

PHILOSOPHY · TOOLS · TALES OF SUCCESS
FOR RE-BUILDING RESILIENT RIVERS
— IN SOUTHWESTERN COLORADO —

**Hosted at the Fort Lewis College Ballroom, 1000 Rim Drive,
Durango, CO 81301**

Workshop Organizer Leads:

Sara Burch, San Juan Citizens Alliance, Nichole Fox, Executive Director of Give a Dam, and Jackie Corday, Co-Chair of the Colorado Healthy Headwaters Working Group (HHWG).

Other Key Advisors and Sponsors:

The Four Corners Water Center, Mountain Studies Institute, Trout Unlimited Dolores River Anglers Chapter (DRA), and Steve Monroe (Ecohydrologist).

Final Agenda – September 22nd, 2023

8:00 – 8:30 - Workshop check-in. Please arrive before 8:30 am!

8:30 – 8:45 – Introduction: workshop overview, acknowledgment of sponsors and partners.

Sara Burch, San Juan Citizens Alliance, and Melissa May, Mountain Studies Institute Executive Director

8:45 – 9:15 – Overview of Southwestern CO Riverscapes – What have we lost? What can we address with restoration?

Catherine Ortega, SW Wetlands Focus Committee Chair, and Alan Kasprak, Assistant Professor of Geosciences Fort Lewis College.

This section will address: 1) What are the processes, functions, and ecosystem services of a riverscape? The history of the major disturbances that have led to degraded waterways in SW basins (e.g., beaver eradication, grazing, development, water delivery infrastructure); 2) An overview of process-based restoration principles and approaches that are relevant to addressing these issues. Participants will gain an understanding of the compounding issues that

have led to the loss of riverscape function, and why those functions are critical to restore.

9:15 – 9:45 – State of the Science – A summary of research on the ecosystem services effects of successful LTPBR projects.

Jackie Corday, Corday Natural Resources Consulting

This section will review the highlights of a comprehensive report that synthesizes the published and unpublished case studies of the effects of restoring streams with low-tech PBR and beaver-related restoration, including the benefits observed to surface and groundwater, water quality, improved resilience to climate impacts, and improved aquatic and terrestrial habitat. With 1000s of miles of streams that require restoration efforts, low-cost scalable methods are needed. The research indicates that LTPBR is one of the most effective low-cost

9:45 – 10:00 – Q/A session between speakers and participants.

10:00 – 10:20 Break

10:20 – 12:00 – Current Challenges for Riverscape Restoration in SW Basins. Discusses the barriers, constraints, what to consider for PBR project planning, and how to collectively work through challenges. *20 minutes for each topic below to review some of the most significant challenges to LTPBR restoration work.*

10:20 – 10:40 – Water rights issues

Jackie Corday, Corday Natural Resources Consulting

Information on what typical concerns may be and how to address them in addition to review of SB270.

10:40 – 11:00 – USACE Permitting Process

Kara Hellige, Chief, Southern Colorado Branch of USACE

How to navigate the permitting process for different land management agencies & ownership.

11:00 – 11:20 - Social Issues with Beaver

Nichole Fox, Give a Dam Executive Director

Most LTPBR projects will have the goal of restoring streams in historic beaver habitat with the intent of assisting beaver recolonization for long-term maintenance of stream health. Thus, projects must take into account and plan for avoiding or addressing potential conflicts (e.g. preventing culverts from being plugged and roads flooded).

11:20 – 11:40 - Capacity Funding for Planning & Implementing Projects

Alex Funk, Director of Water Resources and Senior Counsel at Theodore Roosevelt Conservation Partnership.

An overview of some of the best opportunities for state and federal funding. A couple grants are now available to address “lack of capacity” to plan for projects and several sources are available for implementing projects.

11:40 – 12:00 - Q/A session between speakers and participants.

12:00 – 1:00 Lunch Break. RSVP for access to the free lunch buffet!

12:30 - 1:00 – Keynote Speaker – Ed Rumbold, BLM Hydrologist/Aquatic Resources Program Lead

A review of the decision process and plans moving forward associated with the Bureau of Land Management’s Aquatic Resources Program that includes LTPBR as a key tool for restoring riverscapes.

1:00 – 1:30 – Taking a Watershed Approach to LTPBR Project Planning – How to identify and where to begin?

Shawn Conner, Restoration Ecologist with BIO-Logic, Inc.

Process-based restoration techniques take on a variety of treatment forms and are specific to site potential and differing restoration goals. In this presentation, Shawn will provide an overview of watershed scale process-based restoration techniques and how practitioners can begin to identify project areas and prioritize treatments.

1:30 – 3:00 – Stories of Success and Lessons Learned. Speaker Presentations on LTPBR Application Throughout the State.

1:30 – 2:00 – Taylor Park Wetland Restoration Project: Trail Creek

Eli Smith, Stewardship Director with High Country Conservation Advocates, and Adde Sharp, Colorado River Watershed Project Coordinator with the National Forest Foundation.

This presentation will showcase the highly successful collaboration between their organizations, the USFS, and many other partners to plan, fund, and implement a multi-year LTPBR project in the Upper Gunnison Basin. This project quickly welcomed community volunteers who helped implement beaver mimicry structures, involvement from academic institutions, and a pair of local beavers.

2:00 – 2:30 – Rio Grande National Forest – Wet Meadows Restoration Project.

Jason Remshardt, Fisheries and Wildlife Program Manager RGNF, and Connor Born, Stewardship Coordinator with Rio Grande Headwaters Restoration Project

The talk will discuss the installation of beaver dam analog (BDA) sites focused on areas that would improve native fish habitat, methods used for project monitoring, and a brief overview of beaver relocation efforts in the Rio Grande National Forest.

2:30 – 3:00 – Wildcat Stream Enhancement Project: What & Why? – Log pour-over structures for distributed and resilient trout refuge.

Raymond Rose, Dolores River Anglers Trout Unlimited Chapter.

Talk will highlight ongoing efforts of installing log pour-over structures that capitalize on seasonal high flows to generate and maintain distributed and resilient refuge for trout amid declining stream flows within the Upper Dolores River watershed.

3:00 – 3:15 –Afternoon Q/A session between speakers and participants.

Venue is reserved until 3:30.

3:15 – Whenever - Join us for an opportunity to connect and converse in the heart of Downtown Durango! This networking session will be held at 11th Street Station (1101 Main Ave, Durango, CO 81301).

Speaker Biographies

Sara Burch serves as the Animas Riverkeeper with San Juan Citizens Alliance, an environmental advocacy organization that operates throughout the San Juan Basin. In this role, Sara is dedicated to advocating for opportunities to improve riverscape function and health throughout Southwestern Colorado. Her interest in low-tech process-based restoration is rooted in her MS research of Grand Canyon's South Rim groundwater-dependent ecosystems. There, she realized the deep connection between the biological and physical components of stream function that she continues to identify along riverscapes throughout the San Juan Basin. Sara's goal in participating in this workshop is to help bridge barriers that may exist for land and water managers interested in implementing LTPBR projects throughout the Southwest, and to support future projects as they are identified.

Melissa May is the Executive Director of the Mountain Studies Institute here in Durango. She joined the MSI team in 2022 after 10 years working on water quality and watershed restoration in the Animas and San Juan Watersheds at the San Juan Soil & Water Conservation District in Aztec, New Mexico. Melissa grew up in Pittsburgh, Pennsylvania and attended Penn State University where she earned her B.S. in Environmental Resource Management and M.S. in Wildlife and Fisheries Science through Penn State's interdisciplinary Watershed Stewardship Program.

Catherine Ortega received a Bachelor of Arts degree in 1987 and a Ph.D. in 1991, both from the Department of Environmental, Population, and Organismic Biology at the University of Colorado, Boulder. As a faculty member at Fort Lewis College from 1997-2009, she taught numerous courses, including, but not limited to, ornithology, wildlife management, and wetland and stream ecology. Dr. Ortega is currently a consultant and writer and has contributed her expertise and energy, in volunteer capacities, to many agencies, organizations, and tribes, e.g., Chair of the Southwest Wetland Focus Area (Colorado Parks and Wildlife program), President of the Durango Bird Club, Chair and member of the Durango Open Space Board, and consultant to U. S. Fish and Wildlife Service for endangered Yellow-shouldered Blackbird/Shiny Cowbird resolutions and noise mitigation issues. She has over 100 publications and is committed to reaching both scientific and general audiences. Now a consultant, she can be reached at Catherine.P.Ortega@gmail.com.

Alan Kasprak is an assistant professor in the Department of Geosciences at Fort Lewis College. His research focuses understanding physical and biological processes in river systems using geospatial techniques, in particular monitoring river change through time in response to dam operations and vegetation encroachment throughout watersheds of the Colorado Plateau. Alan has participated in river restoration projects at scales ranging from headwater streams in the Pacific Northwest to the Colorado River in Grand Canyon.

Jackie Corday, owner of Corday Natural Resources Consulting, is a land and water conservation lawyer with over two decades of collaborating with numerous local, state, and federal agencies and nonprofits to solve challenges to natural resource issues with a focus on stream and watershed health. Jackie was previously the head of Colorado Parks and Wildlife's Water Resources Section in Denver and moved to Montrose in late 2019 to begin her consulting company. She is a founder and Co-Chair of the Colorado Healthy Headwaters Working Group, a statewide collective of stream restoration experts, scientists, agency, academic, and nonprofit staff who are working together to amplify headwater restoration in Colorado. She has done extensive research on the benefits of low-tech process-based restoration and common implementation barriers, including water rights and social issues.

Kara Hellige is the Chief of the Southern Colorado Branch, US Army Corps of Engineers, Albuquerque District. She oversees the Durango and Pueblo Regulatory Offices. Ms. Hellige has worked for the Corps of Engineer's, Regulatory Program, for almost 25 years. She has been in the Durango Office since 2003.

Nichole Fox is the founder and executive director of Give A Dam - a nonprofit in service of water restoration, in partnership with nature's engineer, the beaver. Nichole weaves modern science and ancient wisdom into unique and inspirational educational and experiential programs for all ages. Give a Dam programming includes: coexistence with beavers for state and private landowners; beaver science curriculum for kindergarten through college; Beaver Theater; beaver ecosystem field trips; and the ethical relocation of beaver families.

Alex Funk serves as the Director of Water Resources and Senior Counsel for the Theodore Roosevelt Conservation Partnership which supports the hunting and fishing on conservation policy matters. Alex manages TRCP's water resource policy portfolio including aligning federal funding to increase the pace and scale of watershed restoration efforts in western watersheds. Alex previously served as the Agricultural and Rural Resiliency Policy Specialist at the Colorado Water Conservation Board, where he acted as the agency's liaison to agricultural stakeholders and rural communities on pressing federal and state water resource policy issues. In this role, he also assisted with the implementation of the Colorado Water Plan and represented CWCB in multiple venues, including Colorado's Natural Working Lands Task Force and the Colorado River Basin Salinity Forum. Previously, Alex was the Western policy director for the National Young Farmers Coalition, focusing on Farm Bill policy, and a fellow with American Rivers. Funk earned his Juris Doctorate from Vermont Law School and his bachelor's degree in Environmental Policy and Planning from Virginia Tech. Alex lives in Denver, Colo., with his family and can frequently be found mountain biking, backpacking, climbing fourteeners, and paddling his kayak around the West.

Ed Rumbold is a hydrologist and Aquatic Resources Program Lead for BLM Colorado. Prior to CO, he worked for the USFS in Corvallis, OR and St Paul, MN, as well as the BLM in Salem and Roseburg, OR for approximately 15 years. Ed's interest in stream restoration began in the late 80's in Salem, OR where he installed gabion baskets, trees, and root wads to improve water quality and salmon habitat, which had been lost primarily due to logging, road building and accelerated peak flows. In the 90s and until 2016, Ed focused more on natural channel design, Zeedyk techniques and fish passage while in Roseburg and here in CO. An LTPBR class by Joe Wheaton, Jeremy Maestes, and others, as well as conversations and OTJ training with Mark Beardsley and Jessica Doran gave him energy and a more holistic approach to riverscape restoration.

Shawn Conner was raised in western Colorado and is Principal of BIO-Logic, Inc., a natural resource consulting firm in Montrose Colorado. Shawn began training with restoration expert Bill Zeedyk in 2013 with the development of the Gunnison Basin Wet Meadow and Riparian Resilience Building Project. Since that time, Shawn has designed and helped construct many process-based restoration projects across Colorado, mainly focusing on wet and mesic meadow restoration. Lately, Shawn has been traveling around the Western US giving workshops and trainings on Zeedyk restoration techniques.

Eli Smith lives in Gunnison, Colorado, and has directed the Stewardship Program for High Country Conservation Advocates (HCCA) since 2021. In this position, he works collaboratively with land management agencies and community organizations to address climate resiliency through the coordination of on-the-ground stewardship projects. HCCA's Stewardship Program is focused on increasing the number of volunteer opportunities to utilize LTPBR methods for stream restoration purposes in Gunnison County. Eli received his Master in Environmental Management (MEM) degree from Western Colorado University in 2022.

Adde Sharp is the Colorado River Watershed Project Coordinator for the National Forest Foundation. In her role at the NFF, Adde is developing a new scope of work focused on scaling up the use of low-tech, process-based restoration in order to improve ecosystem resiliency across the Colorado River Basin and its tributaries. Adde has been with the NFF's Rocky Mountain Region based team since 2022 and holds a M.S. from the University of Denver in Environmental Policy and Management.

Jason Remshardt is the forest fisheries and wildlife program manager on the Rio Grande National Forest. Over the last 20 plus years, Jason has worked as a fisheries biologist for the US Forest Service, US Fish and Wildlife Service as well as private consulting throughout the Rocky Mountains from New Mexico to Alberta, Canada. Over the last 6 years with the Rio Grande National Forest and with assistance from multiple partners, Jason has led fish habitat restoration projects including low tech wet meadow restoration and beaver translocations throughout the Rio Grande headwaters.

Connor Born works for the Rio Grande Headwaters Restoration Project out of Alamosa, Colorado. With an undergraduate major in biology focused on conservation ecology, he has diverse experience in the field, having worked in tallgrass prairies, the everglades, and within the Rio Grande Basin in Colorado. Currently serving as Stewardship Coordinator, Connor oversees project monitoring and watershed stewardship efforts, most notably the Wet Meadows Restoration Project.

Raymond Rose has a background in environmental engineering and water chemistry. He helped in determining water temperature patterns in upper Dolores basin tributaries and the main stem. And in performing water quality assessments for classification of selected tributaries as Colorado Outstanding Waters. Currently he's assisting with plans and actions to preserve and enhance trout habitat in upper Dolores streams.