

**COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

August 23, 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/>*

**Treaty Fishing SOR 2017-C2**

Kyle Dittmer, CRITFC, presented SOR 2017 C-2, requesting to maintain reservoir pool elevations within a 1.5-foot band at the Bonneville, The Dalles and John Day reservoirs to support the Fall treaty fishing season in the lower Columbia pools. Fishing will occur for 3 weeks, from 6 AM to 6 PM, on Monday through Friday, August 21-25, August 28-September 1, and September 4-8. Run sizes forecasted for Bonneville are 400,000 adult fall Chinook (below average), 61,000 steelhead (below average), and 97,000 Coho (near average). Weekly net flights have started, with 255 nets observed in the pool on August 22. Run catch data will be available after Labor Day and will provide more information on additional fishing seasons. Lisa Wright, Corps, confirmed that the Action Agencies are already implementing the SOR as written.

**Dworshak Operations**

Steve Hall, Corps, summarized operations at Dworshak. Reservoir elevation is currently at 1,548 feet, with inflows of 1.5 kcfs, and 9 kcfs discharge. TDG is ranging from 115-116% downstream and from 101.5 to 102.5 at the hatchery collection channel. Water temperature in the Lower Granite tailwater averaged 67.6 degrees over the past 12 hours, though it exceeded 68 degrees for a short period on August 22. The weather at Lewiston has been in the mid-90s, and is forecasted to cool somewhat for the next couple of days before returning to the high 90s over the weekend.

The Corps developed a modelled scenario showing the impact of Dworshak discharge on water temperatures in the Lower Granite tailrace. In the model, the Dworshak outflow would continue at 9 kcfs. The prediction is for water temperature to remain close to, but below 68 degrees with a 9 kcfs flow from Dworshak. Cooler weather conditions and predicted showers could help lower water temperatures more. In answer to a question from Dave Swank, USFWS, Steve said that another model (not yet posted to today's agenda) used 8 kcfs discharge and suggested temperature readings too close to 68 degrees for comfort. Steve's recommendation was to maintain Dworshak discharge of 9 kcfs until the water temperatures are a steady 67 degrees F or lower.

Dave Swank, reported that there are no major changes at the hatchery. Gas bubbles are showing in the gills of both spring Chinook and Coho, with some Rank 2 cases because of gas bubbles in the lateral lines; however, they are not seeing elevated mortality. Some steelhead are also showing Rank 1 bubbles. Dave and Jay Hesse, Nez Perce, confirmed that fish are growing normally in the hatchery, and remain on target size-wise. Still, TDG levels will need to fall below 100% to remove the risk of bubbles. There are still concerns over the longer-term impact of the sustained exposure to high TDG levels.

FPAC did not meet this week, but a hatchery call confirmed that remaining at 9 kcfs is a reasonable action due to temperature concerns.

- **ACTION: The Corps will continue to operate Dworshak with a 9 kcfs discharge until water temperatures in the Lower Granite tailrace are a steady 67 degrees or lower. When feasible, the project will further decrease discharge to allow for TDG reprieve downstream and in the hatchery.**

Jay reported that the Dworshak Board met and finalized the 200kaf plan for September releases. The plan is similar to previous years with a 6 kcfs release starting September 4<sup>th</sup> through mid-month, then a step down over a few days, with flow augmentation concluding around September 21 when the Dworshak reservoir elevation reaches 1,520 ft.

**The next regular TMT meeting will be face-to-face meeting on August 30, at 9:00.**

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

**August 23, 2017**  
Minutes: Pat Vivian

**1. Introduction**

Representatives of Idaho, NOAA, Washington, BPA CRITFC, BOR, Oregon, COE, USFWS, and the Nez Perce, Colville and Yakama tribes participated in today's TMT conference call chaired by Lisa Wright, COE, and facilitated by Emily Stranz, DS Consulting.

**2. Treaty Fishing**

Kyle Dittmer, CRITFC, presented SOR 2017-C2, which asks the Action Agencies to keep the three lower Columbia River pools within a 1.5 ft elevation band for three weeks of fall treaty fishing from 6:00 am to 6:00 pm on August 21-25, August 28-September 1, and September 4-8. Wright said the request is already being implemented at Bonneville, The Dalles and John Day dams.

According to projections, more than 400,000 fall Chinook and 61,000 steelhead are expected to return to Bonneville. Both returns are below the 10 year average, but the projection of 97,000 adult coho returning is close to average.

Yesterday a CRITFC net flight found 255 nets in the lower Columbia pools. Dittmer said the tribal fishers appreciate the Action Agencies keeping pool elevations steady. After Labor Day they will review catch data and decide whether to schedule additional treaty fisheries this fall.

**3. Dworshak Operations**

**3a. Current Operations Data.** Steve Hall, COE, reported that Dworshak forebay elevation is down to 1548 ft, with inflows of 1.5 kcfs and discharges of 9 kcfs.

**3b. Total Dissolved Gas in Dworshak Tailrace.** TDG levels downstream of the dam are 115-116% saturation.

**3c. TDG at Dworshak Hatchery.** Current TDG saturation in the hatchery raceway is 101.5%. It has gone as high as 102.5% in recent days, but that's an improvement over prior readings.

**3d. Hourly Snake and Clearwater River Temperatures.** The current temperature at Lower Granite tailwater is 67.6 degrees F. Yesterday it exceeded the 68 degree threshold for several hours, maxing out at 68.2 degrees F.

**3e. Temperature Model Results.** Hall showed TMT a scenario that depicts holding 9 kcfs discharges from Dworshak based on 2003 as an analog year. The model indicates Lower Granite tailwater will remain close to 68 degrees F for a few days then cool off, but temperatures will hug 68 degrees until the end of the month.

Based on these model results, Hall recommended holding 9 kcfs out of Dworshak until temperatures at Lower Granite drop to at least 67 degrees F and are expected to remain steady. At this point, it looks as though 9 kcfs discharges need to continue for the sake of temperature management, but updated weather information next week could change that. Another model, not yet attached to today's agenda, indicates that 8 kcfs out of Dworshak would allow Lower Granite temperatures to hover too close to 68 degrees F.

**3f. Weather Forecast for Lewiston, ID.** Temperatures have been in the mid-90s and will cool off for a few days, then hit the 90 degrees F mark again over the weekend. Showers are predicted for tonight and tomorrow.

As for fish health, Swank said Dworshak National Fish Hatchery managers are not seeing any major changes since last week. They are still finding some bubbles in gills but nothing of great concern. A few spring Chinook and coho have Rank 2 bubbles in the lateral lines, which is not a good sign, given that little is known about the impacts of extended exposure to elevated TDG levels. In general, the fish are feeding well, but there are concerns about the long term impacts of bubbles in the gills and lateral lines.

Jay Hesse, Nez Perce Tribe, said fish are already responding to the recent decrease in TDG with fewer bubbles in the gills. Maybe TDG levels of 100% saturation would eliminate bubbles in the lateral lines entirely.

**3g. Next Steps.** There was no FPAC call yesterday, but managers at the USFWS and Nez Perce hatcheries both reported normal growth rates for fish, Swank and Hesse said. They agreed keeping Dworshak outflows at 9 kcfs is the best option for temperature management, although it means more cumulative TDG exposure for fish.

Hall said the Action Agencies will continue to operate Dworshak at 9 kcfs releases, posting further modeling results as they become available. When the model indicates temperatures at Lower Granite have stabilized at around 67 degrees F, Dworshak discharges will be reduced to 8 kcfs.

Regarding the 200 kaf of Nez Perce flow augmentation in September, the Dworshak board has finalized a plan that's similar to past years, Hesse reported. It calls for 6 kcfs releases starting September 4 through mid-month, then discharges ramp down and end September 21-22.

#### **4. Next TMT Meeting**

TMT will meet next on August 30 in person.

<b>Name</b>	<b>Affiliation</b>
Russ Kiefer	Idaho
Paul Wagner	NOAA
Charles Morrill	Washington
Scott Bettin	BPA
Tom Lorz	CRITFC/Umatilla
Jim Litchfield	Montana
Kyle Dittmer	CRITFC
Peter Cooper	BOR
Jay Hesse	Nez Perce
Erick Van Dyke	Oregon
Lisa Wright	COE
Julie Ammann	COE
Sheri Sears	Colville Tribe
Charles Wiggins	DSC
Wayne Jousma	COE
Alfredo Rodriguez	COE
Steve Hall	COE
Tom Iverson	Yakama
Dan Turner	COE
Laura Hamilton	COE
Laura Berg	Clearing Up
Makary Hutson	BPA
Eric Chow	COE
Dave Swank	USFWS