around an interim operation that set a range between 10.5-12.5ft tailwater elevation for all hours, unless there is not enough water, in which case the project will prioritize daytime hours. Then on Saturday, November 7th, the project will initiate the previously coordinated chum operation. BPA noted that they need to check and make sure that there will be sufficient water for this operation.

→ **ACTION**: Starting today, November 4th at 0600, operate Bonneville tailwater elevations between 10.5-12.5ft at all times if possible; if there is not enough water, prioritize daytime hours. On Saturday, November 7th at 0600 hours shift to the previously planned chum operation.

→ **ACTION:** On Saturday, November 7th at 0600 hours implement the following operation:

1. Operate Bonneville tailwater within a 1foot range of 11.5-12.5 feet during all hours.
2. If necessary to pass additional flow, operate as necessary up to 13.0 feet during all hours, returning to the range of 11.5-12.5 feet whenever possible.
3. If necessary to pass additional flow, operate Bonneville tailwater up to 16.5 feet during nighttime hours (5 pm-6 am). The highest tailwater elevations will be concentrated around midnight.

4. If necessary to pass additional flow, the Bonneville Dam tailwater will be operated up to 18.5 feet during nighttime hours (5 pm-6 am).The highest tailwater elevations will be concentrated around midnight.
5. If necessary to pass additional flow, operate tailwater between 13.0-16.5 feet during daytime hours (6 am-5 pm) with no upper limit during nighttime hours. The highest tailwater elevations will be concentrated around midnight. The Action Agencies will notify TMT of this occurrence and coordinate further operations if necessary.

[Facilitators Note: Following the TMT meeting, AA's determined that they will not likely be able to provide sufficient water for a 10.5ft minimum tailwater during all daytime hours from now until the operation change on the 7th. This is due to insufficient flows and other current system constraints on flexibility (e.g., restricted Bonneville Dam powerhouse capacity and forebay range due to fish ladder repair).]

OR, WA, and USFWS TMT members noted that it is important that this interim chum operation does not replace previously coordinated chum operations as the new norm. It was recognized that the interim operation is in response to the low flows and a desire to fill Grand Coulee, however, they do not want to see a week of 10.5ft tailwater become the expected chum operation in future years, as it is important to maintain the 11ft minimum for habitat access.

The chum operation will be revisited at the next TMT meeting.

The next TMT meeting will be a face to face on November 18th at 9:00AM.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM MEETING

November 4, 2015
Minutes: Pat Vivian

1. Introduction

Representatives of the COE, BPA, NOAA, USFWS, Oregon, Washington, Idaho and others participated in today's TMT conference call, chaired by Doug Baus, COE, with facilitation by Emily Plummer, DS Consulting. This summary is an official record of the conversation, not a verbatim transcript.

2. Chum Operations

The current operation of Bonneville Dam is documented in attachment 2a to today's agenda. Tailwater elevation is approximately 11.2 feet. Unfortunately the Halloween rainstorm didn't do much to raise elevations on the Columbia River, Tony Norris, BPA, said. Attachment 2b shows Hamilton Creek surging after the storm, but the latest forecast calls for a continuing trend of below-average precipitation and above-average temperatures. Due to the lack of flow in the lower Columbia and Willamette River the recent storm did little to change the current low tailwater at Bonneville Dam.

Paul Wagner, NOAA, characterized planning for the 2015 chum operation as preparing for a long trip without assurance there will be enough fuel to reach the destination. Will there be enough water to keep chum redds inundated through emergence next spring? Forecasted inflows are shown in attachment 2c. The BiOp says the Action Agencies will provide a tailwater elevation below Bonneville Dam of approximately 11.5 feet beginning the first week of November (or when chum arrive) and ending by December 31, if reservoir elevations and climate forecasts indicate this operation can be maintained through incubation and emergence.

A small number of chum have been spotted in the Hamilton Springs area, Charles Morrill, Washington, said. Yesterday FPAC had a lengthy discussion of how to shape the spawning operation under current conditions now that chum are here. Wagner reported the consensus: Delay the start of chum flows to conserve water, but maintain a minimum tailwater elevation of 11 ft through November 10, then raise the minimum elevation to 11.5 ft per the BiOp. With Grand Coulee close to full (1287.37 ft), the Salmon Managers would like to offer a sliver of spawning habitat now.

An additional 6-12 kcfs, or approximately 115-122 kcfs per day, would be needed from GCL to maintain 11 ft elevation below BON around the clock until November 10, Tony Norris, BPA, said. Implementing the request for an interim tailwater elevation of 11 ft means that Grand Coulee might not store any more water than if the chum operation were to start November 7 as usual.

TMT considered how much spawning activity might actually occur below 11 ft over the next 6 days. Joe Skalicky, USFWS, said there's probably minimal habitat available below 11 ft. Morrill said 11 ft seems like a realistic target until November 10, although the BiOp specifies 11.3 ft minimum elevation starting November 7. The STP predicts flows out of BON will be 120-123 kcfs over the next 10 days, yet the elevation below BON isn't projected to increase. The latest STP run targeted 117 kcfs flows, but the next run will assume flows closer to 120 kcfs to reflect a higher tailwater elevation for chum, Lisa Wright, COE, said. That means drafting deeper into GCL through December. Morrill acknowledged the flow augmentation outlook isn't good.

Conditions at BON could change significantly between now and November 10, the proposed chum start date, Baus said. Wagner said the Salmon Managers are comfortable with that. It's not possible to maintain 11 ft exactly as a minimum tailwater elevation, which means targeting 11.2 ft below BON until November 10, Scott Bettin, BPA, said. Furthermore, the BON forebay has only a 2 ft operating range because the Cascade Island fish ladder is down (the return to service date is November 30). Bettin proposed a tailwater elevation range of 10.7-12.5 ft until November 10. Baus suggested a range of 10.7-11.2 ft with a target of 11 ft as in past years. The minimum elevation below BON should be 11.3 ft because the BiOp says that's where habitat is available, Morrill said.

Early redd activity has constituted a significant percentage of chum spawning in past years, Wagner said. The sooner redds get established, the sooner they'll emerge, possibly as early as February. Those redds have a survival advantage in years when chum flows might end prematurely due to lack of water. Therefore Wagner proposed sticking to the BiOp start date of November 7 for chum flows. The BON tailwater elevation will be 11.5 ft or more by then, Norris said. However, the time it takes for water to travel from GCL will make it difficult to keep BON tailwater elevation above 11 ft for all hours until November 7, when the Action Agencies planned for chum flows to start as coordinated during the October 21 TMT meeting. An average of 11 ft could work until then, but can't be provided round the clock. Bettin and Joe Skalicky, USFWS, will collaborate on chum habitat field observations over the next few days to inform the chum operation.

There was agreement to adopt NOAA's recommendation and start the BiOp chum operation November 7 at 6 am. Prior to starting the BiOp chum operation on November 7, the Salmon Managers were polled on whether to maintain a BON tailwater elevation of 10.5-12.5 ft to the extent possible with a preference for daytime hours until the BiOp chum operation begins. **NOAA, USFWS, Washington, Idaho** and **Oregon** all supported this interim operation.

Lisa Wright, COE, outlined specific steps that will be taken to implement the BiOp chum operation this year that will begin on Saturday, November 7, at 0600 hours. It will replicate last year's operation as documented in the November 5, 2014, TMT minutes:

1. The Bonneville Dam tailwater will operate within a 1-foot range of 11.5-12.5 feet during all hours.

2. If necessary to pass additional flow, the Bonneville Dam tailwater will be operated up to 13.0 feet during all hours, returning to the range of 11.5-12.5 feet whenever possible.

3. If necessary to pass additional flow, the Bonneville Dam tailwater will be operated up to 16.5 feet during nighttime hours (5 pm-6 am). The highest tailwater elevations will be concentrated around midnight.

4. If necessary to pass additional flow, the Bonneville Dam tailwater will be operated up to 18.5 feet during nighttime hours (5 pm-6 am). The highest tailwater elevations will be concentrated around midnight.

5. If necessary to pass additional flow, the Bonneville Dam tailwater operating range will become 13.0-16.5 feet during daytime hours (6 am-5 pm) with no upper limit during nighttime hours. The highest tailwater elevations will be concentrated around midnight. The Action Agencies will notify TMT of this occurrence and coordinate further operations if necessary.

Erick Van Dyke, Oregon, made a distinction between limiting chum flows due to unique conditions this year and setting a precedent for future years. Oregon does not want to see the interim elevation range of 10.5-12.5 ft become the norm for habitat protection in future years if chum show up before the BiOp start date of November 7. USFWS and Washington agreed with this comment.

Starting today, the Action Agencies will do their best to maintain a BON tailwater elevation of 10.5-12.5 ft during all hours before the chum operation begins on November 7 at 6am. If 10.5-12.5 ft elevation isn't feasible around the clock until chum flows start, preference will be given to the daytime hours (6 am-5 pm). TMT will revisit the chum operation at its next meeting on November 18, unless circumstances call for meeting sooner.

2. Next TMT Meeting

TMT will meet next in person on November 18.

Name	***Affiliation***
Doug Baus	COE
Lisa Wright	COE
Tony Norris	BPA
Scott Bettin	BPA
Paul Wagner	NOAA
Joe Skalicky	USFWS
Erick Van Dyke	Oregon

Michelle Yuen	COE
David Benner	FPC
Shane Scott	PPC
XX	Seattle City Light
Brian Zigler	Snohomish PUD
Charles Morrill	Washington
Russ Kiefer	Idaho
Mary Mellema	BOR