

**Chehalis Basin Lead Entity
Habitat Work Group Meeting**

Monday, February 4, 2019

10:30 am – 1:30 pm

Chehalis Tribe Community Center Gathering Room
Oakville, Washington

In attendance:

Amy Spoon, WDFW
Ann Weckback, Lewis County
Anthony Waldrop, Grays Harbor CD
Bob Amrine, Lewis CD
Cade Roler, WDFW
Carol Henry, WDFW
Chris Dwight, WDFW
Colleen Suter, Chehalis Tribe
Emily Alcott, Inter-Fluve
Greg Green, Ducks Unlimited
Hope Rieden, Chehalis Tribe
Jason Gillie, Chehalis Tribe DNR
Jennifer Riedmayer, WA Ecology
Jeanne Kinney, Thurston Co. Public Works

Joe Parzych, Inter-Fluve
Jonathan Bradshaw, HWG Note-taker
Kelly Verd, Lewis Conservation District
Kirsten Harma, Lead Entity Coordinator
Lonnie Crumley, Chehalis Basin Fisheries Taskforce
Mara Zimmerman, Coast Salmon Partnership
Maisie Richards, Inter-Fluve
Mike Scharpf, WDFW
Miranda Plumb, USFWS
Rich Osborne, Coast Salmon Part./ONRC
Steve Johnson, Thurston Co. Public Works
Shawn Ultican, WA Ecology
Thom Woodruff, Capitol Land Trust
Trevin Taylor, Thurston Co. Public Works

Meeting Summary

1. Welcome and Introductions

Everyone provided self introductions. It is worth noting that the meeting commenced an hour behind original schedule due to inclement weather.

2. Organizational Business

1. Review minutes from January 7, 2019

Thom Woodruff motioned to approve the minutes, Jason Gillie seconded. Minutes were passed without comment.

2. 2019 HWG Elections

In the absence of a quorum, elections were not held. It was suggested that they be held next meeting, and that the importance of having a quorum in attendance next month be emphasized.

3. Understanding the Chehalis Basin Lead Entity Strategy – Presentations

Kirsten provided an overview of the need for a review of the content of the Chehalis Basin Restoration and Preservation Strategy Plan for WRIAs 22 & 23. The lead entity wrote the plan in 2004, and it was last updated in 2011 with a general update. These presentations over the next few months will be an effort to review and understand the plan as it stands so that it may be updated for relevance going forward. Given that the intention is that all groups look to this document to prioritize work being done and that HWG reviewers compare projects against this strategy, it's important that its content be updated, relevant and top of mind. So first, we aim to understand

what we have.

1. The Lead Entity's Seven Priority Goals (Bob Amrine)

Bob presented on the priority goals, which are as follows:

1. *Attain a healthy and diverse population of wild salmonids.*

The strategy emphasizes that there is a lot to be learned about what limiting factors affect healthy wild salmon populations. There are a lot of data gaps to be filled yet, which remains a high strategy priority. This will hopefully be addressed in part by the development of the ASRP.

2. *Restore, enhance and protect the Gray's Harbor Estuary.*

The estuary management plan provides guidance, but Bob isn't close to this work: he suggested further input from a local group. (E.g. GHCD, GH Lead Entity). He is familiar with relevant work being done by the Wild Fish Conservancy.

3. *Restore and preserve properly functioning riparian areas.*

LCD's Voluntary Stewardship Program is kicking off; CREP (Conservation Reserve Enhancement Program) and Early Action Reach work are both doing work toward this goal. A holistic approach is important, but a challenge. Getting involvement by landowners up and down the watershed for riparian planting is difficult.

4. *Restore habitat access.*

This has been worked on since 2000. Culvert work has been steady. Lewis County has few private culverts left to address. There are some county, state and railroad culverts remaining. Cade Roler and Chris Dwight at WDFW have been working to prioritize what is left to get them done so we may move on.

5. *Restore properly functioning hydrology.*

LCD has been working on irrigation management as well as small and large scale retention.

6. *Restore floodplain and stream channel function*

The Strategy emphasizes the importance of large woody debris projects. The Early Action Reach work involves such LWD work: proposing to put 500 pieces in the SF of the Chehalis, and 400 in the Newaukum.

7. *Prioritize habitat projects and activities within sub-basins that provide the highest benefit to priority stocks.*

It's Bob's opinion that Spring Chinook will likely rank as a high priority with the close of the current legislative session due to the interests of the ORCA taskforce. He noted that the Early Action Reach of the Newaukum provides some solid habitat for Spring Chinook.

Input from members include:

Cade Roler appreciated that Bob's overview included any relevant work being done as well as where the Strategy is working well and where it could be improved. He suggested that future presentations consider a similar approach. Kirsten asked for thoughts on how this section of the strategy is lacking or could be improved. Rich Osborne suggested it would be helpful to include measurable benchmarks for each of these 7 goals.

2. Salmon Species Profiles (Mara Zimmerman)

First, she noted that the Strategy mentions six species of salmonids. She further noted that for Chinook, the Strategy divides out Spring, Fall and Summer runs, though her knowledge is that the population of Summer run salmon are small. For steelhead as well, it mentions both Summer (of which there are no known spawning populations in the Chehalis) and Winter runs. Bull trout, which

are also mentioned in the Strategy, do not exist in spawning populations in the Chehalis. Feeding migrations have been observed, however.

Mara presented a chart of population size of different salmonids in the Basin. Coho are the most numerous fish, followed by Chum, Fall Chinook, Winter Steelhead, and finally, Spring Chinook, which are the least prevalent.

Mara then profiled each of the salmonids listed in the strategy. Some notable highlights include:
-Coho spawning occurs Oct-Feb, and spawning mostly occurs early in that window. Later spawning does occur, however, and takes place in the lower watershed. Coho are particularly widely distributed throughout the basin. They'll use anything they can access, effectively all sub-basins of the Chehalis. It is newly known that Coho rear in upper portions of sub-basins.

-Chinook still require much study to understand their diversity re: timing of entry and dividing Spring, Summer, Fall populations. There is little evidence that Spring Chinook stay for an entire year, which the Strategy assumes. We have quite a bit more information on Chinook to contribute to the Strategy compared with what we had in 2011. Spring and Fall Chinook overlap in space and time: there is work being done by the WDFW with UC Davis to understand how much cross-spawning happens here. Fall Chinook spawn in any of the Basin's large rivers: they are not limited to upper watershed. For all Chinook, estuary growth is an important factor.

-Chum: Good survival at gravel stage is very important, as well as healthy estuaries. Chum spawn in mainstem rivers, from the Black River downstream.

-Steelhead: The anadromous fish is referred to as steelhead; the resident fish as rainbow trout. Steelhead does repeat spawn, at rates of about 5-10%, depending on year. They want fast, turbulent flow. The upper basin Chehalis above Pe Ell is excellent steelhead habitat.

-Cutthroat: We have both anadromous (Coastal) cutthroat as well as resident cutthroat. Cutthroat repeat spawn as well. There is a lot to understand yet about their spawning timing. They are found in all subbasins, and they spawn very high in the watershed.

-Bulltrout in our watershed are believed to be coming from without our system, and no spawning populations are known. Feeding migrations occur in the Humptulips, the Satsop, and the Wynoochee.

Discussion: It was commented that there is a large variety of time listed for outmigration, particularly for the Chinook. Mara explained that within one generation, some fry head straight for the estuary, while a portion rear in freshwater all the way down the river. Juvenile from the upper portions of the river will take their time in moving downriver, using the mainstem habitat a lot. This is the case for both Spring and Fall Chinook.

3. SaSI (Rich Osborne)

Rich Osborne presented on the role of SaSI in the Strategy.

To begin with, he pointed out that the SaSI is used in the strategy in two places, serving the same purpose: to determine what stocks are priority, and what state those stocks are in. SaSI began in '92 as the Salmon and Steelhead Stock Inventory (SASSI). In '97, Bull Trout were added to the tool, and it became the Salmonid Stock Inventory (SaSI). In '95, WSRI developed the Salmon and Steelhead Habitat Inventory Assessment Program (SSHIAP) to complement this work, and at this point, they are essentially inseparable. The goal of SSHIAP is to provide watershed and stock-level habitat information to assist in prioritizing habitat restoration. SSHIAP is being run by the Indian

Fish Commission and WDFW and is what today houses much of this relevant information. The Statewide Integrated Fish Distribution (SWIFD) tool is the interface that provides access to the information compiled into SaSI and SSHIAP. It is also the tool for parties to input newly developed information.

Kirsten asked for clarification on what level of fish data detail is available on SWIFD. She understands it to provide species presence in rivers, and not stock data. Mara clarified that SWIFD has distribution info as well as status information. These statuses were assigned by the State, which were followed by federal assignments. These assignments haven't been updated since 2002. For stock info and spawning escapement numbers, there is a new tool: the Salmon Conservation and Recovery Engine (SCoRE). It is housed at WDFW.

Next month, further presentations will be made on the Strategy on a sub-basin level.

4. Salmon Recovery Funding Board (SRFB)

Launch of 2019 Grant Round: Kirsten announced that the SRFB Grant cycle has begun and it is time to start doing outreach. The announcement for the grant round has been sent, and a press release for the community at large is coming out soon. Any suggestions for effective distribution of this call are welcomed. Rich commented that projects need to make certain to get a PRISM number assigned, which they accomplish by submitting a conceptual application to Kirsten.

5. Project Presentations

Thurston County Fish Passage Barrier Enhancement Program (FPEP) (Trevin Taylor, Steve Johnson, Jeannie Kinney)

In 2016, FPEP was given 4 million dollars by Thurston County to remove as many barriers as possible. The County Commissioners wanted to be able to respond to the Bolt Decision, and so they provided the funds, but with a 18-month deadline to get projects on the ground. The first step of the process was to identify fish passage barrier culverts exist. FPEP developed a priority ranking method with which they found 3,000 culverts. They found 300 that were salmon bearing, 175 that were barriers, and 150 that were worth correcting. From this list, they established 5 high-priority projects. The team stressed that these were not transportation projects: the scoring system rigorously prioritized fish passage. In developing this prioritization and moving forward, FPEP met and worked with many groups, including the Chehalis Tribe, the Squaxin Tribe, WDFW, USDFW, ACE. The team emphasized that there was a significant education process with the commissioners. This wouldn't be a quick or cheap checking-off of culverts: it is an extensive, expensive process. The team was able to communicate that the ultimate goal, habitat gain, was the focus.

For their most recent cycle, FPEP took on 5 projects:

- A culvert on 26th ave, east of Sleater-Kinney: An 18" culvert was replaced with an 11' arch. This was the only road they were able to completely close for construction. This made for a cheaper, quicker project.
- Waddell Creek Rd. at Pants Creek: A 36" culvert: very perched, high velocity. This was replaced with a 16' boxed aluminum culvert.

- Troy Dr. at O'Connor creek: A pair of twin perched 48" culverts were replaced with a 55' bridge proposed. Coho, steelhead and cutthroat were observed here.
- Flumerfelt Rd. at O'Connor creek: Three 36" culverts were replaced with a prefab bridge. Mudminnow were present at this crossing.
- Hunter Point Road: This one appeared to be a challenge to get funded, permitted, built within 2 year period. But in talking with Squaxin Tribe, it was found to be their highest priority. The stream had been blocked by the installation of a railroad grade 100 years prior, and two different year-classes of fish were found to be occupying the creek below the barrier, and above the barrier is some quality riparian wetland.

In Summary, FPEP's project development strategy is as follows: Inventory Culverts; Identify; Categorize; Prioritize (this is an ever-developing process: they invite input); Recommend and Repeat. They hope for another \$4 million for the 2019 biennium from the County. They are aiming for 5, maybe 6 projects in the coming biennium. They will be requesting additional funding to stretch out what they do receive from the County. The team wants to do expensive culvert projects, but optically, it is not viable to get only 1 culvert solved per 2 year cycle. With outside funding, there is more flexibility to do so.

Feedback:

Rich Osborne requested that FPEP input their projects into the Habitat Work Schedule. The team was happy to provide their contact information to coordinate that work.

Kirsten commented on the effectiveness of the visuals: photo and video. She also pointed out that making clear why and how projects are prioritized will help greatly with project being ranked well. Mara asked for more clarification on the prioritization of barriers. Steve clarified that when the top 20 or so were established, the top 8 were field-truthed. FPEP hired consultants, and they established 5 criteria for categorization: anadromous fish access, potential habitat gain, barrier status, culvert condition and maintenance history.

The Thurston County team then outlined a future request for funding: Barrier at Jones Road. Total channel gain of around 5 miles. Swampy, wetland habitat upstream, an estimated 250 acres of wetlands with rearing connections. Project will likely be a prefab bridge. They have already hired a consultant to understand size of bridge needed. They are considering submitting a request to purchase the bridge alone, so that they can, down the line, bid this project with a supplied bridge. They expect the bridge to cost between \$60-100K, and are looking to request a grant for ~\$85K. Construction cost is going to be high, likely around half a million: this high cost is part of the rationale behind doing this piece-meal grant request, starting with purchasing the prefabricated bridge.

Ann Weckback asked if they would submit as a construction project or a design project. The team responded that it depends on timing of the grant. The team should have their alternative processes laid out in April, when they can follow up. The team was asked if they have a post-project fish monitoring program. They said they're not doing anything as rigorous as spawning counts, but for the next 5 years, they will be regularly checking in with their sites. They do hope to get to the point of fish-count-type monitoring eventually, as their commissioners appreciate having that level of information.

6. Aquatic Species Restoration Plan (ASRP)

1. ASRP Implementation Update (Kirsten)

Kirsten gave an update on her work with Emilie to seek input from many different parties in establishing a strategy for implementing the ASRP. They're hoping to develop something clear that can be presented to the Chehalis Basin Board and executed by starting in the next biennium. The emphasis is to get to implementation rather than remaining in planning stages. Kirsten re-emphasized her call for input from parties who would like to contribute to this process.

2. Reach-Scale River Restoration Projects update (Kirsten)

The presentation by Inter-Fluve will serve as an update on the Reach-Scale projects.

3. Science Review Team Update (Hope & Colleen)

Hope outlined that the SRT meetings have been on 3 major topics: monitoring and adaptive management, EDT updates, and future land-use build-outs. Regarding monitoring and adaptive management: The monitoring subcommittee is working with the team to understand the scope and scale the SRT will be working with. They are also working to understand what data gaps need most to be addressed. Regarding EDT updates: They're looking at preliminary results, which look optimistic. There is also work to include off-channel habitats in the EDT: EDT isn't using floodplain currently, just the main channel. Regarding future land-use build-outs: Emilie and Chrissy Bailey are examining the potential for buildout and subsequent impact on aquatic ecosystems, in East Fork Satsop and the Grand Mound areas. Last summer, these were both locations of interest with SRT field trips. Colleen added that the modelers are looking at adding updated temperature data from John Winkowski and Mara to EDT.

Bob Amrine asked for clarification with what's going on with the NOAA Life Cycle model. Hope explained that they're getting a subcommittee together to look at the preliminary results of the model to do build outs. Emilie is trying to get members of the review team to present an overview of the model to the Steering Committee.

4. Presentation: Newaukum and Stillman Creek Reach-Scale design concepts (Emily Alcott, Maisie Richards, Joe Parsyck, Inter-fluve)

Inter-Fluve provided an overview of their role in the Chehalis Basin Strategy, which is to facilitate reach-scale restoration projects within the basin. They are designing restoration projects in two reaches: One on the Newaukum, a second on the S. Fork of the Chehalis.

The team's framework for site habitat assessment involved the site's geology, land cover, instream debris, sediment sources, sediment deposition, flood event history and potential, and human alteration. The team walked the entirety of each of the early action reaches to assess these factors on the ground. They combined this ground work with office work including modelling, checking against historical photos. Using this process, they charted channel migration zones to lay out the zone of interest for restoration. Inter-Fluve's assessment of the sites' fisheries primarily looked for populations of Coho, Fall and Winter Chinook, and Winter Steelhead. Resources the team is using to assemble this information includes existing resources (EDT, primary literature by WDFW) in combination with new data gathered and developed on site and in the office. Part of what the team considers is which species exhibits the highest relative restoration potential, and considering restoration for those species. Using topobathy lidar, the team modelled for stream depth and velocity, and used this data to build a simple GIS

model to understand suitability of reaches for juvenile rearing. This GIS model considered seasonal flow variability, and allows for understanding of what limiting factors exist during different seasons at different locations, all to the end of developing strategies for fishery restoration design.

When it comes to identifying which restoration actions need to be taken, the team's framework is as follows: Protection, Strategic Actions (e.g. removing any problematic barriers before restoring the upstream area), Reconnect and Restore, Enhance and Create. The team has developed a "restoration toolbox" concept to describe their approach to restoration, and make it digestible to a wider audience. This toolbox includes an array of "tools" or restoration actions: Revegetating streambanks; Floodplain connectivity; Off-channel habitat and channels; LWD structures; Bank Treatments. The team reached out to landowners and held workshops with this toolbox. They presented locations for executing particular restoration tools. In doing so, a chart of willingness of landowners was developed. All of this work is on private lands, and all reaches have multiple landowners. With that willingness data, they have developed their conceptual reach-scale restoration plan.

Discussion:

Interest was expressed in what kind of success the team has had in their discussions with landowners about transitioning agricultural land into restoration projects. They responded that they had worked with a landowner who had already enrolled in CREP. The incentives offered by this program are very helpful. Inter-fluve was also asked if there were options on the table (beyond LWD) for raising the river bed without excavating the channel. Inter-fluve has done valley-spanning grade control, but they need a narrower channel. With these wide channels, the stream often eventually works its way around the riffles.

7. Closing

This meeting was followed by a meeting of the Newaukum Subcommittee.