



November 8th, 2022 Minutes

Little Salmon River Watershed Collaborative held a hybrid meeting at New Meadows Community Center and virtually through Zoom. Captured minutes are from group discussion and presentations. To view presentations please visit the [Little Salmon River Watershed Collaborative website](#)

Participants:

Online:

Bill Lillbridge
Clayton Nalder
Craig Johnson
Craig Rabe
Emily Washburne
George Zamora
Hannah Zimmerman
Jen Ford
Johnna Sandow
Jordan Messner
Kiana Ziola
Lenard Long
Lily Conrad
Stacy LaFay
Wendy Green

Sujata Connell

In Person:

Al Becker
Austin Wrem
Dale Brown
Dean Dryden
Durena Farr
Gary Thompson
Johanna Stangland
Keisha Miller
Linnea Hall
Matt Steinwurtzel
Randy Fox
Rebecca Levandowski
Sandy Dryden
Wes Keller

Thermal Profiles of Natural Beaver Dams vs Beaver Dam Analogs (BDAs) - Presentation from Matt Steinwurtzel - University of Idaho graduate student

- Drones are used to conduct thermal monitoring at Zim's hot springs. All studies conducted explicitly follow state and federal regulations to adhere to privacy laws.
- The drones use photogrammetry and FLIR sensor to detect thermal energy.
- On average, 500-1500 images are taken of an area to create 3D models.
- Beavers have significant impacts on surface and groundwater interactions, restoration, fish habitats, and thermal heterogeneity.
- As thermal mixing occurs, the water has a lower overall temperature.
- Thermal data can be applied to habitat mapping, species surveys, and restoration analysis in other modeling management practices.

Questions

What did you see at Big Creek?

With a combination of aerial and field data, we saw the upper three feet of the water column had temperatures four degrees higher at beaver dams. We are often finding the water to be colder in the beaver ponds than in the mainstem. Beavers create seasonally diverse habitats which will require ongoing monitoring to study the complex thermal profile.

What are the next steps?

We will keep temperature loggers at each site through all seasons until the end of 2023.

How often is data collected by the drone?

At Zim's, we fly drones at 100 meters in altitude collecting 700 images, and at Big Creek we fly at 120 meters altitude and collected roughly 1500 images.

What software do you use to analyze the data?

Datasoft Metastate

Is the sensitivity high enough to see differences in the water table next to where the BDAs are? Yes, the difference in water temperature can clearly be seen from the drone imagery.

Is the water table rising creating the cooling you are observing in the data?

We have a way to set up ground control to position the thermal imagery and refine the model to see any elevation difference in the water table. We have already seen it occurring in Big Creek by two meters.

Are you able to share the data from Zim's?

Yes, we want to expand and explore more areas if possible and all data will be available.

How many years does this study encompass?

Started in July 2022 and will end at end of 2023. We want to identify the thermal trends throughout seasons.

Will you rebuild the BDAs if some washout?

The goal was to increase the water table which has already happened. If one of the six sides blows out, we will just let the structure stay as is for now.

What were the time commitments of the BDAs?

We put six BDAs in, with fifteen people over the course of three days. Many materials were harvested from the Forest Service high fire danger areas.

What is the cost of data collection and analysis?

The only cost is gas because we received a grant for the rest of the work. We can produce a model in 1-3 days.

Draft Story Map - Presentation from the Nez Perce Tribe showing a draft story map highlighting past and current restoration projects in the Little Salmon River watershed.

Where will the story map go? Is there funding for this after the grant ends?

- Paying for the domain is relatively inexpensive. Keisha and Johanna can continue to update it as more data is collected. It is 200 dollars per year to maintain operation of the domain.

Who is the website is for?

- Landowners
- Agencies
- Students, senior projects
- Elected officials
- Adams Soil and Water Conservation District
- Bureau of Land Management
- Bureau of Reclamation
- Department of Environmental Quality
- News agencies
- Non-government organizations
- Idaho Department of Fish and Game

What functions should the website have?

- Restoration effort categorized by date
- Separate section for monitoring
- Topic categories i.e. financial resources, project resources
- Photos to grab attention
- All minutes
- Learning aids
- Fencing options
- Project implementation
- Updated_agency contacts
- Current and past related research
- History of Meadows Valley
- Best management practices
- Links to funding sources
- Frequently asked questions section
- Water quality monitoring
- When the website itself was updated
- Purpose of website
- Internal search engine
- Fun facts/ background data
- Annual water data
- Soils data
- Basic hydrology functions
- Why Little Salmon is unique
- Transparency with funding sources
- Unbiased

Story Map

- Highlights past, present, and future restoration projects
- Can include maps, photos, and area history
- Includes techniques that have worked for riparian restoration
- Every spot that has underlined blue text will hyperlink to other relevant information
- All maps are interactive
- Description of land ownership
- Site specific projects

Interactive map

- Will include feedback from the story map
- Land ownership boundaries, photo points, topography, tributaries

FINAL MEETING: February 14th, 2023, 11:00am-3:00pm MST at the New Meadows Community Center or via zoom.