REGIONAL TECHNICAL TEAM MEETING
FINAL February 2025 MEETING SUMMARY

Date: Wednesday, 12 February 2025
Time: 9:00 AM to 12:30 PM
Location: Webinar

Members Present (9): Brandon Rogers (Yakama Nation, Vice Chair), Tracy Bowerman (USFWS), Catherine Williard (Chelan PUD), John Arterburn (CCT), Tom Kahler (Douglas PUD), John Crandall (Confluence Aquatics), Carlos Polivka (USFS), Kate Terrell (USFWS), and Tracy Hillman (BioAnalysts, Chair)

Others Present (43): Ryan Niemeyer (UCSRB), Ariel Edwards (UCSRB), Meghan Camp (UCSRB), Steve Kolk (Bureau of Reclamation), Jason Lundgren (Cascade Fisheries), Aaron Rosenblum (Cascade Fisheries), Jeff Jorgensen (NOAA), Mark Ingman (Cascadia CD), Alex Harwell (CCD), Phillip Klenke (Cascade Fisheries), Kristen Kirkby (Cascade Fisheries), Ben Woodworth (Yakama Nation), Dave Duvall (Grant PUD), Lisa Dowling (WDFW), Cody Gillin (WDFW), Cody Lund (USFS), Mike Kane (CCNRD), Elianna Rosenthal (WDFW), Ryan Klett (CCT), Carmen Leguizamon (USFWS La Grande), Hans Smith (Yakama Nation), Tim Hanrahan (BPA), Jose Vasquez (USFWS), Gene Shull (USFS), Sean Welch (BPA), Maddie Eckman (Yakama Nation), Jarred Johnson (Yakama Nation), Ethan Lockwood (Cascade Fisheries), Jason Breidert (CCT), Nick Legg (Lichen Land and Water), Dominique Shore (Lichen Land and Water), Polly Gibson (ODFW), Scott Bailey (CCNRD), Joseph Lemanski (ODFW), Kayla Morinaga (Grande Ronde Model Watershed), Nate Schmidt (WDFW), Charles Snow (WDFW), Ken Muir (WDFW), Phil Roni (Cramer Fish Sciences), Kristin Connelly (Cramer Fish Sciences), Hans Berge (Cramer Fish Sciences), Mallory Hirschler (WDFW), and Matt Holland (CCNRD)

Tracy Hillman reviewed the February RTT meeting agenda, and the agenda was approved by all RTT members present. Tracy Hillman reviewed the January draft meeting notes and all RTT members present approved the notes.

RTT & UCSRB Updates

MaDMC data gaps list

Ryan Niemeyer provided an update on the MaDMC data gaps list including the need to update information for reaches in which the data are 10-years old or older (e.g., Chiwawa, Methow mainstem, and middle/upper Twisp). No major disturbances or wildfires in 2024 require the addition of reaches to the data gaps list. Ryan also identified data gaps added to the list during the MaDMC meeting including a study to evaluate spring Chinook Salmon and Coho Salmon hybridization and a study to evaluate Brook Trout use of restored habitat.

Decisions:

- **The RTT approved the MaDMC data gaps list without the inclusion of Chinook Salmon and Coho Salmon hybridization and Brook Trout use of restored habitat. The RTT needs time to review these recommendations.**

Action Items:

- **Ryan Niemeyer will post the MaDMC data gaps list without the two proposed data gaps.**
- **Ryan Niemeyer will share the two proposed new data gaps with the RTT via email, as well as the Tiering criteria, and schedule a discussion during the next RTT meeting.**

Prioritization Updates

Ryan Niemeyer described updates to the prioritization tool. Specifically, he talked about the addition of remote sensing riparian data as well as Level 2 survey data collected by Cascade Fisheries. This work resulted in 59 additional reach ranks for restoration and 7 additional reach ranks for protection. Ryan also noted that there are aspects of prioritization he has not been able to provide updates on including the remote sensing floodplain metrics, Columbia River tributaries, and channel widths per pool. The RTT indicated that they want to look at where updated stream surveys produced new reach ranks and therefore agreed not to approve the reach ranks at this time. The RTT did agreed that Ryan can share the list of draft reaches - that includes the 59 reaches for restoration and 7 for protection – without including reach rankings.

Decisions:

- **None.**

Action Items:

- **Ryan Niemeyer will schedule a Prioritization Work Group (PWG) meeting before the next RTT meeting and share information on the new reach ranks with the PWG members for their review.**
- **Ryan Niemeyer will share with sponsors the list of reaches with new habitat data but without reach ranks.**

RCO Monitoring Grant Round Update

Ariel Edwards reported that the SRFB Kickoff meeting was held yesterday. She will share the meeting notes in a couple days. Ariel indicated that the RTT will score monitoring projects to help the UCSRB decide on the top two monitoring projects to share with the Science Advisory Panel, who will rank projects across the state.

Kate Terrell asked whether the freeze on federal funding will affect the SRFB grant round. Ariel shared that the federal budget was approved through the end of March, but Congress still needs to approve a budget before the end of March. RCO is relatively confident that PCSRF funds will not be affected; however, there is some uncertainty.

RTT Membership

Tracy Hillman shared that Brandon Rogers has taken on additional responsibilities within the Yakama Nation. As a result, Brandon asked to go on “inactive” status on the RTT. This also means he is stepping down as the RTT vice-chair. Tracy said the RTT will need to select a new vice-chair soon.

Tracy also asked for a list of RTT members who plan to review SRFB applications this year. Given the uncertainty with the availability of RTT members who work for the federal government, Tracy would like some indication of who plans to review applications.

Decisions:

- **None**

Action Items:

- **RTT members will let Tracy Hillman know whether they can review SRFB applications this year.**
- **RTT members will nominate a vice-chair for the RTT.**

Adaptive Management Project Process Overview

Nick Legg with Lichen Land and Water described the proposed approach to Adaptive Management. The goal is to synthesize science and share lessons, as well as advance recovery efforts. Nick talked about the adaptive management loop and focused on the "evaluation" and "communication" portion of the loop. The goal is to synthesize and share scientific data, monitoring results, and lessons learned from 2010 to present. Nick is planning a couple meetings this year to help develop the adaptive management report and intends to share the results at the 2026 Upper Columbia Science Conference. This process will be guided by "Key Management Questions," which include looking at fish and habitat status and trends and other questions that produce actionable recommendations. Lichen Land and Water and UCSRB will bring together a steering committee to gather data and lessons learned, convene groups, synthesize results, and make recommendations. Much of the groundwork will happen during workshops. Participants in the workshops do not need to be on the steering committee. The first workshop will occur in May or June and will focus on gathering information. The second workshop, to be held in October, will synthesize the information.

Nick described how folks can contribute to the effort. This includes participating in the steering committee, recommending data, participating in workshops, or joining the discussion at the 2026 UC Science Conference. As part of this effort, Nick walked through three "menti.com" surveys. The first two were word infographics, and the third was a phrase response. Participants gave feedback and information on these processes. The survey can be accessed here: https://forms.gle/29rzuMJjQa8shp9CA.

Decisions:

- **None**

Action Items:

- **None**

Additional Considerations for Restoration Project Planning

Jose Vasquez and Tracy Bowerman (USFWS) gave a presentation on Bull Trout redd surveys, Brook Trout observations, and implications for restoration projects. This presentation focused on Brook Trout and Bull Trout in the Entiat River. Bull Trout in the Entiat are migratory and have been detected in the Methow River, at Chief Joseph Dam, and in the Wenatchee River.

Most Bull Trout in the Entiat River spawn between Box Canyon and Entiat Falls. The USFWS completes redd surveys in this reach, and they also document spawning of other salmonids including Chinook Salmon and Brook Trout. All channels and connected side channels are surveyed. Teams of two individuals, with at least one Bull Trout expert, conduct the surveys. This is important because redds are

being counted for multiple species. In the past, roughly 20 Bull Trout redds were observed each year in the upper Entiat River (2004-2024). Few Chinook Salmon redds are found upstream of Box Canyon. The USFWS expects to see more Chinook Salmon spawning in this area as climate changes.

Brook Trout redds range from the size of a softball to a dinner plate. Because they conduct weekly surveys, they may be underestimating Brook Trout redds in the area. Other studies suggest that surveys every three days or every day are needed to adequately estimate Brook Trout redd abundance. From 2004 to 2021, they observed 0 – 8 Brook Trout redds per year in the area. Some redds could have been missed, because Brook Trout redds are small. In 2021, they started to see more Brook Trout redds in the reach. They observed an exponential increase in Brook Trout redds in 2023 and 2024 (370-826 Brook Trout redds in 2024). Most of these redds were observed in a side-channel created as part of a restoration project near Silver Falls. They found only one redd in a side channel that was not part of the restoration project (existing side channel) immediately upstream of the projects.

Jose shared why this observation is a concern. He said Brook Trout can outcompete juvenile Bull Trout and hybridize with spawning Bull Trout. A study showed that 2-7 Brook Trout per 100 m can displace and extirpate some Bull Trout life stages. Brook Trout competition is highest in complex, low-gradient, low-flow habitat when water temperatures are greater than 12°C. Brook Trout can also displace Cutthroat Trout and potentially juvenile *O. mykiss* and Chinook Salmon.

Jose highlighted that the Silver Falls Enhancement Project is not directly responsible for all the increase in Brook Trout. For example, over 80% of Brook Trout redds were observed in a channel that was naturally connected to the mainstem. Also, this does not indicate that all reconstructed side channels in the Mid-Columbia can or will increase Brook Trout populations. However, there are concerns with perennial side channels supporting large numbers of Brook Trout spawners and potentially creating rearing habitat for Brook Trout.

Jose addressed the question of removing Brook Trout. He said the habitat used by Brook Trout in this reach is complex and it would be difficult to remove Brook Trout with methods such as electrofishing. The use of chemicals such as rotenone is not feasible because of the presence of Bull Trout. Jose discussed the idea of Brook Trout suppression, but recolonization is likely to occur because there is a large source of Brook Trout in the area. Sustaining funding to do suppression work would be challenging. Suppression methods are limited because of the presence of Bull Trout in the area. He said prevention is critical in sensitive habitat. We need to avoid introducing or augmenting Brook Trout populations, especially in areas with Bull Trout.

Tracy Bowerman discussed Bull Trout restoration considerations and suggestions. She said the first step is to identify Brook Trout source populations. She added that because Brook Trout are managed as a game fish, WDFW can develop a Brook Trout management plan to create a pathway to remove Brook Trout from sensitive areas. She highlighted that Bull Trout favor cold-water areas (<12˚C) with groundwater inputs. This includes downwelling microhabitat (spawning gravels) within areas of upwelling (at the valley scale). Tracy B. also highlighted the importance of not creating habitat conditions that favor Brook Trout (e.g., creating shallow, slow-water habitats with pea-sized gravels). Finally, Bull Trout spawn and rear in areas often difficult to access for management purposes.

Tracy B. discussed restoration considerations including the avoidance of actions that could warm a stream by increasing its surface area or increasing its exposure to sunlight. Restoration work should avoid activities that compact gravels and cobbles because Bull Trout often conceal themselves in coarse substrate. Bull Trout also use wood, undercut banks, and vegetation for cover. These habitat conditions should not be disturbed during restoration work. She noted that unlike many salmonids, daytime

electrofishing is not an effective method for sampling Bull Trout, because they tend to conceal themselves deep in cover. This makes it difficult for electrofishing gear to "pull" Bull Trout from interstitial spaces. Other sampling methods such as snorkel herding (snerding), seining, nighttime snorkeling, and hook-and-line could be used.

Lastly, Tracy B. discussed some factors that should be considered before constructing restoration projects in areas with Bull Trout and Brook Trout. She said pre-project coordination with local biologists is important. She also noted that the prioritization tool does include Brook Trout as a limiting factor, but the layer needs to be updated, and there are no proposed actions for mitigating for this limiting factor. Tracy B. shared some additional considerations including how stream temperatures are changing, which favors non-native species. There needs to be regional management decisions and discussions about project trade-offs and opportunities for regional conservation. Tracy B. mentioned that the adaptive management project described by Nick could be a good forum in which to discuss a regional approach to this challenge.

John Arterburn, referring to work on the Grande Ronde River in Oregon, suggested that restoration work could focus on creating narrow, deep channels because they tend to be cooler than wide, shallow channels. Tracy B. responded that Brook Trout are often found in wide, shallow reaches and mentioned the need to create complex habitat that provides adequate substrate for Bull Trout. Jose added that there is not a single habitat restoration solution, because different age classes of fish use different types of habitat.

John Arterburn also mentioned the use of fish toxicants to remove Brook Trout. He specifically noted the work in Oregon. Jose said their group is coordinating with other groups and partners who have used fish toxicants. He added that the work John is referring to was conducted in Sun Creek near Crater Lake, Oregon. Sun Creek is a relatively small stream, unlike the Entiat River, and fish toxicants may not work as well in larger streams. Jose is not aware of any successful rotenone applications that have been applied at the scale of the Entiat River reach. John A. suggested reducing the sources of Brook Trout such as removal of Brook Trout from Myrtle Lake.

Carlos Polivka asked about the genetics of Bull Trout in the Entiat River. Jose said there is typically less introgression where large Bull Trout mix with smaller Brook Trout. Jose and his group are hoping to study the extent of hybridization between Bull Trout and Brook Trout.

Hans communicated that the Yakama Nation completed the Silver Falls project on the Entiat River. He stated that Brook Trout were already present before the restoration project was implemented. He asked whether there have been studies that have evaluated the types of side channels that are used by Bull Trout and Brook Trout for spawning. Tracy B. responded that the type of monitoring required to assess this is not present in other areas. Most Bull Trout redd surveys do not count Brook Trout redds. She indicated that this highlights the need for improved monitoring. She noted that this is another consideration when planning barrier removal projects. Jose shared that there are data on the habitat requirements of Brook Trout, but those studies were not conducted in the Upper Columbia. Hans recommended that the MaDMC data gaps list should include the need to survey for Brook Trout in other tributaries and identify the types of habitat that favor Brook Trout.

Tracy Hillman mentioned that a couple of studies in Idaho indicated that juvenile Chinook Salmon were able to displace Brook Trout in rearing streams. Thus, the interaction between juvenile Chinook Salmon and Brook Trout may be less of an issue than the interaction between Bull Trout and Brook Trout. He suggested that we need a better understanding of where Brook Trout occur in the Upper Columbia. He said the RTT was unaware that Brook Trout were in the Silver Falls project area. If they knew that Brook

Trout were there, they would have discussed the effects of this during their evaluation of the proposed project. The RTT has discussed the potential effects of restoration projects proposed in locations where Brook Trout are known to exist (Chiwawa River tributaries, Chumstick Creek, etc.). Because the prioritization tool currently does not address species interaction, Tracy H. recommended some actions for the RTT. He said the RTT needs a better understanding of what species will or could colonize restoration sites. This requires an understanding of the species (both native and non-native) that are in the vicinity of the proposed project. Second, the RTT needs to update the prioritization tool to include information on where non-native species exist in the Upper Columbia. This is not limited to Brook Trout but includes all exotic fish species in the Upper Columbia. Third, we need to do post-project monitoring, especially in locations where non-native species exist. And finally, as we have been discussing, we need to identify and recommend possible management actions than can be implemented to reduce the spread and colonization of non-native species. Tracy H. noted that the RTT needs to give more attention to the possible effects of restoration actions on Bull Trout. Joe Lemanski agreed and mentioned the need to consider non-native species and their interactions with native species in the Grande Ronde River basin.

Gene Shull shared that the USFS is also concerned about Brook Trout. He highlighted the need to better understand how not to enhance Brook Trout habitat. The USFS has the Aquatic Restoration BiOp, which guides restoration actions. Gene also agreed with the need to better understand Brook Trout distribution and behavior.

Mark Ingman promoted the idea of having a strategy to stabilize or improve water temperatures and specifically identify and protect cold-water patches. Thermal infrared data – including those collected in the Entiat Basin two summers ago – can aid in this effort.

The slides from this presentation can be accessed on the RTT documents page:
https://www.ucsrb.org/reports-plans/regional-technical-team-rtt/

Decisions:

- **None**

Action Items:

- **Ryan Niemeyer will share the USFWS presentation with the RTT.**
- **The RTT will work to refine the MaDMC data gaps list to include Brook Trout distribution throughout the Upper Columbia.**
- **The RTT will update the prioritization tool to include Book Trout and other non-native (exotic) fish species distributions.**

Methow Habitat Status and Trends Monitoring

Hans Berge presented on the draft Methow Habitat Status and Trends Monitoring Plan. He said that past inventories lacked long-term status and trends work, often being one-time efforts. The overall goal of the draft plan is to inform restoration actions. In developing the draft monitoring plan, they tried to address all the challenges and needs across a wide range of stakeholders. Collectively, key lessons learned from past efforts included developing protocols and selecting metrics that are specific to the goals and objectives of monitoring, testing protocols, limiting data collection to a few groups, ensuring the data are analyzed and reported annually, storing the data in a transparent and readily accessible database, and making data readily available to partners.

The approach to developing the plan proceeded through three stages: (1) compile and summarize existing and ongoing monitoring efforts, (2) identify the design and methodologies to support long-term habitat status and trends, and (3) develop the plan to address the data requirements of the regional salmon recovery partners. Hans noted that the draft plan was developed collaboratively through a series of meetings with several regional partners. He pointed out that this work was funded by CTCR.

Hans indicated that the evaluation of existing and ongoing efforts revealed three takeaways: (1) most habitat data come from one-time assessments, (2) near infrared LiDAR is anticipated to reoccur every 5 years (green LiDAR was completed in 2022 but there is no plan or funding to repeat this work), and (3) with the exception of water temperature monitoring, current monitoring is inadequate for evaluating habitat status and trends in the Methow River basin.

Hans then described the goals, objectives, and scope of the draft plan. The goal of the plan is to "monitor the status and trend of fish habitat in the Methow Subbasin such that monitoring data and subsequent data products are meaningful, useful, and timely for fisheries managers, policy makers, restoration practitioners and the public". The plan includes a 20+ year time frame.

Hans said they merged the existing three reach networks (UCSRB, EDT, and HARP reach networks) to create a single reach network for status and trends monitoring. Monitoring category attributes include instream habitat and floodplain habitat (habitat unit composition and dimensions, LWD, and substrate), water quality (temperature and alkalinity), hydrology (stream flows), riparian condition (riparian area and structure), and biota (benthic macroinvertebrates). Hans noted that the study design includes two alternatives. The first assumes green LiDAR will not be funded and the second assumes green LiDAR will be funded every 7 years. Under alternative 1, all mainstem (non-wadable) reaches will be sampled in single-year float surveys and repeated every 7 years. For wadable streams, samples are based on a rotating panel design and sampled on a 7-year cycle. The OBMEP rapid habitat assessment protocol will be used to sample wadable streams. Under alternative 2, non-wadable streams (>12m BFW) will be surveyed with green LiDAR every 7 years. Streams <12m BFW will be surveyed using the OBMEP rapid assessment protocol (similar to alternative 1).

Hans identified the protocols to be used to measure each of the monitoring category attributes. Both alternatives would use the same water quality data including temperature and alkalinity. They propose setting up three new USGS gauges for additional monitoring. For riparian condition, both alternatives would use the OBMEP protocol, which includes the NDVI and a measurement of human disturbance/development in the 10-year floodplain. Biota would be used as an indicator of water quality.

Hans identified the proposed monitoring schedule for both alternatives. The monitoring schedule includes a 7-year monitoring cycle, and they are planning at least three cycles (21 years). Hans also identified and described the selection of metrics, which were selected to align with past and ongoing monitoring plans and programs. He said they plan to use a tablet-based data collection application, which has built-in QA/QC. Data would be uploaded to a cloud-based database for partners to be able to access. OBMEP already has a database developed and this database would be used to process and house the status and trends data.

Analyses and reporting would include calculating key metrics for attributes using an automated data analysis application (such as R Shiny App). Remote sensing metrics would be processed by GIS analysis. At the end of a 7-year cycle, groups could assess metrics at different spatial and temporal scales. The EDT model would be used to evaluate progress toward recovery of habitat for listed stocks and other focal species. OBMEP will cover the cost of this analysis.

Hans estimated the cost of monitoring at $1.2 million and $1.9 million for alternatives 1 and 2, respectively, for a 7-year monitoring cycle. He identified several potential funding options, including NOAA grants, RCO funding, EPA, DNR, and many others. Next steps include refining wadable reaches, refining HUC12 and reach prioritization, finalizing sample fraction, and completing the draft plan. Additional steps include seeking feedback from regional partners, holding a final workshop, incorporating feedback from partners, pursuing implementation funding, developing a field manual, and testing protocols. Hans said the goal is to begin monitoring in 2027.

Tom Kahler asked about the need for additional streamflow data. Hans noted that flow data are used extensively in EDT model, so those data are important to collect.

Decisions:

- **None**

Action Items:

- **None**

Upper Wenatchee River Mile 36-38

Scott Bailey presented on the Upper Wenatchee River CCNRD project. This project site is located upstream of Tumwater Canyon. The project included adding wood and large boulders to the channel and constructing a side-channel. The project occurred on state-owned aquatic lands. Permitting included NEPA through the Upper Wenatchee Pilot Project. The project required an in-water work window extension, which allowed them to work through 15 September. The project included a recreational safety program that included signage and individuals at put-in and take-out points for people floating the river. Scott showed photos and videos of all the restoration elements constructed in the project area. Logjams included typical ELJs and ballasted logjams where fill, rock, and boulders ballasted logjams.

John Arterburn asked whether there is any concern about increases in water temperatures due to the warming of rocks extending above the water surface. Scott said he believes they will not have a significant effect on stream temperatures.

Scott Baily mentioned this section of the river is not used by tubers or by professional rafting communities. They did not hear anything from these communities before or after completing the project. Scott mentioned that most of these structures are located on river right and are easily visible.

The presentation with videos can be downloaded here: https://docs.google.com/presentation/d/1i3XRRnAg8Jeu2M01VpmI8KOfxMWnekRx/edit?usp=sharing&ouid=105633428880952916919&rtpof=true&sd=true

The slides (without the videos) are located on the RTT documents page: https://www.ucsrb.org/reports-plans/regional-technical-team-rtt/

Decisions:

- **None**

Action Items:

- **Ryan Niemeyer will share the CCNRD PowerPoint presentation with the RTT.**

Meeting adjourned at 12:30 pm