

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

July 24, 2019

Facilitator's Summary

Facilitator: Emily Stranz; Notes: Nancy Pionk, 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/>.

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. Total outflow from Dworshak is 9.8 kcfs. TDG levels are just under 100%, as the project is not spilling. Jon reported that the cooler water released over the weekend has arrived at the Lower Granite tailrace and temperatures are ranging from 64-65 degrees F.

The inflow forecast is showing minimal inflows to Dworshak. The 10-day weather forecast shows no rain and a cooling trend is expected until Friday; after which weather is expected to warm, increasing the Lower Granite tailrace water temperatures as well.

Dworshak operators are planning to maintain full powerhouse discharge at 9.7 kcfs, which the model indicates will keep water temperatures below 68 degrees in the Lower Granite tailwater. If that continues, there will be enough water remaining to spill up to 13 kcfs for 4 days if needed for temperature management. The project will continue to run temperature models daily and look for opportunities to further reduce flow out of Dworshak if possible.

Lower Monumental Operations for Doble Testing

Tony Norris, BPA, reported that annual Doble testing is planned at all projects; because of the differences between projects, each project will have different requirements. Doble testing at Lower Monumental is scheduled to take place July 25 – August 3, 2019 (and will include the weekend). All units at Lower Monumental will be out of service for 12 hours per day during testing. The testing is longer than normal this year due to additional required maintenance, as described in the Doble testing section of the Fish Passage Plan in Appendix A.

The project is currently operating within 1.5 ft range at 0.5 ft raised MOP (537.5 – 539.0 feet). BPA is requesting a soft constraint for an expanded MOP of an additional 0.5 ft during the testing, which would allow them to fill above 539.0 ft, up to 539.5 ft, if necessary to manage inflow during the outage without increasing spill above the FOP summer level. After the testing period, the project would return to the 1.5 ft range with the 0.5 ft raised MOP (537.5 – 539.0 feet) hard constraint. Tony stressed that the intent is to stay in the 1.5 ft MOP range; the soft constraint will allow BPA to have the full operating range of 1.5 feet and avoid having to spill additional water. Any water pooled during the Doble testing would come out over the following 12 hours.

Erick Van Dyke, OR, noted that OR's preference was to avoid going over MOP and raised a concern about setting a new precedent for going over MOP in the Snake River. Jay Hesse, Nez Perce, and Dave Swank, USFWS, noted the perception that requests for going over MOP appear to be occurring more frequently. Dave suggested that an accounting be done in the future to assess if requests are occurring on a more frequent basis and if so, why. Jay also noted the potential for this operation to lessen the economic impact of previous operations during the year and expressed a desire to have this action be acknowledged or highlighted when the region considers economics impacts for the earlier operations.

Tony explained that this operation is not related to the Spring 2019 operations; rather, it is an attempt to maintain some value in the system during the testing.

TMT Members present were polled on the proposed operation and responded as follows:

BOR	Support
BPA	Support
Colville Tribe	No objection
COE	Support
Idaho	No objection
Kootenai Tribe	Absent
Montana	Absent
Nez Perce Tribe	Support
NOAA	No objection
Oregon	Objection, but will not elevate
Spokane Tribe	Absent
Umatilla Tribe	Absent
USFWS	Support, as is necessary maintenance
Warm Springs Tribe	Absent
Washington	No objection

Erick clarified OR’s stance of “Object but will not elevate:” OR has a concern that is valid for fish protection; however, OR will not stand in the way of an operational change that the rest of the group is supporting.

Doug confirmed that the Corps will move forward and implement the operation and provide the group with an update at the next TMT meeting.

Sockeye Update

Claire McGrath, NOAA Fisheries, updated the group regarding sockeye passage in the Snake River. She noted that sockeye appear to be passing Ice Harbor; however, as they move up the system, less than half are passing at each subsequent project. As of yesterday, 299 sockeye have been counted at Ice Harbor, 120 at Lower Monumental, 52 at Little Goose and 28 at Lower Granite.

She indicated that some amount of sockeye passing are believed to be Mid-Columbia sockeye (based on past genetic work by IDFG); however, there are very few PIT-tagged fish detected to identify origins (only two PIT-tagged fish detected). Based on estimates, a low return was expected this year, and it may be a particularly low return for Snake River sockeye. Furthermore, data are limited and uncertain.

Recognizing the data limitation, FPAC sent a request to the Corps to close the Adjustable Spillway Weir (ASW) at Little Goose as soon as possible, noting that some felt that the intent of the removal criteria had been met even though the date and flow criteria in the FPP haven’t officially been reached (criteria: on or after August 1st, daily observed flow below 35 kcfs, and forecasted flow below 35 kcfs for at least three days). The Corps was able to implement and as of yesterday, July 23rd at 1600, turned off the ASW. FPAC will review the passage situation on Friday, July 26 by 1 PM and communicate to the Action Agencies if they recommend to revert to the default plan in the FPP and re-open the ASW.

The Corps is working with the fish count contractors to conduct quality control review of ladder counts. Chris Peery, Corps, noted that the Corps has reviewed a report from the contractor who reviewed two days of video at Ice Harbor and McNary. They verified some incorrect identifications of sockeye at Ice

Harbor. Specifically, 18 sockeye were counted on July 1; that number is more likely to be between 4 and 8. It appears small Chinook and/or steelhead were misidentified and were counted as sockeye. The counts will be adjusted down. Chris noted that there is only one counter at Ice Harbor, covering both windows simultaneously. Usually, only a few individual fish come through and use the north ladder. However, when numerous shad come through, it becomes more likely that a fish might be missed. Claire noted that the 50% decline between Little Goose and Lower Granite is unlikely to be affected by the correction to counts.

Dave Swank, USFWS, did not have confidence that closing the ASW at Little Goose would have much impact. He noted a similar operation was attempted last year for 5-6 days with no significant increase in passage. His view was that the passage issues suggest a systemwide problem. He also raised a concern that closing the ASW early will impact sub-yearling Chinook salmon, although impact is not great. Charles Morrill, WA, also noted the similarity of the operation to 2018 operations and shared the concern regarding potential impact to sub-yearling Chinook.

→ ACTION: If desired by FPAC, Paul Wagner, NOAA, will send Lisa Wright, Corps, and Scott Bettin, BPA, a request to turn the ASW back on at Little Goose by 1:00pm on Friday, July 26th.

Little Goose Operations

Doug Baus, Corps, provided an update on Little Goose operations. He noted that the flow rate is approaching the level identified in the FOP to make the change in spill level from 30% spill to a constant spill level.

He reviewed the hourly data. As of 0800, the outflow was 45 kcfs, spill was 12.2 kcfs (30%) and 27.9 kcfs generation. As of 7/23/19 at 1600, the ASW was closed, and the spill pattern was changed accordingly. The daily average percent spill on 7/23/19 was 30%. The 10-day inflow forecast is expected to be 34-35 kcfs, which is slightly above the trigger of 32 kcfs to switch to a constant spill rate. Doug noted the continuing decline in the hydrograph and that subtle changes, such as releases from Hells Canyon, can make forecasting more challenging.

Agenda items for 7/31/18 Meeting:

Dworshak Update

The next scheduled TMT meeting is a Face-to-Face meeting on July 31, 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 Nancy at nancy@dsconsult.co.

Columbia River Regional Forum
Technical Management Team OFFICIAL MINUTES
Wednesday, July 24, 2019
Minutes: Melissa Haskin, FLUX Resources

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.

1. Dworshak Operations – Jon Roberts, Corps NWW

Jon Roberts, Corps, reported on operations at Dworshak Dam. The project is discharging at full powerhouse (9.7 kcfs) with a total outflow of 9.8 kcfs. TDG is below 100%. When the project was spilling at 13 kcfs last Thursday, TDG in the Dworshak tailrace briefly climbed to 109.6% (Figure 1). TDG has since steadily declined as spill was stepped down over the weekend then stopped yesterday (Tuesday).

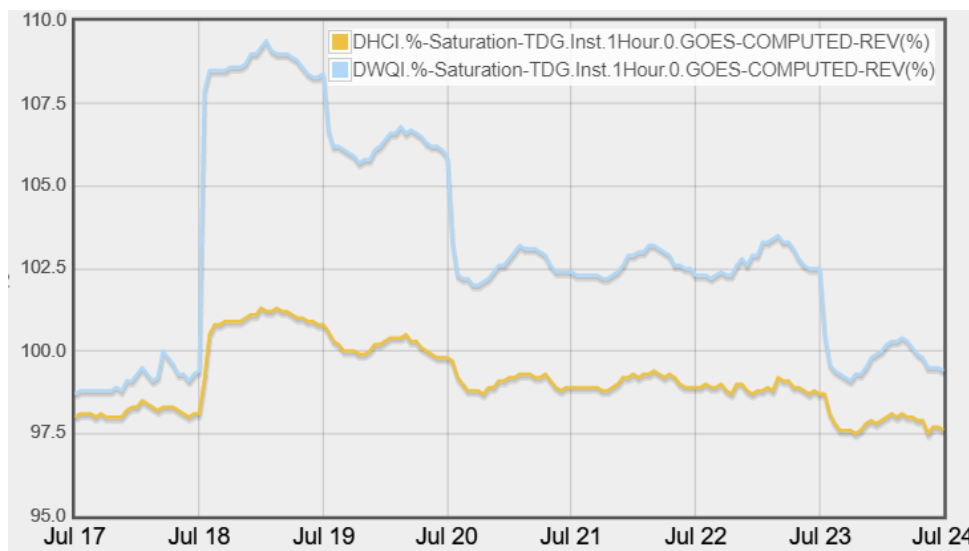


Figure 1: TDG at the Dworshak Dam tailrace (DWQI) and Dworshak Hatchery Collection (DHCI) over the last 7 days, July 17-24.

Cool water out of Dworshak Dam has reached the Lower Granite tailrace, which has cooled down to ~65 degrees F. At Orofino and Anatone, temperatures are beginning to rise and are forecasted to continue to rise over the next 2-3 days due to warm weather.

Inflows are minimal due to dry weather and are forecasted to stay low. The 10-day weather forecast calls for cooler temperatures through Friday, then a warm-up over the next 4-5 days with temperatures remaining below 100°F.

The latest temperature model (Figure 2) shows that the increased Dworshak spill over the past week successfully cooled the Lower Granite tailrace ahead of the hot weather. Looking ahead, the Lower Granite tailrace is expected to warm up to about 67°F with the forecasted warm weather and holding Dworshak at full powerhouse. The Corps will continue to run the model daily and evaluate whether there is an opportunity to reduce below powerhouse capacity or a need to increase flows. As of today, the Corps’ plan is to hold Dworshak at full powerhouse unless necessary to adjust to keep the Lower Granite tailrace below 68°F. See Figure 3 below for the Corps’ proposed operation.

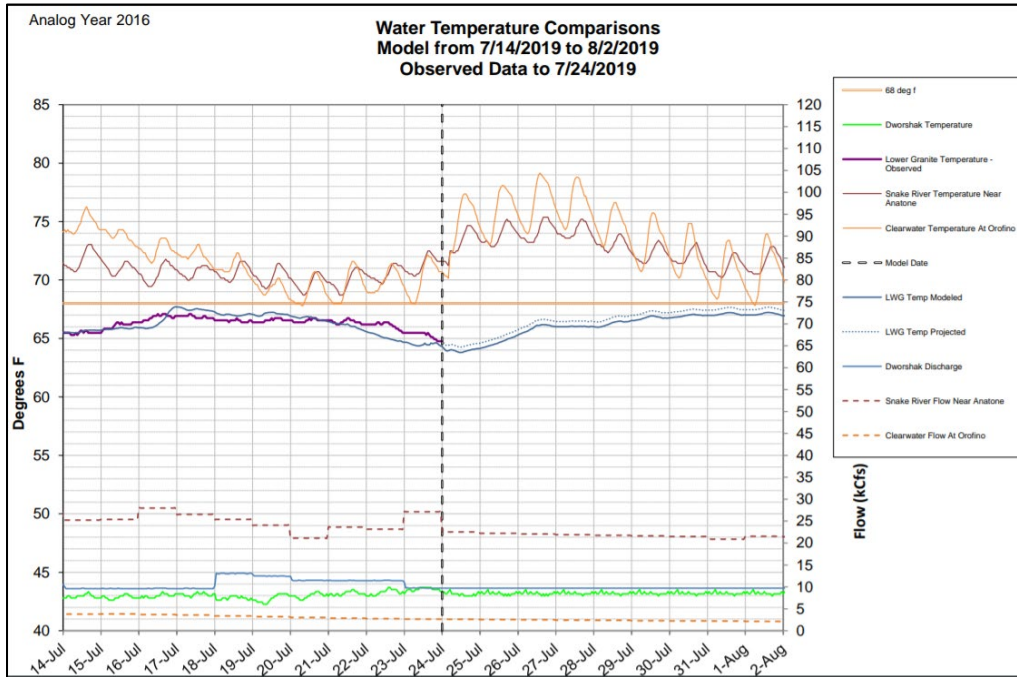


Figure 2: July 24 Water Temperature Comparison Model Results for July 14-August 2.

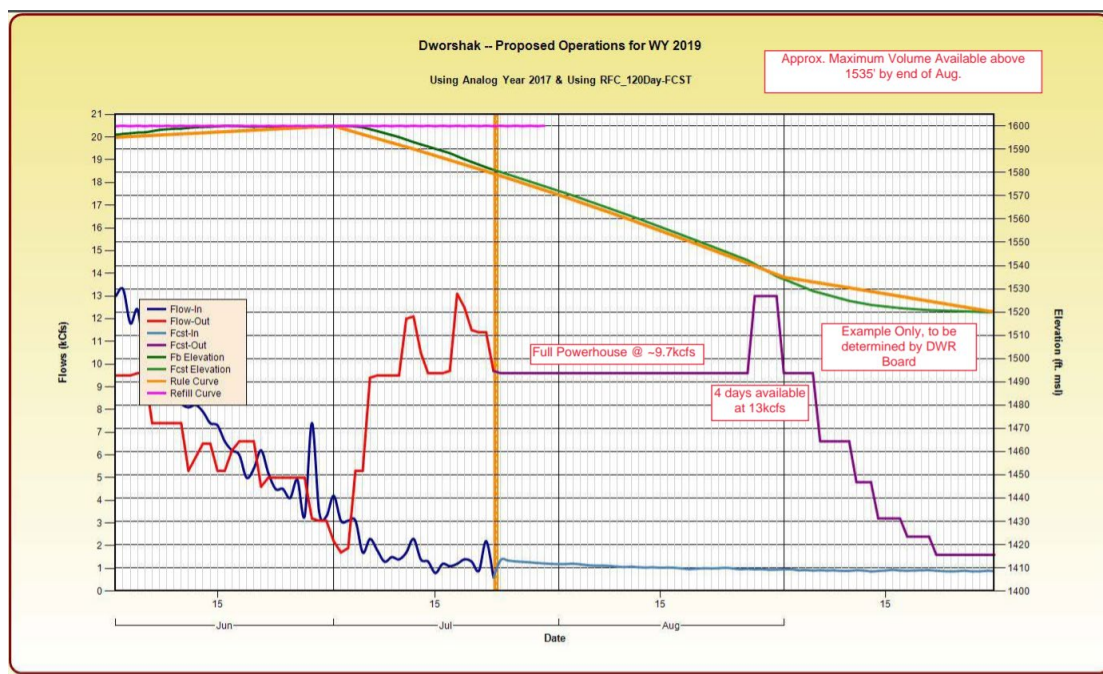


Figure 3: Dworshak Dam Proposed Operation as of July 24.

Roberts showed what the discharge has been over the past week (7/17-7/24). At the last TMT, Roberts reported that discharge would potentially need to be raised to 13-14 kcfs to offset the hot weather and the Corps would try to bring that down if the opportunity arose. The opportunity did arise for the Corps to conserve water. The Corps only spilled to bring total project discharge to 13 kcfs for 1 day and then went down to 12.5 kcfs, followed by 11.5 kcfs. By reducing spill, the Corps was able to conserve water for August use. There are currently estimated to be 4 days available of 13 kcfs discharge, if needed.

Roberts noted that the STP weekly forecast includes flows for 10-30 days out. The temperature model is run on a daily basis and includes the most current forecast for 4-5 days out, but further out is tougher for the model to predict so those should be interpreted as a “rough estimate”.

2. Lower Monumental Operations for Doble Testing – Tony Norris and Scott Bettin, BPA

Tony Norris, BPA, discussed a possible operation at Lower Monumental during Doble testing, which is scheduled to start tomorrow and run through August 3. Transformers at the lower Snake River projects are required to undergo Doble testing every 3 years (for more information on Doble testing, see the 2019 Fish Passage Plan, Appendix A). The impact to each project is different. During testing at Lower Monumental, all units will be out of service except Unit 5 for station service (5 kcfs). BPA would like to avoid additional spill and expects to need the full forebay operating range of 1.5 ft (537.5-539.0 ft). Due to the 1.5-ft operating range being a hard constraint, a buffer is required to manage uncertainty. BPA is requesting an additional 0.5

ft of operating range, up to 539.5 ft, to allow the full use of the 1.5-ft. operating range and avoid confusion if the pool fills just above 539.0. Since testing will occur for ~12-hours per day, the water that is stored above 539.0 ft during the outage will be drafted out the following 12 hours to prepare for the next day's operation.

This year's work window is longer than normal for installation of an oil/water separator and an overlapping T1 isophase bus inspection, as described in FPP Appendix A.

Erick Van Dyke, OR, asked why this is being requested just at Lower Monumental and just for this year since Doble testing occurs yearly at all of the Snake projects. Norris responded that each project is configured differently and requires different outages for testing. In previous years, it may have occurred when flows were lower. Norris said he would take a look at past years and provide that information to TMT.

Van Dyke noted that the required testing is for Units 1-4 and wondered if Units 5-6 are also out of service. Bettin responded that to work on the transformers the other units must be de-energized during testing. The line to Units 5-6 will be back in service nightly.

Van Dyke voiced concern for setting a new precedence to expanding MOP in the Snake River. Norris noted that the request is only for the special operation during this testing given the current conditions. It is a unique situation that happens at most annually. Van Dyke responded that MOP this year has already been expanded to a 1.5-ft range when in previous years it was a 1-ft range. He is concerned with setting a precedent to expand even further to a 2-ft range. He understands the intent of the operation and said he would prefer if they kept the forebay within the 1.5-ft range to the extent possible.

Jay Hesse, Nez Perce, said it seems like the requests to operate outside of MOP or expand MOP ranges are becoming more frequent, though for valid reasons. Dave Swank, USFWS, said he feels the same way and asked if it could be looked into if it is becoming more frequent and why. Hesse said this operation makes sense, but in the past the water has been spilled. He wondered if the operation could include wording to express that if this operation is approved it would be in the spirit of lessening the economic impacts to BPA of the more aggressive spill operations this year. Norris replied that the operation is merely to minimize the economic impact of the Doble testing and is not related to spring operations.

Paul Wagner, NOAA, referenced Appendix A in the Fish Passage Plan. At Lower Monumental, the operation also says, "All units OOS \leq 4 hrs on first/last day for clearances". Wagner asked for clarification. Norris said that it was more likely that BPA would remain within MOP on the first and last day of the operation. The clearances are required to make sure the system is de-energized.

Baus reviewed the current status of MOP at Lower Monumental. Normally, the 1.5-ft MOP range is 537.0-538.5 ft., per Table 2 in the FOP. Currently, Lower Monumental is operating in a 0.5-ft raised MOP of 537.5-539.0 ft. Aaron Marshall, Corps, summarized the proposed operation is to expand that range to a 2-foot expanded MOP (537.5-539.5 ft.) as a soft

constraint from July 25-August 3, after which the Corps would return to the 1.5 ft. range of 537.5-539.0 ft. Baus clarified that a hard constraint would be 537.5-539.5 ft. With a soft constraint, best efforts would be made to stay within the 1.5 ft. operating range, however, if BPA needed to go above 539.0 ft, they would.

TMT members were polled on the operation and the results were as follows:

Agency	TMT Representative
Corps	Support
BPA	Support
Reclamation	Support
NOAA Fisheries	Support
USFWS	Support
Washington	Support
Oregon	Object, but won't elevate
Idaho	No objection
Montana	N/A
Nez Perce Tribe	Support
Umatilla Tribe/CRITFC	N/A
Colville Tribe	No objection
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

Based on the objection from Oregon, the Corps was not inclined to move forward with the expanded MOP range. Erick Van Dyke, OR, said OR has a concern that he thinks is important for fish protection but OR will not stand in the way of the operation that the rest of the group supports. With this clarification from OR, the Corps will move forward and implement the operation for an expanded MOP range at Lower Monumental. The Corps and BPA will give updates at the next TMT.

3. Sockeye Update – Claire McGrath, NOAA Fisheries

Sockeye passage is still exhibiting the trend that has been observed over the past few weeks – sockeye are passing Ice Harbor and then less than half are converting at subsequent projects. Through yesterday, YTD totals are 120 at Lower Monumental, 52 at Little Goose and 28 at Lower Granite. Data from last year indicate that some of the fish may be mid-Columbia strays dipping into the system. Genetic work done by IDFG showed that 20% of the sockeye sampled at Lower Granite were mid-Columbia stock. There are very few PIT-tagged fish this year, 2 thus far. This is a low return year for sockeye compared to last year and the 10-year average, particularly for Snake River sockeye. There is concern this year that there aren't a lot of data on what should be expected at Lower Granite and what the actual conversion is. NOAA is concerned that sockeye are not converting at appropriate rates in the lower Snake River.

The FPP includes criteria about closing the ASW at Little Goose if the following 3 criteria are met:

- On or after August 1,
- Observed day average project outflow is below 35 kcfs, and
- Forecasted inflow is below 35 kcfs for at least 3 days.

Flows are bouncing right around those thresholds and will likely meet the two flow criteria soon. NOAA believes the intent of the criteria has already been met as far as the environmental conditions. McGrath noted that when flows decrease, juvenile survival decreases. FPAC discussed this yesterday and recommended that the Corps close the ASW now rather than waiting until August 1 to see if it improves adult sockeye passage. The Corps implemented this request and closed the ASW yesterday, July 23. McGrath is hopeful that there will be an increase in sockeye numbers that will be observable in the next few days. FPAC will monitor the data and revisit this on Friday morning and communicate with the Corps and BPA by 1pm on whether or not to continue with the operation.

Chris Peery, Corps NWW, reported that the fish count contractor did some quality checks on count data from Ice Harbor and McNary, including reviewing three days of video from Ice Harbor. Based on their review, the contractor verified that there was some incorrect identification of sockeye from the 3 days reviewed and thus the sockeye counts at Ice Harbor will be slightly adjusted down for those 3 days, which should offset some of the difference between the projects. Video at Lower Monumental will be reviewed as well. Peery doesn't expect the low conversions at upstream projects to be due to misidentification so it does appear that there is a conversion problem between those projects. He added that the count adjustment at Ice Harbor will also increase the Chinook counts since it was small Chinook adults that were being misidentified as sockeye. The counter who has been misidentifying fish will undergo additional training.

Swank reported that some FPAC members were surprised by the proposal to close the Little Goose ASW early. Historically, there's never been an adult passage problem at Little Goose when spilling 30% in the summer. Also, this operation is the same that was attempted last year with no significant increase in sockeye counts. He thinks nothing has changed that would lead to a different result. Sockeye counts may not even be sockeye. At Ice Harbor, there are miscounts and it could be a possibility at Lower Monumental. The low conversion at the other projects indicates this may be more of a system-wide issue and not specific to just Little Goose. He also reminded TMT that whenever surface spillway weirs are closed, there is an impact to juveniles that needs to be acknowledged. Sockeye runs in the Snake River this year are pretty bad and Swank does not want to stand in the way of an operation that may work, but expectations for the success of this operation are low.

Charles Morrill, WA, also raised concern for Clearwater subyearling Chinook that may be passing the Snake River projects at this time. He reminded people that it is a balancing act.

At this time, the plan is to maintain the Little Goose ASW in the closed position unless otherwise recommended by FPAC by Friday at 1pm.

4. Little Goose Operations - Doug Baus, Corps NWD, and Claire McGrath, NOAA

At Little Goose, total outflow at 0800 was 40.5 kcfs, spill was 12.2 kcfs, and generation was 27.9 kcfs. At 1600 on 7/23, the adjustable spillway weir (ASW) was closed.

The Corps is looking into some missing data. Little Goose was at 30% spill at 0900. At the end of the 10-day period, the forecast calls for flows of ~34-35 kcfs.

Today’s Attendees

Agency	TMT Representative
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	Erick Van Dyke
Idaho	Russ Kiefer
Montana	Jim Litchfield
Nez Perce Tribe	Jay Hesse
Umatilla Tribe/CRITFC	N/A
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 – Jon Roberts, Alfredo Rodriguez, Steve Hall, Alexis Mills, Aaron Marshall, Chris Peery, Laura Hamilton
- DS Consulting – Emily Stranz (Facilitator)
- FLUX Resources – Melissa Haskin (Note taker)
- Columbia Basin Bulletin – Mike O’Bryant
- Clearing Up – K.C. Mehaffey
- Oregon DEQ – Paula Calvert
- Yakama Nation Fisheries – Tom Iverson