



## REGIONAL TECHNICAL TEAM MEETING FINAL DECEMBER MEETING SUMMARY

**Date:** Wednesday, 10 December 2025

**Time:** 9:00 AM to 12:05 PM

**Location:** Webinar

---

**Members Present:** Ryan Klett (CTCR), Carlos Polivka (USFS), Tracy Bowerman (USFWS, Vice-Chair), John Arterburn (CTCR), Catherine Williard (Chelan PUD), Hans Smith (Yakama Nation), Steve Fortney (Gray & Osborne Inc.), Tom Kahler (Douglas PUD), and Tracy Hillman (BioAnalysts, Inc., Chair).

**Others Present:** Ariel Edwards (UCSRB), Ryan Lefler (Trout Unlimited), Mike Kane (CCNRD), Meghan Camp (UCSRB), Jeff Jorgensen (NOAA), Jason Lundgren (CF), Mike Kaputa (CCNRD), Keith van den Broek (Hinchinbrook), Gardner Johnston (Inter-Fluve), Stine Griep (Hinchinbrook), Bryan Maloney (CCNRD), Scott Bailey (CCNRD), Victoria Bohlen (BPA), Christina Barrineau (CCNRD), Nick Legg (Lichen Land and Water), and Virginia Preiss (BPA).

---

Tracy Hillman reviewed the December RTT meeting agenda, and the agenda was approved by all RTT members present. Tracy Hillman reviewed the November draft meeting notes and all RTT members present approved the notes. Lastly, Tracy Hillman reviewed the action items from the November RTT meeting.

### RTT and UCSRB Updates

#### 2026 Science Summit Updates

Ryan Niemeyer provided an update on the Science Summit, which will be held in Leavenworth on 21-22 January 2026. The agenda for the summit is nearly complete. Ryan thanked the Steering Committee for their support and will share the draft agenda with them soon.

#### RTT Letter to Bureau of Reclamation

During the last RTT meeting, the RTT directed Tracy Hillman to write a letter to Steve Kolk indicating the RTT's support of additional research on boulder clusters. Tracy Hillman will send the draft letter to the RTT for review. Comments/edits are due to Tracy Hillman by Friday, 19 December. Tracy Hillman will then send the letter to Steve Kolk.

#### Prioritization Webmap Interface

Ryan Niemeyer provided an overview of the new prioritization webmap interface. He quickly walked through the webmap and indicated that he will give a more detailed overview of the interface during the next RTT meeting.

#### Decisions:

- None

## Action Items:

- **The RTT will review the draft letter, which indicates their support for additional research on boulder clusters. Comments on the letter are due to Tracy Hillman by Friday, 19 December.**

## Middle Entiat Reach Assessment

Gardner Johnston presented the Middle Entiat Reach Assessment (RM 15.6-29.7). This reach assessment builds on past assessments that were completed in the Entiat. The update included reviewing and summarizing existing information, updating the habitat survey and hydraulic modeling, documenting changes, mapping prior projects, and revising restoration actions. Comparing prior conditions to current conditions showed increases in percent pools, increases in side channels, and large increases in large wood. Large wood showed the most dramatic increase. Constructed jams contributed most to the large increase in wood in the Entiat River.

Gardner highlighted five restoration projects that were implemented within the reach. Conditions before and after restoration were evaluated using REI metrics. He walked through restoration work in the Stormy Reach (augmented wood), Gray Canyon Fan (augmented large wood and side channels), and Entiat 3D (adding wood and augmenting side channels). Gardner described some of the challenges (e.g., landownership) associated with implementing restoration actions in the Entiat River.

John Arterburn suggested showing flows in 15-year intervals in the climate change graph. Steve Fortney suggested adding discussions on what processes need to be addressed and how restoration actions affect those processes. For example, if the focus is on wood recruitment, is restoration work changing wood recruitment and having downstream effects on other processes (e.g., sediment recruitment)? In addition, are there changes in hydraulic modeling results? Steve acknowledged that the reach assessment is not necessarily an evaluation of project effectiveness, but this type of analysis could be beneficial. Tracy Hillman suggested clearly showing changes in REI metrics over time. These help determine whether habitat conditions are improving, staying the same, or decreasing over time. Gardner agreed that a description of changes over time in conditions and processes is useful. He noted that the reach assessment collected logjam data but did not analyze those data. Hans Smith stated that the RTT logjam protocol did not include a method for how to analyze these data.

Carlos Polivka commented on the aging of wood structures and how that can affect biological benefit. Carlos said he has a forthcoming scientific paper analyzing this question. John Arterburn agreed with Carlos that the age of a structure can affect biological benefit. Ryan Klett mentioned that with LiDAR data, one could analyze natural recruitment of wood to the stream.

Mike Kaputa noted that landowner interactions had much to do with the aggressiveness of restoration work in the reach. The idea of suggesting more aggressive restoration work in the reach may be met with significant pushback. Hans Smith mentioned that this information should be taken to the planning unit for discussion. Mike Kaputa responded that it would be beneficial to have a landowner risk discussion. He suggested that there should be a discussion with CDLT and CCNRD, because CCNRD owns the log structures. Mike Kaputa said the main issues with implementation were ownership, risk, and liability.

**Decisions:**

- None

**Action Items:**

- **The RTT will provide their comments on the Middle Entiat Reach Assessment to Tracy Hillman by Friday, 12 December.**

### **Nason Creek Reach Assessment (RM 0.0 – 13.5)**

Gardner provided an overview of the Nason Creek Reach Assessment (RM 0.0-13.5). Similar to the Entiat reach assessment, Gardner identified past projects, reviewed and summarized existing information, provided information on updated habitat surveys and hydraulic modeling, described changes in habitat conditions, showed maps of prior projects, and identified possible restoration actions. Gardner described the different reach segments and identified the major challenges within each segment. For example, he highlighted the effects of the powerline corridor on wood recruitment and water temperatures. Gardner also described the evolution of a logjam at RM 2 that has contributed to bank development.

Gardner indicated that they compared results from the earlier reach assessments to the level-2 habitat metrics in this assessment. As for changes in habitat metrics, percent pools increased slightly, side channels increased, and large wood increased substantially. Gardner highlighted how human actions (roads, railroads, development, etc.) have affected habitat conditions in the reach.

A total of 12 potential projects were identified in the reach assessment, one in nearly every reach. The reach assessment also included an assessment of cost-benefit and feasibility. One of these projects – Lower UWP – includes moving the stream located near RM 12.0-12.4 away from the highway. Another project – LWP Second Bend – includes moving the stream so it does not follow the BPA powerline and therefore decreases solar exposure.

John Arterburn recommended showing changes in the habitat metrics over time. John Arterburn also shared the need to go big because existing habitat work has not had a large effect in Nason Creek. Mike Kane commented there are thermal refuge data for Nason Creek. Tracy Hillman, referring to Appendix B, indicated that there does not appear to be much improvement in several habitat metrics over time and indeed some have decreased in condition. This was unexpected. Gardner mentioned that this partially could be due to differences in how metrics were measured and analyzed. For example, in some cases a metric was interpreted as unacceptable during the recent assessment but was deemed acceptable in previous reach assessments. Steve Fortney asked about reach designation and Gardner responded that they tried to provide a balance between geomorphically unique sections and not dividing up the reaches to a great extent.

Hans shared they hope to finalize these reach assessments and release the final versions in early 2026.

**Decisions:**

- None

**Action Items:**

- **The RTT will provide their comments on the Nason Creek Reach Assessment to Tracy Hillman by Friday, 12 December.**

### Roaring Creek Stage-0 Restoration Monitoring

Carlos Polivka indicated that he would like to discuss the opportunity to monitor the effectiveness of restoration work in Roaring Creek, a tributary to the Entiat River. The Roaring Creek restoration project is moving forward, and this gives him an opportunity to monitor the effects of stage-0 work in the stream. With feedback and support from the RTT, he will try to secure funding for the monitoring work. He noted that when he submitted the monitoring application through the SRFB process last year, the RTT scored it relatively low because of the uncertainty of whether the restoration work would be funded. Given that the restoration work has been funded, there is less uncertainty about the restoration project. Therefore, it is appropriate to monitor its effectiveness.

Carlos gave a short presentation on the proposed monitoring work. He said the plan is to evaluate the success of stage-0 restoration in Roaring Creek. In addition, he can evaluate the effects of the Lower Sugarloaf Fire, which resulted in low to moderate burning along Roaring Creek including the potential restoration site. Carlos highlighted that because this is the first stage-0 restoration project in the Upper Columbia and the planning for implementation has started, there is potential for a before-after control-impact study.

Carlos noted that CCD conducted steelhead redd surveys in 2025. This included two sampling events. A few small areas could not be sampled. Only 6 steelhead redds were found in the proposed restoration area, most of which were in the lower and middle sections. Likewise, a greater number of steelhead fry were found in the lower sections of the proposed restoration area. Juveniles were evenly distributed across the proposed restoration area. Some juveniles moved upstream, while others moved downstream. There were changes in size and age structure between the two surveys.

Monitoring questions will focus on how restoration will change distribution and abundance of spawners, juveniles, invertebrates, and habitat types. Additionally, they plan to assess fire-related disturbance on these metrics. Carlos said they plan to develop or improve a standard protocol for stage-0 restoration in the region.

Nick Legg reported that the restoration design and construction were funded. Construction is planned for 2027.

Tom Kahler asked how they intend to account for multiple factors (i.e., multiple treatment effects) including the effects of wildfire and restoration. Carlos responded that they hope to find suitable control areas. That is, they would like to find a control area that was burned and one that was not burned. Having these controls would help them tease out different treatment effects. Carlos added that for wildfires with low or moderate severity, it can be challenging to see effects of wildfire on aquatic ecosystems. Tracy Bowerman recommended collecting baseline data. She said this can be challenging because steelhead redd surveys are no longer conducted and IMW data are not collected. Tracy Bowerman recommended collecting robust baseline data, even if this means not being able to collect information on, say, macroinvertebrates. Tracy Hillman suggested measuring stream metabolism, which is inexpensive and relatively easy to do. He also noted that it would be useful to identify the “must

have” and the “nice to have” metrics. This was a comment by the RTT during the RTT’s review of the original proposal.

Because the RTT did not have a lot of time to think about the study during the meeting, Tracy Hillman recommended that Carlos and his team prepare a summary of the proposed monitoring work and share it with the RTT before the next meeting. This will give the RTT time to think about the study and offer additional useful information.

**Decisions:**

- None

**Action Items:**

- **Carlos Polivka will prepare a summary of the proposed monitoring work needed to assess the effects of reset (stage-0) restoration work in Roaring Creek and share it with the RTT before the January meeting.**

**Meeting adjourned at 12:05 pm**