

# COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

August 20, 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 July 30<sup>th</sup> and August 6<sup>th</sup> Official Minutes and Facilitator's Summary were approved pending the following change to the July 30th Facilitator's Summary:

- In Kyle Dittmer's net report, the summary should read that there were 75 nets in the BON pool, representing 38% of the total nets, NOT 88%.

## **Dworshak Operations**

Doug Baus, COE, provided an update on Dworshak operations. He noted that due to a recent outage at Unit 3 (8/15/14), caused by a ground fault, the project has shifted from 10kcfs to 7kcfs outflow. Doug noted that as a result of the outage, the Corps is unable to achieve the 1,535' elevation BiOp requirement at the end of August. Additionally, he noted that outflow cannot increase beyond 7kcfs without exceeding the State of Idaho's water quality standard of 110% TDG, as stated in the BiOp and Water Management Plan. It is unknown when the unit will be brought back in service. Doug shared that NOAA drafted a SOR requesting that the Corps work to restore the 10kcfs flow out of Dworshak in order to proactively head-off potential temperature increases in the Lower Granite forebay and tailrace which would impact operation of the adult fish ladder and trap. NOAA does not operate the adult trap when temperatures exceed 69.0 degrees Fahrenheit and subsequently the trap will not be operated today because water temperatures were 69.3 degrees Fahrenheit at 0700 hours. John Heitstuman, COE-NWW, provided an update on water temperatures in the Snake and Clearwater Rivers (links provided on the TMT agenda). He reported that with current weather conditions, and if 7 kcfs is maintained out of Dworshak, water temperatures are projected to stabilize around 66 degrees Fahrenheit. Today's model run forecasts LWG tailwater temperatures decreasing down to approximately 64.5 degrees Fahrenheit on 8/27. The following question, comments and observations were noted by TMT members during this discussion:

- Paul Wagner, NOAA, inquired as to what the forebay temperature impacts will be with the decrease in outflow.
  - John noted that the reservoir is continuing to stratify; he expects that temperatures at 10m will remain around 68-69 degrees Fahrenheit, and there will be little change to temperatures at 15m.
  - John also noted that with less water from DWR, the warmer surface water will stratify deeper into the water column.
  - Russ Kiefer, ID, noted that the Lower Granite pumps pull water from multiple locations for the fish ladder, including surface water, which is warm mainly as a result of ambient temperatures.
- The Salmon Managers present expressed support for the Corps working to recover the cool

water out of Dworshak that had been coordinated at the last TMT meeting, noting that this water is important for both adult and juvenile migrating fish in the Snake River, as well as operation of the Lower Granite adult ladder and trap.

- The Corps noted that increasing DWR outflow above the current 7 kcfs will cause TDG level to exceed 110% State of Idaho water quality standard. Increasing to 8.5 kcfs outflows would result in approximately 115% TDG and increasing to 10 kcfs as specified in the draft SOR would result in approximately 120% TDG.
  - TDG levels above 110% could impact the Dworshak National Fish Hatchery (NFH) and Nez Perce hatchery downstream.
    - It was reported that the NFH noted that they can likely manage TDG levels up to 115%; it was unknown what TDG levels would be manageable for the Nez Perce hatchery.
  - A waiver would likely be required from the State of Idaho and the Nez Perce Tribe to allow for exceedance of the 110% TDG water quality standard.
  - The Corps requested that a SOR is submitted by the Salmon Managers in order to show support for the increased outflow over 7kcfs, recognition of the TDG level impact, and biological justification for fish.

Paul Wagner shared the draft SOR that he put together, the Salmon Managers worked during the TMT meeting (with the participation of the AA's) to revise the SOR prior to sending it out to all of FPAC for revisions.

- **Action:** The draft SOR will continue through the FPAC process and be submitted to the Corps by 3:00 today (8/20/14). Corps will begin coordination with the State of Idaho and the Nez Perce Tribe to determine waiver needs for the exceedance of 110% TDG.

### **Lower Granite Dam Forebay, Tailrace, and JFF Temperatures**

Charles Morrill, WA, shared that temperatures in the Lower Granite forebay have been kept at or below 68 degrees Fahrenheit for the most part. He noted that there are temperature variations at the surface elevation but at deeper levels there is more consistency. John Heitstuman, COE-NWW, reiterated that temperatures barely rose over 68 degrees Fahrenheit, noting that the average values may not accurately depict wider temperature excursions. Actual depth data and the geometric mean data are available on the TMT website as an attachment to today's agenda.

### **Treaty Fishing SOR 2014-C10**

Kyle Dittmer, CRITFC, shared a special operation request for the fall tribal fishing. The request is to hold BON, TDA, and JDA pools at a 1.5ft band variation through the five week fall season. The SOR request is for the following periods: August 18-August 22; August 25-August 30; September 2-September 6; September 8-September 13; and September 15-September 19. Kyle noted, an estimated 1,130,000 adult upriver fall chinook are forecasted (a new record), along with 232,000 steelhead and 193,000 coho. Kyle also stated that as of August 19th, there were 140 nets in the BON pool, 54 nets in TDA pool, and 86 nets in the JDA pool. Doug Baus, COE, stated that the Corps has initiated the August 18th-22nd request, and will continue implementing the SOR.

**Spill Priority List:** Doug Baus, COE-NWD, reported that the draft winter spill priority list was provided to, and discussed at FPAC; no concerns were voiced to Corps. The SPL is consistent

with last year's and can be found on the TMT website. The winter SPL will be effective from September 1, 2014 to December 31, 2014. Erick Van Dyke, OR, inquired as to if the list will be revised in season to allow for scheduled biological testing at McNary Dam. Doug replied the Corps would not knowingly spill at a level at McNary Dam in the SPL that would undermine the integrity of the test.

### **Operations Review**

**Reservoirs:** Lisa Wright, COE, reported on Corps projects:

- Libby midnight elevation was 2,452.1ft, with 16.9kcfs inflow and 9kcfs outflow.
- Dworshak midnight elevation was 1,552.3ft, with 1.5kcfs inflow and 6.7kcfs outflow.
- Lower Granite average inflow was 23.4kcfs.
- McNary average inflow was 165.5kcfs.
- Bonneville average inflow was 154.3kcfs

Mary Mellema, BOR, reported on Reclamation projects:

- Hungry Horse midnight elevation was 3,556ft, with 2.4kcfs outflow.
- Grand Coulee elevation was 1,284.8ft; the project is slowly drafting to hit 1,279.7ft by the end of August.

**Fish:** Paul Wagner, NOAA, reported on fish. He noted the fall chinook numbers at Bonneville had a high count of 4,000 chinook passing in one day this week, with an average of 1,500 per day. These counts are in line with the 10 year average. Steelhead numbers at Bonneville peaked with a daily count of 8,700 in the past week, with around 180,000 counted for the year, which is near 90% of the 10 year average. Wild Steelhead counts are at 87,000, near 110% of the 10 year average. Paul noted that adult Lamprey numbers are better than years past, with around 29,800 past Bonneville and roughly 10,000 past The Dalles. He added that night time counts at Bonneville show over 100,000. Paul also reported on juveniles. Currently, juvenile numbers are winding down, with sampling occurring every 3 to 5 days due to water temperature increases. At Lower Granite and Goose, juvenile numbers were between 1,500 and 2,000 per day; counts are lower at Lower Monumental and McNary is well past the peak. Sub-yearling numbers at Lower Granite are higher than the average for this time of year, and although Sockeye numbers at Lower Granite are down, conversion to Red Fish Lake is strong at 750.

**Water Quality:** Bill Proctor, COE, reported on water quality. He mentioned that all projects are below the required water quality standards, and that Chief Joseph TDG has returned to below 110%.

**Power System:** Nothing to report.

**The next TMT meeting will be a face to face meeting on August 27<sup>th</sup> at 9:00am.**

**Columbia River Regional Forum**  
**TECHNICAL MANAGEMENT TEAM – OFFICIAL MINUTES**

**August 20, 2014**  
Minutes: Pat Vivian

**1. Introduction**

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

**2. Meeting Minutes – July 30 and August 6**

Kyle Dittmer, CRITFC, commented on page 2 of the July 30 facilitator's notes. During the last treaty fishery of summer, Bonneville Dam had 38% of the nets found in the lower Columbia River pools, not 88% as stated. With this change, the minutes and notes for both meetings will be considered final.

**3. Dworshak Operations**

Baus gave a synopsis of conditions at Dworshak and Lower Granite dams that are making it challenging to provide temperature augmentation flows. On August 15 around 2:30 pm, a ground fault at Dworshak took unit 3 out of service, causing outflow to drop from the previously coordinated 10 kcfs to 7 kcfs to avoid exceeding the State of Idaho 110% TDG standard. Baus notified TMT of this change in Dworshak operations in an August 18 email. It is unknown when unit 3 will return to service. With outflow limited to 7 kcfs the 1535' target elevation for August 31 at Dworshak cannot be met without exceeding the 110% TDG tailrace standard, which is also a BiOp requirement.

Paul Wagner, **NOAA**, reported that on August 19, the emergency pumps that feed the adult trap for sampling at Lower Granite drew 70 degrees F water, which shut down the trapping operation. The temperature at the trap is currently within a degree F of the upper limit at which the trap shuts down at 69 degrees F. Dave Wills, **USFWS**, said many factors are involved in temperature augmentation, but the most important is keeping the Lower Granite trap operating.

Wagner drafted a SOR this morning in response to FPAC's agreement yesterday that returning to 10 kcfs flow augmentation at Dworshak is desirable. He cited 3 reasons the SOR is needed:

1. Sufficient cool water is necessary to keep Lower Granite ladder temperatures low and adults moving upstream.
2. Maintaining the trap operation is a high priority because data being collected this year will be essential to future decision-making.

3. Lower Granite, Lower Monumental and Ice Harbor dams are on single-unit operations at this time of year, which results in the operation of one unit at minimum generation and spilling the remainder of inflow.

John Heitstuman, COE Walla Walla, walked TMT through water temperature comparisons at Dworshak, Lower Granite, and the Snake and Clearwater rivers that are linked to today's agenda. The most recent Dworshak tailwater reading is 46.25 degrees F as of 7 am, August 20. Continuing outflows of 7 kcfs from Dworshak is expected to maintain 66 degrees F in the Lower Granite tailwater, assuming the 10-day weather forecast doesn't change and there are no surprises from Hells Canyon. The model runs show probable scenarios through August 31 that are updated on a daily basis. Water at 10 meters depth that feeds the trap is currently around 68-69 degrees F. While the unit outage directly affects water temperatures, ambient temperatures are also a major influence. Over the past 10 days, temperatures in the mainstem Clearwater at Lewiston have been around 56-59 degrees F. Since reaching a high of 59.3 degrees F on August 17, the Lewiston readings have been steadily dropping, and temperatures in the Lower Granite forebay are also dropping. These data provide a good way to monitor the effects of ambient temperatures.

Tony Norris, BPA, asked whether model results are available to compare the effects of 7 kcfs vs. 10 kcfs outflows. On August 21, the difference at the trap could have been about half a degree F with 10 kcfs outflows, Heitstuman replied. Under current conditions, releasing 10 kcfs instead of 7 kcfs would probably lower temperatures by 1-1.5 degrees F at 20 meters. Russ Kiefer, Idaho, said the ladder and trap draw water from multiple locations and the pumps supply only about 20% of the water involved, which makes it difficult to determine specific ladder temperatures. He noted that Ice Harbor, Lower Monumental and Lower Granite are providing 3 kcfs less spill than originally planned. The rental pumps at the trap have been operating 10 hours a day and will go to 24 hour operation this afternoon which increases their cooling effects, Lisa Wright, COE, added.

TMT members wrestled with the dilemma of conflicting BiOp requirements (achieving 1535 feet August 31 and complying with state of Idaho TDG water quality standards of 110%) that can't simultaneously be met and who is responsible for taking initiative to address the problem. A common goal was finding the appropriate procedural path to restore Dworshak flow augmentation to the highest level possible in light of the 110% TDG state water quality standard and the potential effects of higher TDG levels on fish hatcheries operated by the USFWS and the Nez Perce Tribe. Dave Statler, **Nez Perce**, said he can represent the tribe on fishery issues but water quality issues are outside his jurisdiction. Russ Kiefer said **Idaho** supports the goal of increased temperature augmentation flows but wouldn't sign the SOR because it's not appropriate in this situation. Several of the Salmon Managers expressed frustration with having to ask the COE to increase DWR outflows in order to achieve 1535 feet on August. The COE reiterated the conflicting BiOp requirement to comply with state of Idaho TDG water quality standard of 110% precluded their ability to increase outflows above current levels

of 7 kcfs. The **COE** would need to seek waivers from Idaho and the Nez Perce Tribe if the Salmon Managers request more Dworshak flow augmentation.

TMT considered the comparative effects of 115% and 120% TDG limits on the Nez Perce and Dworshak fish hatcheries. Dave Wills said the Dworshak National Fish Hatchery doesn't support 120% TDG, but a limit of 115% TDG is not expected to impede hatchery operations. This information focused TMT's comparison on 7 kcfs vs. 8.5 kcfs instead of 7 kcfs vs. 10 kcfs from Dworshak as originally planned. Heitstuman said a differential of 1-1.5 degrees F at 20 meters depth can be expected if Dworshak outflows are increased from 7 kcfs to 8.5 kcfs, not including the effects of ambient temperatures which are significant. It will take 2-3 days for any operational changes to affect water temperatures at the trap. TMT agreed that if action isn't taken soon, any potential benefits will be lost.

Even if nothing is done, the reservoir will still reach elevation 1520' by September 23 as outlined in the Dworshak board's operational plan. Lisa Wright said the reservoir is expected to reach elevation 1535' by:

- September 9 if the current operation continues (7 kcfs out, 110% TDG limit).
- September 5 if the TDG limit is raised to 115% (8.5 kcfs) on August 21.
- September 3 if the TDG limit is raised to 120% (10 kcfs) on August 21.

Wagner suggested FPAC reconvene later today or TMT work through the development of an SOR with a goal of submitting the SOR to the COE by 3 pm. The COE, BPA, NOAA, USFWS, Idaho, Nez Perce, Washington and Oregon representatives collaborated to revise the draft SOR.

**OBJECTIVE:** The Salmon Managers felt strongly this should be stated as a goal regardless of what is actually achievable. "Restore up to 10 kcfs discharge from Dworshak Dam for temperature and flow management, achieving a Dworshak pool elevation of near 1535' by August 31."

**JUSTIFICATION:** It was clarified that continuing the current operation would bring the reservoir to approximately 1540-1542' by August 31; emergency pumps are providing cool water to the trap; and spill levels at the Lower Snake projects are being affected by Dworshak operations.

**SPECIFICATIONS:** "Coordination with the Dworshak National Fish Hatchery and the Nez Perce Tribe will be needed to assure this operation does not negatively affect their operations" was noted. The COE added a detailed comparison of the effects of outflows to 110% (7 kcfs), 115% (8.5 kcfs), and 120% (10 kcfs) TDG.

There was agreement to leave the signatory list blank and allow the Fish Passage Center to coordinate with the FPAC membership to determine which agencies wished to sign onto the SOR with the goal of having the SOR to the Corps by 3:00 PM today. TMT will revisit Dworshak operations at its next meeting August 27.

#### **4. Lower Granite Dam Forebay, Tailrace and JFF Temperatures**

The graphs attached to today's agenda were provided by Charles Morrill, Washington, and by the COE. Morrill said that with one exception, the COE has managed to keep the Lower Granite tailwater temperature below the 68 degrees F criteria. Attachment 4a indicates there are significant variations in the temperature at surface elevations in the Lower Granite forebay, tailrace and juvenile fish facility. In response to requests from other TMT members, Morrill said he will add minimum and maximum temperature readings, as well as bushing replacement timing, to his graph (attachment 4a).

#### **5. MOP Operations**

Tony Norris reminded everyone that official MOP restrictions extend through end August as coordinated in past years. Typically the three lower Snake River projects are released from their MOP restrictions until all water augmentation releases are done and Dworshak reservoir has drafted to the Nez Perce Agreement target of 1520' elevation. The lower three pools are returned to their MOP elevation when augmentation releases are finished. This usually occurs at the end of September.

#### **6. Treaty Fishing – SOR 2014-C10**

Kyle Dittmer, CRITFC, presented this operational request for fall treaty fishing season. It makes the typical request that the three lower Columbia pools be operated within 1.5' elevation bands from August 18-22, August 25-30, September 2-6, and September 15-19. CRITFC forecasts this year's returns will be 1,130,000 upriver fall chinook (a record high), 272,000 steelhead (below average), and 193,000 coho (above average). A CRITFC-sponsored net flight on August 19 found 280 nets in the lower Columbia River, with 140 nets (50%) in the Bonneville pool, 54 net (19%) in The Dalles pool, and 86 nets (31%) in the John Day pool.

#### **7. Spill Priority List**

The draft winter spill priority list attached to today's agenda is the same list TMT coordinated last year, Baus said. The list will be in effect from September 1-December 31. Priorities for Level 1 spill to 110% TDG start with Bonneville and proceed upriver to Lower Granite.

Erick Van Dyke, Oregon, noted there are research plans for McNary Dam during this period. The Action Agencies will not adversely impact a short duration special operation at a project in order to adhere to the spill priority list, Baus replied. If there's a risk the McNary test will be disrupted due to lack of spill, TMT will coordinate a change to the spill priority list, Norris said. There were no requests today for changes in winter spill priorities.

## 8. Operations Review

**a. Reservoirs.** Hungry Horse is at elevation 3556.45' with releases of 2.4 kcfs, drafting to the end of September elevation. Grand Coulee is at elevation 1284.8' slowly drafting down to 1279.7' by end August. Wagner asked how often the BOR forecasts changes in discharges from Hungry Horse, and Mary Mellema replied that it's reviewed daily. Smooth decreasing flows through end September is the BiOp objective.

Dworshak is at elevation 1552.3' with inflows of 1.5 kcfs and releases of 6.7 kcfs. Libby is at elevation 2452.1' with inflows of 1.5 kcfs and releases of 6.7 kcfs.

Lower Granite daily average inflows are 23.4 kcfs. McNary daily average inflows are 165.5 kcfs. Bonneville daily average inflows are 154.3 kcfs.

**e. Fish.** Paul Wagner, NOAA, reported. Adults: Fall chinook migration is increasing, with a high of 4,000 fish per day this week. It will take a while to reach the 1.3 million forecast. Steelhead passage hit a high daily count of 8,700 fish this week, with a cumulative count of 180,000 fish, or 90% of the 10 year average. Wild steelhead passage is cumulatively 87,000 fish, or 110% of the 10 year average. Cumulative lamprey counts are nearly 30,000, which is much better than in recent years. Inclusion of nighttime counts boosted lamprey passage at Bonneville to over 110,000, which indicates that a lot of lamprey passage happens at night. Sockeye passage is way down, but a count of 750 sockeye at Redfish Lake is good news for this time of year.

Juveniles: Passage is winding down. A number of projects are condition-sampling every third or fifth day only due to high temperatures on the lower river.

**c. Water Quality.** Bill Proctor, COE, reported. All other projects than Dworshak are operating well below the TDG standards, with no exceedances over the past 5-6 days. A reading of 118.4% TDG on August 14 was attributed to bad data. Projects are spilling the amounts identified in this year's Fish Operations Plan including minimum generation at some projects.

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

## 7. Next TMT Meeting

The next TMT meeting will be in person on August 27.

<b>Name</b>	<b>Affiliation</b>
Dave Statler	Nez Perce
Mary Mellema	BOR
Jim Litchfield	Montana
Paul Wagner	NOAA

Doug Baus	COE
Tony Norris	BPA
Bill Proctor	COE
Karl Kanbergs	COE
Tori Hines	DSC
Michelle Yuen	COE
Julie Doumbia	BPA
Lisa Wright	COE
Erick Van Dyke	Oregon

Phone:

Charles Morrill	Washington
Kyle Dittmer	CRITFC
David Wills	USFWS
Agnes Lut	BPA
Scott Bettin	BPA
Kathryn Kostow	Oregon
John Heitstuman	COE Walla Walla
Russ Kiefer	Idaho
Barry Espenson	CBB
Margaret Filardo	FPC
Barry Espenson	CBB