



**Hood River**  
WATERSHED GROUP

## Hood River Watershed Group

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*"...to sustain & improve the  
Hood River Watershed through  
education, cooperation, & stewardship"*

### MARCH 23, 2021 MEETING MINUTES

#### Watershed Group Members Present

Chuck Gehling	Cindy Thieman	Alix Danielsen	Heather Hendrixson	Megan Saunders
Richard Iverson	Holly Coccoli	Blayne Eineichner	Rick Larson	Tim Mayer
Brian Nakamura	Bernard Yoo	John Buckley	Susan Hess	Jurgen Hess
Chuti Fiedler	Nate Ulrich	Rick Ragan	Lauretta Burman	Charles Haynie
Ginny Duck	Tess Dee	Michael Bergstrom	Steve Pappas	Larry Larson
Sandi Rousseau	John Mills	Peter Benchetler	Jan Kelley	Gil Kelley
Jon Campbell	Michael Mills	Phil Simpson	Mark Zanmiller	Sofia Prokop
Mary King	Thomas Osborne	Anders Carlson	Greg Delwiche	Ian Sinks
Kate Conley	Ryan Gerstenberger	Lee Phares	Stuart Blois	Jim Wells

\*\* This meeting was conducted virtually via Zoom.

#### Welcome and Introductions

At 6:02pm, Chuck Gehling welcomed everyone to the March meeting and stated the mission of the Watershed Group. Alix read through the list of attendees and their affiliations and provided some general logistics about the meeting. There were 45 people in attendance. Cindy introduced the speaker, Bill Norris.

Bill Norris is the design engineer for the East Fork Hood River Habitat Enhancement Project. He has lived in Hood River for 30 years. In the early 1990's he obtained a master's degree in civil engineering from Portland State University. Bill has spent the last 26 years working on habitat restoration projects for Inter-Fluve and more recently for Parr Excellence. He generally prefers to be outdoors and appreciates the field work associated with his profession. Bill is the proud father of four daughters, an avid skier, fisherman, and homebrewer.

#### Monthly Informational Presentation

Bill Norris, P.E., with Parr Excellence presented on *the East Fork Hood River Habitat Enhancement Project*.

Bill introduced the project partners for the 2019 East Fork Hood River Habitat Enhancement Project. CTWS was the project sponsor and project manager, the project was funded by Bonneville Power Administration, and designed by Parr Excellence and Inter-Fluve.

Bill's presentation included the project's site characteristics, goals and objectives, design criteria, project design, construction, and outcomes. The project is located on private property in Parkdale, along the East Fork Hood River. The project was constructed to primarily benefit winter steelhead. Limiting factors for these fish are streamflow, channel stability, habitat diversity, key habitat quantity, and sediment flow.

Recent geology (the last 10,000 years) of the site includes a fluvial channel set in volcanic flow deposits, a relatively steep, braided alluvial channel, relatively high annual sediment volumes, and mud and debris flows occurring on a decadal time scale. Floodplain conditions at the site are impacted by the bridge upstream; a wing wall contains flow on the left bank and riprap contains flow on the right bank, creating a single thread channel. The project site is well vegetated (alder, scrub oak, dogwoods, etc.).

Goals and objectives of this project were to promote floodplain and off-channel habitat connectivity, increase large wood densities, and to increase pool frequency and depth. Reconnecting to the floodplain and off-channel connectivity is very important, as shown by a study conducted by Katz in 2016 on the Sacramento River. The experiment compared the growth rates of salmon fry that were contained in pens in the river, the canal, and the floodplain channel. Aquatic

macroinvertebrate densities were 149 times greater in the floodplain than the river. After three weeks the fry in the floodplain pens had grown much more than the ones in the river and canal, fish in the floodplain had grown to seven times their original body weight.

The project design criteria were divided into four categories: ecological function, geomorphology/hydrology, engineering and risk, and construction impacts.

Ecological function design criteria:

1. Increase hydraulic complexity and habitat complexity near the bank and at bar apexes at a range of flow conditions.
2. Promote sediment sorting and organic debris collection.
3. Increase overhead cover.
4. Increase activation frequency of off-channel habitats including side channels and floodplain surfaces.
5. Create pools around log structures and promote pool scour conditions that lead to self-sustaining habitat features.
6. Create structures that collect and retain large and small woody debris traveling downstream.

Geomorphology/hydrology design criteria:

1. Design project consistent with current and projected hydrologic and geomorphic regimes and possibility of high bedload flood events that may cause rapid channel avulsion and braiding.
2. Allow for naturally dynamic high bedload deformable processes to operate, within the constraints imposed by existing landownership, infrastructure, and safety conditions.
3. Increase the frequency, duration, and magnitude of floodplain and side channel inundation in areas away from public/private infrastructure or other areas identified by landowners.
4. Increase the potential for future large wood recruitment and retention in areas away from public/private infrastructure or other areas identified by landowners.

Engineering and risk design criteria:

1. Do not increase flood inundation extents or erosion potential near structures or other areas identified by landowners.
2. Provide stabilization of placed large woody material to withstand the 100-year peak hydraulic flow, with a factor of safety commensurate with the risk to public safety, property damage, and vulnerability in the event of a debris flow runout that may occur upstream of the reach.
3. Project sites cannot be designed to withstand a large debris torrent or mudflow event.

Construction impact design criteria:

1. Locate and configure construction access routes to use existing access where possible and to minimize impacts to existing mature riparian vegetation.
2. Place large wood structures in areas that are accessible by construction equipment.

Bill gave an overview of the project design, including the large wood structure layout (10 structures) and what the typical large wood structure looks like (rootwad logs, slash, pool development, etc.).

Bill then discussed the construction process, starting with diverting flow from the work areas and salvaging fish. Then access was created, a hole was excavated for the large wood structure, logs were placed – criss-crossed on top of each other with rootwad logs pointed out towards the flow, logs were pinned with threaded rebar to hold them together, and then the structure was filled in with backfill to the 100-year floodplain level.

Bill showed pictures of the structures just after construction in 2019 and then in 2021. Some pools have been partially filled, but Bill expects they will scour out with heavier flows in the future. The large wood structures in certain areas of the project site are successfully splitting flow and creating braided channel, as designed.

Questions:

Cindy asked Blayne, the project manager, what he thought about how the project is looking now. Blayne noted that it is interesting to see how the project overwintered.

Jan Kelley asked about the technical components of the coffer dams. Bill noted that the dams were largely made from sandbags that isolated the work area. Bill noted that because the channel is so compacted from embedded substrate, there wasn't much subsurface flow.

Tim Mayer asked how large of an area the restoration covered, in terms of river length. Bill estimated one mile of river length.

Kate Conley asked if there has been any fish monitoring within the project reach since construction. Ryan Gerstenberger answered that there has not been any site-specific monitoring. ODFW has smolt monitoring in and out of the basin, but CTWS does not.

Ian Sinks asked about project effectiveness monitoring. Ryan Gerstenberger noted that there is pre- and post-project physical habitat monitoring (pebble counts, etc.). Blayne confirmed that there is a pre-longitudinal survey right before the project, and then following the project at years two and five. Photopoints are also used to monitor change over time.

Chuck Haynie asked how often low flows are a concern in this area. Cindy noted that low flow is a concern annually, largely because this site is downstream from an irrigation diversion.

Richard Iverson asked when the next sizable debris flow descends the East Fork – and it will – would it be advisable to just leave naturally formed log jams in place and allow nature to take its course? Richard is interested in managed restoration versus natural restoration – are we meddling too much? Bill suggested that it's worth leaving those debris deposits in place but assess them in terms of whether they would cause flooding in a 100-year event. Cindy added that there just simply is not as much wood in the system these days, and there is a need to supplement with hands on restoration. Rick Ragan added that with the 1980 Pollalie Debris Flow, there was a lot of cleaning out and straightening. Cindy noted that the recovery plan calls for 15 more miles of in-stream wood.

Brian Nakamura asked if winter flows have been high after the project was finished. Cindy noted that the 2019-20 winter was not a high flow year, but this past winter did have just below-flood stage flow.

Michael Mills, one of the project landowners, noted that he was very pleased with the project. The area is returning to a more natural state, and they are seeing an uptick in wildlife presence.

Rick Ragan asked Bill what he thought about adding roughness to the main channel to decrease velocities. Bill noted that it would be challenging to keep the wood in place. If there were large enough boulders, that could be an option.

Jurgen asked what the project cost. Bill noted that the construction contract was around \$350,000. The design costs were around \$130,000.

\*\* This presentation was recorded and can be found at: <https://hoodriverwatershed.org/watch-the-recording-of-the-east-fork-hood-river-habitat-enhancement-project-presentation/>.

### **Review and Approval of Last Meeting Minutes**

Chuck asked if there were any corrections to the February minutes. The group approved the minutes.

### **New Business**

#### **Hood River Glacier Monitoring Plan/Letter of support for Oregon Glaciers Institute**

Cindy introduced Anders Carlson. Anders is with the Oregon Glaciers Institute ([www.orglaciersinst.org](http://www.orglaciersinst.org)). They are interested in doing some monitoring on several glaciers in the Cascades, including on Mt. Hood, and they are planning to apply for an OWEB grant and would like a letter of support from the Watershed Group.

Anders presented several slides to explain the glacier monitoring they would like to do. He highlighted “benchmark glaciers”, like Eliot Glacier, that would be measured over time. In Oregon we rely on glaciers as natural reservoirs (“mountain water towers”). If they disappear, there would be a permanent drop in late summer to fall stream discharge, perhaps requiring new reservoirs. The loss of 0 degree C water source would mean warmer stream temperatures for fish. Warmer streams also mean warmer forests and increased fire risk.

Anders noted that we monitor human made reservoirs - their inflow, outflow, and volume. We should also monitor our natural frozen reservoirs (noting that USGS resources are insufficient).

In the 1950, Oregon had 63 glaciers, 36 of which were named. As of summer 2020, only 29 of these glaciers remained. All these glaciers are in the Cascades. In the Hood Basin, 5 of the 6 glaciers remain (Glisan is gone as of ~2003). The outlines of glaciers on maps are the same as they were in the 1950s despite their change over time – there has not been repeat aerial photography to update. Anders showed a satellite photograph from 2020 that showed the retreat.

The OGI monitoring plan: use USGS benchmark glacier plan circular 1132 (Fountain et al 1997); quantify the magnitude of regional glacier mass change and its effect on stream flow. Define the relation between mass change in regional glacier cover and mesoscale weather/climate variations. Monitor and investigate potentially hazardous situations to develop predictive capability.

HR Basin Plan:

Benchmark glacier is Eliot

Measure seasonal ins (snowpack) and outs (melt): surface mass balance

Snowpack in May, melt in October (6800'-10800' with stakes every 300-400')

Measure every glacier's area biennially (5 glaciers)

Surface mass balance measurements relate glacier area/volume change to climate change and weather

Will permit modeling of future glacier change, meltwater productions and viability

The Frans et al. 2016 paper shows that here in the Hood Basin, we will lose 40-100% of glacier area change. But these models did not take into account the surface mass balance, which will be measured in the OGI plan.

OWEB grant deliverables:

Seasonal glacial contribution to stream flow

Biennial estimates of glaciated volume, area

Annual flood and landslide risk assessment

Multi-year gage on snowpack health – trend detection

Multi-decadal projections of glacier change and discharge

OWEB requires that the monitoring plan has benefits for on the ground restoration/conservation. OGI is hoping to link with our on the ground work, and would like a letter of support from the Watershed Group.

Heather asked what funding amount they were asking for and what the match was. Anders answered that the for the full 3-year project, the total cost would be \$170,000, with match (28%) from City of Bend. They are also planning to talk to folks at the federal level for support. There are challenges with glaciers being within the wilderness area.

Cindy suggested that this project would provide highly informative data for the basin and a letter of support would be helpful for OGI and worthwhile for the Watershed Group. The group was in favor of the letter, and Cindy will work with Anders to draft it.

Stuart Blois asked Anders if there were any volunteer opportunities for monitoring the snowpack, and noted that as the Operations Supervisor for the City of Hood River wastewater treatment plant, he is interested in partnering with the Watershed Group on water conservation. Anders can be reached at [anders@orglaciersinst.org](mailto:anders@orglaciersinst.org).

*The group provided first consensus to provide a letter of support for the OGI OWEB monitoring grant application.*

### **Old Business**

#### **Neal Creek Phase 2 Instream Habitat Restoration Project grant**

The design is currently being developed by Parr Excellence with funding from CTWS. The Watershed Group would like to submit an OWEB restoration grant for the implementation of Phase 2 in the summer of 2022 and asked for second consensus.

*The group provided second consensus to submit an OWEB restoration grant for the implementation of the Neal Creek Phase 2 project.*

## **ODOT Stream Signage – Letter from HRWG**

Chuck noted that ODOT is going to be redoing their freeway signs from Cascade Locks to the border of Idaho and is looking for comments on the process. Chuck wrote a letter on behalf of HRWG requesting a sign for the Hood River and other major tributaries along 84 (Eagle Creek and Herman Creek). Chuck shared the details of his letter with the group.

*The group provided seconded consensus to submit a letter to ODOT requesting Hood River signage.*

## **Reports**

Watershed Coordinator updates – Cindy gave a brief update on the Action Plan progress and noted that she has been supporting the Neal Creek project, as needed. The West Fork Red Hill project is set for implementation this July.

Restoration & Outreach Project Manager updates – Alix gave a brief update on the Neal Creek Phase 1 RFP that was released, and the contractor site visit. Permitting is the main focus of the project at the moment.

## **Announcements**

John Buckley introduced Steve Pappas as the new manager for EFID. Steve noted that he was involved with some restoration projects on the Sandy River as a parttime fishing guide. He is excited to be involved. He is looking for a place to live in Hood River – send him any leads you may have. The group welcomed Steve.

John noted that the first phase of the Eastside Lateral is moving along. Most of the project will be done in April and John is happy with the work.

John also noted that there is a large leak in a pipeline that runs through the Neal Creek P1 project. Crestline is coming in to fix the leak.

The group welcomed Ryan Gerstenberger as the Acting Project Leader for the Tribes' Hood River Production Program.

## **Summary of Consensus Items and Establishment of Next Meeting**

### *Items that Received First Consensus:*

Approval to provide a letter of support for the OGI OWEB monitoring grant application.

### *Items that Received Second Consensus:*

Approval to submit an OWEB restoration grant for the implementation of the Neal Creek Phase 2 project.

Approval to submit a letter to ODOT requesting Hood River signage.

The next meeting will be held virtually on April 27<sup>th</sup> from 6-8pm.

## **Adjournment**

Chuck thanked the group for attending and adjourned the meeting at 8:14 pm.

Reported by Alix Danielsen.