



## Principles of PBR

Nature-based solutions for river and meadow restoration.

Work with fluvial and biological energy.

Minimize carbon use, maximize carbon gain.

Encourage complexity, retention, and fluvial process-space.



[In this issue: Golden Trout Wilderness Project Spotlight](#)

Jessica Dyke

## Announcements

**Statewide Restoration Permit adopted:** The State Water Resources Control Board adopted the Statewide Restoration Permit (Order No. WQ 2022-0048-DWQ) and certified the Programmatic Environmental Impact Report (PEIR) by a unanimous vote on Aug. 16, 2022. This new authorization applies to larger projects (over 5 acres or 500 linear feet of riparian waterway) that don't qualify under the Small Habitat Restoration Project designation. Wow! For more information, see [suscon.org/blog/2022/09/fws-pbo-explainer/](https://suscon.org/blog/2022/09/fws-pbo-explainer/)

**Spring 2023 Semester Low-Tech Restoration Workshop Series:** These workshops will discuss how to restore hydrologic processes that promote riparian resilience and mesic vegetation, identify opportunities for restoration, and examine how beaver dam analogs (BDAs) can be applied. For more information about LTPBR and resources from previous short courses, visit [lowtechpbr.restoration.usu.edu/workshops/2023/USU/](https://lowtechpbr.restoration.usu.edu/workshops/2023/USU/)

**Three-day Restoring Riverscapes Workshop Advancing Process-Based Actions:** Explore the practice of riverscape restoration and its universe of opportunities and constraints in an action-packed virtual workshop event. Dates are March 7, 8, and 9, 2023. For more information and to register, go to <https://www.restoringriverscapes.org/>.

North Coast Regional Water Quality Control Board staff are developing a **Beaver Dam Analog Project Size Calculator guidance document** to help restoration practitioners navigate the environmental permitting process. Use of this guidance document will be voluntary and is intended to streamline and standardize how beaver dam analog projects' size and impacts are quantified for regulatory purposes. NCRWQCB will release the draft document for public comment. For more information, contact Jake Shannon at [jacob.shannon@waterboards.ca.gov](mailto:jacob.shannon@waterboards.ca.gov).

**Multiple CDFW Grant Public Solicitation Notices are now open**, including FRGP, Drought, Climate, and Nature-based Solutions grant opportunities. For more information, please see [wildlife.ca.gov/Grants](https://wildlife.ca.gov/Grants)

**Developing Alternative Mitigation Systems (DAMS) for Beavers Act:** This is a heads up about an act to establish a five year (\$1M/year) federal grant program, administered by the U.S. Fish and Wildlife Service, for projects that use nonlethal coexistence measures to reduce property damage caused by beavers and maintain or enhance habitat for beavers and other wildlife. Congresswoman Suzan DelBene (D-WA-01) is leading this legislation. For more information, please see [awionline.org/press-releases/](https://awionline.org/press-releases/)

**American Rivers report on LTPBR:** This report reviews both published and unpublished research, case studies, and project information on the effects of restoring incised and degraded headwater streams in Colorado and other western states with LTPBR. Please see [www.americanrivers.org/conservation-resource/](https://www.americanrivers.org/conservation-resource/)

Keep an eye out for details about the upcoming (April) 2023 SLO Beaver Fest!!!

## Build Like a Beaver: Cal-PBR Training Fall 2022 was a Success!

By Jessica Dyke

Beaver fever has officially hit the restoration community! The first Cal PBR "Build Like a Beaver" Training took place in September 2022. An intrepid group of more than 60 participants and instructors gathered along upper Yellow Creek in Plumas National Forest for 3 days of instruction and hands-on beaver dam analog (BDA) builds alongside the most experienced instructors and BDA build crews in the region. Trainees learned how to build structures in a variety of stream widths and gradients and observed first-hand the value and effectiveness of process-based restoration (PBR) techniques. Training in the field was preceded by an informational Zoom call, during which PBR practitioners and researchers presented on restoration concepts, lessons, and design. The excitement at Yellow Creek was palpable, and the Cal-PBR Network looks forward to hosting our next training in 2023!



Participants in the Fall 2022 Cal PBR training construct low-tech structures in portions of Yellow Creek. Photos by Carrie Monohan, The Sierra Fund.

## Project Spotlight:

## 3,000 acres to be restored in the Golden Trout Wilderness

By Sabra Purdy

The Kern Plateau is an incredible landscape of rugged and exposed mountains surrounding lush meadow valleys. It is home to the endemic California Golden Trout and contains some of the last remaining populations of the endangered Mountain Yellow Legged Frog. Both species rely on meadow ecosystems for survival. The Plateau's hundreds of meadows have experienced widespread habitat degradation through a host of post-European-settlement impacts including grazing, extirpation of beavers, roads, airstrips, off road vehicle use, and water diversions.

Past efforts have been made to address gully formation, erosion, functional loss, and vegetation conversion using log check dams or rock gabions. While these approaches have been effective at capturing sediment and stabilizing headcuts in many locations, there have simply not been enough structures built on a large-enough scale to restore the hydrologic and vegetative processes needed to support the ecosystem's diverse functions.

Much of the Kern Plateau is now part of the federally-protected Golden Trout Wilderness (GTW) which under the Wilderness Act limits restoration to non-mechanized techniques. Not even wheelbarrows are allowed! In this landscape, LTPBR may be the only feasible approach for landscape-scale change because nearly all of the project sites are in designated Wilderness. The Project's primary goal is to restore the natural meadow processes responsible for maintaining the Plateau's unique ecosystem.

We are currently in the final planning stages of this ambitious LTPBR project. With a diverse group of partners including Trout Unlimited, the Inyo National Forest, and Anabranch Solutions, and with funding from California Department of Fish and Wildlife, this Project will employ LTPBR to restore natural hydrologic, biologic, and geomorphic processes across 15 meadow complexes representing 3,000 total acres.

Pilot projects undertaken in two of the project meadows 2021 and 2022 show immense promise for quickly raising the water table, diversifying flow paths, deepening pools, and reconnecting floodplains. These projects already withstood summer monsoon events, indicating some degree of lasting effectiveness. Questions remain about whether LTPBR can achieve long-term, landscape-scale ecological benefits in meadow ecosystems, so we have built extensive monitoring and adaptive management components into the project to increase our understanding of how to work with mountain meadow processes and how to achieve landscape-scale success over the long-term.



Typical GTW meadow impacts including channel incision, erosion, and vegetation conversion.

Implementation will begin this year. This Project provides a wide array of opportunities for more people to learn about LTPBR design, planning, and implementation. We look forward to sharing these opportunities widely with the restoration community in the year to come!

For more information, please reach out to Sabra Purdy at [sabrapurdy@gmail.com](mailto:sabrapurdy@gmail.com)

## Next Cal Process-Based Restoration Network Meeting:

Wednesday, January 25th, 2023 from 10:00am - 12:00pm

Join Zoom Meeting

<https://us02web.zoom.us/j/85637217326>