



## Middle Hoh Resiliency Steering Committee Final Meeting Summary

Friday, March 18, 2022 1:00 PM – 3:03 PM  
Online only

### Welcome/Introductions

In attendance: Tim Abbe (Natural Systems Design [NSD]), Bernard Afterbuffalo (Hoh Tribe), Raena Anderson (10,000 Years Institute), Rebekah Brooks (Rebekah Brooks Contracting), Greg Brotherton (Jefferson County Commissioner), Eric Carlsen (Citizen), Chris Chappell (Department of Natural Resources), Pat Crain (Olympic National Park), John Davis (Federal Highways Administration [FHWA]), Mike Ericsson (NSD), Anna Geffre (North Pacific Coast Lead Entity [NPCLE] Coordinator), Alec Harrison (FHWA), Jessie Huggins (Olympic National Forest), Luke Kelly (Trout Unlimited), Julie Ann Koehlinger (Hoh Tribe), Stephen Morrow (FHWA), Jenny Murphy (Hoh Tribe), Roger Oakes (Hoh River Trust), Tami Pokorny (Jefferson County), John Richmond (Hoh River Property Owner), Tom Shorey (Fruit Growers Supply Company), Jill Silver (10,000 Years Institute), Kyle Smith (The Nature Conservancy), Mara Zimmerman (Coast Salmon Partnership), Brynn Sutherland (Hoh River Property Owner)

### Agenda Changes/Additions

None

### Approval of the December 17, 2021 Draft Meeting Summary

The summary was approved by consensus.

### Announcements/Comments

None

### Old Business

None

### New Business

#### *Middle Hoh River Resiliency Project Overview*

Tami Pokorny gave an overview of the Resiliency Plan for the Middle Hoh River, which has been two years in the making. She directed viewers to the County's page on the Plan: [Hoh River Resiliency Plan | Jefferson County, WA](#) where more information on past and upcoming meetings and the Plan and its latest attachments can be found. Comments are requested as soon as possible so they can be incorporated by the final plan deadline in June. Tami displayed maps that were made in cooperation with Natural Systems Design and the Hoh Tribe, illustrating the project area, geological deposits, channel migration zone, and riparian vegetation. Cramer Fish Sciences was consulted on the habitat.



10,000 Years Institute has contributed huge efforts to restoring native vegetation and controlling invasive plants. The Plan included the idea of a resiliency corridor, which laid out what might be accomplished if all ideal restoration actions could be realized within the reach. All proposed actions are community driven and landowner dependent. While the funding for this phase of the project will be up at the end of June 2022, Tami hoped that it would be possible to continue with additional funding sources and collaboration.

### *Presentation of Conceptual Designs (Lindner, Fletcher, Brandeberry)*

Mike Ericsson presented the Draft Middle Hoh River Action Plan: Concept Designs, following up on his overview of the Action Plan that he gave at the last Steering Committee meeting in December. Today's presentation continued the discussion of proposed actions from the Action Plan and introduced several conceptual designs for potential project sites along the reach. The Action Plan identified some big picture opportunities such as land acquisitions and easements, riparian restoration, habitat protection, aquatic habitat restoration, and infrastructure setbacks and relocation. Mike brought up the possibility of relocating landowners from high threat areas, which would protect both the residents from flood events, and the natural processes and restoration of the river. Since those types of projects are beyond the scope of the current project, the concept designs focused on riparian restoration, habitat protection, and aquatic habitat restoration. Tim Abbe added that some of the designs offer protection to existing infrastructure as well. Proposed actions for riparian restoration included conifer release, thinning and planting, and invasive species prevention and control. Several actions can jumpstart these processes, such as adding conifers to alder flats, thinning alders to create gaps for conifers, and working in partnership with 10,000 Years Institute on invasive species management to identify, treat, and mitigate the spread of invasive plants. Mike invited Jill Silver to chime in with additional information on invasive species management on the Hoh River.

### *Middle Hoh River: Invasive Species: Planning for Prevention, Integrating Control*

Jill Silver presented on 10,000 Years Institute's work managing for invasive species on the Hoh River, starting with Japanese knotweed in 1999. Since 2001, they have been working with multiple grants and funding sources totaling about \$3 million, and managing up to 30 different invasive plants. Now crews work the entire river over the course of each year. They have learned that knotweed rhizomes are so deep underground that they can come back years after they were thought to be eradicated. Knotweed has been coming back in places where it had been gone for eight years. Invasive plants have a competitive advantage over native plants and often become monocultures, keeping native plants from seeding in.

10,000 Years Institute is also working to educate the community in prevention and management methods, and clean restoration efforts. Jill went over some guidelines for future projects to prevent weed contamination, which can occur in construction access routes and as a result of contaminated equipment. 10,000 Years Institute is willing to support project contacts on identifying species, planning for weed-free restoration materials and equipment, and including invasive species management in future action plans. Jill asked for understanding for the enormous effort that goes into tracking and managing the Hoh River for invasive species each year.

### *Presentation of Conceptual Designs (Lindner, Fletcher, Brandeberry), continued*

Mike Ericsson continued presenting on the Middle Hoh River Resiliency and Action Plan: Concept Designs with an example of a recent project completed with the Cowlitz Tribe. Using the idea of a restoration corridor, 25 engineered log jams (ELJs) were built on the Cispus River in 2020 and 2021. A combination of apex and deflector ELJs were built with key pieces to create at least 40 new pools and



four new mainstem islands. Prior to the project, only four pools existed in the reach, most of them in the tributary Yellowjacket Creek rather than the mainstem. The goal with these types of projects is to be able to treat the entire space that the river may occupy, and to accommodate the river over time. Some of the key things to remember about successful ELJs is to keep them very low profile so that they do not protrude highly above the flow, and to sink them very deeply for stability over many years. Mike showed photos of the Cispus River project after one and two years, where the ELJs were accumulating natural wood, forming new side channels, and blending into the landscape. A similar approach would be taken on the Middle Hoh River projects. The leadership team identified three main areas in which to focus restoration efforts: the Lindner Complex Reach, and the Fletcher TNC and Brandeberry-Lewis sub-reaches. The Lindner Complex Reach was zoomed in to look at it in three sections: the lower, middle, and upper reaches. The preliminary concept is to treat the entire space that the river wants to occupy over time. The first suite of actions would be riparian vegetation restoration for conifer release, clearing and planting areas, and invasive species inventory and treatment over the longer term. There are also locations for logjams to protect the channel from migrating into the floodplain. As islands form and persist over time, those would be locations for planting as well. From the perspective of the resiliency corridor, long-term plans could be put in place to protect landowners and the river from flooding and erosion. Mike emphasized the conceptual nature of these designs; in depth conversations with landowners still need to take place and all of the design proposals and locations are only potential at this point. Everything is subject to change and details would be worked through once funding was secured and everyone involved was committed to a specific project. The Fletcher TNC sub-reach contained a lot of the same types of projects. There are places of intact floodplain and a vegetated island patch that would be protected. Other locations in the sub-reach, including areas of historic clay deposits that are a source of slope instability, need the floodplain to be rebuilt after extensive erosion. In these cases, the main goal is to keep the mainstem flow out of the landscape by installing a denser cluster of logjams that would deflect the main flow from the bank. The Brandeberry-Lewis site is a location where the landowners on the south of the river have lost a lot of the floodplain, so the emphasis there would be on rebuilding and restoring it. Where the floodplain is still intact, those areas would be protected by tighter clusters of logjams to deflect erosive flows. Tom Shorey asked about the longevity of the structures, especially in light of more frequent high-flow events. Mike said the Cispus River project ELJs were designed to stay in place for up to 25-year flow events. They remained in place after a recent 25–30-year high flow event. Some of the designs that were installed in the Gifford Pinchot Forest in the 1970s are still intact. Tim Abbe added that the ELJs can be designed for the specifications that the community may want. As trees start growing on the logjams and islands, they add more weight and longevity. While it would be great if the logjams could last forever, longevity has to be balanced with cost and efficiency. Tami Pokorny asked about how to design for summertime and projected future low flows due to climate change in concert with designing for high flow events. Tim said they had learned that clustering the ELJs splits the flows up, which benefits high flows by breaking the erosive forces up, and benefits low flows by creating deeper, narrower side channels. An increase in narrow side channels and number of pools will be especially valuable in lower flows. Tami also asked about sediment flows. Tim and Mike responded that the more that can be done to stabilize channel migration and create smaller, narrower channels provides greater sediment transport capacity and reduces bank erosion. The ELJs also help to spread sediment out. Jill Silver added that invasive species management is a crucial factor.

*Save the Date: 6/25 Meeting/Picnic*



Tami Pokorny reminded the group of the upcoming Hoh River community picnic on Saturday, 6/25/22. It will be an opportunity to connect with the Hoh River community and advocate for the geology of the region.

### *Additional Projects Updates*

Pat Crain gave an update on the Upper Hoh Road within the Park, and the temporary repair work that was done over the winter. The bank erosion was all the way up to the white line of the road. FHWA is working on a more appropriate and long-term solution than the rock that was put in. Tami Pokorny showed some photos of the erosion. Pat said that when we think about storms, we tend to do so as individual events; but in the case of last fall, there was a series of three atmospheric rivers between 10/15/21 and 11/17/21, with the biggest flow on 11/15/21. On the Hoh, the storm on 11/15/21 was considered a 10-year flood event, but there were storm impacts that were not consistent with that estimation. When the total flow of water that came down the river from all three storms was considered, the impacts were more consistent with a 30–35-year event, or even a 50-year event. On top of all the water, there was no snow pack. On one hand, that was good, since there was no snow melt to contribute to the water flows; but on the other hand, there were no snow fields to protect the areas that had been previously glaciated. This resulted in a huge amount of sediment coming down the river. Gravel aggradation forced the river out of alignment and onto the other side of the valley. Pat displayed a series of aerial photos over the last 25 years in the South Fork Hoh River to illustrate the sequence of events: riparian floodplain forests were maturing with conifers and alder. Then in 24 hours during the 11/15/21 event, 10 acres of that forest were wiped out. The river is now perched above the road and could lead to serious avulsion where the road is not armored. He pointed out that this storm event may be a sign of things to come, both because it deposited a huge amount of sediment in a short amount of time, and also because it means that now there is a large slug of sediment deposited in the river that may exacerbate things downstream. Due to glacier loss and more erosion downstream, the impact of 10-year events is much greater than what used to be typical. Jill Silver observed elevated beds developing everywhere there was bad erosion; she advocated for a glacial retreat study.

Luke Kelly reported that the Owl Creek Phase 1: Preliminary Designs project is wrapped up. Trout Unlimited has a proposal in to the current Washington Coastal Restoration and Resiliency Initiative (WCRRI) grant round for Phase 2: Implementation.

### **Announcements/Comments**

None

### **Next Agenda**

Friday, June 17: Details to be determined. The Community Picnic will be the following week on 6/25/22. Tami Pokorny added that a May meeting could be scheduled if there were agenda items. There are three Hoh River projects being submitted to WCRRI, so project presentations will be coming up. She would also like to have a conversation about how to continue some level of meetings between now and late 2023, when the County's project may resume.

### **Adjourn**

The Meeting adjourned at 3:03 PM.



*Meeting summary prepared by Rebekah Brooks (Rebekah Brooks Contracting).*

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