



**Kalispel Tribe of  
Indians**  
Kalispel Tribal Headquarters  
Usk, WA 99180



**US Forest Service**  
Colville National Forest  
Newport – Sullivan Lake Ranger Districts  
Newport, WA 99156



**WA State Dept.  
Of Natural Resources**  
Northeast  
Colville, WA 99114

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## Sx<sup>w</sup>uytn – Kaniksu Connections ‘Trail’ Project Aquatic Resources Public Workshop Notes

Meeting Type: Public

Date: May 16, 2019

Location: Camas Center

Time: 6:00– 8:00 pm

Facilitator: Andrew Spaeth

**Present:** 26 team members and guests

**Mike Lithgow** welcomed everyone and gave an introduction and background and project

**Gayne Sears** introduced herself and reiterated that the *evaluations and decisions are for National Forest System lands only*. The info will be shared as a way to inform neighbors. Neighboring individuals, and other entities will proceed with projects on their own lands as they individually see fit.

**Andrew Spaeth** – introduced himself, gave a brief welcome and went over ground rules.

- Listen and learn from others
- Be respectful of others
- Cell on silent/don’t disrupt
- *Please define all acronyms (Requested by attendee)*

Round of introduction: name, affiliation, what you think of when you think of aquatic restoration

- |   |   |
|---|---|
| • big trout                                 | • temperature                             |
| • fish barriers                             | • plants                                  |
| • exciting (not boring)                     | • fried fish                              |
| • habitat heterogeneity                     | • health                                  |
| • teamwork                                  | • bad roads                               |
| • other aquatic organisms (other than fish) | • realistic goals                         |
| • clean-up garbage                          | • habitat                                 |
| • floodplain restoration                    | • bull trout, harlequin ducks, big cedars |
| • Bead Lake                                 | • water quality                           |
| • climate change                            | • functionality, potential, capability    |
| • riparian habitat                          | • plants                                  |
| • big cottonwoods (especially dead ones)    | • milfoil/no invasive plants              |
|   | • remove roads                            |

**Tiana Luke**, NEWFC/Conservation Northwest, gave a brief history of NEWFC, why collaboration, and why we are here. The Cross Boundary and Capacity Infrastructure grants were mentioned and described.

**Q** - What does NEWFC attribute its success to?

*Response:* Tiana responded that because the NEWFC Board focusses on interests rather than positions, they are able to better work together on the collaborative's goals.

**Mike Manus**, Pend Oreille County Commissioner– Expressed his thanks to Kalispel Tribe of Indians and the stakeholders working on this project. He mentioned what a great achievement such a large project will be upon completion and his excitement and appreciation of the process and hard work. He also briefly mentioned the power of collaboration.

**Eric Berntsen** – Watershed based aquatic restoration – what does it mean?

He is looking to see what you (the public) want to get done. The presentation provides an overview of terms and process used with the Trails project.

Stream vs. watershed – A *stream* is a small waterbody with surface water flowing within a channel. It flows to a certain spot where it joins other streams. A *watershed* is an area of land which acts as a collection basin of all streams, rain, and snow that drains to a common outlet (e.g. stream system, reservoir, bay, etc.).

Stream ordering starts with 1<sup>st</sup> order at highest upstream point and moves downstream with each confluence (joining) of streams (two first order streams come together to create a 2<sup>nd</sup> order stream. Two 2<sup>nd</sup> orders create a 3<sup>rd</sup>, and so on). The Pend Oreille River is a 6<sup>th</sup> order stream.

Review at the watershed level looks at what drives the system as a whole.

It is a nested hierarchy – river continuum – from fish to micro-organism communities.

- Depending on where you are within the river continuum, the numbers/types of fish will vary
- Want heterogeneity – Harvey Creek – wide floodplain
- Lateral conductivity – biologists look at restoring habitat conductivity horizontally.

Basic assumption – streams and watersheds are dynamic systems

Habitat restoration includes terrestrial and aquatic species

Watershed – starting with specific site and going to reach or habitat scale

Three important stream ingredients – flow, sediment, wood (critical habitat component)

Geology and slope, valley confinement

- Pretty easy to evaluate the movement etc. through the system
- Confinement can be caused by metamorphic rock/glaciated stream banks
- Erosion – This natural process is not as huge a contributor/risk as on the west side of the state or in parts of California but it is a contributing factor (such as runoff and sediment from roads). Sediment is not always bad within a stream. These sediments, when in balance within the system are used to further scour and build structure throughout the system.

Reach scale – where woody debris and supply are really important

- Instream habitat in “naturally functioning” system

Aquatics team has been working closely together. The team has members from Forest Service, Kalispel Tribe Natural Resources Department, and State Department of Natural Resources.

Hyporheic zones (interchange of surface and ground water) usually happen in wide valleys.

Can also happen at reach and habitat type scale. It can be seen as an up welling (ground water coming to surface).

Streams are not static, but highly dynamic.

Channel evolution – down-cutting, disconnection from floodplain

Goose Creek – down-cutting with channel widening – this site shows:

- Anastomosed channel – which allows more access to floodplain
- Straightening encourages down-cutting and limits a stream's access to its floodplain

**Q** – Why is it bad that the stream no longer can reach its floodplain?

*Response:* Unhealthy conditions can result, such as adjacent soils drying out, increase in continued down-cutting because of increased stream velocity, loss of riparian vegetation impacting habitat for aquatic organisms, increasing water temperatures and reducing pools and slower waters necessary for feeding and reproduction.

Kershner and Bon conducted research that shows a link between restoration and expected responses suggesting that stabilized roads reduce sedimentation and restoring connections of streams to their floodplains, which can positively influence riparian habitat and the surrounding forests.

**Q** – Does that mean you want to get the streams away from the roads?

*Response:* Yes, where possible.

**Q** – What was the problem on Harvey Creek, and what was the goal to fix?

*Response:* The stream is now only single channel – used to move a lot across the floodplain. Need to determine the proposed road location and how to allow the stream and road to coexist.

**Q** – Ben Goldfarbe wrote **Eager**, about the usefulness of beavers within a stream system. Might that (encouraging or introducing beaver) be another opportunity for this project?

*Response:* Definitely. This concept has been used in an upper reach meadow system.

About the county and roads – communication is key and working together will be important through this project.

Pond and Plug example – It somewhat mimics beaver activity. It created a multiple channel system with 2.5 miles of new channel.

Hughes Meadows – Work was completed that just created a starter channel and added two plugs that acted like a started dam. The beaver moved in within a couple months. The objective was a multiple thread channel.

What can we do? Fix roads (including rolling dips, water bars, etc.); decommission roads that are erosive; culvert removal (which can help improve longitudinal connectivity).

Beaver dams can help build up stream channels and help restore vertical connectivity.

### Questions from the audience.

**Q** - What are the primary problems we need to address?

*Response:* The team is still working on developing this information including using a version of GRAIP (geomorphic roads analysis and inventory package) Lite.

**Q** – Do you have an inventory of channel types?

*Response:* the team is still completing surveys and collecting information.

**Q** - Is there going to be logging within the riparian areas?

*Response:* Short answer – possible but don't really know because we haven't evaluated those stands. There may be situations and those will be carefully evaluated and discussed. Typically, riparian areas are not treated because of the fragility of the system and the possibility of creating more sediment, removing shade and taking away large trees that will die and fall across the stream, stabilizing banks and providing habitat.

The final slide from the presentation summarizes, by key aquatic ecosystem feature, the key questions, what data-layers are needed, and what analysis tools can be used.

Key Aquatic Ecosystem Feature	Key Questions	Datalayers	Analyses Tools
Watershed scale Runoff	How is development influencing the drainage network? How will vegetation management influence snow accumulation, retention, and runoff?	Roads, streams, DEM, vegetation cover, snow, soils	NRCS SNOTEL, runoff estimation for gaged and ungaged sites, watershed characterization, current-historic-future condition
Watershed scale Erosion and Sediment Supply	Which roads are contributing fine sediment to streams? Which roads interrupt wood and coarse sediment delivery to streams? What is the road sediment contribution relative to the overall sediment budget?	Roads, streams, DEM, soils, vegetation cover, surficial geology	Sediment yield methods, GRAIP-LITE
Reach scale Riparian conditions and wood supply	What is the current condition of riparian habitats to provide shade, wood, filter sediment, etc.?	Stream type, vegetation, grazing, large trees	Riparian mapping, LiDAR, current-historic-future condition
Reach scale Channel, Floodplain, and Habitat Dynamics (lateral and vertical connectivity)	How have human activities impacted the amount and function of floodplains?	Floodplains, DEM, roads, other human developments	Channel migration zone mapping, stream channel classification, LiDAR, in-channel surveys, active channel area
Reach scale Habitat Connectivity (longitudinal connectivity)	How have human developments affected aquatic organism passage? Do barriers prevent access to current and future cold water? Do barriers prevent invasive species range expansion?	Road-stream crossings, barrier inventory, current and potential fish habitat, cold water	Barrier data, field evaluations, intrinsic habitat potential
Reach scale Habitat for Listed Fish Species	What is the current distribution of listed fish? Are there key spawning and rearing habitats? Do invasive species limit listed fish habitats?	Current fish distribution, potential habitat, stream surveys, invasive species distributions	Fish distribution surveys, intrinsic habitat potential

## Discussion and Q&A

*What are your (the public's) priorities within the project?*

- **Skookum Creek** – in spring it flows well but as the summer progresses it deteriorates. Would love to see improved condition. Would like to understand what is happening on my property and how it is connected to system
  - Proposal is to survey all 6 watersheds. Will ask permission of landowners to complete surveys and we can evaluate. Ideally, we will work with landowners to get permission. Without permission, we will not conduct surveys on private lands.
  - Conservation Board may have ways to help private landowners with concerns and may be able to connect landowners with specialists specific to their needs.
- **Bead Lake** – would like the project to limit erosion/sediment from roads, vegetation treatments, etc.
- **Climate Change** - How is climate change considered in this? We have to be aware of what is changing; need to take into account the potential resiliency of the systems and how to improve the resiliency.
  - develop more resilient landscape including shade in streams, mix of vegetative species, etc.
  - Soil itself – increase the water holding capability of the soils as well as flow of water through the soils.
- **Watershed flow** – what we do in upper watershed to help slow flow (such as change the rate of snowmelt) will have a positive effect on the flows downstream.
- **Roads** – there may be some changes in the density. Ideas include:
  - Reduce total density and reduce new road building
  - Minimize the number of culverts on Level 1 and temp/closed roads. Culverts require maintenance. Are useful, but also can potentially become a problem
  - Teamwork – roads are a tough because of the varied ownership within the project area – perhaps we can “remove” roads we don’t need. The project may be able to use temporary road use permits to reduce the need to construct new road prisms.
- **Are there places where there are sensitive fish populations** such as the Pigmy Whitefish in Bead, Sullivan and one other lake?

*Response:* fish surveys are being completed throughout the project area.
- **Are there sensitive aquatic insects?**

*Response:* We have some background data on macroinvertebrates.
- **Are/will Waterfowl and migration routes be affected?**

*Response:* Probably not. Please let’s save that question for the **Wildlife workshop next month** – June 20.

- **Rare and sensitive plant species** seem to be focused in wetland areas. Do we have a plan for those?

*Response:* **Cultural and Sensitive Plant workshop is on July 18, 6 PM.** Wetland standards are developed by US Fish and Wildlife Service.

- **Would like to see wetland creation as part of the project.**
- **Prescribed Burning** - *One of NEWFC's priorities is prescribed burning – how does that come into play in the project? Will there be activities within the riparian zone?*

*Response:* We won't say no, and if there is, we will be extra careful. There are areas where fire and logging maybe beneficial. Activities within these areas will need to be clearly described.

- **Field Trip** - Where do we sign up for the field trip – this is the importance of signing in.

*Response:* Check the website and make sure that you have signed in so names can be added to the mailing list for notifications.

Please visit the maps with the specialists if you have site-specific questions.

**Meeting Adjourned.**



## Photos of Flip Chart Notes

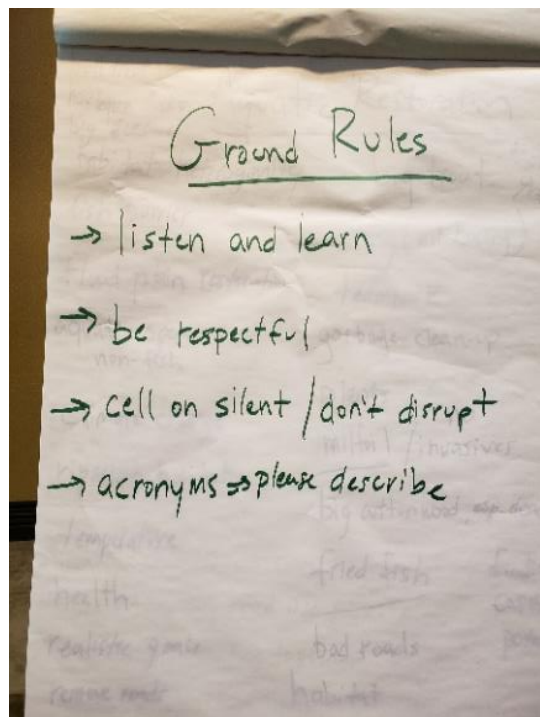


Figure 1. Ground Rules

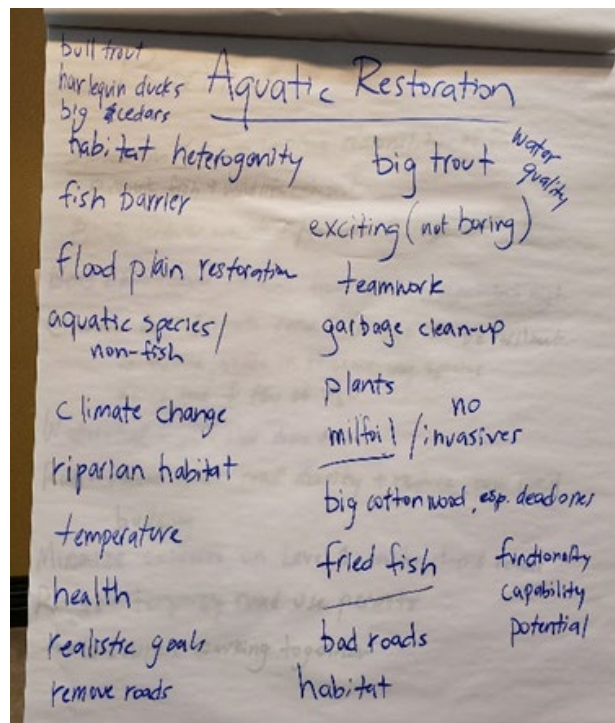


Figure 2. Aquatic Restoration - Associated Images

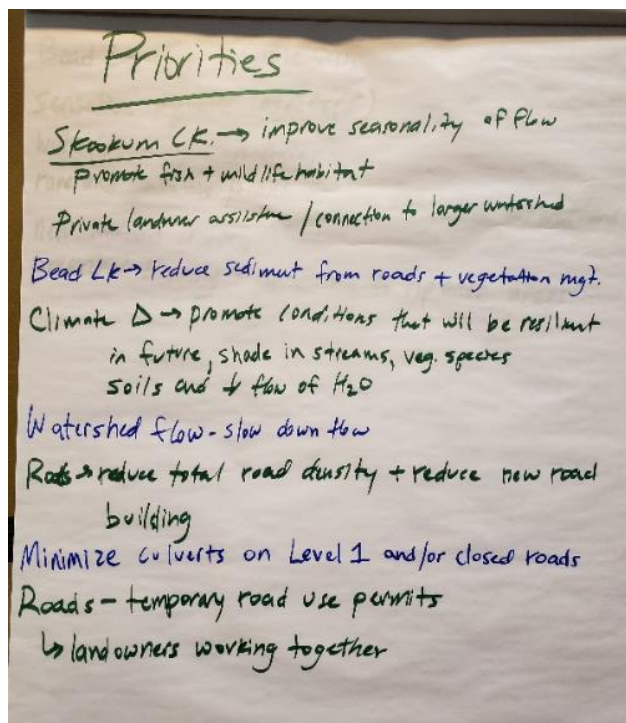


Figure 3. Public Comments

