

**COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

July 17, 2019

Facilitator’s Summary

Facilitator: Emily Stranz; Notes: Colby Mills, 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.nwdwc.usace.army.mil/tmt/agendas/2019/>.*

**Review Meeting Minutes and Facilitator’s Summaries**

TMT members approved minutes and facilitator’s summaries for the 6/12, 6/19, and 6/26 meetings, pending the following additional edit to the 6/26 facilitator’s summary:

- In the Little Goose operations section, 3<sup>rd</sup> paragraph, it should read, “fallback and double counting at Little Goose,” not, “Lower Monumental.”

**Dworshak Operations**

Jon Roberts, Corps, updated the group on operations at Dworshak Dam. Currently the project is discharging at full powerhouse and drafting the reservoir. TDG levels are just under 100%, as the project is not spilling. The project did spill earlier in the week to compensate for higher temperatures over the weekend. As a result, TDG rose with the temperatures, but remained under the 110% water quality standard. Current water temperatures in the Lower Granite tailrace are close to 67 degrees F, and are expected to stay around there for the next 2 or 3 days, then drop slightly as air temperatures cool down.

A cooling trend in the basin over the next couple of days is expected to help water temperatures decrease down to around 66 degrees F at Lower Granite. Jon noted that ambient temperatures are forecast to spike to 100+ degrees F on Sunday and stay high through Monday and Tuesday. To offset the incoming heat, the project will start spilling tonight (7/17) and bring total project discharge to 13,000 cfs, and bump up to 14,500 cfs on Friday and Saturday. Spill will continue as needed to maintain 68 degrees F and remain under 110% TDG. The project will continue to run the temperature comparisons model daily and taper off spill as soon as possible to conserve water.

The project plans to step down spill before July 24 if possible, and models suggest that they will be able to run at full powerhouse for the remainder of July and August (as shown in the graphic posted on TMT website).

**Dworshak Dam System Operations Request (SOR)**

Jay Hesse, Nez Perce, updated the TMT on a systems operation request for Dworshak Dam discharge management. The objective is to utilize Dworshak discharge between now and the end of August to not exceed 68 degrees F in the Lower Granite tailrace, while conserving water for September; lessening the priority of hitting 1,535 feet elevation on August 31. Jay summarized that the SOR seeks to clarify intentions in the BiOp, which states hitting 1,535 feet by August 31. He noted that the SOR does not preclude making a request to utilize Dworshak Board water in August if needed, however, he stressed that would not be a desirable situation. Doug Baus, Corps, clarified if a TMT member would like to draft Dworshak Dam below 1,535 feet prior to August 31 then the TMT member would need to coordinate with the TMT and then make the request to the Dworshak Board by August 15. TMT added a placeholder for the conversation at their 8/14 meeting.

TMT Members present were polled on SOR2019-1 for Dworshak Dam discharge management:

BOR	Support
BPA	Support

Colville Tribe	Absent, but supported via FPAC process
COE	Support
Idaho	Support
Kootenai Tribe	Absent
Montana	Support
Nez Perce Tribe	Support
NOAA	Support
Oregon	Absent, but supported via FPAC process
Spokane Tribe	Absent
Umatilla Tribe	Support
USFWS	Support
Warm Springs Tribe	Absent
Washington	Support

Doug confirmed that the Corps will implement the SOR. The objective will be to use Dworshak Dam outflows to maintain Lower Granite Dam tailwater temperatures below 68 degrees F through August 31. If this temperature operation results in a Dworshak Dam forebay elevation above 1,535 feet on August 31 then the volume of water above 1,535 feet will be released during the month of September down to 1,520 feet by September 30 in coordination with the Dworshak Board.

### Operations Review

*Reservoirs:* Joel Fenolio, BOR, reported on Bureau of Reclamation projects:

- **Hungry Horse:** midnight elevation was 3,557.6 feet, and the project is starting to draft, currently releasing 2,000 cfs to get the reservoir to 10 feet from full. With impending dry conditions, the project may be operating to the Columbia Falls minimum by mid-August.
- **Grand Coulee:** midnight elevation was 1,289.3 feet, with inflows of 100,000 cfs. The project has been releasing 90,000 cfs on average over the last 5 days. Tony Norris, BPA, noted a coordinated recreation operation with BPA from July 3-8, with a peak elevation on July 15 at 1,289.6 feet. The operation was successful and was able to maintain McNary flows at week average of 147-150 kcfs, as coordinated.

Joel added that flow augmentation finished in the Upper Snake Basin last week on July 11/12. It will continue in the Boise through next week, and in the Payette through August 31.

Lisa Wright, Corps, reported on Corps of Engineers projects:

- **Libby:** midnight elevation was 2,436.7 feet, with average inflows of 13.6 kcfs and outflows of 7 kcfs;
- **Albeni Falls:** midnight elevation was 2,062.2 feet, with average inflows of 14.8 kcfs and outflows of 17.2 kcfs;
- **Dworshak:** midnight elevation was 1,589.3, with average inflows of 1.2 kcfs and outflows of 9.6 kcfs;
- **Lower Granite:** average outflows of 38.1 kcfs;
- **McNary:** average outflows of 136.6 kcfs; and
- **Bonneville:** average outflows of 151.9 kcfs.

*Water Quality:* Dan Turner, Corps, reported an exceedance of 115% TDG in the Ice Harbor forebay, due to warmer temperatures over the weekend. Also of note, 2 gauges are not operating: The Dalles forebay and CCIW (Cascades Island in the Bonneville tailrace). USGS is working on redeploying a gauge today at CCIW.

*Fish:* Paul Wagner, NOAA, reported the following YTD passages at Bonneville: summer adult Chinook are at 50% of the 10-year average, summer Chinook jacks at 40%, and sockeye at 20%. YTD passages at Lower Granite include: summer Chinook adults at 24% of the 10-year average, summer Chinook jacks at 33%, and sockeye at 3%.

Current sockeye passage is of concern. All Snake River projects are experiencing rapidly decreasing numbers, which has led to questions of why sockeye are not converting in the lower Snake River, and why such a significant count differential between Ice Harbor and Lower Monumental dams. Paul noted that PIT-tagged fish are the best indicator of travel times and conversion rates, however, there are only 2 detected this year. Salmon Managers requested more information on sockeye observations, specifically clipped fish vs. unclipped data, whether or not fish are being misidentified, and identifying stock origination. Ann Setter, Corps, will look at the feasibility and resources for getting these data and will report back to the TMT. Russ Kiefer, ID, noted the time sensitivity for this issue as sockeye don't have much time left. Paul will inform the TMT if there is a need for change in operations.

Sub-yearling Chinook are passing in decreasing numbers at the Snake River projects, with 2,000-3,000 passing per day at Lower Granite, Little Goose and Lower Monumental Dams over the past 10 days. McNary Dam presented a large gap in sampling from July 2-12, as the traps were down. Juveniles are still passing at John Day and Bonneville dams, and will continue to do so through the end of the month.

*Power System:* Scott Bettin, BPA, noted the usual high temperature peaks during the days and cooler temperatures at nights.

**The next scheduled TMT meeting is a call on July 24, 2019, at 9:00 AM.**

*This summary is respectfully submitted by the DS Consulting Facilitation Team. Suggested edits are welcome and can be sent to Colby at [colby@dsconsult.co](mailto:colby@dsconsult.co).*

**Columbia River Regional Forum**  
**Technical Management Team OFFICIAL MINUTES**  
**Wednesday, July 17, 2019**  
**Minutes: Melissa Haskin, FLUX Resources**

**1. Welcome and Introductions**

Today's TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. See the end of these minutes for a list of today's attendees. Copies of documents discussed and meeting minutes are available on the TMT website.

**2. Minutes and Summaries – 6/12, 6/19, and 6/26**

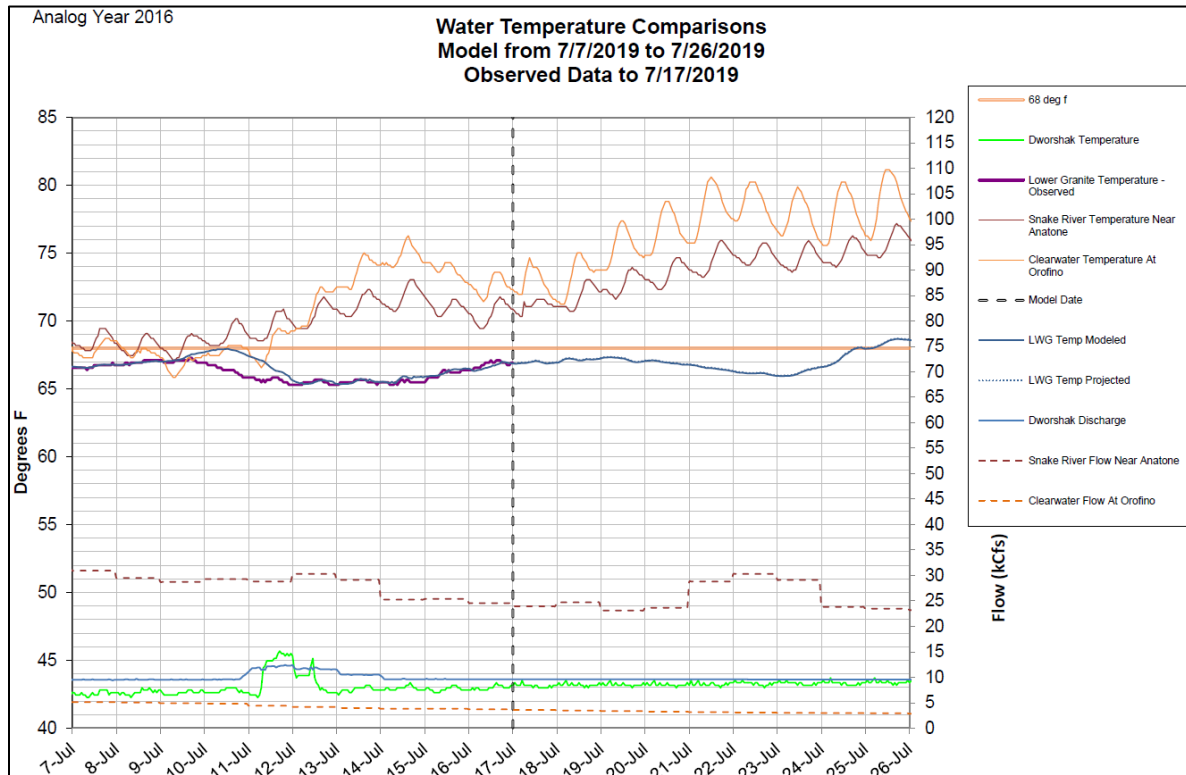
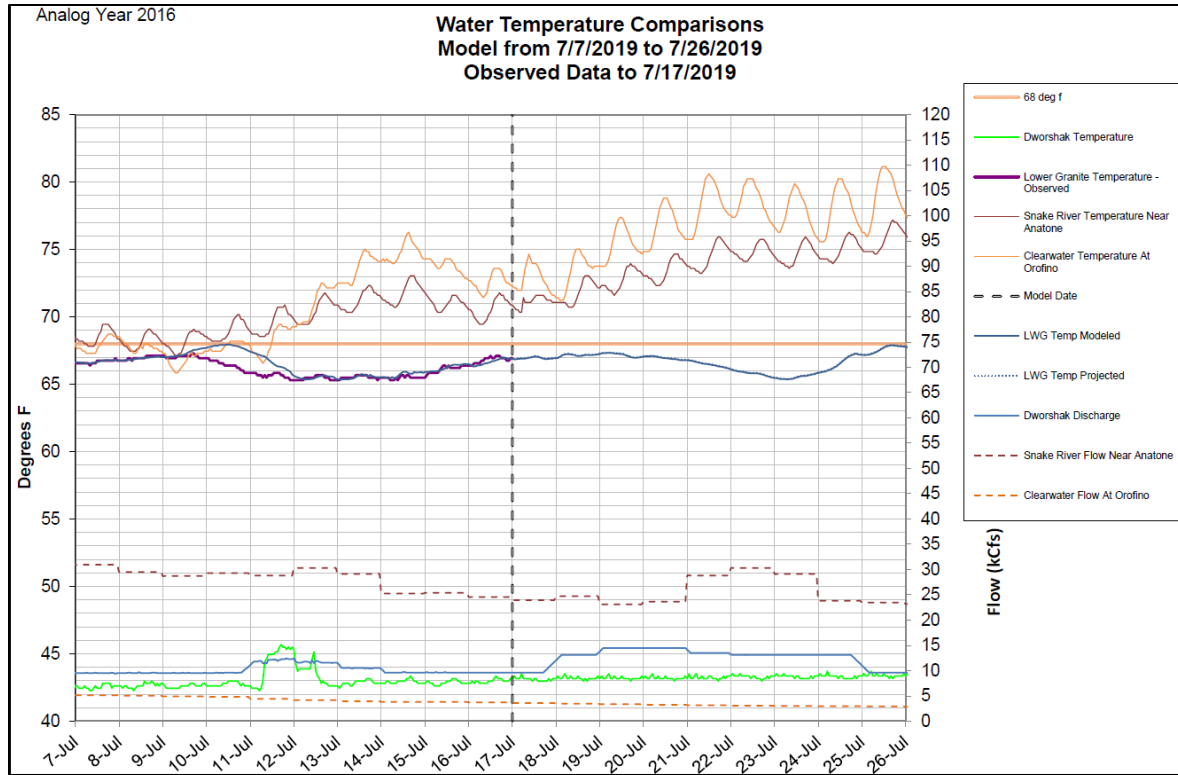
Dave Swank, USFWS, had one edit to the 6/26 notes. During Claire McGrath's update on fallbacks and double counting, the sentence will be corrected to say Little Goose instead of Lower Monumental. With this change, the summaries and minutes for 6/12, 6/19, and 6/26 are considered final.

**3. Dworshak Operations – Jon Roberts, Corps NWW**

Jon Roberts, Corps, reported on operations at Dworshak Dam. The project is discharging full powerhouse (9.5 kcfs) and drafting the reservoir. TDG is below 100% since the project is not spilling. To compensate for last weekend's higher temperatures, the Corps spilled on Sunday, July 14 and Monday, July 15. There was a rise in TDG due to the warm temperatures and the fact that the Corps had to spill from higher gates. During this time, TDG stayed below 110%.

Warmer air temperatures led to increasing water temperatures. For the last 24 hours, the water temperature measured at the Lower Granite tailrace has been 67 degrees Fahrenheit. This should continue for the next 2-3 days until the effects of the cooler air temperatures set in. The 10-day weather forecast calls for cooler temperatures over the next few days, which should drop water temperatures in the Lower Granite tailrace down to about 66 degrees Fahrenheit. Warmer weather is forecasted starting on Sunday, with extremely hot weather forecasted for Monday and Tuesday. Temperatures are forecasted to reach over 100 degrees Fahrenheit, which is about a 20 degree increase over the course of 2 days. After that, temperatures will drop slightly to the 90s.

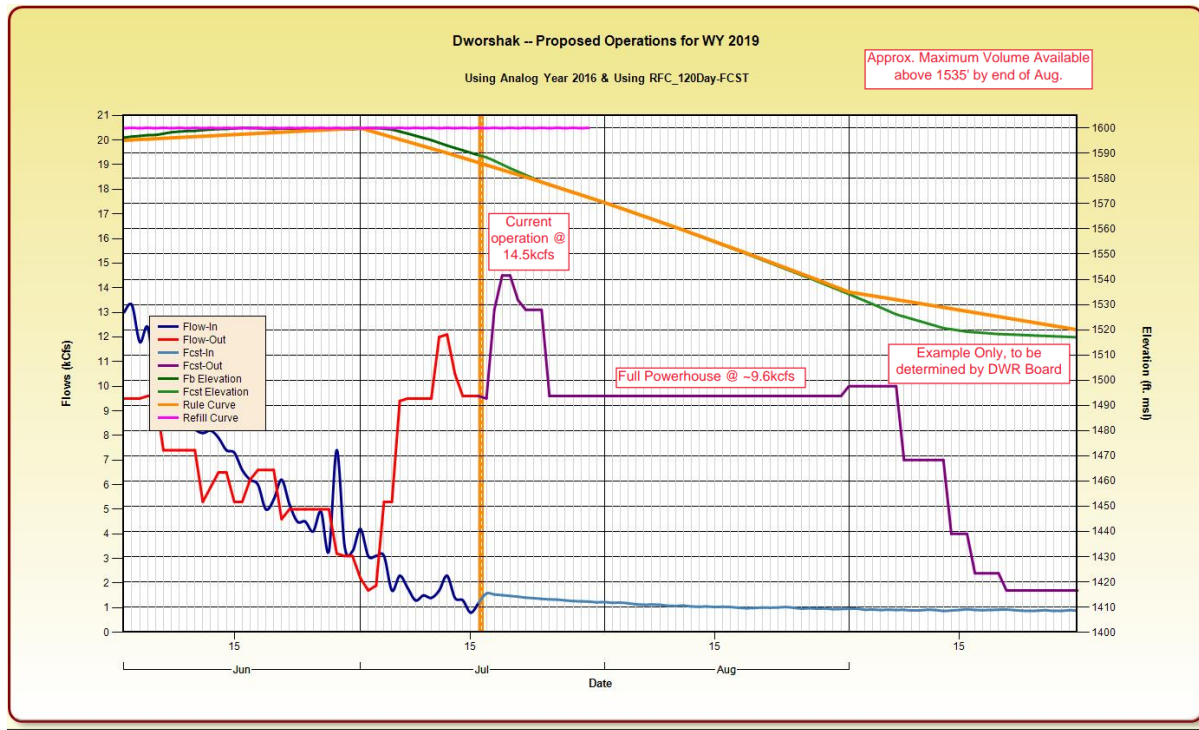
Due to the warm weather forecast, the Corps will begin spilling tonight at midnight to bring total project outflow to 13,000 cfs, as shown in the first water temperature comparison graph below. On the cool days, Friday and Saturday, the Corps will increase spill to bring total project discharge to 14,500 cfs to offset the hot temperatures Sunday through Tuesday. The project will drop spill if necessary to keep TDG below 110%. The model shows that staying at full powerhouse would result in easily exceeding 68 degrees F in the Lower Granite tailrace, as shown in the second graph below.



The Corps will continue to run the temperature model daily, especially because the forecast is less certain the further out it is, so 8-10 days out can vary drastically from what is forecasted.

One additional note is that higher temperatures last week caused warmer water out of Hells Canyon, which is influencing the temperatures at Lower Granite. Roberts said he hopes the cooler weather will help with that.

The Corps will continue to monitor the water temperature model and will back off spill as soon as possible to hold water for later use. Below is an illustration of the proposed operation:



Charles Morrill, WA, asked about the wind forecast. Roberts said it is expected to be higher than average, with winds of 5-15 mph.

#### 4. Dworshak Dam SOR – Paul Wagner, NOAA, and Jay Hesse, Nez Perce Tribe

Paul Wagner, NOAA, reported on an SOR regarding Dworshak outflow management that will be distributed later today. Many of the representatives at today’s meeting have reviewed the SOR, which seeks to prioritize Dworshak summer discharge management for temperature when allocating available water over the end of August elevation target. This would mean that the 1,535’ target would be a maximum drawdown limit as opposed to a target. Any water stored above 1,535’ on August 31 would be added onto the Snake River Basin Adjudication release of 200 kaf from Dworshak Dam in September in order to extend temperature management as far into September as possible while achieving a pool elevation of 1,520’ by September 30.

Jim Litchfield, MT, asked if the request would go both ways. “If you need water for temperature management in August, would you go below 1,535’?” Jay Hesse, Nez Perce Tribe, replied that the SOR stipulates that as a possibility at the discretion of the Dworshak Board. Hesse commented that his preference would be to stay at or above 1,535’ through the end of August. The threshold was established to reserve some water for September, he said. He does not want fish to be stranded in hot water.

Baus added that it is important to note that the Dworshak Board coordinates the operation associated with the 200 kaf volume and any needs for that water would have to be requested through the Board. This excess water could be used as a backup if water from Dworshak is burned through too fast. A request would need to be submitted by August 14 for discussion at that day’s TMT meeting.

TMT members were polled on SOR #2019-1. The results were as follows:

Agency	TMT Agency
Army Corps of Engineers	Support
Bonneville Power Administration	Support
Bureau of Reclamation	Support
NOAA Fisheries	Support - signatory to SOR
US Fish & Wildlife Service	Support - signatory to SOR
Washington	Support - signatory to SOR
Oregon	Absent but support via signatory to SOR
Idaho	Support - signatory to SOR
Montana	Support
Nez Perce Tribe	Support - signatory to SOR
Umatilla Tribe/CRITFC	Support - signatory to SOR
Colville Tribe	Absent but support via signatory to SOR
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

The Action Agencies will implement the SOR as requested and will store additional water above 1,535’ if possible after operating for downstream temperature management. The Corps will continue to review Dworshak operations and provide weekly updates to TMT.

## 5. Operations Update

### *5a. Reservoirs – Joel Fenolio, Reclamation, and Lisa Wright, Corps*

**Hungry Horse** – Outflows are 2,000 cfs, which should result in 10’ from full at the end of September. Midnight elevation was 3,557.6’ (the summer peak was 3,557.8’). Reclamation may be operating to Columbia Falls minimums by mid-August or so.

**Grand Coulee** – Released 90 kcfs yesterday. Inflows have been around 100 kcfs; midnight elevation 1,289.3 ft. Tony Norris, BPA, reported on the holiday recreation operation

that was coordinated. BPA was able to fill above 1,288' and, as expected, the pool touched peak on July 15 at 1,289.6'. BPA was able to maintain McNary flows at 147 kcfs across the holiday week and 157 kcfs across last week while still meeting that 1,288' request.

**Upper Snake Flow Augmentation:** Reclamation wrapped up flow augmentation last week on the Snake River. Augmentation should end for the Boise River in the next week or so and on August 31 for the Payette River.

**Libby Dam**– Midnight elevation 2,436.7', yesterday's average inflows were 13.6 kcfs and outflows were 7 kcfs.

**Albeni Falls** – Midnight elevation 2,062.2', yesterday's average inflows were 14.8 kcfs and outflows were 17.2 kcfs.

**Dworshak Dam** – Midnight elevation 1,589.3', yesterday's average inflows were 1.2 kcfs and outflows were 9.6 kcfs.

**Lower Granite** – Yesterday's average outflows were 38.1 kcfs.

**McNary Dam** – Yesterday's average outflows were 136.6 kcfs.

**Bonneville** – Yesterday's average outflows were 151.9 kcfs.

#### ***5b. Fish – Paul Wagner, NOAA***

**Adults:** Returns continue to be low this year. At Bonneville, summer Chinook adults for the year are 45,472 (50% of the 10-year average) and jacks are 7,573 (40% of the 10-year average). Total sockeye passage thus far is 61,040 (20% of 10-year average). At Lower Granite, summer Chinook adults are underway at 32,066 (24% of the 10-year average) and jacks are 1,826 (33% of the 10-year average). Sockeye are at 18 (3% of average).

This year, like last year, there is a concern that sockeye don't seem to be converting well at the Snake River projects. At Ice Harbor, 228 have been counted, yet only 70 at Lower Monumental and 33 at Little Goose. This year's conversion has been worse than last year's so far. Looking at this year's PIT-tag data, only two Snake River sockeye have been detected at Bonneville so far, but both have successfully converted to the Snake River – one was detected passing Lower Granite and the other has made it to Little Goose. These data indicate Snake River sockeye are converting well but the small sample size may not be representative.

Last year, the sockeye counts at Ice Harbor were incorrect due to misidentification of summer jack Chinook that were mistakenly counted as sockeye. This year, the request was made for the counters to pay special attention so that the fish being counted as sockeye are actually sockeye. Assuming the Ice Harbor counts are correct, another possibility is that the counts are high due to sockeye from the Upper Columbia that have strayed into the Snake River, potentially as high as Lower Monumental, before turning around.

Considering the uncertainty, Wagner suggested that getting data on whether the sockeye are clipped or unclipped would help inform the discussion since the majority of Snake River sockeye are clipped and Columbia sockeye are unclipped. At this time, the salmon managers

don't feel the available data warrant a change in operations and want more information before making a recommendation.

Russ Kiefer, ID, added that the count differential last year was also partly due to straying from mid-Columbia stocks. Genotype data collected at Lower Granite last year indicated 20% of the sockeye sampled were from mid-Columbia stocks (none of those were detected in the Basin), so it's possible this year's count differential could also be partly due to mid-Columbia strays.

Kiefer also reported that the two PIT-tagged Snake River sockeye detected this year have been identified as a 3-ocean wild, natural fish and a 1-ocean jack from last year's hatchery release after the water chemistry issues were resolved, indicating next year may be a better year for Snake River sockeye returns. Since the wild, naturally-produced fish aren't clipped, the fin clip data won't be informative as in previous years.

Ann Setter, Corps, reported on the ability to add additional fish count monitoring to collect fin clip data. At this time, it's uncertain whether there is coverage in the existing contract to add additional monitoring. The counters were able to collect the clipped/unclipped data for last week at Ice Harbor and that data will be provided to salmon managers. She will inquire about extending the request and report back to TMT. To go back and review tapes would require additional financial resources. Kiefer said that if the video is digital, FPAC could put in a request to FPC to review the video and get the data.

Scott Bettin, BPA, reminded TMT that this issue is very time-sensitive since sockeye migrate quickly, so there isn't much time to wait and make operational changes. Wagner acknowledged this and said he will request a special TMT as soon as possible if FPAC reaches a recommendation.

Erin Cooper, FPC, shared that there has been a temperature differential of up to several degrees at the Lower Monumental north ladder over the last week. If that is impeding sockeye, it would be helpful to have the clipped/unclipped data, she said.

**Juveniles:** Subyearlings have peaked and are passing at 2,000-3,000 per day at Little Goose, Lower Granite, and Lower Monumental over the past 10 days. There was a gap in counts at McNary from July 2–12 due to a broken sampler. John Day and Bonneville will continue to see passage through the end of the month.

### ***5c. Water Quality – Dan Turner, Corps***

Dan Turner, Corps, reported that there was an exceedance of 115% TDG in the Ice Harbor forebay due to warmer temperatures. Also, there are currently two gauges that are not operating: The Dalles forebay (TDDO) and Cascades Island (CCIW) in the Bonneville tailrace.

At TDA, there is a crane blocking transmission from the gauge and a request has been put in to move the crane. At CCIW, USGS is replacing the sondes.

**5d. Power – Scott Bettin, BPA**

The power system is seeing load peak in the day and lower at night when it is cooler.

**6. Next TMT**

The next meeting will be a conference call on July 24.

**7. Today's Attendees**

<b>Agency</b>	<b>TMT Representative</b>
Army Corps of Engineers	Doug Baus (Chair), Julie Ammann, Lisa Wright
Bonneville Power Administration	Tony Norris, Scott Bettin
Bureau of Reclamation	Joel Fenolio
NOAA Fisheries	Paul Wagner, Claire McGrath
US Fish & Wildlife Service	Dave Swank
Washington	Charles Morrill
Oregon	N/A
Idaho	Russ Kiefer
Montana	Jim Litchfield
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	Tom Lorz
Colville Tribe	Sheri Sears
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

**Other Attendees (non-TMT members):**

Army Corps of Engineers – Dan Turner, Jon Roberts, Alfredo Rodriguez, Steve Hall, Alexis Mills, Catherine Dudgeon, Aaron Marshall

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)

Columbia Basin Bulletin – Mike O'Bryant

Clearing Up – K.C. Mehaffey

Portland General Electric – Ruth Burris

Snohomish PUD – Mike Shapley