

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

March 20, 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/>

Dworshak Update

Current Operations

Steve Hall, Corps, provided an update on Dworshak operations. Currently the reservoir elevation is 1,528.6 ft. and filling. Outflow was held at 12.5 kcfs through midnight Saturday, March 18th, when it was dropped to 7.5 kcfs through mid-day Sunday, then raised to 8 kcfs until currently. Inflow was 52.6 kcfs over the past 6 hours, and 42 kcfs currently.

In river TDG levels currently are 107-108%. Levels reached 120% on March 17-18th, then dropped to 106% during the period of low discharge. TDG levels at the hatchery were 103% before the decreased discharge, and are currently 98-99%. The Peck station recorded 105, 101.5, and currently 102.5% during these operations, and Lewiston 103% and currently 101% TDG.

The Corps confirmed that conditions had not changed from the planned operation to ramp up Dworshak discharges by 2 kcfs per hour to 25 kcfs beginning at noon on 3/20. The project plans to hold 25kcfs discharge for the foreseeable future because the reservoir is currently well above the flood control elevation target. The Dworshak increase in flow is part of the necessary effort to move water out of the system to prepare space for spring runoff.

The upper Snake River facilities are also releasing water. Brownlee is drafting inflow for system flood control. Water is also being released from the Boise, Payette, Palisades, Owyhee, and Malheur to avoid local flooding.

Hatchery Update

Jay Hesse, Nez Perce, reported that the spring Chinook release from the Dworshak Hatchery began this morning (3/20) into the Mainstem Clearwater, and should be completed by mid-afternoon. Because they cannot maintain satisfactory TDG levels when outflows increase to 25 kcfs, they are discussing options for an early release of steelhead as well. Only a portion of the steelhead on station are smolting at this point. Generally, it would be better to leave these fish on station at this stage, however, due to uncontrollable TDG it may be better to release them early. The hatchery is also working with the Idaho hatchery to assess options of trucking fish for an off station release, however there are a lot of resource and logistical challenges that need to be addressed. Sampling today showed some reduced gas bubbles in the gills, however, this is a 1-day observation and too early to tell if there has been an improvement.

The Idaho hatchery should have completed its release of Spring Chinook into the North Fork Clearwater yesterday. The Idaho hatchery will then be able to transfer some low-TDG reservoir water to the Dworshak hatchery. Howard Schaller, USFWS, noted for the group that the Dworshak ramp-up will impact 1.4 million steelhead at the hatchery because they have inadequate protection from the rising TDG levels.

There was generally expressed appreciation for the work done over the weekend by both action agencies and salmon and hatchery managers.

→ **Action:** The Corps will ramp up discharge from Dworshak Dam by 2 kcfs/hour, beginning at noon today, until discharge reaches 25kcfs. It will hold 25kcfs discharge for the foreseeable future to meet local and system flood control needs.

The next TMT conference call meeting is set for 9:00 AM on Wednesday, March 29, 2017.

Columbia River Regional Forum
TECHNICAL MANAGEMENT TEAM OFFICIAL MINUTES

March 20, 2017
Minutes: Pat Vivian

1. Introduction

Representatives of the COE, NOAA, BPA, Nez Perce Tribe, BOR, USFWS, Oregon, Umatilla Tribe, IDFG and others participated in today's TMT conference call chaired by Doug Baus, COE, and facilitated by Emily Stranz, DS Consulting. With emergency flood control operations in effect both locally and system wide, the purpose of this Monday check-in was to exchange information on any changes in water conditions and hatchery plans that took place over the weekend.

2. Dworshak Update

Steve Hall, with the COE Walla Walla water management team, gave an update on Dworshak operations and the current flood risk.

2a. Current Operation. At the last TMT meeting on Friday, March 17, Dworshak discharges were 12.5 kcfs which continued through midnight on March 18. At that time discharges dropped to 7.5 kcfs for the first half of March 19, which produced low TDG levels in the Clearwater River (see Total Dissolved Gas Report below). At 1 pm on March 19 in response to inflows, the COE increased Dworshak flows to 8 kcfs, which is what the project is currently discharging.

Dworshak pool has filled to 1528.6 ft, which is 36 ft above the end of March flood control elevation. Inflows peaked at 52.6 kcfs yesterday for 6 hours and are currently 42 kcfs.

2b. Total Dissolved Gas Report. On March 17-18 when discharges were 12.4 kcfs, TDG levels in the river were 120% saturation. When discharges dropped to 7.5 kcfs, on March 19, TDG levels dropped to 106% saturation, then increased to 107% when discharges increased by 500 cfs (total project outflow was 8.1 kcfs) at 1 pm on March 19. Current TDG levels in the river are 108%, and TDG levels in the hatchery (DHCI) are 98-99% saturation. DHCI TDG was 103% March 16-18 when total outflow was 12.4 kcfs. At Peck downstream of the confluence of the north fork, TDG levels of 105% (March 17-18) dropped to 101.5% (March 19) and are now back up to 102-102.5% saturation. TDG levels at Lewiston were just over 103% (March 17-18) and are currently 101.5% saturation.

Hall told TMT that the COE held off on changing the operation when the Nez Perce and USFWS hatcheries advocated for lower TDG levels in the river until noon today with the release of spring Chinook in progress. The COE had wanted to increase discharges starting at midnight yesterday, March 19. So the Dworshak operation remains the same as previously coordinated at TMT: discharges will continue at 8 kcfs until noon today, March 20, at which time they will

ramp up at 2 kcfs per hour until reaching 25 kcfs at 10-11 pm this evening. The first increase will be 1.5 kcfs at noon today.

Dave Swank, USFWS, asked about the Vancouver gage on the Columbia River and its influence on river operations. Vancouver is currently above flood stage and will be for a while, Julie Ammann, COE, replied. The whole river system is in a flood control emergency. In order to create space for inflows when the freshet starts, the COE typically drafts reservoirs heavily in March and April. Ammann clarified that the recent surge of rainfall is not considered part of the normal spring freshet, so reservoir space is urgently needed. The current plan is to push outflows in the lower river to maximum elevation in an effort to slow the rate of fill. The Columbia River at the Vancouver gage is the control point for the system. Since March 16 the Vancouver stage has ranged between 16 and 17 feet which has exceeded the 16 foot flood stage at Vancouver. So Dworshak can be expected to discharge 25 kcfs for a while as part of system wide flood risk management.

Erick Van Dyke, Oregon, asked about the upper Snake projects managed by the BOR. The Action Agencies use Brownlee reservoir in the Hells Canyon complex run by Idaho Power as a storage reservoir for system flood control, Ammann replied. Brownlee is currently passing inflows. The upper Snake projects have small reservoirs and can't store much. Mary Mellema, BOR, confirmed that all projects in the upper Snake basins – Boise, Payette, Owyhee, Malheur and Palisades – are evacuating their reservoirs to meet local flood control requirements. Discharges on the upper Snake have not been reduced like they have at Dworshak because reservoir space is needed on the Snake to avoid local flooding.

3. Hatchery Update

Nez Perce and USFWS hatchery managers gave an update on hatchery operations. Idaho was not present on the call today. Yesterday, March 19, IDFG was in the process of releasing spring Chinook directly from the Clearwater Hatchery into the middle fork of the river, Jay Hesse, Nez Perce, reported.

The pending increase to 25 kcfs spill at Dworshak means the hatcheries can't maintain adequate conditions for hatchery steelhead. Those on station are mostly smolting and ready to be released, so the plan is to start releasing them tomorrow through the end of the week. IDFG is planning to truck off-station steelhead upriver, which usually takes 8-10 days. People are scrambling to arrange transportation for these fish.

The hatcheries' main goal at this point is to move as many fish as possible that can't be maintained on reservoir water over the next 3-4 weeks. When the Clearwater Hatchery releases fish, it will free up reservoir pipeline water to maintain steelhead that are still in the parr stage (not mature enough for release). Hesse said the Nez Perce are working with IDFG to coordinate which fish will experience the least negative impacts from early release and which can be maintained with reservoir water.

Howard Schaller, USFWS, said 1.4 million steelhead won't have the extra protection of reservoir water and will experience impacts from high TDG levels. Releasing fish early places

them at higher risk, even if they are smolting. Steve Rogers, Dworshak Hatchery, said 1.1 million steelhead are currently being maintained on reservoir water.

TDG levels in the hatchery are 99% saturation as of this morning, Dave Swank, USFWS, reported. The number of bubbles in spring chinook gills has decreased slightly. Steelhead condition has changed slightly over the past few days, but it's too early to tell whether this signifies improvement. The Chinook release is going well, and should be completed by midafternoon today, before gas levels spike in the hatchery.

Hesse expressed appreciation for all that has been done by hatchery staff, the Action Agencies and others to cope with this difficult situation.

Schaller asked whether there is any chance the request made on March 17 to moderate the ramp rate to 4.5 kcfs per day would be considered, making it possible to keep steelhead on station in good condition longer.

Hall clarified that there is no flexibility left in the Dworshak operation because the reservoir elevation is currently 1529 ft, which is 37 ft above its March 31 flood control elevation. The COE has been coordinating and adjusting Dworshak operations to minimize impacts on the hatcheries with the TMT over the last several months and is able to delay the ramp-up until noon today but unfortunately we have run out of flexibility to delay the ramp-up any longer due to the current reservoir forebay elevation and the ongoing flood control operation and subsequently have no choice at this point but to evacuate water.

Moving forward, the COE will increase Dworshak discharges by 2 kcfs per hour until total outflow reaches 25 kcfs this evening at 10-11 pm. The hatcheries will finish releasing their spring chinook this afternoon, and will continue trucking fish off station while considering early release of steelhead.

3. Next TMT Meeting

TMT will meet next in a conference call on March 29 at 9 am.

<i>Name</i>	<i>Affiliation</i>
Doug Baus	COE
Paul Wagner	NOAA
Tony Norris	BPA
Jay Hesse	Nez Perce
Mary Mellema	BOR
Dave Swank	USFWS
Julie Ammann	COE
Lisa Wright	COE
Dan Turner	COE
Ron Thompson	COE
Erick Van Dyke	Oregon
Tom Lorz	CRITFC/Umatilla

Steve Hall	COE Walla Walla
Charles Wiggins	DSC
Margaret Filardo	FPC
Dave Benner	FPC
Michael Bryant	CBB
Howard Schaller	USFWS
Andy Goodwin	USFWS
Steve Rogers	Dworshak Hatchery
Laura Hamilton	COE