

## **COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM**

Friday, May 24, 2019

DRAFT 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/>.*

### **Little Goose Dam Operations**

Doug Baus, Corps, provided an update on current hourly data at Little Goose Dam, based on the special operations coordination from the TMT on May 22 to address the issue of low adult passage at Little Goose Dam compared to Lower Monumental Dam. Year-to-Date adult passage at Little Goose is 10,417, while Lower Monumental is 13,737. On May 18 and 19, adult Chinook passage at Little Goose was down to 183, whereas other downstream projects (Lower Monumental and Ice Harbor) ranged from 700 – 1,000.

Per the Flex Spill Agreement and TMT coordination at the May 22<sup>nd</sup> meeting, the Corps and BPA are currently implementing a 30% spill operation for a period of 5 hours in the morning and 3 hours in the evening, with the intention of improving conversion between Lower Monumental and Little Goose dams. On the first day of the operation, May 23, 546 adult Chinook passed Little Goose. NOAA characterized this passage as an improvement but less than desirable, and a new path forward through the holiday weekend is needed in advance of the TMT meeting on May 29.

The DART tool has been used to help track delay issues at Little Goose. It shows 6 days of potential delay (delay defined as less than 50% conversion average between Lower Monumental and Little Goose over a period of 2 days).<sup>1</sup> The Fish Passage Center (FPC) also has a tool that shows Little Goose counts compared to Lower Monumental are lower than what would be expected based on historical conversion rates.

Doug noted the volatility in the RFC inflow forecast, with flows expected to peak around 140 kcfs, and asked the TMT to be aware of Little Goose hydraulic capacity and operational parameters when considering changes in operation.

Dave Swank, USFWS, noted that the data could be interpreted differently, that there might not currently be a delay in passage, although there was one earlier in the week. Washington hypothesized that spill patterns may be impacting passage.

Paul Wagner, NOAA, reported on the FPAC conversation from earlier in the day. There was general consensus (or lack of objection) to the following proposals:

1. Controlled spill operation at 30% for 8 hours: 6 hours in the morning and 2 hours in the evening (preferred 0400 – 1000 hours and 1700 – 1900 hours). A revised plan for the morning would be 0500 – 1100 hours, or 0600 – 1200 hours.
2. Uncontrolled, or involuntary, spill (if filling above MOP for a time) at 30% for 6 hours. Preferred 0400 – 1000 hours, then 0500 – 1100 hours, then 0600 – 1200 hours.

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<sup>1</sup> Correction (added 6/19/19): the DART tool shows a black dot for "Potential Delay", defined as "< 50% by Average, < 3 days".

BPA noted a logistical challenge with moving the start time earlier than 0600 hours to 0400 hours but would work to accommodate the request if possible. Salmon Managers shared concerns about the technical aspects of the flex spill but agreed on with moving forward while monitoring closely.

Additionally, it was agreed that Little Goose Dam would be moved from 2<sup>nd</sup> on the spill priority list to the bottom of the list, to minimize the potential for lack of load spill.

- **ACTION:** Effective tomorrow, May 25, through Wednesday, May 29 (details on operational language to be coordinated offline between BPA and the Corps):
- When in controlled spill: target 30% for 6 hours in the morning (0600 – 1200, or earlier if possible) and 2 hours in the evening (1700 – 1900 hours)
  - If maintaining 30% in the morning results in filling the pool above MOP due to flows above capacity: switch to 30% for 6 hours only in the morning (0600 – 1200 hours, or earlier if possible) and move water back out in the evening hours.

Emily thanked the group and the meeting was adjourned.

**The next scheduled TMT meeting is face-to-face on Wednesday, May 29, 2019, at 1:00 PM.**

*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**  
**Friday, May 24, 2019**  
**Minutes: Melissa Haskin, FLUX Resources**

**1. Welcome and Introductions**

Today's unscheduled TMT meeting was chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. The intent of today's call was to revisit Little Goose Dam operations. See the end of these minutes for a list of today's attendees.

**2. Little Goose Dam Operations - Doug Baus, Corps NWD; Paul Wagner, NOAA, and; Scott Bettin, BPA**

Doug Baus, Corps, reported on adult spring Chinook counts at Little Goose and Lower Monumental. The year-to-date count of adult Chinook at Little Goose is 10,417, which is significantly less than the count of 13,737 at Lower Monumental, indicating a conversion issue between the two projects. Both May 18 and May 19 were days of low passage at Little Goose, with counts of around 183 compared to other projects where counts were in the range of 700-1,000 on those days.

At Wednesday's TMT (May 22), the salmon managers requested maintaining Little Goose spill at 30% for 5 hours in the morning and 3 hours in the afternoon (instead of 4 hours in the morning and 4 hours in the afternoon) in an effort to improve conversion.

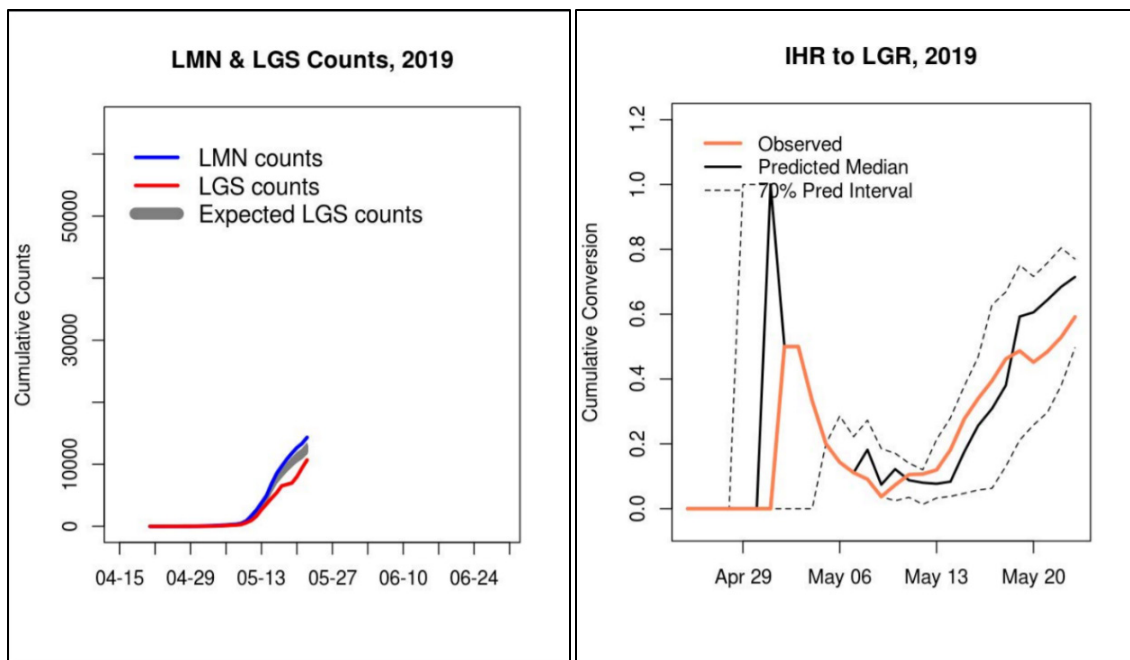
Yesterday (May 23), 546 adults passed Little Goose. Paul Wagner, NOAA, characterized this number as less than desirable. Baus said he was also hoping to see higher numbers. Thus, the intent of today's unscheduled TMT meeting is to revisit the operation and determine a path forward considering the long holiday weekend and forecast for increasing inflows.

Charles Morrill, WA, pointed out that while conversion rates this year are lagging, they are higher than they were at this time in 2018. He noted that conversion from Lower Monumental to Little Goose as of May 23 this year is 76%.

Baus reviewed the DART tool, which currently shows 6 days of potential delay (noted by black dots), defined as days that the running 3-day average conversion is less than 50%.<sup>1</sup> The FPC tool also shows Little Goose passage lower than expected (see figures below).

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<sup>1</sup> NOTE (added 6/19/19): the DART tool shows a black dot for "Potential Delay", defined as "< 50% by Average, < 3 days".



The Corps and BPA are continuing to operate within the spill agreement and maintaining Little Goose spill at 30% for 5 AM hours (0600-1100) and 3 PM hours (1600-1900), then spilling to the gas cap during the remaining hours. Yesterday (May 23), hourly data indicate that the project spilled 30% during the hours coordinated, then increased spill to the gas cap (about 43% spill) during the other hours.

Baus reviewed the hourly adult counts on May 22 that show fish passing in the morning during 30% spill, decreasing as spill percent increases, then picking back up during the afternoon 30% spill. This is different than normal diel distribution shown in the Fish Passage Plan (FPP) Figure LGS-2 that indicates passage starts around 0400, ramps up around 0800, then gradually decreases throughout the day and winds down around 2100 hours.

Going into the long weekend, the Corps asked if Salmon Managers would like to coordinate a different operation to improve conversion. Baus noted the volatility in the NWRFC inflow forecast – at the last meeting, inflows were forecasted to peak around 140 kcfs then drop off before increasing again. He reminded TMT to keep the forecast volatility in mind as it relates to hydraulic capacity, involuntary spill, forebay operations, etc.

Dave Swank, USFWS, offered an alternative interpretation of the DART data. He noted that the three days of high flows and involuntary spill when 30% could not be implemented correlate very well with days of low adult counts. Those three days of delay on May 16-18 were alleviated when 30% spill resumed and counts increased significantly, to nearly 1,300 on May 21 and over 1,100 on May 22. The drop in counts yesterday, May 23, is not surprising when you look at the relatively low counts (342) at Lower Monumental on May 22. He thinks the counts today could still be working themselves out from the earlier delay and don't indicate delay is still

occurring. That said, he did agree that it is important to have a plan in place should inflows increase to the level of uncontrolled spill again.

Baus asked Swank to comment on adult diel passage distribution in the FPP that indicates a morning peak and decrease across the day, compared to actual passage this year that has more of a bi-modal distribution that aligns with the two periods of 30% spill. Swank said he did not know why that would be the case, saying we are operating under a new spill operation this spring and fish behavior can be fickle. Morrill hypothesized that the new flex spill agreement could be impacting the diel distribution.

Wagner reported on yesterday's FPAC conversation. Salmon managers have different interpretations of what the data mean. There was general agreement and no objections to the proposal to distribute 30% spill into 6 AM hours and 2 PM hours instead of what's defined in the spill agreement (4 AM/4 PM or 5 AM/3 PM). The preferred AM hours would start at 0400, which is what was adopted last year and is aligned with actual sunrise and twilight that trigger fish to move. Currently, 30% spill starts at 0600 so it would be preferable to move that earlier to 0400 or at least 0500. The FPP figures also show fish passage starting at 0500. The evening hours of 1700-1900 work fine.

Scott Bettin, BPA, suggested staying with 0600 for now and revisiting next week since it would be difficult for BPA to find load earlier than that over the holiday weekend. Wagner and Morrill asked about starting at 0500 to coincide better with sunrise and fish movement. Bettin responded that it's already Friday afternoon so he wouldn't be able to get approval to start earlier than 0600 this weekend. He noted that this is necessary to retain power flexibility that is one of the three legs of the stool in the spill agreement.

Jay Hesse, Nez Perce Tribe, said this is not ideal but in the spirit of the flex spill agreement, he is open to trying it and continuing to monitor the situation. He would like BPA to consider the possibility of aligning the start time with fish movement.

Kiefer said he supports the proposal but is concerned that 2 hours of 30% spill in the afternoon won't be effective. He noted that the duration of 30% spill was discussed during the development of the spill agreement and the group settled on a minimum of 3 hours because of concerns that 2 hours would not be adequate to create tailrace conditions that move adults towards ladders.

In regards to uncontrolled (involuntary) spill, Wagner reminded TMT that the operation coordinated in past years was to hold Little Goose spill at 30% by allowing the pool to fill above MOP if flows were above hydraulic capacity, then drafting that water back out over the remaining hours. Baus added that is also an option this year but would be more complicated due to having two periods of 30% spill each day that would restrict when water could be drafted out, compared to last year when there was only one period of 30% spill in the morning.

Hesse clarified that during involuntary spill, neither the spill caps nor the flex spill hours are in play. Baus acknowledged this and added that, from an operations perspective, the project doesn't differentiate between voluntary and involuntary spill in real-time so it is difficult to implement an operation that is based on whether or not the project is under involuntary spill conditions. He noted that the operation needs to be implementable and able to be clearly articulated to the project and BPA.

After an extended discussion to clarify the proposed operation and come to an understanding of how to make it implementable, the following summary was agreed to:

- During voluntary spill conditions (i.e., spill is able to meet 8 hours at 30% and 16 hours at the spill cap):
  - Spill 30% for 6 hours in the morning, 0600-1200 (preferred start at 0400 or 0500, if possible);
  - 30% for 2 hours in the evening, 1700-1900.
- During involuntary spill conditions (i.e., spill would be above 30% and the spill cap):
  - Spill 30% for 6 hours in the morning, 0600-1200 (preferred start at 0400 or 0500, if possible);
  - Store excess flow in the forebay. If the pool fills above MOP, then the water will be drafted out in the same process as last year by passing inflow from 1200-1600, then increasing spill as necessary from 1600-0400 to draft back to MOP.

In summary, salmon managers are requesting 8 hours/day of 30% spill during voluntary spill and 6 hours/day of 30% spill during involuntary spill.

The Corps and BPA summarized how they can implement this operation. Spill will be maintained at 30% for 6 hours in the morning, 0600-1200 (or earlier if possible). If the pool fills above MOP (633.0-634.5 ft), then there will *NOT* be an evening block of 30% spill and the water will be drafted out as described. If the forebay is within MOP after the 6 hours of 30% spill in the morning, then the project will spill 30% for 2 hours in the evening from 1700-1900.

- ➔ The Corps and BPA will implement the operation described above starting tomorrow, Saturday, May 25, and continuing through Wednesday, June 5, unless otherwise coordinated.

Bettin brought up the option for moving Little Goose to last on the spill priority list to minimize the potential for lack of load spill. Currently, the project is second in the priority order, which could prevent the ability to do the 30% operation if lack of load spill occurs over the holiday weekend. TMT members on the call did not object to this change.

- ➔ Little Goose will be moved to last in the order of the spill priority list.

### 3. Next TMT

The next meeting will be face-to-face at the Corps Northwestern Division office in Portland on May 29 at 1 pm.

#### Today's Attendees

Agency	TMT Representative
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright
Bonneville Power Administration	Scott Bettin
Bureau of Reclamation	N/A
NOAA Fisheries	Paul Wagner
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	N/A
Warm Springs Tribe	N/A
Kootenai Tribe	N/A
Spokane Tribe	N/A

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

Army Corps of Engineers – Dan Turner, Ann Setter, Alexis Mills

DS Consulting – Emily Stranz (Facilitator), Colby Mills

FLUX Resources – Melissa Haskin (Note taker)