REGIONAL TECHNICAL TEAM MEETING
FINAL NOVEMBER MEETING SUMMARY

Date: Wednesday, 12 November 2025
Time: 9:00 AM to 11:00 AM
Location: Webinar

Members Present: Hans Smith (Yakama Nation), Steve Fortney (Gray & Osborne Inc.), Kate Terrell (Retired USFWS), John Arterburn (CTCR), John Crandall (Confluence Aquatics), Ryan Klett (CTCR), Tom Kahler (Douglas PUD), Tracy Bowerman (USFWS), and Tracy Hillman (BioAnalyst Inc., Chair).

Others Present: Ariel Edwards (UCSRB), Meghan Camp (UCSRB), Amee Bahr (RCO), Victoria Bohlen (BPA), Jason Lundgren (CF), Steve Kolk (Bureau of Reclamation), Melissa Shinbein (Bureau of Reclamation), Lisa Foster (Trout Unlimited), Mark Ingman (CCD), Gardner Johnston (Interfluve), Mike Kane (CCNRD), Phillip Klenke (CF), Caleb Fogel (Interfluve), Kristen Kirkby (Cascade Fisheries), and Sean Welch (BPA).

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

RTT & UCSRB Updates

2026 SRFB Grant Round Updates

Ariel Edwards provided updates on the 2026 SRFB grant round. State funds are in hand, and RCO will submit a 2026 PCSRF application. Between the state and PCSRF funds, the Board is hoping to have a robust grant round. However, there is still some uncertainty around PCSRF funding that may make planning for this round difficult. The Board is not expecting supplemental riparian funding in 2026. The Board is planning for another Targeted Investment (TI) round in 2026 to run alongside the regular SRFB round, as in 2024. The SRFB will approve the solicitation process and criteria for the TI grant round at their December meeting. Projects will be reviewed and ranked for a 2027-2029 TI funding list.

Decisions:

- **None**

Action Items:

- **None**

2026 Science Summit Updates

Ryan Niemeyer provided updates on the Science Summit, which will be held in Leavenworth on 21-22 January 2026. Ryan reminded the RTT that the abstract submission deadline is this Saturday (15

November) and the early bird registration deadline is 30 November. Ryan also shared that the poster session will be around 4:00 pm on the second day and will include beverages paid for by Wolf Water Resources. Ryan thanked the Steering Committee for their support and mentioned that the next meeting is on 17 November when the initial agenda will be drafted.

Decisions:

- **None**

Action Items:

- **None**

Adaptive Management

Meghan Camp provided an update on the Adaptive Management Project. The Adaptive Management Project was initiated in December 2024 with the goal of identifying adaptive management actions to improve salmon recovery efforts that could be implemented over the next 5–10 years. A consultant was hired to support the process, and an Advisory Committee was assembled to provide input and feedback. The project uses a two-pronged approach: (1) a literature review to assess the state of the science and (2) a community-driven process to capture local perspectives and experience. A workshop was held in June 2025 to identify key barriers (constraints) to habitat restoration efforts and potential actions to address them. Additional actions were developed by UCSRB. The Advisory Committee provided feedback and refinement on the identified barriers and actions. A draft report is currently in development and will be shared with the Advisory Committee in January, with the final version expected by the end of February.

Decisions:

- **None**

Action Items:

- **None**

AFS Wenatchee

Ryan Niemeyer shared that Tracy Hillman and John Arterburn helped provide edits to the proposed symposium request submitted to the AFS Washington – British Columbia Chapter 2026 Annual Meeting. The symposium will not focus only on the three ESA-listed species but native fish in the Upper Columbia that face conservation challenges. The AFS planning committee approved the symposium on Monday.

Decisions:

- **None**

Action Items:

- **None**

Reach Assessments

Hans Smith shared updates on the Yakama Nation efforts to complete new and updated reach assessments. The two reach assessments sent to the RTT for their review are on the mainstem of the

Entiat River and Nason Creek. There is also a Methow River reach assessment they hope to complete soon. The hope is to have the RTT review the Entiat and Nason assessments before the end of the year.

Hans shared updates on the Entiat River reach assessment, which updates the Gray Reach Assessment, Stormy Reach Assessment, Preston Reach Assessment, and Reach 0 of the Upper Stillwaters Reach Assessment (RM 15.6-26.7). This updated assessment includes REI indictors and compares the updated REI indicators to past indicators or conditions. The reaches match the RTT/UCSRB reaches. Appendices include additional comparisons to past reach assessments. Restoration opportunities are also listed and compared to past or completed actions and potential future actions. This includes suggestions to re-visit sites. Hans shared that there are interesting changes in the Entiat River reaches and he believes this is a good update to the past reach assessments.

The geographic scope of the Nason Creek reach assessment includes the area from the mouth of the stream to RM 13.5. This reach assessment includes areas covered by several other previous reach assessments.

John Crandall asked how the prioritization of projects from these reach assessments compares to the RTT Prioritization. Hans responded that data from the reach assessments can be included in the prioritization tool and that the prioritization of projects in the assessments should be consistent with the prioritization tool.

Mark Ingman shared that the Entiat FLIR data have been shared. Gardner Johnston mentioned that FLIR data have not been integrated into the stream temperature REI.

Tracy Hillman requested that the Yakama Nation provide a presentation on both assessments during the 10 December RTT meeting. He added that RTT members need to submit their comments to him by Friday, 12 December. He will then compile the comments and share them with the Yakama Nation. The links to the documents were shared with the RTT in a previous email from Tracy Hillman.

Decisions:

- **None**

Action Items:

- **RTT members will review the Nason Creek and Entiat River reach assessments before the December RTT meeting. Members will submit their comments to Tracy Hillman by Friday, 12 December.**

Boulder Cluster Modeling

Melissa Shinbein (USBOR) shared a presentation titled “Testing of Boulder Clusters from Model to Field.” This research includes numerical modeling, flume testing in the laboratory, and field testing of boulder clusters. Some of the field testing was conducted in the Methow and Entiat rivers. Melissa shared an example of restoration work in the Los Angeles River where boulder clusters are proposed to roughen the channel and reduce water velocities. Various configurations were tested that would mimic placement in the Los Angeles River. The flume testing showed that indeed rocks do slow down water velocities. Test results showed that a V-shaped cluster reduced water velocities as well as a diamond-shaped cluster but used one less boulder.

Nathan Holste did the numerical modeling in HEC-RAS 2D. Model results compared well with the lab results. Modeling indicated that boulders installed within the low-flow channel provide suitable fish passage up to 1% exceedance mean daily flow. In addition, single boulders provide resting habitat for fish and upstream V structures provide the most resting habitat at high flows.

Melissa visited restoration sites on the Wenatchee and Entiat rivers in September 2024. The goal was to determine whether the boulder clusters agreed with modeled results. The size of the boulders used in the Wenatchee River were based on the ability of the helicopter to move them. Overall, the diamond-shaped cluster worked well in these rivers.

The Entiat River site is located just downstream from the fire station. Measurements were taken at 75-79 cfs in the Entiat River. Measurements showed that the boulders significantly reduced water velocities with the greatest reduction in the center of the clusters. In the Entiat River, boulder clusters were close together so they (BOR) could not assess how far downstream water velocities were reduced. In addition, these boulders were interacting with each other within a cluster.

In the Wenatchee River, at a site upstream from the confluence of Chiwaukum Creek, flows during the survey were 360-390 cfs. Water velocities were reduced downstream of the boulder and there was limited interference between boulders in the Wenatchee River. Thus, even though boulders were placed in clusters, they behaved more like single rocks. Because measurements were taken at low flow, this could affect the results. Velocity reductions were noted 40-60 feet downstream of the clusters.

John Arterburn asked about the choice of rocks used in the flume experiments. Melissa said the rocks used were provided by the Los Angeles study participants. John also asked about the orientation of the rocks, highlighting that with one of the rocks, it was clear the water was going where the rock deflected the water. Melissa agreed to look into the effects of boulder orientation on water velocities. John also asked about the possible increase in thermal loading due to boulders extending above the water surface. Melissa said this could be an avenue for future research.

The question was raised about whether fish are using the boulder structures in the Wenatchee and Entiat rivers. Tracy Bowerman mentioned she did not snorkel these boulder clusters, but often sees *O. mykiss* behind natural boulders, and fish likely would use these boulders.

John Crandall asked about change in depth due to scour. Melissa did not present on those data but has information on scour. Also, the elevation data they collected in the field is not longitudinal, which is needed to show change due to scour. There was also discussion about aggradation. Steve Fortney added that scour and aggradation depend on many factors including the slope of the channel, sediment load, and other factors. The question came up about whether the boulders can sink. Steve Kolk commented that boulder clusters are two orders of magnitude cheaper than ELJs, so even if the benefit of boulders is reduced over time, there is a cost-benefit to boulder placement.

Tracy Hillman shared the idea of the RTT preparing a letter in support of additional funding for the Bureau of Reclamation. Tracy Hillman asked members to send him ideas on follow up studies that would benefit the RTT and implementers. The letter may help the Bureau of Reclamation leverage funding for additional research on boulder clusters.

Any questions or comments on the presentation can be emailed to Melissa at mshinbein@usbr.gov.

Decisions:

- **None**

Action Items:

- **RTT members will identify additional research needs for the Bureau of Reclamation that would benefit the UCRTT and implementers.**

Meeting adjourned at 11:00 am