Methow Beaver Project

Partnering with beavers to adapt to climate change and its predicted impacts in support of people, the environment, and sustainable ecosystem function.

Summertime.....

but the livin' ain't so easy for critters who like it cool, like our cold-water salmon species!

Beavers are a critical and practical solution to sustaining and improving water resources, habitat quality, and biodiversity in our rapidly changing and currently very hot climate!

This unprecedented heat across the west prompts the question… How do beavers beat the heat?

Well, beavers have been around for millions of years and have adapted to their fair share of climate change. Adaptations are the key to beavers success for example 1. Beavers already lean towards a nocturnal lifestyle and often while away the daylight hours tucked in their dark and well insulated lodges and bank dens, 2. Beavers are a semi-aquatic rodent so lose a fair bit of body heat to the cooler water around them, and 3. A Beavers scaly tail has evolved to act as a thermoregulator by storing fat in the winter for energy to stay warm but also releasing excess body heat, up to 25%!, through their wide flat tail. Amazing adaptations!

As climate change is happening, we need to work on our own adaptations to collectively consider new and innovative ways to protect our water supply, biodiversity, and build more resilient landscapes & watersheds. Fortunately, communities around the country are beginning to understand the pragmatic opportunity and the ecological need for keeping and promoting native beavers on the landscape. As temperatures climb across the arid West, more precipitation is falling as rain rather than snow, resulting in less water flow in the late summer and fall – a problem that will only intensify as it gets hotter year-round.

One solution is more beaver dams, which act as speed bumps and water filters, slowing down all that water heading downstream for the ocean. Porous, sponge-like beaver dams keep the water in the stream and on the land for a longer time, which gives the water a chance to settle into the land, seasonally hydrate riparian and wetland soils and vegetation, and recharge the groundwater.

Beaver ponds are small by themselves in relation to man-made reservoirs of water. Now imagine beaver ponds repeated across the landscape with their positive water storage benefits and free dam maintenance....this could be the keystone to survival, sustainability, and resilience for much of our known flora, fauna, and fin biodiversity that evolved with beavers dominating our

watersheds, as well as supporting the increasing daily demands of the human community.

Helping people coexist with beavers and changing the historically negative perception of beavers due to conflict with human priorities of land use is one way to ensure their continued (and ideally expanding) presence on the landscape. Sharing and promoting the benefits of beavers and helping landowners coexist with them are a few of the critical tenants of MBP's mission.

This past month we engaged with many young scientists and assisted landowners with beaver coexistence strategies to help spread the understanding and appreciation of native beavers across both Washington and Oregon. Opportunities to share our passion and enthusiasm about these magnificent animals will hopefully inspire more people to become Beaver Believers and not only coexist with beavers but actually *help* expand their impact. Donations to MBP are always welcome and help sustain our education and outreach programs.

Let us know if you'd like to get more involved!!

Educational Events

Brewster Elementary 2nd Graders

In collaboration with Winthrop National Fish Hatchery, MBP hosted a field day for Brewster Elementary second graders. These awesome young scientists explored the salmon life cycle with Hatchery Host, Stacy Turner, and learned how beavers help create habitat by storing water with their dams and giving fish places to hide with their tree felling, each essential for salmon survival. They also learned about a beaver's physical adaptations (built in swim goggles, to say the least!) and how those special beavery characteristics help them fit into and thrive in their watery habitats.

Julie Nelson engaging students in beaver adaptations

The day wrapped up with a field game involving students, parents, teachers and imaginary streams, beaver dams, salmon, oceans, fisherman, herons, otters, and bears looking for their next salmon meal **(Oh My!)** which demonstrated the interconnectedness of salmon and beavers and the many challenges that exist in the modern stream environment.

A hungry bear (MBP Restoration Coordinator Joe Weirich) during our salmon life cycle based game called Hooks and Ladders

Bush School Middle Schoolers

The middle school students of the Bush School visited MBP as part of their e-week in the Methow Valley. We introduced them to the concept of "natural process-based restoration" through one of our stream restoration projects on the Twisp River that includes building of instream structures that mimic beaver dams and downed trees felled by beavers by acting as speed bumps and slowing water down, spreading it out on floodplains, and increasing habitat

complexity. We also have relocated conflict beavers in partnership with structure restoration to help them reestablish, perhaps start maintaining our built structures, and ideally expand on our habitat improvements.

Methow Salmon Recovery Foundation and MBP have installed instream woody structures of varying sizes and shapes in many stream reaches of the Methow River watershed. These structures add more complexity to stream habitat which stores more water, broadens wetted area, and increases survival of juvenile salmon, provides salmon spawning habitat for returning salmon, and supports the entire biological community (including people) by keeping water around longer.

We were especially excited to share the process-based restoration concepts and goals of the project with the students as their visit coincided with high stream flows in the Twisp River. High flow events are what help these newly built structures restore stream function and habitat by backing up water with structure "speed bumps", forcing incised or deeply channeled streams to overflow their banks and push water onto parts of the historic flood plain which have been dry for decades.

MBP Project Director Alexa Whipple (pink sunshirt and waders) instructing Bush students on elements of natural stream processes and beaver based stream restoration.

Paschal Sherman Indian School Middle Schoolers

We ended the crazy Covid school year with an incredible field day with middle school students from Paschal Sherman Indian School (PSIS) on the Colville Tribes Reservation. MBP was honored to team up with Matt Young, a Fish Biologist with the Colville Tribes, and Kristen Kirkby of Cascade Fisheries, where we slipped students into waders and observed natural processes from a scientific point of view. Students collected and identified macroinvertebrates (key food source for salmon), explored the life cycles of juvenile steelhead, pacific lamprey eel, and sculpin, and expanded understanding of the important relationship between beaver's stream structure building and critical fish habitat. It was a great day of discovery for students, teachers, and presenters a like.

A fun fact—the Nsəlxcin word for beaver is "stunx". Nsəlxcin is one of the Salish dialects spoken by the people of the 12 Confederated Colville Tribes whose ancestral lands span north central WA into British Columbia's Okanagan Valley.

We look forward to more collaborations with PSIS!

Students and teachers learning to identify macroinvertebrates, aka salmon food, from Kristen Kirkby

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Coexistence

Silverline Resort

Silverline Resort, located on the shores of lovely Lake Pearrygin, reached out to MBP for assistance with beaver chewing and felling of their beautiful and purposeful campground shade trees. MBP was able to offer Silverline the opportunity to participate in our beaver coexistence cost share program, which provided them financial assistance with wire wrapping of 21 massive cottonwood trees to prevent further damage and danger to campers. Wrapping trees is a simple, proven, and effective beaver coexistence method. If you know anyone who needs this service, please connect us.

Beaver Proofed!

Bear Creek Golf Course

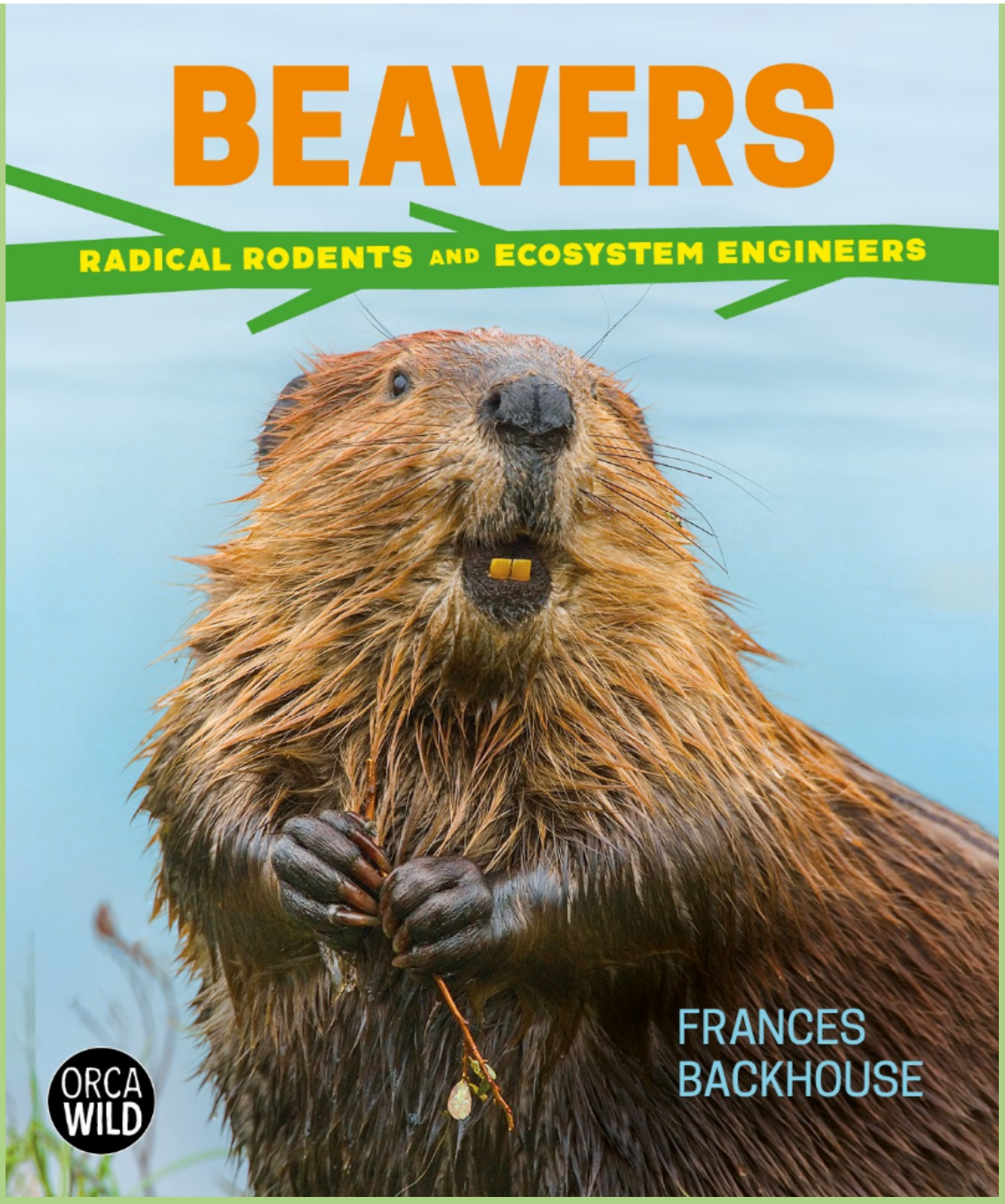
Beavers have always come and gone from the wetlands next to the Court family's home and public golf course. The Court patriarch even raised an orphaned beaver kit "Bucky" back in the 50's. These long-time residents of Bear Creek definitely are fond of wildlife and celebrate the beauty of our Methow home, but... these current resident beavers were dogged about clogging the road culvert multiple times daily, determined to store more water in this spring fed wetland. Unfortunately, the culvert clogging caused unwanted flooding of the golf course greens and access path at the north end of the course. MBP

was able to partner with the Court's to provide a long-term solution to beaver caused flooding and preserve the wild nature of the golf course and the value of their business. We installed a culvert protection fence and flow device, as pictured below, to eliminate continuous clogging of the culvert and flooding of the greens, yet still coexist with the beavers currently in residence. A win for everyone!!! Thank you Ash and Linda Court for partnering with us, and our greater community, for beaver coexistence and beaver benefits to the ecosystem!!

Beaver Proofed!

Book Review

A few years ago, the internationally acclaimed author Frances Backhouse visited MBP to interview three of our youth Beaver Naturalists for an upcoming book. We are excited to announce her new book has been released, *Beaver, Radical Rodents and Ecosystem Engineers*. The book is visually stunning, chock full of fun and interesting stories, and profiles students around North America (include our own) engaged in conservation work. An enjoyable book for any age!



Here's the link to order your copy. https://www.orcabook.com/Beavers-P5042.aspx

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Introducing New Staff Members

Willy Duguay joins the Methow Beaver Project as a recent Gonzaga University alum with an undergraduate degree in biology. Having grown up in the Methow Valley since day one, Willy brings his local knowledge and sense of

community to the MBP team. For the past six fire seasons he fought wildfires around the western United States. These summers allowed him to explore a variety of dynamic fire-affected ecosystems and see the pronounced effects of drought and climate change throughout the region. Right before joining the Methow Beaver Project in the summer of 2021, Willy worked with local high school students at the Independent Learning Center in Twisp, teaching and mentoring through a challenging COVID-impacted school year. In the summer of 2017 Willy worked alongside Alexa as a field assistant for her Master's research, and has been sold on beavers ever since. Willy is excited to work with the team towards a more sustainable, watery, and lush Methow Valley in the near future. Outside of work, Willy enjoys riding bikes, floating the Methow River, and pretending to be able to fly fish.

Josiah Shaver: After growing up in a small, rural community near Portland, Oregon, Josiah earned a B.S. in Geology from Oregon State University (OSU) in 2019. He is now working on a Master's in *Water Resources Policy & Management* and a graduate certificate in *Water Conflict Management & Transformation* at OSU, where he is also the President of the Hydrophiles water resources club. Josiah's career goals involve sustainable water management, science communication, natural resources conflict management, and collaborative leadership. He is enthusiastic about beaver related restoration, and excited to intern with the Methow Beaver Project for Summer 2021. In his spare time, Josiah enjoys hanging out with friends and family, photography, and jumping in the water.

Stay as cool as you can, everyone, and thank your local beavers for keeping precious water around longer!!

methowbeaverproject.org

Our email address is:
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