COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM
June 18, 2025
Facilitator's Summary
Facilitation Team: Emily Stranz & 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; it is not intended to be the "record" of the meeting. Official minutes can be found on the TMT website: https://public.crohms.org/tmt/agendas/2025/. Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Review Meeting Summaries & Minutes – TMT Members approved the official meeting minutes and facilitator's summary from June 11, 2025.

Lower Monumental Dam (LMN) Operations for Transport Update – On behalf of FPAC, Erick Van Dyke, FPAC Chair/ODFW, provided an update on spill and transport operations at LMN. He reviewed within-day flow fluctuations as a result of fish transport operations, as well as 5-minute data, indicating spill decreasing to zero around the time when barges cross LMN (project graphs/links on the TMT agenda). Erick noted that fluctuations are expected to continue until the transport operation ends at LMN at the end of spill on the Snake River (around June 20). A response to the within-day flow fluctuations is also observed at Ice Harbor Dam (IHR).

Flow Augmentation – Tony Norris, BPA reported that flow augmentation releases are continuing as requested, 1.0 maf by July 11.

Running 3-Day Table Single Departure Event per TagID – Erick presented on the Columbia River DART running 3-day table single departure event per TagID (slides on the TMT agenda), highlighting that the purpose was to clarify any confusion surrounding the use of "day/days" terminology when describing fish passage behavior related to the "black dot" tool per the 2025 Fish Operations Plan (FOP). Specifically, the delay in the tool's output creates complexity when interpreting "day" terminology related to real-time fish behavior; it does not directly compare to calendar days.

Erick summarized that LMN spill operations followed the 2025 FOP guidance, and the DART 3-day cohort tool did function as designed although fish passage response to spill adjustments is not instantaneous when observed using the DART tool. From a fish perspective, operational constraints influence the timing of spill reductions and increases. He noted that the issue will be discussed in more detail later in the FPOM forum.

Regarding power operation constraints, Tony Norris, BPA, clarified that 24-hour coordination noted in the FOP is only needed under certain conditions, for example lack of load during high flow conditions. Other times the shift occurs as soon as possible, as observed this season. NOAA added that from their perspective, while window counts do indicate fish response, the DART tool's passage thresholds were not immediately met; there are many factors, including temperature and direct or indirect fishing impacts, that could be influencing passage and delays and more discussion is needed.

Questions or Comments from Non-TMT Members – There were no questions or comments from members of the public.

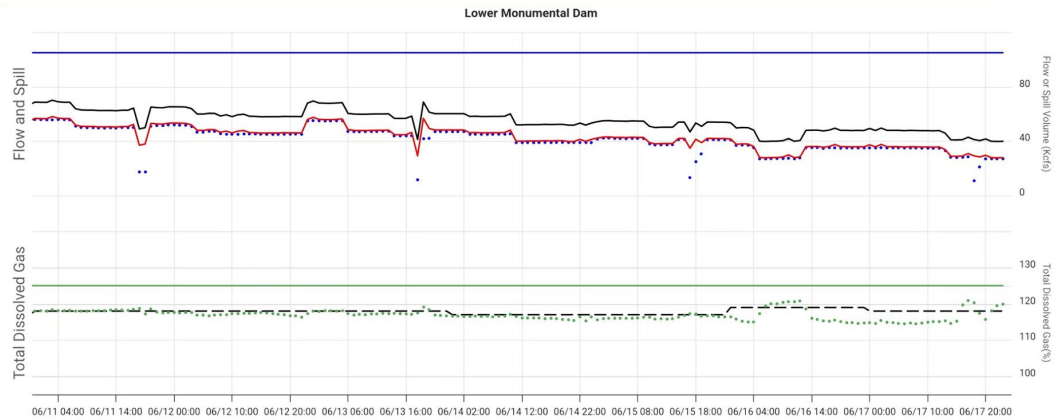
The next scheduled TMT meeting will be on June 25, 2025, at 9:00 AM.

Columbia River Regional Forum
Technical Management Team
OFFICIAL MINUTES
Wednesday, June 18, 2025

Today's TMT meeting was held via Microsoft Teams and conference call, chaired by Doug Baus, Corps, and facilitated by Emily Stranz, DS Consulting. Minutes were collected by Andrea Ausmus, BPA (contractor, CorSource Technology Group). A list of today's attendees is available at the end of these minutes.

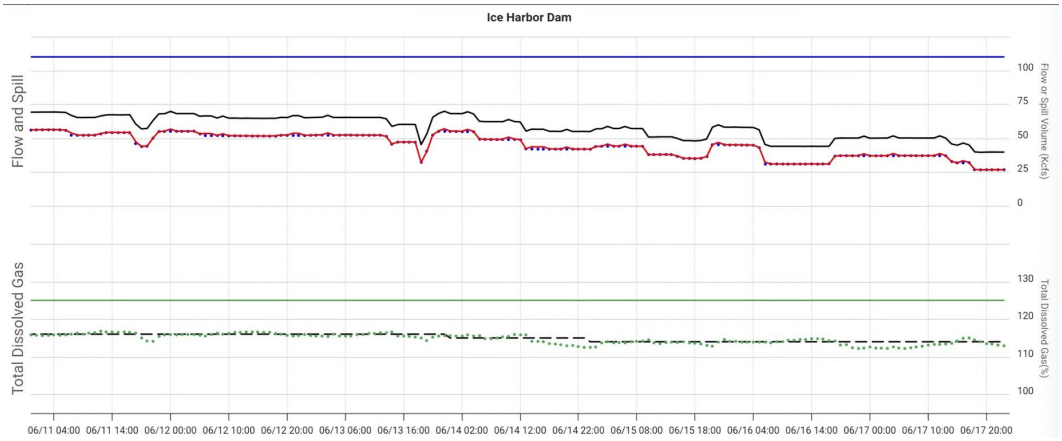
1. **Review Summary and Minutes**
   a. June 11 Facilitator Summary and Minutes
      - Approved

2. **LMN Operations for Transport Update** – *Erick Van Dyke, OR/FPAC Chair*
   a. FPC Spill to FOP Graphs
      - Lower Monumental (LMN)



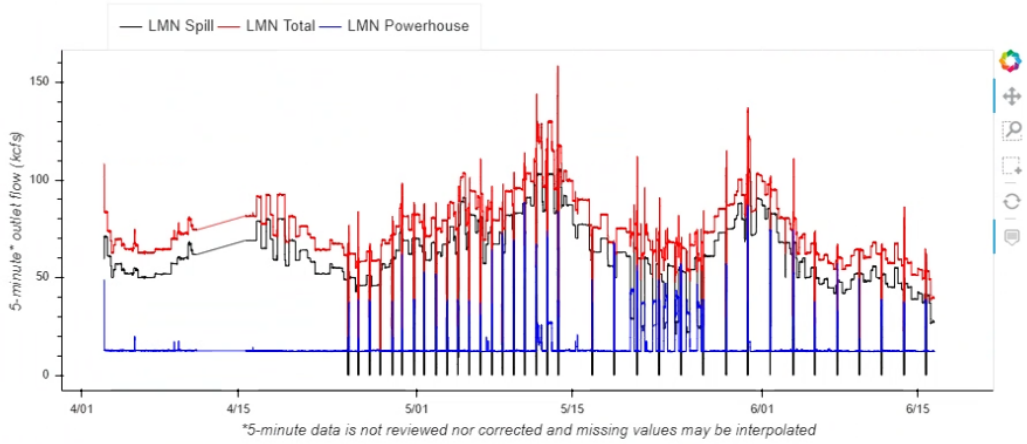
      - The within-day flow fluctuations are still occurring given the operation and Van Dyke said that he expects that this will continue until the barge transport program ends on June 20.

- Ice Harbor (IHR)



  - IHR has also been doing a responsive within-day flow fluctuation where it drops at about the time that the barge is crossing at LMN.

b. LMN, IHR Flow & Elevation Timeseries



- The other graphs do not show the drops as much but in this 5-minute data graph it indicates that spill is being decreased to zero and that the within-day flow fluctuations are occurring associated with that.

3. Flow Augmentation – *Erick Van Dyke, OR/FPAC Chair, and Tony Norris, BPA*

- Action Agencies are releasing flow augmentation as requested
- 1 maf will be exhausted July 11.

4. 3-Day Adult Delay PIT Tag Presentation – *Erick Van Dyke, OR*

Running 3-Day Table Single Departure Event per TagID -- Adult PIT Tag - how many days?

1. Running 3-Day Table Single Departure Event per TagID

- Van Dyke presented this in response to a past set of comments that happened during a TMT meeting. He wanted to have a chance to talk through the idea of how many days this tool actually represents.

- TMT public discussion have included reference to an operational transition called for in the 2025 Fish Operations Plan (FOP) using the Columbia River DART Running Three Day "Black Dot Tool".
- Van Dyke argued that the term day has become more a label than a precise reflection of a calendar day, so some confusion has emerged when individuals summarize a point in public meetings or other venues. He said that in this context the term day is more complex than the vernacular and may need explanation.

2. Outline
   - Van Dyke provided a description of what the presentation would cover, including the 2025 FOP section 7.1: Adult Delay Protocol, Columbia River DART Black Dot Tool, and the 2025 return year.
3. 2025 FOP 7.1 Adult Migration Delay Protocol (slide 1)
   - Summarized the 2025 FOP rule that signals an adult passage issue.
   - Only applies to two single reservoir reaches:
     - Ice Harbor (IHR) to Lower Monumental (LMN)
     - Little Goose (LGS) to Lower Granite (LWG)
4. 2025 FOP 7.1 Adult Migration Delay Protocol (slide 2)
   - Summarized the 2025 FOP rules for reinstating the Standard Spill Operation.
5. Running 3-Day Table Single Departure Event per TagID
   - The slide has a snapshot of the Black Dot Tool developed by the Columbia River DART to characterize adult passage progress.
   - The example is of the reaches called out in the FOP (IHR to LMN) to monitor Adult Spring/Summer Chinook Salmon passage progress and uses previously protected fish tagged upstream of LWG as juveniles to group adult returns as they depart IHR with a subsequent arrivals to LMN.
   - The rate, expressed as a percentage of IHR departure, tracks arrival status at LMN in the period of interest.
     - Y axis:
       - Rate of travel between IHR and LMN
     - X axis:
       - IHR departure event or cohort combining three days of observed PIT tag detections.
     - Graph includes four period metrics:
       - Light blue line – calculated rate for each IHR three-day departure event or cohort that arrived at LMN in less than 2 days: day of departure plus the next day.
       - Orange line – indicates an additional day or less than 3 days.

        - Purple line – indicates another additional day or less than 4 days to LMN.
        - Gray – YTD conversion of all the IHR departures that have arrived at LMN by the date the routine is run.
        - Black Dot – shows points where less than half of an event group have arrived and is only applied to the Orange line.
    - The Black Dot is the event criteria or the metric that the 2025 FOP has references as signaling fish delay.
        - Understanding how the how the term day is used to describe unintended fish behavior continues to be explored.

6. Running 3-Day Table Single Departure Event per TagID (slide 2)
    - The following slides show a step wise matrix table using the information provided by the DART tool after running the standard 3-Day Single Departure Event per Adult PIT TagID. This is what is ultimately used to create the graph on the previous slide.
        - Table can be found mid-page of the DART web tool's output.
    - The column information is the 3-day single departure date for IHR events or cohorts.
    - Rose shaded dates reflects that a black dot had occurred for a departure event.
7. Running 3-Day Table Single Departure Event per TagID (slide 2)
    - The addition of the row headers if meant to show the three days that are combined to calculate the IHR departure event.
        - For the first cohort that received a black dot on May 13, 2025.
    - Orange shaded content indicates the three days that have been grouped.
    - The number references the DART column label assigned to the Orange line in the graph shown earlier, or Period 2, or less than three days.
    - *Note: The standard tool's routine adjusts departure date total as we go, but for easier flow of the presentation Van Dyke left this nuance out of this discussion.*
8. Running 3-Day Table Single Departure Event per TagID (slide 3)
    - This routine does not finish without the group days arriving at the upstream dam, in this case LMN.
    - The lighter shading of orange in this step reflects the duration a single departure event must complete before a Black Dot can emerge.
        - Each Black Dot requires 5 days to complete the routine.
    - *Note: If this were more than a single reach, the number of days to achieve completion of the routine would increase but again to remain focused on the simple example Van Dyke left this nuance out.*

9. Running 3-Day Table Single Departure Event per TagID (slide 4)
    - Includes an additional row header to emphasize the duration used for each date, so that a third departure date and a third arrival date align.
        - Van Dyke also simplified the number of days to complete the event routine to arrivals at LMN.
        - The three combined represent one event.
        - The significance of this level of detail is that the term "Day" gets a bit messy in summarizes statements made during any discussion about the tools running 3-day departure events.
    - *Note: In all tables following this slide the day row header reverts to the sequential count of actual dates starting with IHR departure on May 11, 2025.*
    - The Black Dot is the criteria that the FOP has introduced as fish delay, understanding how the term "Day" is being used to describe unintended fish behavior as an issue directly associated with spill operation will continue to be explored but the 2025 FOP was written to what the Region has agreed to and all plan to following the agreed to rules.
10. Running 3-Day Table Single Departure Event per TagID (slide 5)
    - Van Dyke said in his May 28, 2025, TMT statement he was referring to the action criteria that is described in the 2025 FOP but he left out some additional nuance built in the stepwise approach for the full implementation rules.
    - He said that this snapshot provides the point a which the 2025 FOP alerts operators that the criteria has arrived at a pre-action point, that three consecutive black dots.
    - Van Dyke noted that the duration to complete the 3-day running average for Period 2 is seven days.
11. Running 3-Day Table Single Departure Event per TagID (slide 6)
    - The added input from Corps emphasizes the next day as a requirement before changing spill operations at LMN.
    - It is related to discussions leading up the FOP language, when USG participants identified 24-hours needed to coordinate operation changes to avoid impacts with power planning.
        - This coordination implies 24 hours, but the tool's mechanics forces an additional event or cohort.
    - Van Dyke noted this only adds a day to complete a routine, now it is 8-days.
    - He posed the question of whether this is fish behavior or operational constraints setting the rules.
12. If operation had an immediate impact after start
    - The reinstatement of the spill cap operation is signaled by the absence of a black dot with caveats associated with information delivery and coordination.

- This example would fit an instantaneous response using the single departure event, May 19th 3-day cohort.

- For reinstatement of the standard FOP spill cap operation using the calendar day after information became available in this case May 21 around 8:00 AM.
- The next day reinstatement would be anticipated on May 22 but no later than May 23.
- Van Dyke noted that the 2025 FOP includes continuing reduced spill for three consecutive days, so this example is more a reflection of an instantaneous observation. He said that there was also some additional probability math that could be worked into this decision, but he suspected the level of detail would distract so he was leaving that nuance out too.

13. 2025 Black Dot Matrix – IHR to LMN (slide 1)
    - Given the mechanics of the tool what occurred in 2025 implies the day after information became available was May 26.
    - The standard FOP spill cap was reinstated May 27.
    - Unfortunately, the 2025 operation change is not an expression of instantaneous fish behavior, but it does maintain the components as designed to arrive at a black dot or not.
14. 2025 Black Dot Matrix – IHR to LMN (slide 2)
    - As of May 31, 2025, IHR departures had 11 Black Dot events associated with Period 2 arrivals at LMN. Of these:
        - 10 were consecutive
        - 1 was isolated to a single event
    - The premise of the tool is that it offers adult passage relief when implemented using the rules in the 2025 FOP.
    - As shown in the table matrix the expected adult passage relief did not present itself as an immediate change in passage behavior, but the operation confusion occurred over a wider duration:
        - 14 cohort routines, or 15 days to complete.
    - Based on this incomplete single return year no pattern emerged to demonstrate 2025 FOP spill operation change alone reduced the occurrence of the black dot or altered adult passage behavior in IHR to LMN.
    - Although the Black Dot is advertised as the event criteria that is required to remedy adult progress concerns from one dam to another the tool is better fit the dam's operation constraints.
        - Understanding how the term "DAY" is being used to describe unintended fish behavior may continue to be an issue as long as operation constraints are prioritized in making rules for FOP guidance.

15. Take aways

- Van Dyke covered the takeaways in the presentation.

Tony Norris, BPA, said he was curious what Van Dyke meant by fitting the power operation constraints. He asked Van Dyke to clarify what he meant by that.

Van Dyke said it was just the coordination components that are generally needed to tell people on the ground and what to do and not do. He said that was what he meant by that. And retaining power reliability components and things like that. He asked if that was appropriate.

Norris said that he did not remember that being an issue, when they got the word to resume spill they resumed spill.

Van Dyke said it was the general coordination that goes on to make sure we are maintaining power reliability is what he meant by that is all.

Norris said he was also interested about the instantaneous fish behavior. He said that they did see immediate response when they reduced spill on passage not sure about your statement.

Van Dyke said that we are using the tool as our indicator and that tool did not demonstrate any instantaneous response is all there has being replied to here. He said that he was sure that they are going to look into a lot more and will have a lot more to share on the particulars in the coming year or more.

Norris said that in the first day that they reduced 40% they immediately saw the significant increase in fish passage there, so it sure seemed that the 8-hour spill block made a difference immediately.

Van Dyke said that they will be looking at it closer to nail does what we saw.

Jonathan Ebel, ID, thanked Van Dyke for putting this together and that he was tracking the nitty gritty of the tool better than himself. He said that to Norris' first question he thought Van Dyke was referring to the gap or the extra 24 hours of notice that exists in the rules, in the FOP, to provide BPA the time to reschedule generation or reallocate generation on the system in response to implementing the 8-hour period of reduced spill or ending that implementation. He asked if he was correct in that.

Van Dyke said yes.

Norris said that the notification in the FOP is for when we have high flow conditions and there are lack of load conditions. The note in the FOP is for when BPA might need time to find load when those conditions exist. He said that was not the case this year, they implemented and responded at the soonest possible time.

Ebel said that he was just trying to clarify his understanding of what Van Dyke was talking about because there seemed to be some confusion on Norris' part as well. He said second question to Norris' comment is _. He said that the representatives would be doing it through another forum after the season, but it is good to keep in mind. He said that Norris had said that there was an instantaneous response. Ebel said that we saw counts move but the tool did not. As measured or as depicted by the tool that is

governing the decision, that did not respond to reduced spill this year but there was a bump in the window count. Or an increase in the window count upon implementation of the reduced spill. He said that he wanted to clarify that it depends on what you are looking at as to how you would interpret this. But as far as the tool is concerned the tool showed no response, the window count maybe showed some response by the fish to the change.

Norris asked if that was because you did not clear out all of the fish that were delayed, that it took some days to get the fish that were delayed past the dam so the tool would recognize that.

Ebel said yes or the fish were not being necessarily delayed by spill. He said that they would talk about this in a full analysis later. He said that he wanted to clarify that Norris was right, you could see something in the count, but the tool did not depict that in real time.

Emi Melton, NMFS, said that she wanted to clarify the NMFS' interpretation of what is going on. She said that Norris was right, that once the spill was reduced there was a response by the fish in that the percentage of the arrival did increase. She said that she also thought that the others were right, that it did not hit the 50% threshold that we need, the very next day. So, some of the discussions around this have been that there may be potential for compounding impacts from other things. NMFS is in a position that spill still has an effect on delay but there is also a likelihood that there could be other impacts or other sources. Some of the things that NMFS has been looking at are things like temperature and harvest. They just do not know what is going on yet and so this is something that they are hoping to continue discussions on.

Charles Morrill, WA, said that the was a minor correction to note. He said from what we know at this point in time, it is not the harvest effect for a local fishery. It appears much more related to the level of effort involved in angling and activity in that reflection. He said that it was just a minor clarification. He added one additional comment, as Van Dyke introduced the first figure with the black dots. He said that he hoped people would note that the YTD completion of passage was at 91%. He said yes, we do see a theoretical delay effect and a real delay in terms of some fish. He said one of the concerns is whether different stocks move at different rates. He said in their discussions at FPAC this appears to be validated by some of the PIT tag data. He said that as Van Dyke and Ebel said, more to come on this discussion.

Stranz asked if the topic of "more to come" would in a different forum. She asked if that separate forum would be the FPOM forum.

Van Dyke said that was where this had been discussed to date and he said that was where they anticipate it would be.

5. **Set agenda for next meeting – June 25, 2025**

   Meeting Location: Microsoft Teams

   a. Flow Augmentation

   b. LMN Transport Update

Today's Attendees:

Agency	TMT Representative(s)
NOAA Fisheries	Emi Melton, Trevor Conder
Oregon	Erick Van Dyke
Washington	Charles Morrill
Kootenai Tribe	
Confederated Tribes of Colville Reservation	Dennis Moore
Umatilla Tribe (CRITFC)	Tom Lorz, Pete McHugh
Yakama Nation	Tom Iverson
Bureau of Reclamation	Chris Runyan
Army Corps of Engineers	Doug Baus (Chair), Lisa Wright
US Fish & Wildlife Service	Dave Swank
Idaho	Jonathan Ebel
Montana	Brian Marotz
Spokane Tribe	
Nez Perce Tribe	
Warm Springs Tribe	
Confederated Salish and Kootenai Tribes	Tom McDonald
Bonneville Power Administration	Tony Norris, Ben Hausmann

Other Attendees (non-TMT members):

COE – Tom Conning, Jessika Solleder, Willow Walker, Dan Turner, Leah Hamilton, Jon Roberts, Alexis Mills, Tiffany Stoeckig-Dixon, Patricia Madson, Shawn Nelson

BPA – Tammy Mackey

Washington Ecology – Thomas Starkey

Oregon DEQ – David Gruen

Flathead County Commissioner – Randy Brodehl

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor)

EKI – Eve James, Travis Togo

Columbia Basin Bulletin – Mike O'Bryant

PGE – Phil DeVol

S&P Global – Kassia Micek

NPCC – Kate Self

Snohomish PUD – Mike Shapley, Scott Richards

AVA – Mike Dillon

FPC – Noah Campbell, Erin Cooper

S&P Global – Kassia Micek

Energy EPS – Joshua Rasmussen, Travis Togo

Chelan PUD – Jay Fintz

Unaffiliated – Kenneth Curtis, Shea Frantz