Salish Sea Science Roundtable

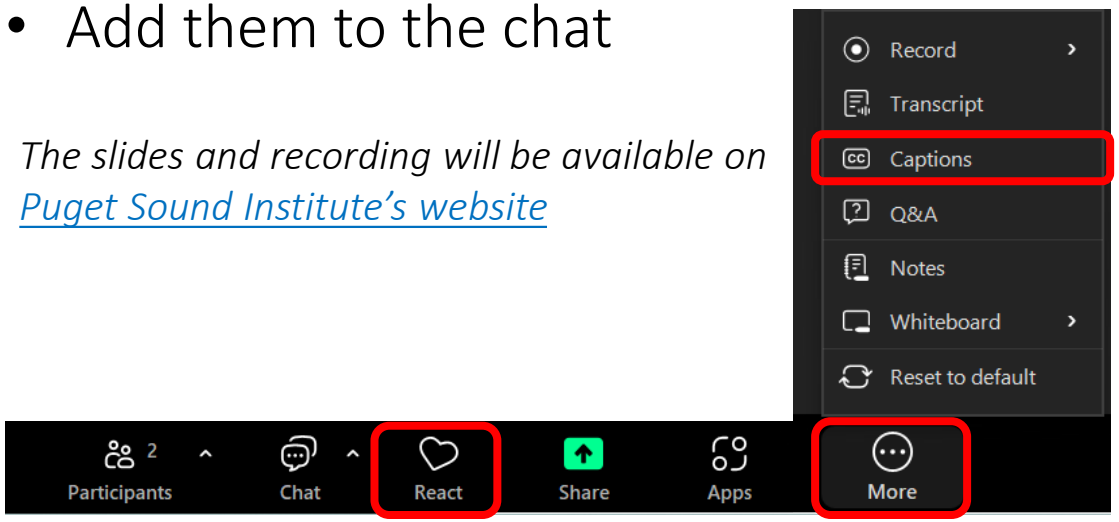
Welcome!

Please introduce yourself in the chat and share something you like about beavers.

Questions?

- Raise your hand and we'll unmute you
- Add them to the chat

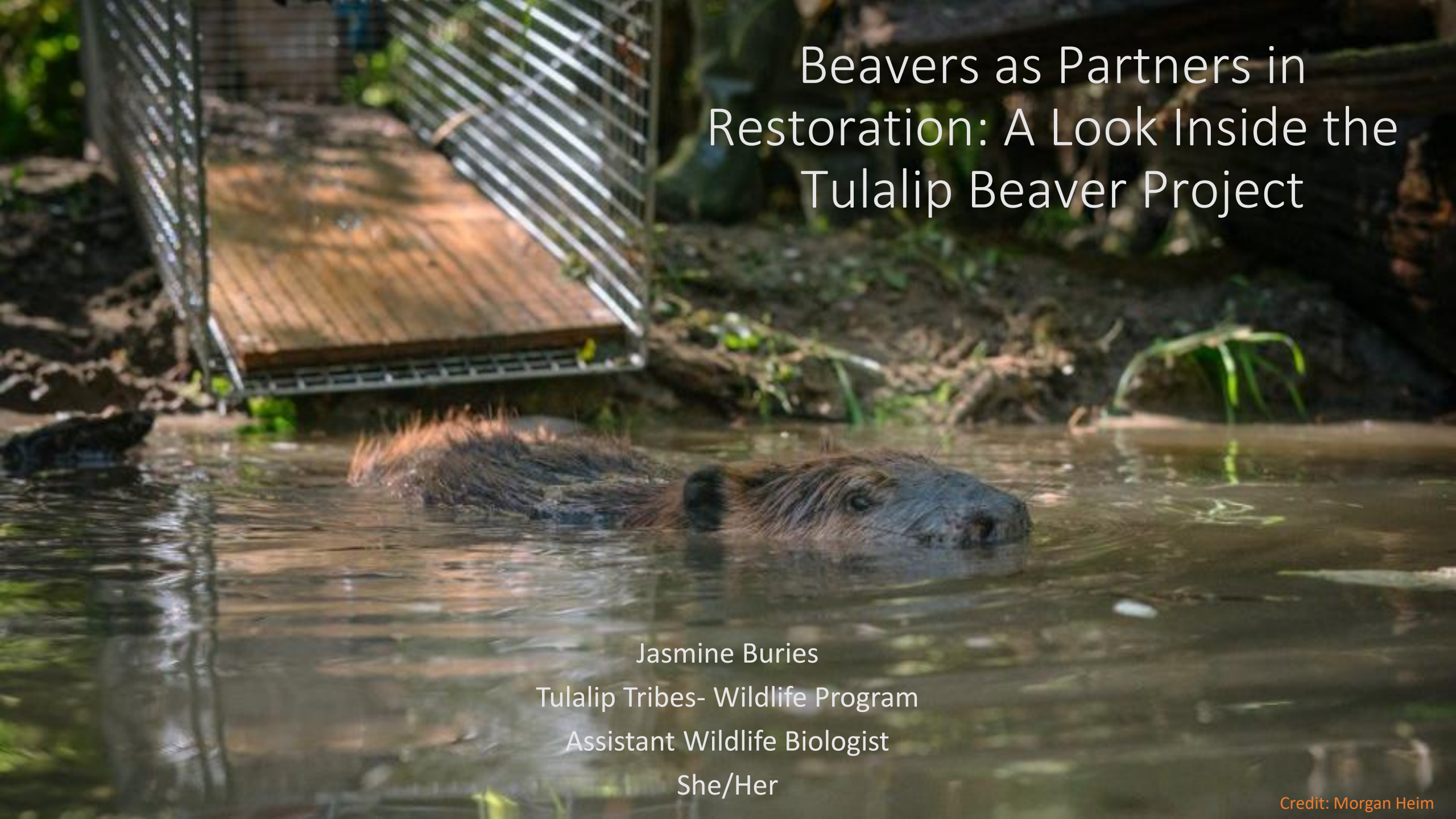
The slides and recording will be available on [Puget Sound Institute's website]



Land Acknowledgement

The UW Tacoma community acknowledges that we learn, teach, work and live on the ancestral land of the Coast Salish people. In particular, our campus is situated on traditional lands of the Puyallup Tribe of Indians. We recognize that this is a difficult and painful history, and we understand we must play an active role in remembering, not just what happened to Indigenous communities; post settlement, but also the rich history that existed long before colonization. This land acknowledgement is one small act in an ongoing process of honoring the past while working together with local Tribes to build a more inclusive and thoughtful community.

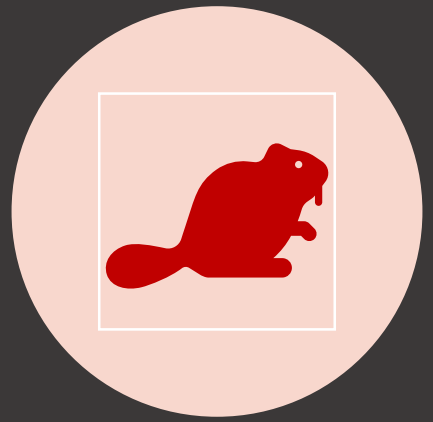
Beavers as Partners in Restoration: A Look Inside the Tulalip Beaver Project



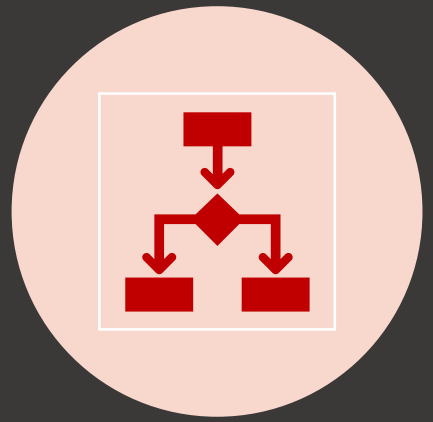
Jasmine Buries
Tulalip Tribes- Wildlife Program
Assistant Wildlife Biologist
She/Her

Credit: Morgan Heim

What we will cover today



UNDERSTAND ECOLOGICAL ROLE OF BEAVERS



EXPLORE DECISION-MAKING PROCESS FOR MANAGEMENT

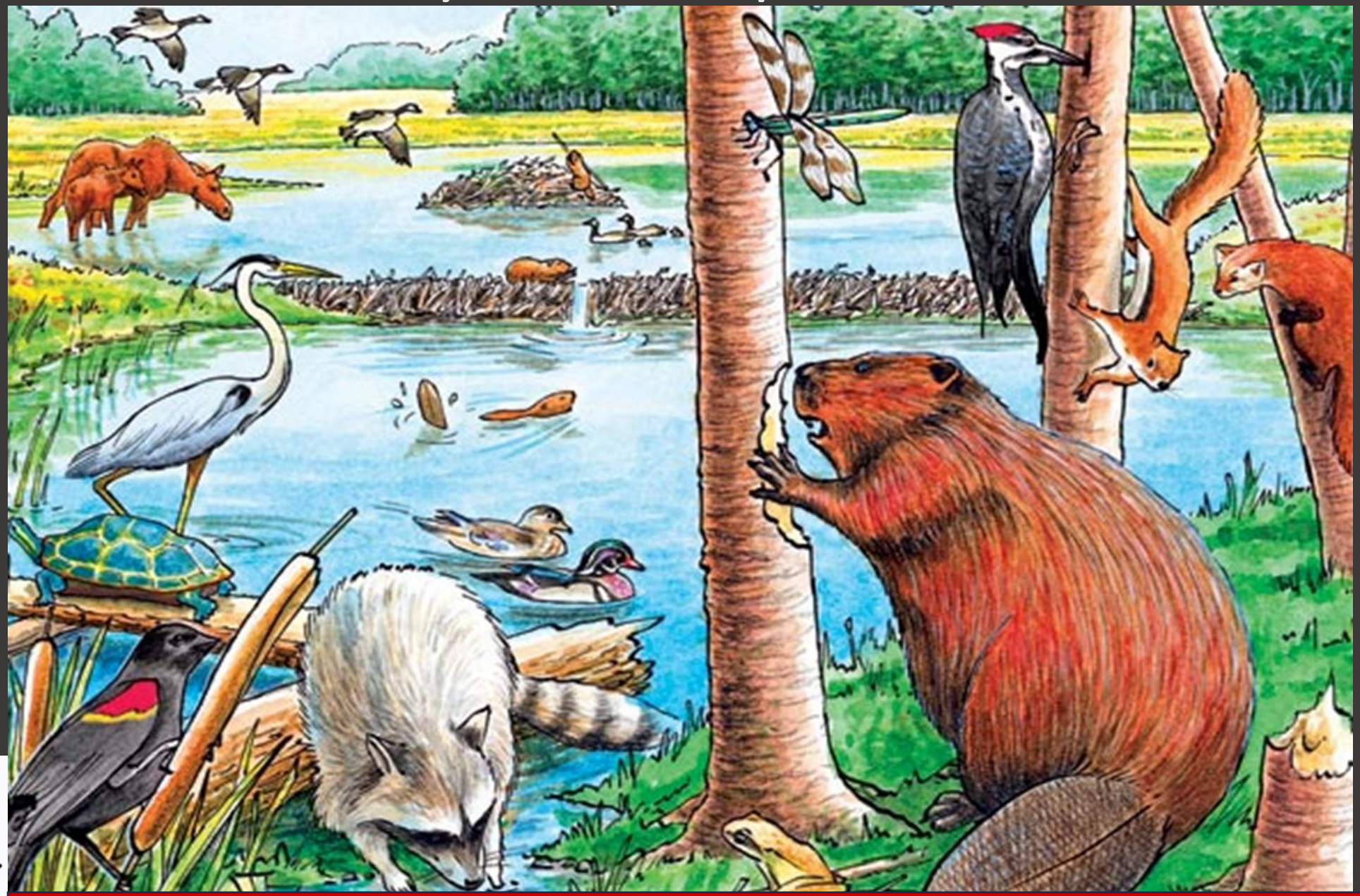
REVIEW LESSONS LEARNED FROM TULALIP BEAVER PROJECT

Beavers are....

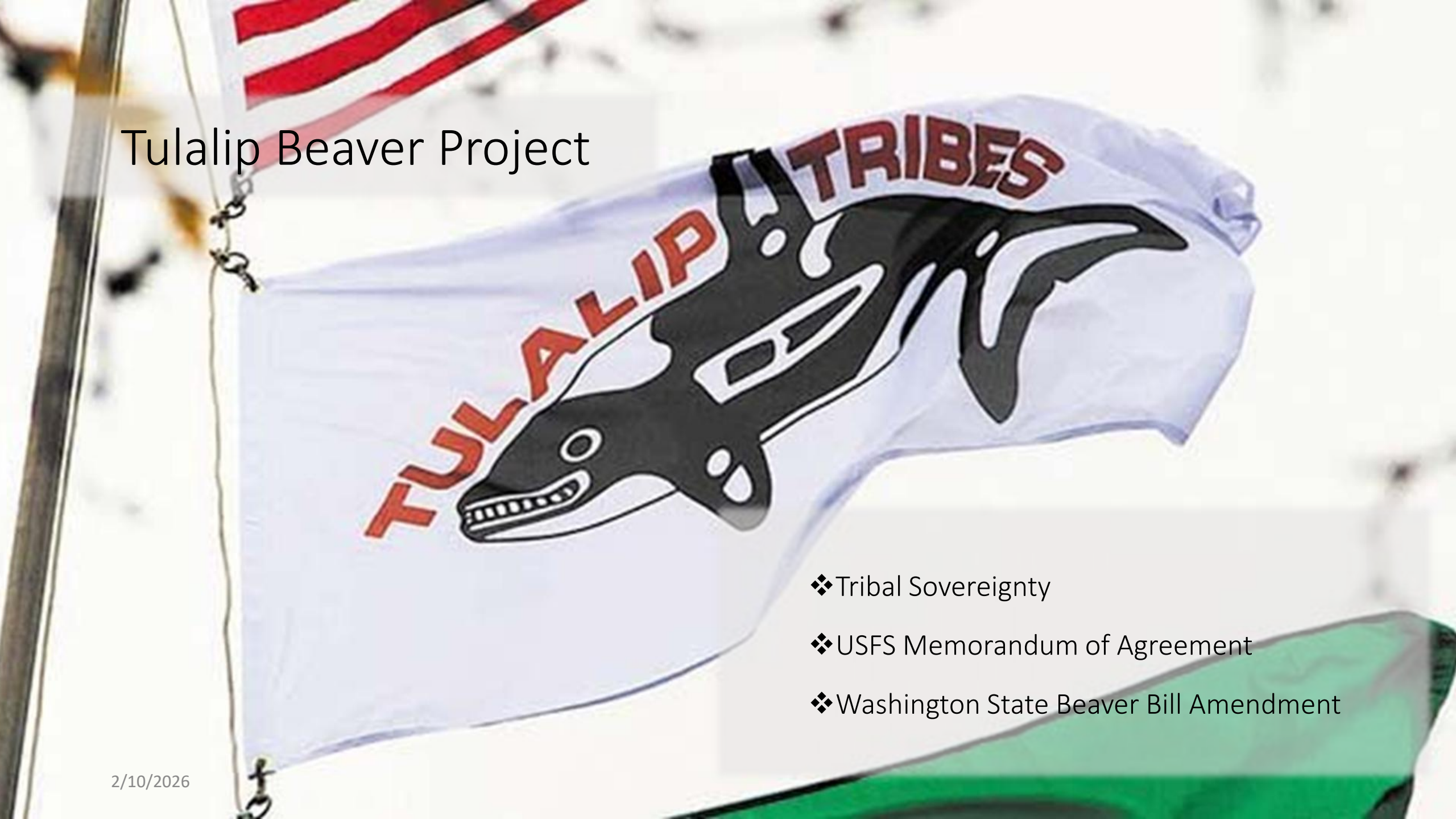
Ecosystem Engineers

- Positively affect hydrology
- Enhance habitat
- Climate Resilience

Keystone Species

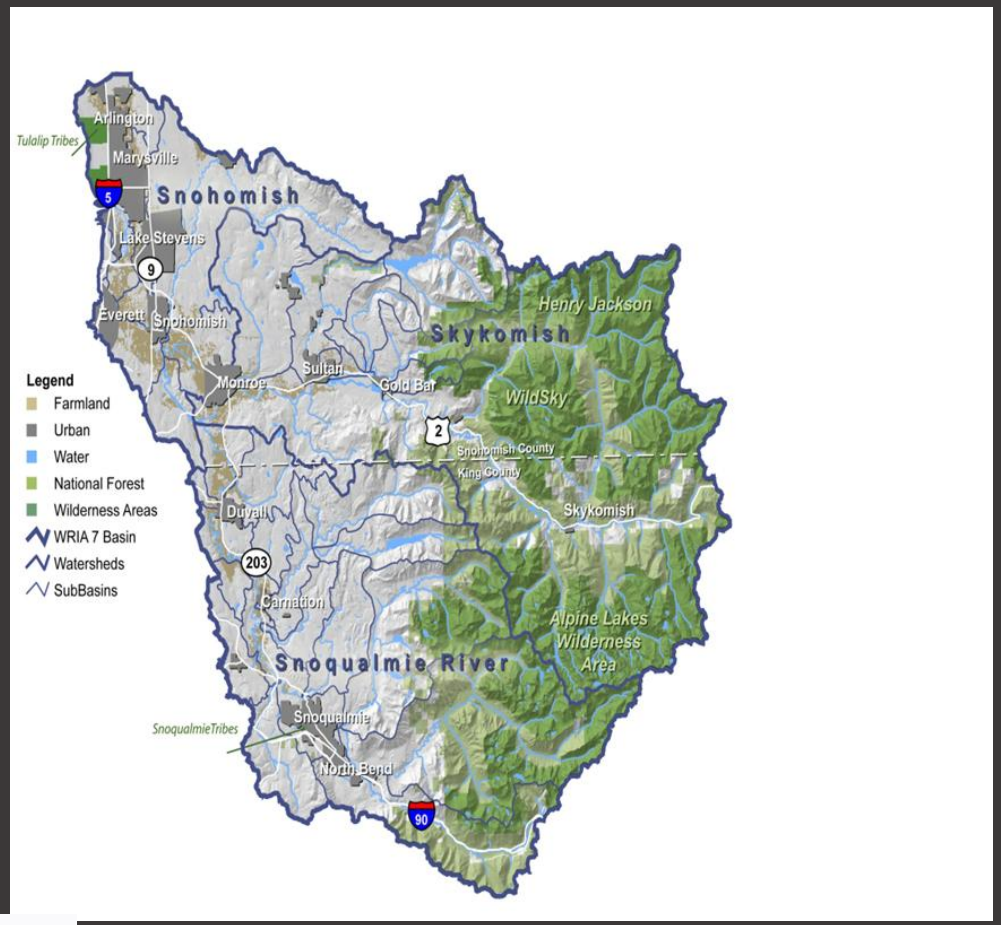


Tulalip Beaver Project



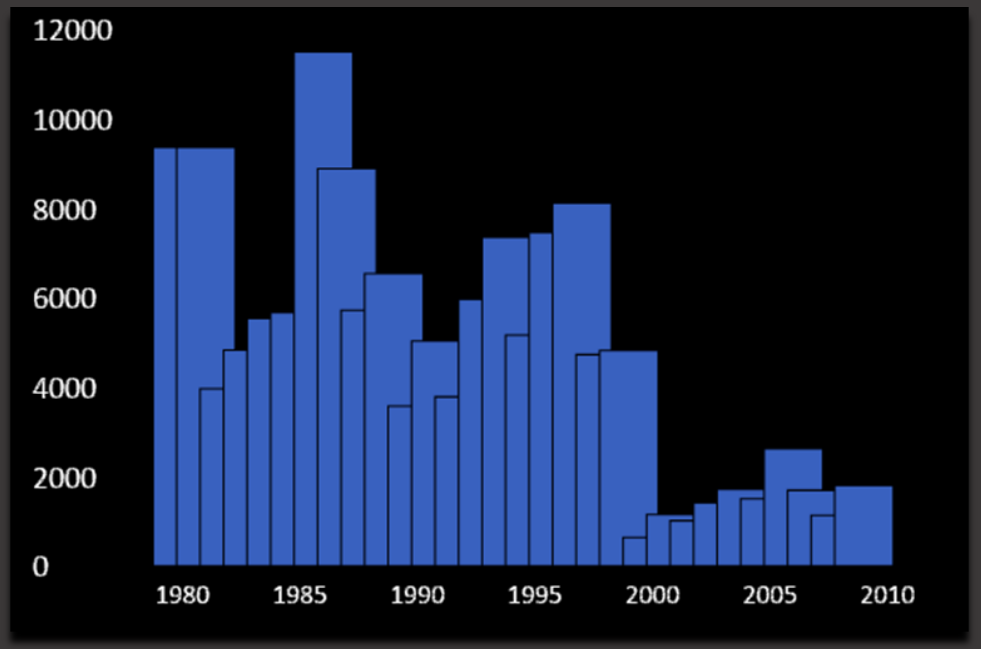
- Tribal Sovereignty
- USFS Memorandum of Agreement
- Washington State Beaver Bill Amendment

Project Objectives



1. Characterize current population levels in the Snohomish River Watershed
2. Relocate ‘nuisance’ beavers from lowlands to vacant habitat in the Snohomish River Watershed
3. Better understand the hydrologic and ecosystem benefits beaver provide to reduce climate impacts

Beaver Management in Washington



License year	Beaver relocations	Beaver take - Conflict removal	Beaver take - Harvest	Total beaver take
2016	83	1,743	682	2425
2017	84	1,521	810	2,331
2018	28	1,251	730	1981
2019	21	1,288	755	2,043
2020	24	1,259	946	2,205
2021	16	965	715	1,696
2022	14	851	854	1,705
2023				

Updated February 2024. Previous conflict removal information has been updated to reflect completed datasets.

*Does not include unreported trapping or Wildlife Services lethal management. WDFW

1980-2009: Statewide beaver harvest

2000: Body gripping traps outlawed

Is Relocation Warranted in the Skykomish?

Observed Conditions	% of Suitable habitat
Suitable, Occupied	43%
Suitable, Unoccupied	57%
	100%

Dittbrenner et al. 2018

*Conservative Estimate

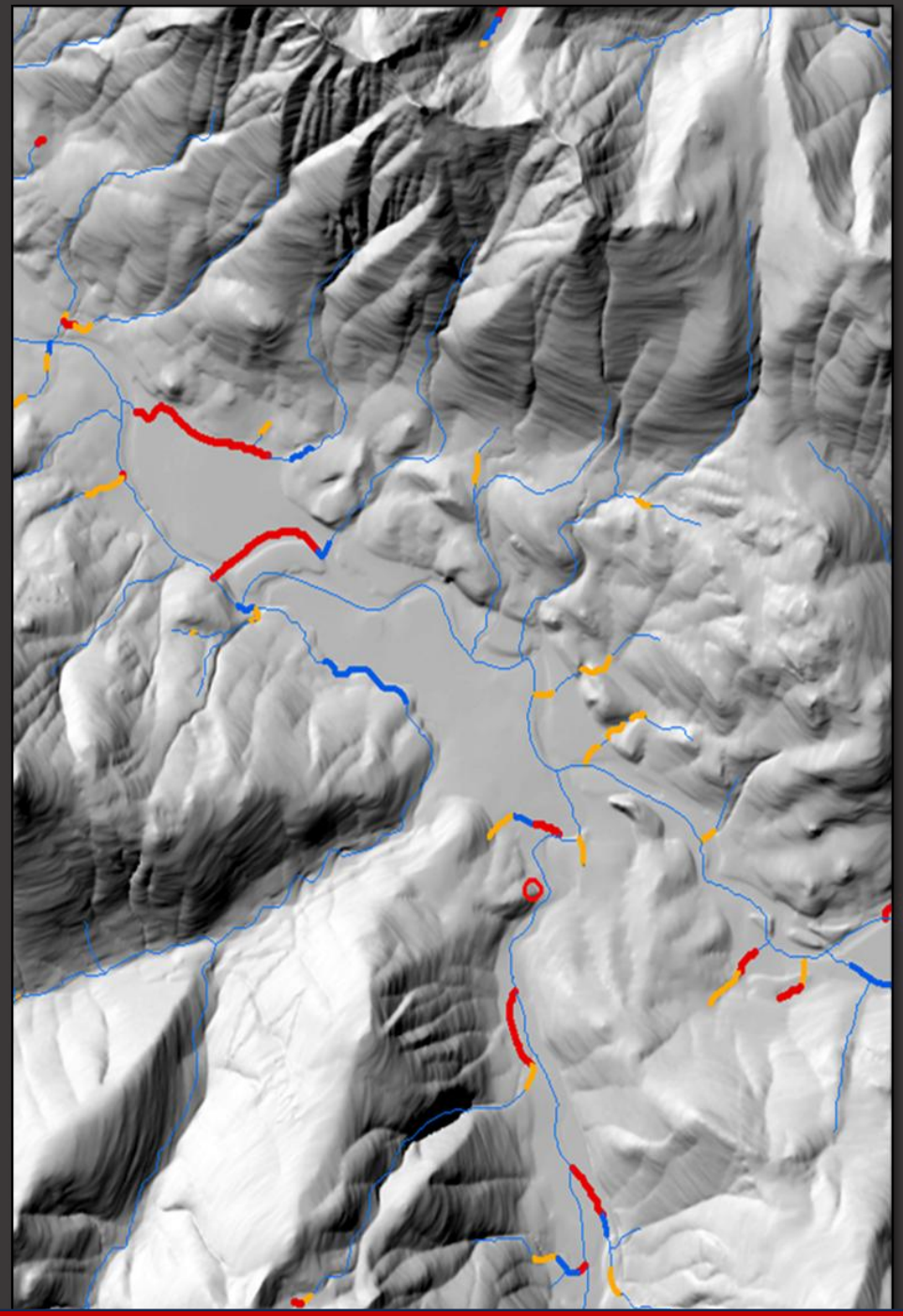
How we find sites

Beaver Intrinsic Potential Model

Watershed Scale Metrics

- Stream gradient
- Stream power
- Stream width
- Valley width

- High, Medium, **Low,** or Not Suitable



Site Score Card & Monitoring

Score Card Criteria:

- Food Diversity and Abundance
- Escape Cover
- Beaver Sign
- Stream Substrate and Gradient
- Seasonal Water Flow
- Ease of Access
- Conflict with Human Infrastructure

How we move beavers

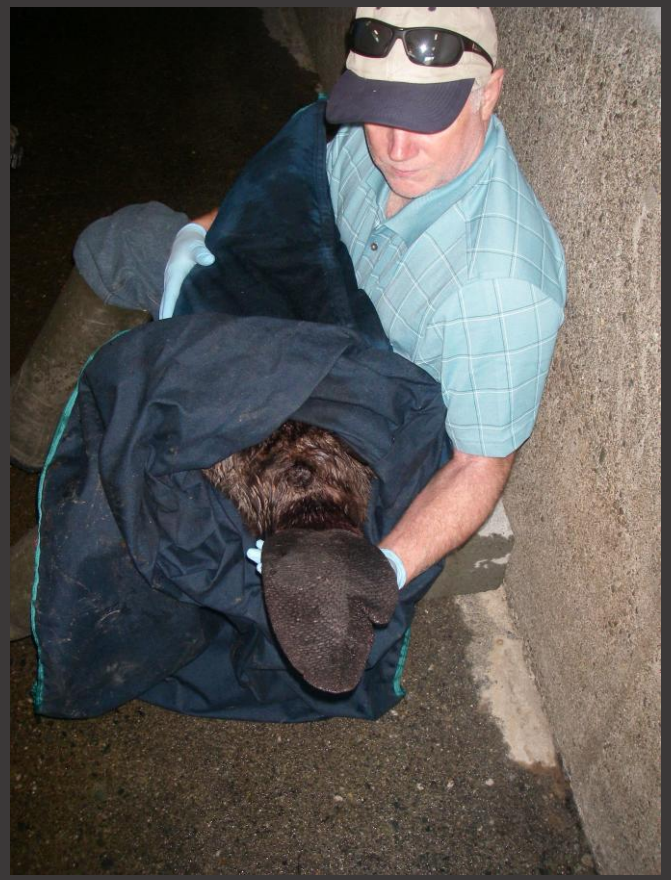
Beaver Trapping

Snohomish & King Counties

- Targeting ‘nuisance’ beavers
- Partner with Counties, Conservation Districts, Beavers Northwest, and Wildlife Control Operators
- Relocating family groups or mated pairs
- Captured over 400 beavers to date

Beaver Processing

Tulalip Bernie Kai-Kai Gobin Fish Hatchery



RELOCATION

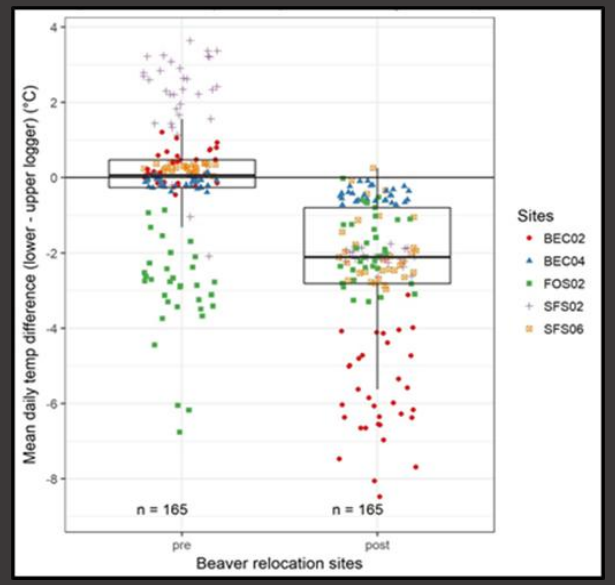
Credit: Morgan Heim & Kari Neumeyer

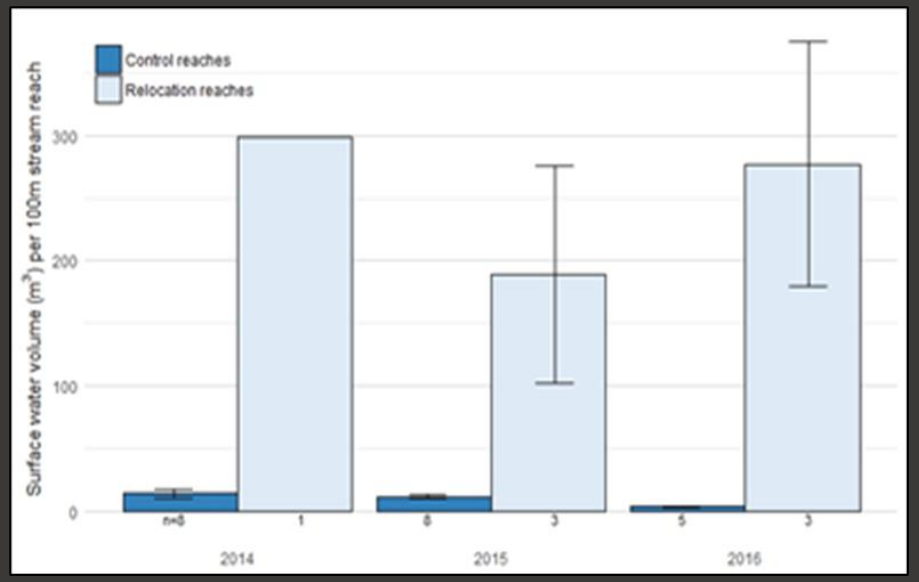
Relocation Stats

- To date, we have relocated **367 Beavers** to the Snohomish and Stillaguamish Watersheds
- Since 2019, **16 out of 23 (~70%)** monitored relocation sites are **actively occupied** by relocated beavers
- Since 2019, **12 out of 23 (~52%)** relocation sites have had **dams built** by relocated beavers

What we have learned

Surface and Ground Water Impacts



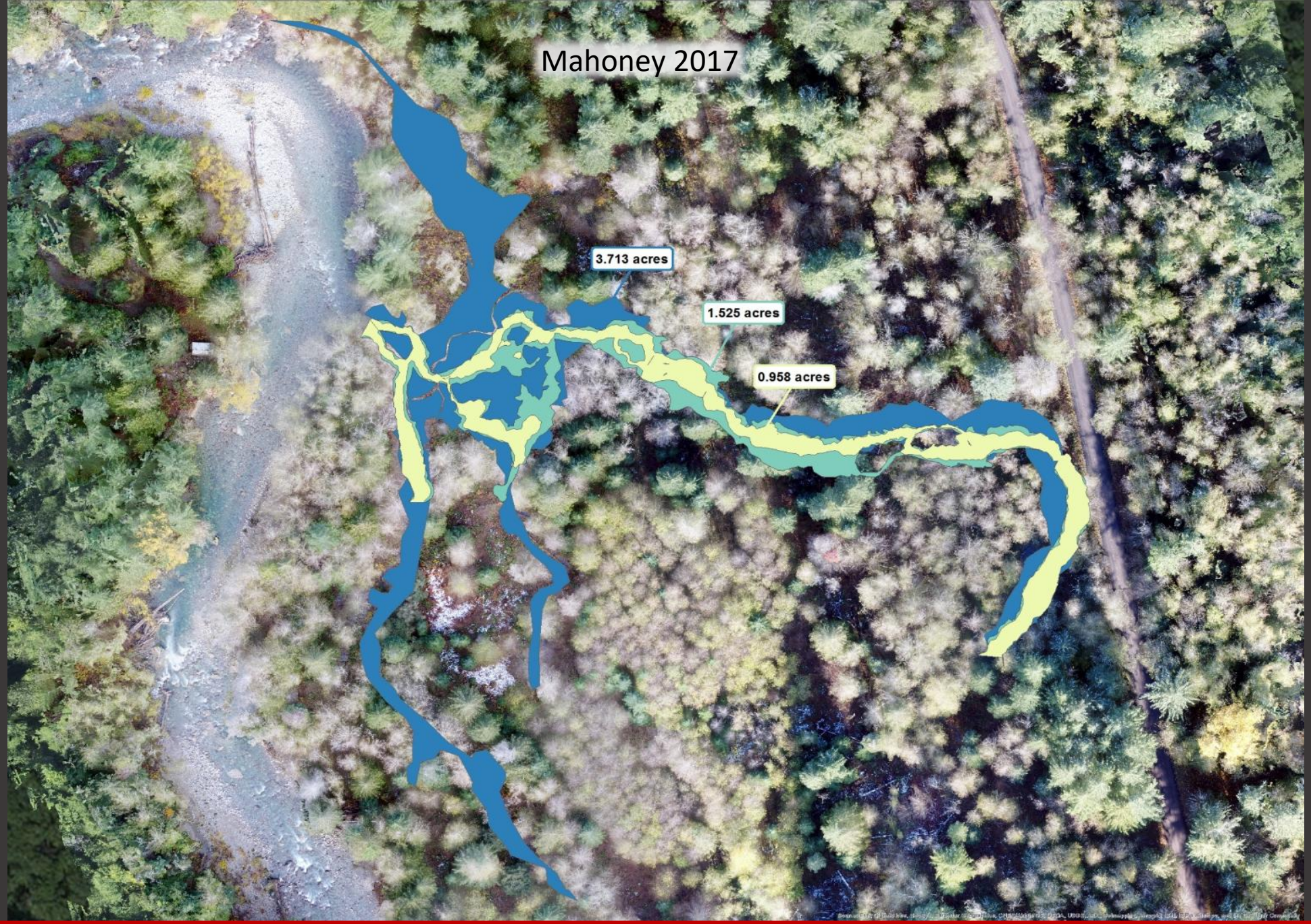


- 22 times more surface water
- 2.4 times more groundwater
- Water temperature decrease of 2.3 degrees Celsius

Dittbrenner, B.J. 2019. Hydrologic and temperature effects of beaver in headwater streams. Ch.3, Doctoral dissertation, University of Washington. Seattle, WA.

Mahoney 2015

Mahoney 2016


Mahoney 2017
3.713 acres
1.525 acres
0.958 acres

Mahoney Site Photos

Fall 2017 (Post release)

Working with the public

https://nr.tulaliptribes.com/Programs/Wildlife/Beaver

Project Team, Collaborators & Funding

Contact information

Jasmine Buries – jburies@tulaliptribes-nsn.gov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Thank you!
Any Questions?

The Impacts of Commercial Anchoring in British Columbia

Tuesday, March 10 @ 12:30 – 1:30 pm