

COLUMBIA RIVER TECHNICAL MANAGEMENT TEAM

April 2, 2026

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/2026/>. Suggested edits for the summary are welcome and can be sent to Colby at colby@dsconsult.co.

Dworshak Dam Update

Jessika Solleder, Corps, reported on current conditions, operations, and forecasts at Dworshak Dam (DWR). Current project elevation is about 1,575 feet, with outflows of 16.4 kcfs. The snow water equivalent (SWE) is 76% of average and precipitation has been 106% of average. The current 10-day weather forecast shows up to 1.5 inches of precipitation at Hemlock Butte, expected mostly as snow. Today's RFC April-July water supply forecast (WSF) is 2,076 kaf; peak runoff historically occurs this time of year.

Jessika emphasized that DWR is about 50 feet above its 30-year average pool for this time of year. Due to weak snowpack and historically high inflows from rain events, the project is focusing on capturing and storing inflows to ensure spring refill. Residual inflow through June 30 is estimated around 1,500 kaf under current conditions, roughly double the residual expected if reservoir were at its average elevation (50 feet lower).

TMT Discussion

In response to concerns about spilling too much water now and then potentially not being able to support higher flows later in the season to benefit fish, Jessika clarified that from the Corps' perspective, keeping flows lower now could require higher flows (~18-20 kcfs) at the end of April and beginning of May. Current operations aim to keep flows conservative (16–16.5 kcfs) while keeping close to the 110% TDG guideline to avoid later forced high releases that could push TDG significantly above 110% (potentially 115–125% range) during critical fish passage periods, specifically for adult steelhead and Chinook survival and hatchery releases.

Currently, the pool is high enough to allow spill from the spillways, which results in lower TDG levels than if the spill was moving through the ROs. TDGs downstream were right around 111% and the Corps is in contact with the hatchery. The hatchery can degas at levels up to 118%. Some Salmon Managers expressed comfort with TDG levels higher, noting that in the lower Columbia and Snake Rivers, TDG levels are 125% during the spill season. They requested an analysis showing possible spill levels and associated TDG. Jessika noted that TDG response is temperature dependent; CPC is predicting above-average April temperatures, which could bring increased TDG levels. Jay Hesse, Nez Perce, noted that the Clearwater is a different type of habitat, shallower, and thus TDG impacts the system differently than in the lower river. Jay appreciated the Corps work to balance the operation.

Jessika added that updated WSF, FRM guidance, and a snow flight next week will help the Corps verify conditions and assess planned operations moving forward. The ESP model currently does not account for percent of snow-covered area, potentially underestimating necessary storage and showing faster flow drops in May than actual real-time conditions may call for.

Next Steps

TMT – April 2, 2026

- Jessika will continue to assess DWR operations as updated information becomes available next week — information will be shared with TMT at the April 8 meeting.
- Salmon Managers to discuss TDG tolerances and hatchery/in-river risks at next week's FPAC; provide guidance on acceptable TDG thresholds (hatchery degassing limit ~116–118%).
- TMT will revisit the topic at their April 8 meeting to review updated forecasts, FRM guidance, snow flight results (if available, as flight is weather dependent), and scenario analyses.

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

The next TMT meeting will be on April 8, 2026, at 9:00 AM.

**Columbia River Regional
Forum Technical Management
Team OFFICIAL MINUTES
Thursday, April 2, 2026**

Today’s Special 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. Dworshak Dam (DWR) Update - Jessika Solleder, Corps-NWW

a) DWR Current Conditions

- Current Elevation: 1575 feet
- Current Outflow: 16.4 kcfs
- SWE: 76% of median
- Precipitation: 106% of median

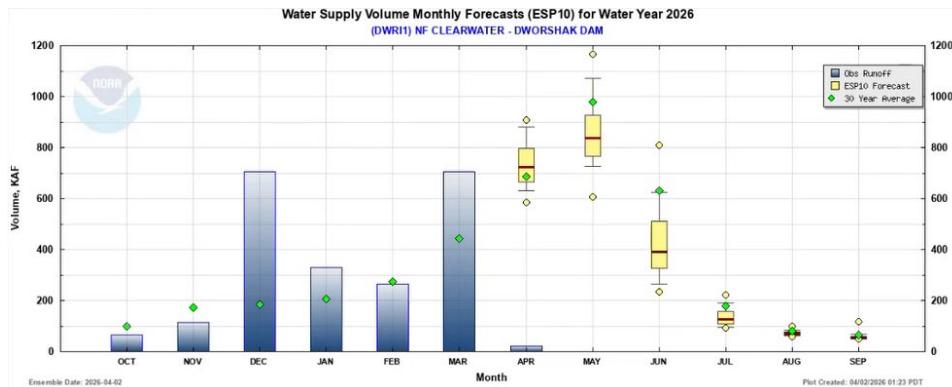
b) Ten-Day Weather Forecast

- Precipitation
 - There is up to 1.5 inches of precipitation at Hemlock Butte falling primarily as snow.

c) Current RFC Water Supply Forecast (WSF)

- April – July: 2076 kaf

d) ESP Monthly Water Supply Volumes

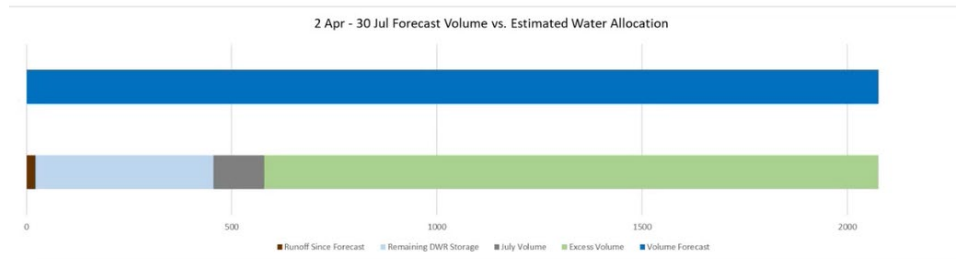


e) Current Operations at DWR Presentation

- Introduction
 - DWR is at an unusually high pool for this time of year.
 - DWR is ~50 feet above the 30-year average because the snowpack has been weak much of the season but there have been historically high inflows.
 - Operations until this point have been capturing inflow to ensure refill in the pool.
 - DWR is at unusual conditions coming into this late spring runoff season.

- RFC Current Volume Forecast

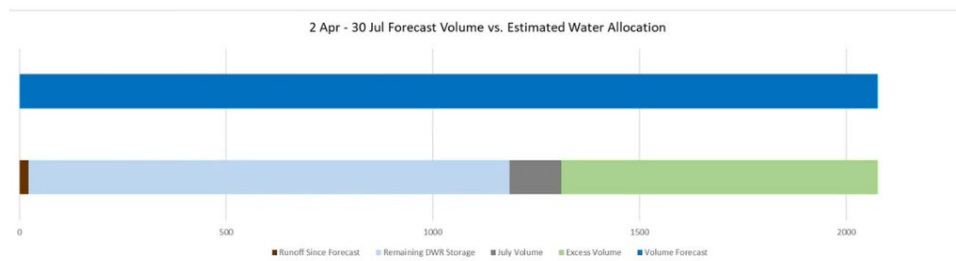
Current Year’s Storage – 1496 KAF Residual



Correction: 2 Apr – 30 Jun

- The graph above takes off the remaining storage in DWR (e.g., what was let off today and the anticipated July Forecast Volume) leaving the residual inflow for the season.
 - Residual Inflow: 1500 kaf
- DWR Average Elevation

Average Storage – 765 KAF Residual



- Elevation if DWR were today at the average elevation, ~50 feet lower. The residual is nearly half of what DWR is currently experiencing.
- There has been conversation and concerns about flows dropping off in May, but Solleder wanted to point out that DWR is looking like the other side of the spectrum, where if the flows are lower now there is a risk of going at considerably higher flows at the end of April and into May.
 - Flows: 18 – 20 kcfs range
- Operations
 - DWR is trying to ride the line of 110% TDG as close as possible. As DWR approaches official FRM guidance and can see how things play out over the weekend, on Monday they will be able have a better sense of what April is really going to look like. If flows come down and DWR finds opportunity they will look at that.

Erick Van Dyke, OR, said that he appreciated the update. He said it was just the notion that we are not in the normal that he thought everyone was aware, but the Fish Managers (FM) are also concerned that we are not going to be tracking normal moving forward. He said that the question that he had was why we cannot hold some of the flow until a specified period that happens a little later, say mid-April through mid-May. He asked if that was a possibility for TMT to think about it that way.

Solleder said absolutely that this was a way that she had been considering DWR operations. She said that the 16.5 kcfs outflow was the one that she found to be the most conservative because if DWR holds back right now, it could get up to 20 kcfs during a critical time for fish passage. She said that it is balancing that risk. Right now because DWR is so high in the pool, and no matter if the forecast is accurate today, by today's numbers, or if it fluctuates up or down even a little bit, it we come off to maybe say 12 kcfs we could be looking at some significantly high flows in the later portion of the season that could drive up TDG well above 110% during a critical time period. She said that she understood that the late-April to mid-May period is very sensitive for smolt in the system, especially Chinook and Steelhead. She said that what she was concerned about was holding back too much and then needing to make releases during the most critical time period. Another thing that DWR is looking at, and will be able to verify next week a little better because they will be going on their snow flight, is they will be looking at potentially seeing runoff happen earlier and what that could mean is a late-April, early-to mid-May time period. If that happens with DWR's full pool, it might further exacerbate the problem. She said that she had received some comments over the last week or so regarding the ESP that was issued on March 30 dropping flows through DWR in May. She said that one thing that the ESP model does not account for currently, but something that the Corps is looking at changing, is that it does not account for percent snow covered area, that is the amount of storage that DWR needs to keep behind the project based on the amount of remaining snow pack during this time of year. With that being excluded from the model currently, it shows DWR dropping flows a little faster than it typically would, based on real-time conditions and the need to beholden to the percent snow covered area in DWR operations. She said that she understood that this was a lot and there are a lot of moving parts, as TMT members all know. She said that she appreciated Van Dyke bringing up the other side of the spectrum, of what might happen if we drop off flows now. She asked if she answered Van Dyke's question.

Van Dyke said that he was not sure that it did. He said that one thing that he heard was that Solleder was emphasizing gas while FM were emphasizing how water is moving out of the reservoir. He asked why she chose to accept a flow that might increase the gas conversation now instead of having it occur maybe some time later when capacity was the problem that she was talking to.

Solleder said that the issue that she was seeing, if we are going off keeping flows elevated through the end of April, early May, what she insists on is running different scenarios. She said that she was seeing that the lower end of flows, through the middle of May, are around 7.5 kcfs, so DWR is not dropping down to minimums and that would be on the lower end of things in terms of TDG. She said that DWR is trying to right the line as close as possible, which is why she called it a conservative flow, because anything lower could increase TDG well above what it is now, maybe to 120%. To avoid that she

is trying to get DWR as close to 110% TDG as possible, keep the flows as high as possible, so that later DWR does not have to increase them. She asked if she was circling the drain here.

Van Dyke said a bit and just to be clear that she was going to be using terms that maybe do not fit all the paradigms. He said that some of the energetic benefit that we get from a freshet for fish passage is really what could be missing in the understanding of how critical moments are being defined. He said that he was not sure that TMT was going to get there today, but he thought that it was something that is in root potentially for conversation moving forward. He asked if that made sense.

Solleder said that she believed it did and she thought that she would be happy to continue that conversation on it another time for sure.

Jonathan Ebel, ID, said thank you to Solleder and that he thought that they have done really well this year given the weird conditions. He said that he had a few questions, but that he would start with one. He said that Solleder had used the term ‘critical time’ a few times and he asked if Solleder could define what she was referring to as having ‘TDG go up at a critical time’.

Solleder said that she supposed that ‘critical’ may have been a misnomer there, but she just meant that she understood that based on the memo that was issued, this is a very important time for the Steelhead and Chinook in the system. For those smolts to have a good chance at survival so there has been a lot of focus on that period of time. There are two releases through the Dworshak National Fish Hatchery and several through the Clearwater during that time. She said so ‘critical’ – she just meant that it had been emphasized. She said that they understand that there are a lot of moving parts and there is significance to that time period for fish passage. She said that maybe the word ‘significant’ might have been better, but that was just referring to the context that TMT had been building over the last few weeks.

Ebel said that when he was thinking about it, usually when we talk about when we see TDG spikes at below DWR, a lot of concern is with the intake of Dworshak National Fish Hatchery and gas, but also those fish are going to be gone by the middle of April. He said that we just had the releases and it is good to have the flows coming, more than minimums, out of DWR while the releases are ongoing, but those are going to be done by the middle of April. He said so when he is thinking about critical timing, he was thinking about not gassing up the hatchery, especially at the end of March. And then otherwise the critical time is putting the water at the end of April, not necessarily now. There are fish moving through the system now, but he wanted to clarify the critical time. He said that his other question was about the Corps’ TDG measurements. When we look back at Springtime flows and the relationship between the amount of water coming out of DWR and TDG, it is usually when DWR is running 16/5, which in the past it would be a lot higher TDG than 111%. He said that he was wondering what had changed.

Solleder said that because we are so high in the pool DWR can change where it is spilling from. Right now, all the flows are coming out of the spillways, whereas the ROs are not being utilized right now. She said that access to the spillways is what is helping us out in this particular operation because of that it goes back to just we are so high in the pool,

and the consequences are far reaching. She said that it had been somewhat of a benefit to be able to keep TDG lower at relatively higher flows.

Ebel asked if they could keep the pool high so that we can have higher flows out at the end of April. He said that the FMs are trying to get that water when there are more fish in the system.

Solleder said understanding that the volume in an average year is not the same as the volume that we are looking at for this year. She said that the likelihood for an early June refill is pretty good so what that would mean was elevated flows throughout the Spring. She said that here concern, no matter how she runs her analysis, whether it is a dry year or a wet year, or it is the RFC's volume forecast from a week ago or today, we have relatively high flows in the Spring. So from her end of things, she does not see an issue where having elevated releases in the beginning of April is going to cause DWR to turn those off or down in the end of April. She said what she was concerned about was what they were going to do about the volume. She said that we are used to this, we are here, we are refilling in June, so the benefit is that we are going to have higher flow throughout the season. What she does not want is too high. She said that she would emphasize that we just have an insane residual this year that we have not seen in a really long time.

Ebel said that he appreciated that but he was trying to wrap his head around especially how the 30-year average, how the water supply can be 76% of average, but the 30-year average runoff volumes are near average or near 30-year average. He said that it is just a strange situation, and he trusted that the Corps have been doing a really good job. He said that it is difficult to wrap the head around how well the models are actually working.

Solleder said that she could speak to that again briefly, she said that we saw this coming. We saw the weak snowpack, but what we also saw at some point in the early Winter was we got 200% of our median precipitation. So we were like, we are getting a lot of water right now, let's bank it, let's save that for later, because we do not think we are going to get the snowpack we are going to need if we make releases when we get these high inflow events. So, through the Winter and throughout the Spring so far, up until recently, DWR has been capturing that inflow to bring the pool high. It is really weird, where we have a weak snowpack, but we have a very high pool, because Solleder had been taking the combination of very high precipitation inflow, that was falling mostly as rain, and she was capturing that and then using that to offset the weak snowpack. She said that we are in a weird spot where we have weak snowpack, but we do have a lot of water behind the pool and if we would have made releases throughout the season, we would be in a very much more dire situation. And now we are in a situation where we have more water than we usually see to release.

Ebel said that was why he had said that she had done a great job this year, it is just that we have like the perfect situation for fish. And it is like don't screw this up.

Solleder said that she can completely appreciate this. She said that it is the last thing that she thinks about before going to bed and the first thing that she thinks about when she wakes up. She said that she completely understands. She said that she appreciated the dialogue, and she is seeing what the FMs are seeing. She is trying to balance everything as best she can, but she is glad that TMT is having this conversation so that we can talk about it.

Lorz echoes Ebel in saying that we appreciate Solleder getting us into this position. He said that he would not characterize us, we are uncharacteristically high in the pool but that is because we are unusually low in the water forecast. He said that DWR has done exactly what the FMs would hope that they would do, capture that crazy amount of rain, so we do not have to basically be running at 4s outflow of DWR from now until July. He said what his concern, like Ebel's, is that we are going over the 110% standard right now. He said that he was hoping we could maybe reduce spill a little bit to get us back to 110% if possible. He said that he was struggling with some of Solleder's concerns about having to push out too much water and have too much TDG because it sounded like DWR was still going to use the spillway and it is looking like you can spill ~17 kcfs and still stay around 111% TDG so he thought if the FMs were given the druthers, they would rather take that risk of having to push out a little more water later and have gas levels a like 112 – 113%, but to get the higher flows at that time. He said that he was struggling to understand what the issue was there.

Solleder said that there were a couple of things, Lorz was correct that we would probably still make releases through the spillway, however in her analysis she was seeing flows up to 20 kcfs so that would drive us up well above the 111% TDG. She said that this is something that TMT does not talk about often but something that she had seen reflected, and we have all inherently known, but when the days get longer and it gets a little bit hotter, we do see a response in TDG since it is so temperature dependent. And while she did not think that we are going to be blasted with an unusually hot April, CPC is still predicting hotter than average temperatures for April, at least based on the last forecast that she had checked. She said she does not believe that the situation would be that we come off now and then we get back to 111% TDG later, she thought we would be looking at a situation that is a little more dire than that.

Lorz asked what that 'dire' would be, like 115% or 125%. He said from a fish standpoint we do not usually start worrying too much, he said that we have in the lower river up to 125% now in the tailraces, and historically it was 115%/120%. He asked if we would stick to that range.

Solleder said that she would say that.

Lorz said from FMs standpoint, they have seen very little impact on adults at that so they would have less concern of that, at least from where he sits. He said that would be great. He said that he was not quite sure the FMs are seeing eye to eye with Solleder with her levels of concern versus theirs. He said that he would defer the Corps to NOAA and ask NOAA what they thought a threshold might be. He said that it would be an interesting question for them. He said that the other question he had is after Monday, they are going to have the snow flight, and if that comes back as he thought everything he was hearing from people in Idaho is that you do not have a lot of low to mid-level snow there. He asked if they find that is true, would that give them justification to hopefully take their foot off the gas a little. He said that would make him feel a lot more comfortable with where we are going. He said if he knew that there was some check insurance here and that there is some things like if we do not have the snow there, we can reduce the outflow a little bit to help ensure that we are going to be where we need to be.

Solleder said absolutely, she would just say again, they do have their snow flight next week. It is kind of based on a weather window, so it is going to be sometime next week and once they complete that flight, they will have a better picture of the snowpack and the conditions, which is exactly why they do this flight, so they can say what the rest of Spring and early Summer look like for us now that we have verified the snowpack up there. She said in her analysis she does have the understanding that she is baking in that she knows that we basically have abysmal lower and mid-elevation snow. The one thing that she wanted to do right now, she wants to position us to reassess after we have a little more information because we could find opportunities to come down and the moment that she feels confident in the forecasting, and in the snowpack, she will come down off of flows if the opportunity presents itself. If she can find that opportunity she certainly will, but what she does not want to do is put us in a position where we need to ramp up really quickly. She said that that she is just trying to ride the line through early next week so that she can really feel confident in our operations. She said that the snow flight would definitely come into play, that is why they do it, it is really beneficial for us and we will get some good information after that snow flight. She said that would be shared with everyone.

Lorz said that the FMs appreciate it. He said that he was looking at the long-term forecast and it looks dry for the next ten days up there, so the sooner she reduces the better, but he understood that she needed to do some check insurance. He said that knowing that she had these check insurances and that there are offramps was what was critical for him and he was hoping that they come sooner rather than later.

Charles Morrill, WA, said that he appreciated the update that Solleder provided. He said that he wanted to share that he appreciated where she was going and where she was. He said that question that he had for all of us was, one, you obviously do not want to gas up the rivers too much, but at Lorz noted, FMs do not have concerns for typically high TDG, we are 125 at Lower Granite at the tailrace. He said that his curiosity was balancing the TDG going above 110% but making sure that you do not gas up the hatcheries, which has been a concern. He said that mixing higher TDG in with managing DWR spill to try to move more of that water through the latter part of the month. He said that he did not know if she had looked at it from that perspective. He asked if we could go up to 110%, 112%, or 114%. He asked what difference that made in us being able to hold more water and release it at a time when it is more beneficial for fish.

Solleder said that Morrill had a good point. She said that they can look. She said in her analysis, she had been looking at trying to balance DWR's FRM targets with augmenting fish passage. She said that based on this conversation she could follow up with everyone and do an analysis as to what if we came down to a certain level of flow. She said that she could share more of the analysis of the increased outflows that we may see at DWR at the end of the month because it seems to be the area that we are having the most concern of what those flows would be. She asked on the case of TDG if there were specific thresholds that would be ideal later in April.

Morrill said he thought that he and FMs would agree that looking at it from that perspective, their concerns about how much TDG and when could make a difference in how she was able to manage flows and provide more flows in the late-April to early-May time frame.

Stranz said that she had heard Lorz say that the FMs were comfortable up to 125% TDG. She asked Solleder was looking for more from the FMs on that.

Morrill said no, that was a guideline that we have for the Snake River Projects, but Idaho's guideline was 110% TDG. He said that if Dave Swank was on the phone, he thought that the hatchery would start having trouble degassing. With something over 116 – 118% TDG they have trouble degassing and protecting the fish in the hatchery systems. So, without impacting the hatchery operation, he asked what we could go up to for TDG, with higher releases, and trying to push as much water back to the latter part of April and early part of May rather than giving it up now.

Stranz said that she thought we were tracking that. She asked if there were any responses to the TDG so that we could close that loop.

Jay Hesse, Nez Perce, said that the hatchery is effective at degassing up to about 118% and potentially a little bit higher but he did not like to push it to that level. He said that the in-river component is one that is not being addressed and acknowledged that the Lower Clearwater is different than the Lower Snake in terms of habitat and depth and the magnitude of juvenile Fall Chinook that are rearing in that area. He said that what he had heard from Solleder is clear acknowledgment that managing for aggressive Project refill starting May 1 is not Solleder's objective. He said that he appreciated that. He said that it is a fine line of not having to gas up the river for both hatchery water quality, and natural juvenile Fall Chinook rearing in the Lower Clearwater. He said that was a balance of natural runoff conditions and the dilution factor that comes from the main Clearwater upstream of Orofino and what is coming out of the North Fork. All variables that are tough to predict. He said that he appreciated the work and juggling that Solleder has done and he feels fairly comfortable in how that line is being walked, not just planning for low flows out of the Project starting May 1 but trying to balance that. He said that he wanted to reinsert the natural Fall Chinook rearing as a unique aspect.

Kelsey Swieca, NOAA, said that she appreciated all of the comments being shared today. She asked Solleder to correct her, she said that she was hearing that we have some crucial information that is going to come out tomorrow regarding updated FRM requirements. Solleder is going to take that information and see what she can do to better meet the needs that had been discussed at this meeting and then the FMs have an opportunity to meet next week at FPAC to discuss some of their concerns and potential references of opinion impact of TDG in that area and then TMT can gather on this issue next Wednesday once we have the additional information that we need. She asked if that was an accurate summary of the conversation so far.

Solleder said that she could not have said it better herself.

Swieca said that she thought that from NMFS perspective, until we have that information that we are expected to receive tomorrow and discuss early next week, it is difficult to form a solid recommendation or have a complete understanding of how this process might move forward. She said that was all she had to contribute at the time. She said that she just wanted to make sure that she understood the conversation fully.

Stranz thanked her for the summary.

Morrill said that he appreciated Hesse's comment because his concerns need to be balanced as well. He said that the dilution effect is definitely a concern for aquatic life below the outflow of DWR.

Stranz said that this would be on next week's regularly scheduled TMT meeting agenda. TMT will do an update on DWR and conditions out there.

Ebel said that Stranz had touched on one concern, that this is on the agenda moving forward. He said also it popped in his head when something that Morrill said. He said that he wanted to clarify for TMT that the State of Idaho does not regulate water quality below DWR. He said that was the purview of the Tribe.

Stranz thanked Ebel for the clarification.

Solleder said that next week TMT would do a touch base. She will take a fresh look at things since we have a little bit more information and hopefully by TMT she will be able to share some insight from the snow flight, but that timing can be a little weird. She said that she was glad to have had this conversation, she thought it was good to keep the dialogue going.

Stranz thanked Solleder for being so open to hearing from others and for providing information so clearly. She said that we all appreciate it.

2. Agenda – *Wednesday, April 8, 2026*

Meeting Location: Microsoft Teams

- 1) DWR Conditions Update
- 2) Chum Update
- 3) Non-Court Ordered Operations Review
- 4) Water Supply Forecast Early Bird
- 5) FRM Requirements
- 6) Smolt Passage and Hatchery Releases (included with fish update).

Today’s Attendees:

Agency	TMT Representative(s)
NOAA Fisheries	Kelsey Swieca
Oregon	Erick Van Dyke
Washington	Charles Morrill
Kootenai Tribe	
Confederated Tribes of Colville Reservation	Dennis Moore
Umatilla Tribe (CRITFC)	Pete McHugh, Tom Lorz
Yakama Nation	Keely Murdoch, Tom Iverson
Bureau of Reclamation (BOR)	Chris Runyan
Army Corps of Engineers (COE)	Doug Baus (Chair), Aaron Marshall, Lisa Wright
US Fish & Wildlife Service	Dave Swank
Idaho	Jonathan Ebel
Montana	
Spokane Tribe	Brent Nichols
Nez Perce Tribe (NPT)	
Warm Springs Tribe	
Confederated Salish and Kootenai Tribes	
Bonneville Power Administration (BPA)	Tony Norris, Ben Hausmann

Other Attendees (non-TMT members):

COE – Leah Hamilton, Kenneth Sears, Jessika Solleder, Kasi Underhill, Tiffany Dixon, Eric Chow, Daniel Turner, Alexis Mills, Tony Garcia, Grant Bell, Oscar Espinoza

BPA – Tammy Mackey, Leah Sullivan, Carolina Andes

DS Consulting – Emily Stranz (Facilitator), Colby Mills

CorSource – Andrea Ausmus (BPA note taker, Contractor – recording only)

Columbia Basin Bulletin – Mike O’Bryant

FPC – Noah Campbell