Wells, Rocky Reach, and Rock Island HCP Tributary Committees Notes 10 August 2023

Members Present: Amanda Barg (WDFW), Chris Fisher (CTCR), Shelby Fowler (USFWS), Tom Kahler (Douglas PUD), Hans Smith (Yakama Nation), Justin Yeager (NOAA Fisheries), and Tracy Hillman (Committees' Chair).

Members Absent: Catherine Willard (Chelan PUD)[1].

Others Present: Becky Sadler (Tributary Project Coordinator) and Dave Duvall (Grant PUD). Camden Shaw (Methow Salmon Recovery Foundation), Chris Johnson (Methow Salmon Recovery Foundation), Nick Legg (Wolf Water Resources) and Alex Morton (Wolf Water Resources) joined the discussion on the Methow 3R Project.

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plans Tributary Committees held a conference call on Thursday, 10 August 2023 from 10:30 am to 12:30 pm.

I. Welcome and Introductions

Tracy Hillman welcomed everyone to the HCP Tributary Committees (Committees) meeting and participants introduced themselves.

II. Review and Adopt August Agenda

Members of the Committees reviewed and adopted the proposed agenda with the following changes: The Bockoven Acquisition was removed from the agenda because Chelan Douglas Land Trust did not submit the Application.

III. Review and Approval of the July Meeting Minutes

The draft 13 July 2023 meeting notes were reviewed and approved by the Tributary Committees.

IV. Monthly Update on Ongoing Projects

Becky Sadler gave an update on funded projects. Most are progressing well or had no salient activity in the past month.

- Johnson Creek Habitat Restoration Project – The sponsor (Trout Unlimited; TU) reported that there was no new activity on this project. Construction is scheduled to begin in mid-September and should be completed by late October.
- Lower Wenatchee Instream Flow Enhancement Project – The sponsor (TU) reported that they held a kick-off meeting with their design consultant to discuss next steps. In addition to working

[1] Catherine Willard provided her votes on decision items before the meeting.

on the Irrigation Efficiency Grant Program application, they are working on grant applications with Ecology and the USFWS.

- Nason Kahler Instream Complexity Project – The sponsor (Chelan County Natural Resources Department; CCNRD) reported that construction is underway.
- Big Meadow Creek Fish Passage Project – The sponsor (Cascade Fisheries; CF) reported that construction is complete. They placed about 40 trees in the stream to improve habitat complexity.
- Wenatchee Entiat Beaver-Powered Restoration Project – The sponsor (TU) reported that there was no new activity on this project.
- Mission Wood Amendment Project – The sponsor (CF) reported that felling was completed in the Little Bridge Creek reach in July. They continue working in Poorman Creek. So far, they fell 16 trees in Poorman Creek.
- Thirteen Fish Passage Designs Project – The sponsor (CF) reported that they are preparing to conduct a geotechnical investigation in Pole Creek in October.
- Nason RM 12 Floodplain Reconnection Project – This project is complete. The final report has been uploaded to the Extranet site.
- Salmon Creek Channel Realignment Project – The sponsor (City of Okanogan and Methow Salmon Recovery Foundation; MSRF) did not provide an update on this project.
- Peshastin Creek RM 2.5 Project – The sponsor (CF) reported that there was no new activity on this project.
- Level II Surveys in Priority Reaches Project – The sponsor (CF) reported that there was no new activity on this project. Surveys will continue through September.
- Goodwin Side Channel Design Project – The sponsor (CF) reported that they will complete conceptual designs by late summer.
- Goose Creek Watershed Restoration Project – The sponsor (CF) reported that construction will begin on 7 August.
- M2@3R Project to Advance Preferred Concepts – The sponsor (MSRF) will present the 30% designs to the Committees during this meeting (see Methow M2@3R discussion below). The sponsor is seeking approval to move forward with the 60% designs.
- Entiat Tributary Baseflow Project – The sponsor (Cascadia Conservation District; CCD) reported that they are working on designs, landowner agreements, permitting, and material acquisition.
- Twisp to Carlton Reach Side Channel Project – The sponsor (CF) reported that their contractor (RIO ASE) is developing the hydraulic model (funded by BOR). They anticipate presenting conceptual designs to the Committees later this fall.
- COIC Flow Restoration Project – The contract for this project is on hold pending the Committee's review of Ecology's responses to comments on the updated draft Report of Examination.
- East Fork Mission Creek Stream Restoration Project – The sponsor (CCNRD) reported that they submitted the Hydraulic Project Approval application to WDFW and continue to work on wood sourcing for the downstream structures.
- Wilson Side Channel Adaptive Management Project – The sponsor (CCNRD) reported that there was no new activity on this project. Their contract with Natural Systems Design is waiting to be approved by the Board of Commissioners.

- Floodplain Restoration Monitoring Project – The sponsor (Hinchinbrook, Inc.) reported that they continued sampling in Nason Creek, the Entiat River, and the Twisp River in July. They identified 15 random replicate sites for repeat mark-recapture sampling in each of the three streams.
- Chewuch Acquisition RM 2.8-3.1 Project – The sponsor (MSRF) and the Wells Tributary Committee recently executed the Tributary Committee/Sponsor Agreement.

V. Budget Amendment

Salmon Creek Channel Realignment Project

Following the July meeting, the Wells Tributary Committee received a budget amendment request from the City of Okanogan on the Salmon Creek Channel Realignment Project. The sponsor indicated that the bid price for constructing the project ($114,747) was well above the engineer's estimate ($89,529). Thus, with the Wells Tributary Committee contribution of $58,579 and the cost share of $30,950 (of which $22,700 was available for construction) from the City of Okanogan, there was a funding gap of $33,468. Because this project is scheduled to be implemented this year, the sponsor asked the Wells Tributary Committee for an additional $33,468 to complete the project. Because this was a time-sensitive request, the Wells Tributary Committee approved the budget amendment on 19 July. The total contribution from the Wells Plan Species Account is $92,047.

VI. Methow River M2@3R 30% Design Presentation

Camden Shaw (Methow Salmon Recovery Foundation), Chris Johnson (Methow Salmon Recovery Foundation), Nick Legg (Wolf Water Resources) and Alex Morton (Wolf Water Resources) joined the meeting to discuss the Methow River M2@3R Design Project. The purpose of the presentation is to inform the Committees on the 30% designs for the project and seek feedback from the Committees.

Camden kicked off the discussion by briefly describing the purpose of the project, which is to develop 30% and 60% designs that will improve the complexity, quantity, and access to cold-water refuge between RM 46.25 and 47.25 on the Methow River. The project will build upon previously completed restoration actions within the reach by implementing actions that will reengage 20 acres of floodplain habitat, increase instream structure, connect 0.4 miles of side channels, and increase critical thermal refuge opportunities. Camden reminded the Committees that they previously reviewed and approved the restoration feasibility assessment and conceptual designs and directed MSRF to proceed with 30% designs. On 4 August, Camden provided the Committees with the 30% design report and supporting appendices.

Nick Legg and Alex Morton then gave a presentation titled, "Methow 3R Project 30% Design Summary" (see Attachment 1). Nick began by describing the project site and identifying the locations of the three thermal refuges. He noted that these thermal refuges lack complexity and access. He showed temperature profiles of the thermal refuges and compared them to temperature profiles for the mainstem Methow River. He also noted that they have landowner support along one-mile of the river. This is huge because it allows them to enhance all three thermal refuges. Nick then introduced the 30% designs, which were built from the feasibility study and 10% conceptual designs and informed by field reconnaissance, landowner engagement, engineering plans, hydraulic modeling, and habitat suitability analysis. He briefly described the habitat conditions and limiting factors and life stages within the project area. He then handed the presentation to Alex.

Alex identified side channel opportunities within the project site. He indicated that they are looking at enhancing/developing 1,700 feet of ephemeral channels and 1,800 feet of seasonal channels. They are also looking at 13 acres of riparian restoration work and large wood accumulations that will be placed to support side channel designs. Alex then honed in on enhancement of thermal refugia sites. The Pigott

Side Channel is currently designed to be a 1,100-foot-long seasonal channel that would be activated at 2,500 cfs. The channel is currently activated at 5,000 cfs. They are planning to add wood jams to support the upstream and downstream ends of the channel and place wood throughout the channel to improve complexity and cover for fish. The Beach Alcove Thermal Refugia site will be a 420-foot-long perennial side channel. As with the Pigott Side Channel, large wood structures will be placed at the upstream and downstream ends of the side channel and wood will be scattered throughout the channel to improve structure and cover for fish. The Boesel Side Channel is designed to be a 950-foot-long perennial channel with a single large wood jam at the upstream end of the channel. Wood will be placed throughout the channel. The Cottonwood Side Channel is designed to be a 600-foot-long seasonal channel and will be activated at 2,500 cfs. A single large wood jam will be placed at the upstream end of the channel and wood will be scattered throughout the channel to increase habitat complexity. Finally, the conceptual design for the Gilbertsen Bedrock Springs site is to partially regrade the gravel bar to promote upstream connectivity, add wood to increase habitat complexity within the channel, construct a couple low-profile log jams to enhance localized deposition, and plant riparian vegetation on the island.

Nick described the rearing habitat limitations within the river and showed how the Weighted Useable Area (WUA) for Chinook Salmon and steelhead changes under different modeled flows. He then showed how WUA changes with the proposed restoration work. In general, at the annual flood flow (5,600 cfs), WUA should increase 25% with restoration. WUA appears to decrease at low flows (350 cfs), which is probably an artifact of the loss of habitat within the mainstem. Nick also talked about the FEMA no rise regulations and indicated that the proposed action should not be a concern. Nick showed the cost to implement the 30% design: $1,953,625. This is the estimated construction cost.

Nick stated that the 30% designs address the concerns raised by the Committees during their review of the conceptual designs. That is, the sponsor needs to make sure (1) the thermal refuges are not diluted during summer low flow and winter, (2) the LWD structures look appropriate but do not create recreational concerns, and (3) the side channels intercept ground water or remain perennial (need to avoid dewatering and fish stranding). Nick stated that the 30% designs address all three thermal refuges and address five off-channel areas. In addition, modeling shows habitat uplift during the snowmelt period and minor flood rise. He ended by stating they would like to complete the 60% designs by the end of the year provided the Committees given them the green light.

Hans Smith asked why there is a decrease in WUA at low flow? Nick said this is likely related to the decrease in habitat within the main channel at low flows. The current model does not include water temperature in the calculation of WUA. Adding temperature to the model would likely show an increase in WUA at lower flows. Hans cautioned the sponsor to not oversell the WUA results. Hans then asked about the duration of connectivity within the seasonal channels. Nick and Alex said they will have to look into that. They noted that seasonal channels will have downstream or upstream access as flows decrease in the channels. This will provide fish an opportunity to leave seasonal channels before dewatering. Justin Yeager commented that he appreciates the diversity in side-channel types. He added that not all side channels need to be perennial. Justin asked how easy it will be to maintain wood structures over time. Nick replied that it should be relatively easy given the locations of the structures and the channel morphology. Shelby Fowler commented that he would like to see more details on hydraulics and sensitivity analysis. He asked how much the Beach Alcove site has changed over time. He is concerned the alcove may fill with sediment over time. Nick responded that the site has been static over time; however, there is always a concern that alcoves will fill with sediment. Given the bedrock control and placement of wood, Nick believes the site will remain static for many years. Amanda Barg asked whether they have considered the possibility that beavers will colonize the side channels. Nick and Alex indicated that beavers are welcome to colonize the site and may actually improve habitat conditions within the side channels. Chris Fisher noted that enhancing cold-water sites is a huge plus. He asked whether the orientation of the wood structures will reduce the benefits of the cold water through sediment deposition. Nick said the wood structures were designed so they would not cause burial or dilution of the cold-water

sites. They are designed to maintain the sites and not dilute the cold-water benefits. Hans stated that it is important to ensure as much connectivity with groundwater as possible during low flows. He asked whether some of the side channels will not be connected with groundwater. Nick said there is a balance between engaging as much groundwater as possible, providing a diversity of flow benefits, and not diluting the effects of the cold water. He added they will look into more engagement with groundwater in the side channels. Hans asked about the purpose of excavation work at the upstream end of the Pigott Side Channel. Nick said excavation work is needed to activate the side channel at lower flows and to improve side channel connectivity. Hans asked how they intend to anchor large wood at the downstream end of the channel. Nick responded that there is bedrock at the downstream end of the channel and therefore they may have to bury the wood in the bank. They do not want to bore into the bedrock.

With no further questions, the Tributary Committees thanked MSRF and their consultants for the presentation and discussion.

Following the presentation, the Wells Tributary Committee agreed the project should advance to the 60% design stage. They also agreed that the 60% design report can be submitted to the Committees in January 2024. Tracy will compile comments and share them with the Wells Tributary Committee. Following review and approval of the comments by the Committee, Tracy will share them with MSRF.

VII. Information Updates

The following information updates were provided during the meeting.

1. Approved Payment Requests received in July and August 2023:

   Rock Island Plan Species Account:

   - $288.75 to Clifton Larson Allen for Rock Island financial administration in July 2023.
   - $16,436.98 to Cascade Fisheries for work on the Level II Surveys in Priority Reaches Project.
   - $1,778.77 to Cascade Fisheries for work on the Big Meadow Creek Fish Passage Project.
   - $17,774.82 to Cascade Conservation District for work on the Entiat Tributary Baseflow Project.
   - $12,362.77 to Trout Unlimited for work on the Lower Wenatchee Instream Flow Enhancement Project.
   - $2,074.47 to the Chelan County Treasurer for work on the Nason RM 12 Floodplain Reconnection Project. This was the final invoice on this project.

   Rocky Reach Plan Species Account:

   - $288.75 to Clifton Larson Allen for Rocky Reach financial administration in July 2023.
   - $28,037.87 to the Chelan County Treasurer for work on the Nason Kahler Instream Complexity Project.
   - $71,816.07 to Hinchinbrook, Inc. for work on the Floodplain Restoration Monitoring Project.

   Wells Plan Species Account:

- $27,590.14 to the Methow Salmon Recovery Foundation for work on the M2@3R Design Project.
- $1,584.17 to Cascade Fisheries for work on the Mission Wood Amendment Project.
- $8,036.74 to Cascade Fisheries for work on the Twisp to Carlton Reach Side Channel Project.

2. Tracy Hillman reported that he received an inquiry from Tracy Bowerman, USFWS, regarding the PRCC HabSC's interest in possibly funding temperature monitoring within the Wenatchee River basin. In an email to Tracy Hillman, Tracy Bowerman indicated that she has been formulating a plan with Aimee Fullerton (NOAA) and Shannon Cleason (USFS) to take over a temperature monitoring network they developed in the Wenatchee River basin. They have 5 years of temperature data from a much denser network of thermistors than what NorWeST used. Aimee has developed the foundations of a Spatial Stream Network model, which allows continuous spatial and temporal temperature predictions throughout the Wenatchee Basin, and at a higher resolution than what is available through NorWeST. NOAA does not have funding to continue this work, but because the real value in the data is the long-term nature of it, Tracy Bowerman has been trying to figure out a way to continue the data collection. These data will provide valuable information on climate refugia – which tributaries are the coldest and which are warming at the slowest rates. This information will help the region prioritize projects in the long-term. Tracy Bowerman has been coordinating with Matt Holland (CCNRD), who will collect the field data (annual deployment and collection). Tracy Bowerman will run the model and provide regional updates every 2-3 years. She believes the project will be inexpensive. Funding would cover Matt's time, the cost to replace thermistors, and possibly her time.

   Members were generally lukewarm to the idea. Hans Smith indicated that the information would be useful in prioritizing restoration actions in the Wenatchee River basin. Amanda Barg noted that WDFW used to collect continuous temperature data within several major tributaries, but she believes that work ended during COVID-19. Some members did not see a real need for the information. They noted that existing temperature information may be sufficient to inform restoration actions. In addition, there were questions regarding the level of existing monitoring, how existing monitoring would be incorporated into the analyses, and how much the work would cost annually. Some members suggested that Tracy Bowerman seek funding from the Salmon Recovery Funding Board. That said, members indicated that they would review a specification sheet from Tracy Bowerman.

3. Tracy Hillman reported that on 9 August the NOAA Science Center held a workshop on the Habitat Assessment and Restoration Planning (HARP) model they are developing for a large portion of the Columbia River Basin. The model will be used to evaluate tributary habitat restoration scenarios. Because the Science Center will develop the Columbia Basin model starting in the Upper Columbia, they wanted to coordinate with Upper Columbia folks who may have information that will support the model.

   The Science Center gave a presentation on the life cycle model and described the mechanics of the model. Like the Ecosystem Diagnosis and Treatment (EDT) model, HARP estimates a historical condition and a current condition. The gap between historical and current conditions reflects habitat potential (i.e., potential to improve habitat conditions through restoration work). During the presentation, they identified the drivers (potential restoration actions and external drivers) and how they help describe habitat conditions (both quantity and quality of habitat). These data then feed into the life cycle model, which evaluates pre-spawn productivity, spawning capacity, egg-to-fry productivity, rearing capacity, and rearing productivity. The model then generates life cycle model outputs (salmonid abundance and productivity). Tracy summarized the model workflow, which uses spatial data inputs, habitat data layers, and restoration scenarios to

generate life cycle outputs. Tracy also identified some of the data layers needed to populate the model.

Tracy said a large portion of the workshop was used to address questions and identify possible data layers that can be used to populate the model. Because Chris Fisher was unable to attend, he sent Tracy a couple questions to ask the Science Center. The first was: have the investigators attempted to "ground truth" model outputs to determine the accuracy of the model? The Science Center responded that they have evaluated model outputs for current conditions (not future conditions based on restoration work). The model results are within 10% of current estimates of abundance and productivity. The second question was: which factors have the most influence on the model outputs? That is, which factors should we be measuring to gain the most accurate outputs? The Science Center responded that they conduct sensitivity analyses with each model run and the factors most sensitive tend to vary depending on species, location, and restoration actions. In general, the most important information needed for the model at this time are life-stage specific survival rates. Sediment data are also important.

Tracy said that as the Science Center continues to develop the model for the Upper Columbia, they will schedule meetings with specific groups (e.g., Tributary Committees, Hatchery Committees, Implementers, etc.). They expect to have the model completed by the end of 2024.

4. Tracy Hillman reported that Bill Jaeger and Mark Scheuerell recently published a paper titled: "Return(s) on investment: Restoration spending in the Columbia River Basin and increased abundance of salmon and steelhead." The paper was published in PLoS ONE. Here is a link to the paper: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0289246

   Tracy said the researchers concluded that there was no empirical evidence of an increase in natural-origin Chinook Salmon, Coho Salmon, Sockeye Salmon, or steelhead abundance associated with $9 billion spent by federal and state agencies on restoration work in the Columbia River basin. Tracy added that the researchers measured fish abundance at Bonneville Dam. Unlike most monitoring efforts that measure project- or reach-scale effects, and sometimes watershed-scale effects, this work attempted to evaluate restoration effects on returning adults. Tracy recommended that members read the paper and be prepared to respond to questions they may receive from outside groups or from folks within their respective agencies.

VIII. Next Steps

The next meeting of the Tributary Committees will be on 14 September 2023.

Meeting notes submitted by Tracy Hillman (tracy.hillman@bioanalysts.net).