



A Note from the Editors

Hello, it's been awhile! It's been a heck of a year! If you haven't heard much from us, that's because we've been so dang busy implementing PBR projects throughout the state. Rest assured the network is strong and we are doing tons of great stuff. Here's the latest.

We can all be confident that 2024 was by far the most productive year yet for Low Tech PBR with over 40 miles of streams treated, the first beaver reintroductions in CA in nearly 75 years, at least 4 field trainings and workshops, and new science showing just how quickly positive change can happen when the technique is applied well. We hope you all are taking some time this winter for a well deserved break. It is also a good time to reflect on what is going well and what we'd like to see change in the restoration world. We will be discussing our successes and plans for 2025 in the **upcoming Cal PBR meeting February 12th from 10:00-11:30.** (invitation will be sent to all members soon) We may even have a celebrity guest speaker.

With excitement for our future,

Karen, Ben, Kate, Carrie, Matt, Garrett, Sabra



Fall 2024 Forest Service Build Like a Beaver Training, Clarks Creek Plumas National Forest

Announcements

Next Cal Process-Based Restoration Network Meeting: Tuesday, February 12 from 10:00 to 11:30. **Invitations will be sent out soon.**

Salmonid Restoration Federation Conference is scheduled for 29 April–2 May 2025 in Santa Cruz CA with a Fish and Fire workshop; process-based restoration on Paicines Ranch tour; and several relevant sessions on dam removal, landscape-scale PBR restoration (coordinated by Cal PBR Network), and the role of meadows in water-fire-fish processes. Go to the [SRF conference website](#) to register early. The tours sell out early!

Upcoming Beaver and PBR Training: [Online courses](#) through Utah State University are still available and happening next spring.

The California Aspen Working Group is getting rolling and looking for partners. If interested in joining, reach out to Lacey Hankin at Lacey.hankin@usda.gov.

A Timeline of Low Tech Process Based Restoration was developed as a [story map](#) by Nick Webber of Anabranched Solutions. Be sure to keep your projects up to date in the [LTPBR Explorer](#) so they get included!

SLO Beaver Fest 3rd annual festival will be Saturday April 12th at Mission Plaza in downtown San Luis Obispo!!! For details, please visit the [SLO Beaver Brigade's Instagram](#).

In The News

Lost Meadows Model makes CNN: In November 2024, [CNN International aired an episode in their Going Green series on reviving ecosystems](#). They included a segment on finding and restoring lost meadows with interviews from model developers Adam Cummings and Karen Pope, US Forest Service Pacific Southwest Research Station.

Beaver Welcomed Home on Tule River Tribal Lands: We're pleased to announce that the Tule River Tribe welcomed seven beavers into the South Fork Tule River watershed on the Tule River Indian Reservation on June 12 as part of a historic [beaver reintroduction](#) effort in partnership with the [California Department of Fish and Wildlife \(CDFW\)](#). "We've been through numerous droughts over the years. Going through these droughts, we were wondering how we can conserve, save water, and get water here on our lands," said Kenneth McDarment, Tule River Tribe member, Beaver Project member and Range Supervisor. "The answer was in our pictographs."

California Department of Fish and Wildlife releases a second family of beavers into Plumas County, in a meadow location that is known to the tribal community as Tasmam Koyom. Rumor has it that 2 sets of kits have been born to translocated beavers and the families have built a beefy lodge in preparation for the winter. For more information about CDFW's beaver management and restoration activities, or to obtain future updates about the translocated beavers, visit wildlife.ca.gov/Conservation/Mammals/Beaver.

Upland Process-Based Restoration In The News: As we thin and limb our forests and landscapes towards fire fuels reduction, let us remember that "Slash ain't trash - it's beneficial biomass!" We can put that material to good use to decrease erosion, build soil, increase water holding capacity, and create habitat for wildlife. [Check out this clip that Brock Dolman of Occidental Arts & Ecology Center did for NBC news](#) that sums up OAEC's "Fuels to Flows" work on its 80-acre wildlands management demonstration site.

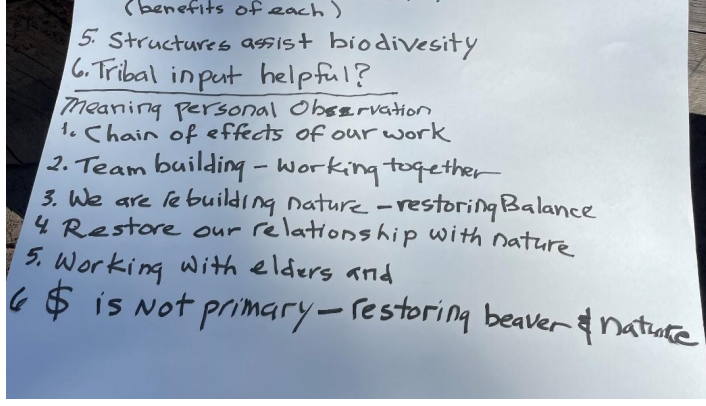
The Value of Cultural Burning and Beaver Restoration in California Recognized in the Latest Episode of [PBS's Changing Planet: Season 2, Episode 1](#) of this seven-year series includes segments about the Tule River Tribe's efforts to integrate cultural burning into their watershed management and Dr. Emily Fairfax's work to study how beaver wetlands provide important firebreaks and critical habitat amidst California's catastrophic wildfires.

Park Fire Restoration with low tech PBR: Mooretown Rancheria of Maidu Indians put together a crew of tribal members that were able to respond to the Park Fire restoration need prior to the onset of Fall rains. Butte County RCD was able to get permits and funding in record time to respond to this timely need at the Big Chico Creek Ecological Reserve and the Bidwell Park areas. The Mooretown Crew joined the CCC and were trained on site by Symbiotic Restoration. The structures were built over 6 weeks with rock and burnt wood and were in place prior to the big Fall rains, they filled with sediment and their success helped hold sediment on the burned landscape. [Mooretown Blog](#)

Project Spotlight (by Sabra Purdy)

The Intersection between Meadow Restoration, Fire, and Traditional Ecological Knowledge and Tribal Connections

Many of us have been drawn to the approach of Process Based Restoration because the idea of working with the essential processes of the system resonates deeply with the sense of working with the earth not trying to dominate it with our own vision. Working with Process to drive ecological change can be an act of trust and letting go of our own vision of what should be and allowing the system to respond in its own way. It is an iterative conversation with the land and a long-term partnership that sometimes defies expectations. The tools of Process-- sunlight, water, sediment, fire, gravity, plants-- all interact in complex and sometimes unpredictable ways, but that is part of the beauty of using this approach: giving space and deference to process makes room for the system to make its own decisions, working within the complex interactions of the space, and finding humility in our own understanding. This is nothing new, Indigenous ecosystem management and Traditional Ecological Knowledge (TEK) have always understood the long-term relationship of working with processes on the land.



"The beaver is building his house." Closing thoughts from Tribal members from PBR workshop with Tubatulabal Tribal Youth and Trout Unlimited on the Sequoia National Forest (Photo: Sabra Purdy)

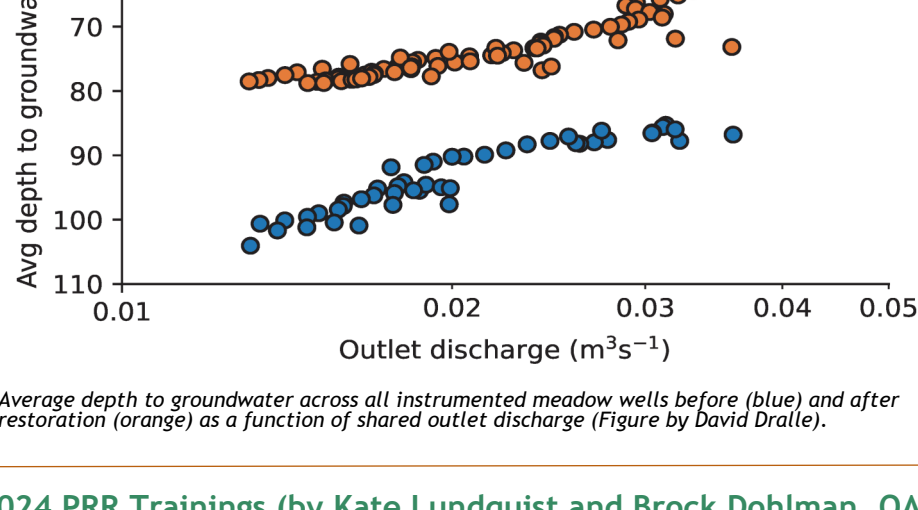
We have had the opportunities to work with Tribal partners on a number of projects over the past 2 years with incredible results. In 2023, Trout Unlimited created a Tribal partnership program with the Tubatulabal Tribe of the South Fork Kern River Valley on our Golden Trout Wilderness projects and the North Fork Mono Tribe in the Sierra National Forest. On both projects, Tribal members were funded to participate in meadow restoration projects joining our crews for implementation of PBR treatments in meadow streams building structures. A number of Tribal members continued to work on these projects in 2024. The North Fork Mono Tribe has a long-standing program of forest thinning around meadows in the Sierra National Forest with a team of accomplished Tribal sawyers and cultural burning efforts. Their endeavors have grown enormously since the Creek Fire, and we were able to partner with their crews to fell fire-killed hazard trees at meadow margins and thin overgrown live forests to provide material for PBR treatments in adjacent meadows. This partnership was incredibly fruitful and enabled us to build dozens of structures in just a few days in 2024. Other PBR projects with Tribal partners occurred at Tasmam Koyom, Maidu homeland recently returned to Tribal ownership in Plumas County and with the Tule River Tribe in the Southern Sierra Foothills with meadow restoration, cultural burning, and beaver reintroduction. As Tribal sovereignty and the land back movement gain momentum in California, and huge projects are happening with Tribal partners (like the Klamath Dam removal), we have many opportunities to work with Tribal partners and collaborate on amazing projects. It is a joy and honor to relearn traditional land management practices, and it is a beautiful fit with the practice of Process Based Restoration. We are very grateful for the knowledge and enthusiasm shared by our Tribal partners and we all need to continue to support and participate in Tribal ecological management across California and beyond.



Many hands make light work on a super-sized BDA with Tubatulabal members, Trout Unlimited, and Anabranched Solutions in Troy Meadow in 2023 (Photo: Sabra Purdy).

Science Spotlight! A new publication highlights the rapid hydrological benefits of low-tech PBR (by Karen Pope)

A paper led by Cal Poly Humboldt graduate Emma Sevier and US Forest Service researchers published in the journal Hydrological Processes quantified surface and groundwater changes in a degraded riparian meadow in the Sierra Nevada, California, USA for 1 year before and after process-based restoration to understand initial changes in meadow hydrogeomorphic function. Swift Water Design's 2022 build served as the "treatment" of Middle Creek Meadow in the Plumas National Forest. The short-term processes found in the study highlight the potential speed and ability of low-tech, process-based restoration in achieving restoration outcomes. For example, stage-discharge data at the inlet and outlet of the project area were paired with groundwater data collected from 13 wells distributed across the meadow to estimate increased water storage of 3700 m³ within weeks of the treatment. [Read the entire paper here.](#)



Average depth to groundwater across all instrumented meadow wells before (blue) and after restoration (orange) as a function of shared outlet discharge (Figure by David Dralle).

2024 PRR Trainings (by Kate Lundquist and Brock Dohman, OAEC)

2024 was a good year for field trainings. We had our third annual Cal PBR hosted "Build Like a Beaver" training in October. This year's training took place in three beautiful restoration locations: Child's Meadow near Mt. Lassen (Tehama County) and Clarks Creek and Middle Creek in the Plumas National Forest (Plumas County). Nearly 75 participants came from restoration firms, non-profits, tribal entities, and local/state/federal conservation and regulatory agencies. We even had two partners join us from France! These eager participants got to learn from diverse experts how to see, design, and build like a beaver. We had wonderful evenings filled with amazing organic dinners, inspiring lightning talks, slide shows, and even a northern lights display! Many left deeply gratified for the opportunity to network with like-minded individuals and be out in the field working alongside some of the most experienced instructors and practitioners in the region. Other trainings included a 2-day Forest Service focused low-tech PBR training held at Clarks Creek with about 50 participants from 8 Forests and several partner organizations and a Tule River tribal training. If you have not yet attended one of our PBR trainings, consider putting it on your To Do list for 2025. You won't regret it.



Workshop participants put the final touches on a beefy BDA at the bottom of Clarks Creek Meadow, Plumas National Forest, 15 August 2024 (Photo: Karen Pope)