



Steering Committee FINAL Meeting SUMMARY

Monday, February 22nd, 2021 1:00 pm – 3:00 pm

Remote Access Only

<https://us02web.zoom.us/j/84392686184>

Welcome/Introductions

Tami P, Jill S, Tim Abbe, Mike Ericsson, Phil Roni, Bridget Kaminski-Richardson, Roger Oaks, Mike Rohde, Betsy Krier, Jamie Bass, Jean Fletcher, Jess Helsley, Julie Ann Koehlinger, Wendy Largent, Martin Hutten, Raena Anderson, Luke Kelly, and Frank Hanson

Agenda Changes/Additions

None

Approval of the January 25, 2021 Draft Meeting Summary

Approved by consensus

Announcements/Comments

None

Old Business

None

New Business

Middle Hoh River Preliminary Design Ideas: Introduction and Discussion – Mike Ericsson/Tim

Tami discussed a SRFB funding proposal idea to acquire LiDAR and produce preliminary design. Mike explained there are some sites that have been considered, and they are looking for sites with relatively low risk and controversy. Mike showed a slide with potential side channel projects sites for discussion. The slide/map showed 7 polygons of potential sites, including:

1) Elk Creek Side Channel

Currently perennial channel; proposed to increase flow frequency and quantity; some remaining mature timber in the side channel reach.

2) Lower Lindner Side Channels

Perennial channel? (TBD); Increase flow frequency and magnitude; Immature timber

3) Lindner Side Channel

Perennial channel; Discourage mainstem avulsion/ project side channel habitat; Some remaining mature timber.



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(Tim clarified that during 1994, a flow event opened up and widened this channel)

4) Upper Linder Side Channel

Perennial channel? (TBD); Increase flow frequency and magnitude; Mixed mature and immature timber

5) Tower Creek Reach Side Channel Complex

Ephemeral? (TBD) channel; Increase flow frequency and magnitude; Mixed with some mature forest

6) Fletcher Ranch Side Channel

2013 perennial side channel; 2016 avulsion and continued lateral erosion; Open field/no trees; Increase flow to pre-2016 channel path.

7) Lewis Homestead Side Channel

Ephemeral Channel; Increase flow frequency and quantity; Immature forest

Luke asked about the Tower Creek site. Answers: Youngs Slough is the rearing pond on the south side of the river. Jill followed up and noted that the river isn't likely to avulse any time soon due to high bank. Tim spoke up to clarify that these ideas are to enhance habitat in perennial secondary channels and not to manipulate the mainstem Hoh River.

Jill noted that the side channel upstream from the Fletcher Ranch is the Richmond side channel (originating on the Richmond property). This project idea has been discussed between Jill and PCSC.

Jean noted that the side channel has been there for some time, but the side channel has been growing larger. Jean asked how we would deal with this side channel and keep the entire river from taking over the channel. Tim answered that rivers naturally change all the time, and he explained the upper Quinault River example. The upper Quinault isn't narrow channels with large timber on each side (like it used to be). In the upper Quinault, the restoration work aims to restore these multiple channels (and 'stabilize' them with forested islands). Tim showed an aerial image of the Upper Quinault River and explained the approach (and how it is similar to this project's goals). Jill noted that there is also a lot of invasive plant management work being applied to the Upper Quinault project, and Tim agreed invasive plant work is key to reestablishing healthy forest.

In the Zoom Chat: The Lewis Channel has a SSHEAR site. (river took out a large portion of the lower to middle section, but the upper end still exists).

Tim noted the side channel on the south side of the river just below the confluence with the South Fork Hoh is another possibility for work. There are some challenges here due to private land and structures in the floodplain (Brandeberry).

Jamie pointed out that TNC lands have some protection already going for them, and these conceptual ideas should be considered in context of TNC landownership.

Jill noted that the Linder side channel becomes active at 2,000 cfs. She also brought up the natural log jam at ~20.7 is directing flow directly toward the road. There may be opportunity to work there (open up side channel and relieve some flow from mainstem).



The Elk Creek side channel was discussed, and Jill noted all of the 10k Years Institute work being done to manage invasive plants in the area. Jill has seen old relic log jams in this area buried 20-30' deep.

Jamie noted that in river work really needs to go hand in hand with riparian work. She expressed her support and excitement for these opportunities.

Tami asked if Wendy or Julie Ann had any comments. Julie Ann liked the idea of any project that takes pressure off of the Upper Hoh River Road. Wendy reiterated support for this. Tim agreed this is one of the likely recommendations the project will produce. However, we should first be looking to move roads and infrastructure as a first option (where possible). A forest riparian buffer is best overall, and also acts to protect infrastructure. Jill noted that work opportunities can change as the river moves around, like working in the dry once the river moves out of the area.

Tami asked, for a SRFB proposal, is there a particular site where habitat is being threatened now. Tim and Mike answered that the Linder site is an example. Phil noted that it is a high-quality side channel. Jill asked Theresa if she had any more info on the smaller side channel parallel and just south of the Linder side channel. Theresa noted that in the 1990s, there was rip rap installed to protect the county roads shop.

Tami asked if there are multiple side channels in an area, how would you approach work? Tim answered: first, it would be ideal to protect them. Also, discouraging the mainstem from coming into them (the side channels) that would help protect them. Next, it is worth considering if there is any benefit in working directly in the side channels (to improve habitat, locally).

In the Zoom Chat: Martin noted that working in the riparian area to liberate spruce trees is needed. (conifer release: thinning alder trees to allow spruce trees, and other conifers, to grow).

Habitat Assessment of Side Channels

Question for the group: Do we need to do more Side Channel survey work to inform the project?

The goal of looking at side channels is to identify the quality, quantity, and opportunities for restoration and/or protection.

Jill noted that she has mapped the clay deposit areas. (e.g. mouth of canyon creek). Tami noted that side channels that have a lot of clay deposits may not be the place to focus work. Mike noted that if we were successful in increasing the magnitude and frequency of flow through side channels, we may be able to address the clay deposition issue.

Luke noted that the Lindner side channel would be a good one to survey if it wasn't covered in the original Cramer survey.

Tim showed aerial images of the Lindner side channel area. He noted how the mainstem channel changed and braided since ~2018. This anabranching is what we want to see. Will these turn into forested islands? It would be good if they did. Jill noted that they have been treating scotchbroom on the gravel bars right in this area, and new plants just keep coming and coming.



Hydrology & Hydraulics

Mike summarized the hydrology and hydraulics results. Peak flow analysis resulted in flood recurrences flows: 1 year; 10 year; and 100 Year

NSD used an accumulating flow model to adjust water balance budget, considering input flow from ungauged tributaries. Mike showed a table how discharge per major tributary was calculated

WATERWAY	1-YR RI (CFS)	10-YR RI (CFS)	100-YR RI (CFS)
Hoh R (upstream end)	6,440	29,200	37,600
SF Hoh R	3,070	13,900	17,700
Winfield C	500	1,660	3,160
Maple C	410	1,130	2,310
Owl C	560	1,800	3,180
Hell Roaring C	320	700	1,760
Alder C	440	1,300	2,600
Tower C	260	840	1,860
Spruce C	260	840	1,860

Mike presented the approach to climate change impacts. Results: 46-64% increase daily winter flows; 34-49% decrease in summer flows; Increase in water temperatures (approx. 1-degree F increase per decade)

Mike showed: ~15% increase in mean annual peak 2018-2090

Mike showed on climate model results for peak flows. In summary there are anticipated peak flow increases for each flood recurrence interval (increases ~14-34% by 2080).

Mike showed a map of model results for 100-year flow inundation. Next Mike showed a bar graph that displayed the mead depth of the mainstem channel by reach. The Oxbow canyon reach and spruce canyon reach showed the highest channel mean depth (which make sense, as the mainstem is confined). Mike noted that this graph shows average values but does not have finer detail as to total area vs depths.

Mike then showed a graph of Channel mean velocity by reach. Interestingly, the Willoughby Creek Reach showed that there is minimal difference between the channel mean velocity in 10 year and 100-year flows. This is due to the backwatering effect caused by Oxbow Canyon.

Geology & Sediment Sources

Mike showed an image of geology basics, subduction, and uplift. Mike showed an image of glacial extent on the O.P. Next, he showed a geology and sediment map. In general, the headwaters have marine



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sedimentary rock. These marine sed rock tend to weather readily and provide sediment. Mid watershed, the map shows glacial outwash, glacial lacustrine clays, etc. Mike noted that the blue/gray clay outcrops that Jill and others have noted seem to align well with terminal moraines and glacial lake sediments.

Mike showed slides noting the influence of geology and sediment transport. In summary, the slides showed:

Geologic Controls

sediment production – weatherability, uplift rates, climate conditions

Sediment storage - valley shape/ morphology

Sediment transport - channel slope, magnitude, and frequency of competent flows

Significant sediment sources

Landslide debris flows (episodic /pulse)

Tributaries (incremental and episodic)

Glacial processes & recession (incremental and episodic)

Bank erosion (incremental and episodic)

Sediment transport

Linked to magnitude and frequency of climate events (rain and temp)

Climate trends increasing:

 Magnitude and frequency of hydrologic events

 Sediment transport capacity

 Sediment production

In summary, it appears the system is in equilibrium in general. However, more localized aggradation and/or erosion is likely happening. It is not clear what the future holds in terms of sediment budget and the channels ability to maintain sediment transport capacity and maintain equilibrium (in general).

Mike noted that landslides have been mapped within the reach. Used WA DNR Level II Assessment, and NSD also looked a 2014 LiDAR to further inform maps. Mike showed maps of landslide areas in the reach. The map showed DNR identified landslides and additional landslides that NSD identified.

News and Projects Updates – All

None

Announcements/Comments

Tami had few updates:

-Newsletter with Roger Oak's story will be highlighted is going to printer this week

-Ed Chad provided a report on all riprap installed in the watershed

Next Agenda

Monday, March 15, 1pm – 3:00 pm Remote Only

Adjourn