

The Green Ribbon of Life

by Rick Lofaro, Executive Director



Take a moment to close your eyes and visit your favorite river spot in your mind. Listen to the river flowing by, the wind rustling the trees, the songbirds chirping. Was that an American Dipper that just disappeared into the river? Feel the cool breeze on your face and enjoy the shade of cottonwoods on a hot afternoon.

So much of what we love about the river exists not in the water, but around it. This gift of lush green vegetation that surrounds the river is home to a great diversity of plants and wildlife, containing so much of what we all love about the river. Large trees shade the river and keep the cold-water ecosystem cold. This, in turn, helps trout and insect populations thrive. Studies show a dramatic increase in water temperatures and a decline of the in-stream ecosystem in sections of local rivers devoid of vegetation that makes up the riparian ecosystem (riparian). In short, everything we love about the river is threatened by the removal of the riparian.

Often referred to as the green ribbon of life, the riparian exists only on the land adjacent to creeks, streams, brooks, wetlands, and rivers. In many areas in the Mountain West, this habitat is a lush, green, and vibrant contrast to an otherwise arid and muted landscape. It is the lifeline for a host of plant and wildlife species; yet the riparian comprises less than 2% of the West's entire landmass – including Colorado. This land is valuable to not only the natural community, but human communities as well. Whether people are floating on the

Roaring Fork River near Glenwood Springs, or hiking along Sawyer Creek enroute to Sawyer Lake, the riparian is a favorite place and a portal to the waters we enjoy in our watershed. Additionally, the

riparian is the most economically valuable and the most ecologically valuable land in the West. It is everyone's responsibility to do right by the river in understanding and preserving these critical riparian places, because whatever is own the land will have either a positive or negative impact on the river.

Many of the most important attributes of the riparian are invisible to us because they are underground. The root system of the riparian – from native grasses and sedges, to shrubs and trees – act as Velcro with the soil, minimizing erosion and filtering out pollutants. The ground cover also acts like a sponge, absorbing water during runoff in

late spring and early summer, and slowly releases water back to the stream over the summer months. Leaves from native riparian trees are an instrumental source of food for terrestrial and aquatic organisms. The riparian is as much a part of the river as the water!

Interested in learning more about the riparian? Check out pages 6-7 of this newsletter. Additionally, Roaring Fork Conservancy (RFC) offers free riparian assessments for residences on any waterway in the Roaring Fork watershed, providing suggestions about how to retain and enhance the most important habitat we and so many enjoy and rely upon.

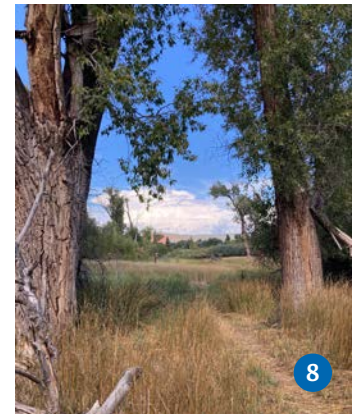
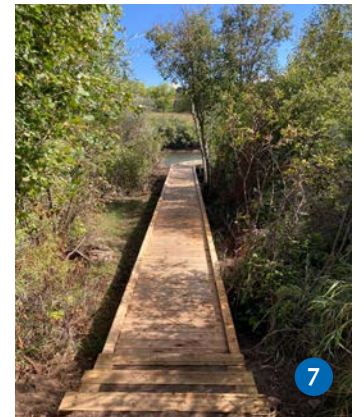
***“The riparian
is as much
a part of
the river
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water!”***

Crystal River Project at Riverfront Park Nears Completion

by Heather Lewin, Director of Science and Policy

The Crystal River Restoration Project at Riverfront Park in Carbondale's River Valley Ranch (RVR) completed all instream improvements, as well as much of the upland regrading and trail work. This multi-benefit project recreated the Weaver Ditch diversion structure to function as a part of the stream, requiring minimal maintenance in the future. The project also touts a self-sustaining low-flow channel that functions at a variety of water levels, reconnection of the river to the floodplain, and the only Crystal River access for all abilities in the Town of Carbondale.

We are beyond excited to see this project on the ground and look forward to sharing this special area with you for years to come. We would like to give special thanks to the Town of Carbondale for partnering with us in this project as landowner, planning partner and funding partner; Pitkin County Healthy Rivers, a planning and funding partner; additional funding partners: Colorado Water Conservation Board, Colorado Healthy River's Fund, Colorado Parks and Wildlife Fishing is Fun Grant, Aspen Valley Land Trust R3 Fund, Bureau of Reclamation's WaterSMART grant, and Colorado River District's Community Funding Partnership. In addition, this project would not have been possible without the top-notch planning and design from River Restoration and DHM Designs. And finally, a huge thank you to David Myers and his crew at Redoubt Construction for completing the project with impeccable skill and attention to detail in less than half the anticipated timeframe! It truly takes a village to care for the river, and we appreciate all who have supported this project along the way!



- 1 The accessible path allows people of all abilities to interact with the Crystal River.
- 2 A new entryway provides access to the park and reminds visitors of the winter closure for Bald Eagle nesting and that no dogs are allowed in this area at any time.
- 3 The view from RVR's Crystal Bridge Drive shows the classroom with river access and a newly established low-flow channel.
- 4 From a bird's eye view, one can see the classroom, adjacent fishing access, and the boulders placed to both maintain the new channel and create fish habitat.
- 5 This area was previously covered in pasture grasses and weeds, about 3 feet above the water. A newly reconnected floodplain (currently covered for erosion control) will be planted with native vegetation in spring 2024.
- 6 The path adjacent to the floodplain will allow visitors a firsthand look at the native regrowth with a fishing access path nearby. The area was hand seeded with native grass, and some is already emerging! More seeds and plants will be added this spring.
- 7 A boardwalk guides visitors through the lush vegetation and over a wetland area to the riverbank. This follows the original path, reinforcing and revegetating areas that were eroding away.
- 8 Historic cottonwoods provide a grand entrance to a wetland grass meadow, which remains undisturbed, with just a rustic grass path for quiet passage through this special habitat.
- 9 The newly-constructed Weaver Ditch diversion allows the town of Carbondale to receive their legal allocation of water while allowing boating and fish passage with minimal maintenance.

More information about this project can be found in RFC's *River Currents Summer 2020 and Summer 2022* editions.



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Return to the River

CELEBRATE WESTERN RIVERS
 Benefitting Roaring Fork Conservancy

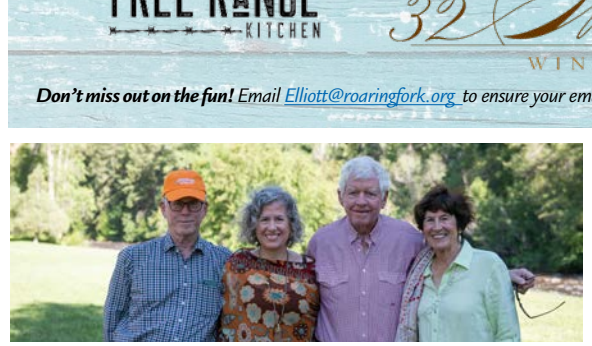
Thank you for returning to the river with us this summer!

This year's Return to the River dinners celebrated Western rivers! The theme honored the Western water that makes our region special while tipping a hat to our Drought Resiliency Project partnerships with local ranchers. Again, huge thanks to Woody Creek Distillers and Mia Mascarin of 32 Winds Wine for donating the delicious cocktails and wine enjoyed by attendees.

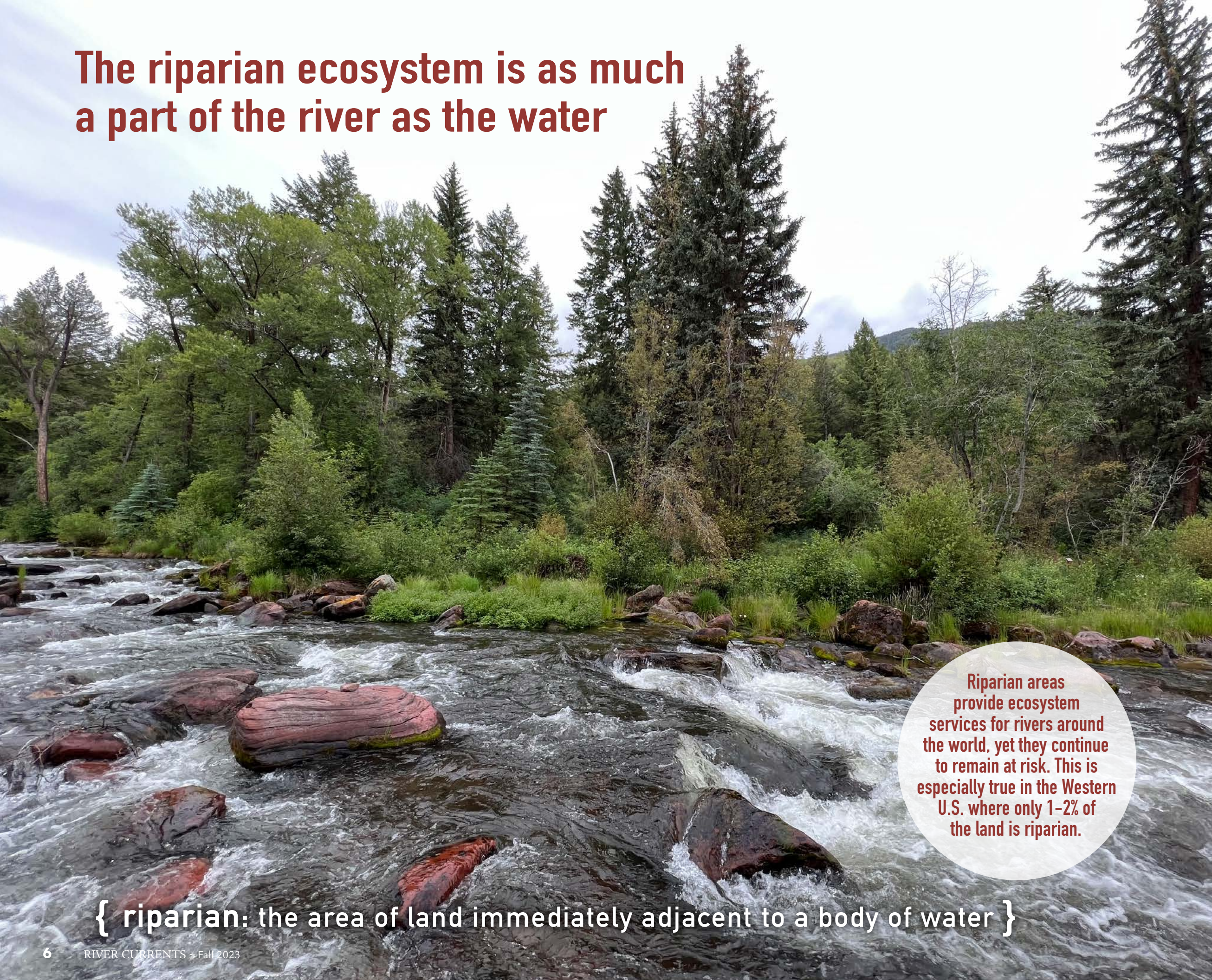
Guests donned their best western wear, enjoyed hors d'oeuvres and refreshments on the banks of the Frypan, learned more about our work, and connected with fellow watershed supporters. The evenings continued with an update on our current projects, live music, lively auction, and a delectable dinner by Free Range Kitchen.

FREE RANGE KITCHEN **32 Winds WINE** **WOODY CREEK DISTILLERS**

Don't miss out on the fun! Email Elliott@roaringfork.org to ensure your email is up to date in our system! Photos by Stonehouse Pictures



The riparian ecosystem is as much a part of the river as the water



{ riparian: the area of land immediately adjacent to a body of water }

Riparian ecosystems are critical because they provide:



SHADE which keeps rivers cool and cooler water holds more oxygen. This is particularly important in headwaters streams where aquatic life is adapted to cool water.



EROSION CONTROL. Deep root systems stabilize soil and stream banks.



FILTRATION. Soil and plant roots act as natural biofilters, removing pollutants before they reach streams.



FLOOD CONTROL by storing water in their porous soil during high flows.



multilayered **HABITAT** for abundant and diverse wildlife, this includes from the tops of trees to woody debris that falls in rivers. In the West, 85% of wildlife rely on the riparian area at some point in their life.



NATURAL COORIDORS including habitat connectivity and resting places for migratory wildlife.



rich and diverse **FOOD SOURCES** for terrestrial and aquatic life.

Riparian areas provide ecosystem services for rivers around the world, yet they continue to remain at risk. This is especially true in the Western U.S. where only 1-2% of the land is riparian.

RFC honored with a 2023 AWARD FOR EXCELLENCE IN ENVIRONMENTAL EDUCATION

The Colorado Alliance for Environmental Education (CAEE) awarded RFC's Watershed PenPal

Program with a 2023 Innovative Environmental Education Program Award. Megan Dean, RFC's education director and program creator, was recognized on Friday, September 29, 2023 at Colorado State University Spur in Denver as part of CAEE's Annual Advancing Environmental Education Conference.

RFC's Watershed PenPal Program unites students from Basalt, Colorado with students in Aurora, Colorado by reaching across the Continental Divide to cultivate relationships through a combination of old-fashioned letter writing and accessible technology. Aurora Water's Environmental and Educational Outreach program helped forge a connection with the partner school in Aurora - Vista Peak Exploratory. The City of Aurora and the Roaring Fork Valley both utilize water from the headwaters of the Fryingpan River, making this a transbasin project and relationship. In today's heightened need for water, we often face conflict and territorial battles. This program aims to create positive relationships through communication.

Through a series of shared classes, Google Slides, videos, and fun activities, students in both Aurora and Basalt learn about where their water comes from and why it's important to value, conserve, and protect this life-giving resource. As a part of the program, students get an opportunity to meet their pen pal through Google Meets. RFC launches the Watershed PenPal program in Aurora by traveling to the

partnering school to meet the students and guiding them through activities that link them to their headwaters and pen pals.



Megan Dean, RFC's education director (center) receives the 2023 Innovative Environmental Education Program Award from CAEE board member Erika Meyer (left) and CAEE executive director Katie Navin (right).

This project approaches water use by creating connections, teaching about water systems, and building positive relationships. Students learn that the only way forward is through understanding our earth's natural systems, each other, and our most fundamental connection: we are all water users.

"All across the state of Colorado these innovative environmental educators and programs are energizing learning and equipping people, communities, and organizations with the knowledge, skills, and motivation to make informed decisions about how they can best care for and sustain our world for future generations," said Katie Navin, CAEE's executive director. "They are creating a new standard for learning in their communities."

Staff Flows WELCOME!



Jennifer (Jayla) Brown, is RFC's new **Education Program Coordinator**. As a fourth-generation Coloradan with more recent Australian ties, Jennifer is excited to have returned to

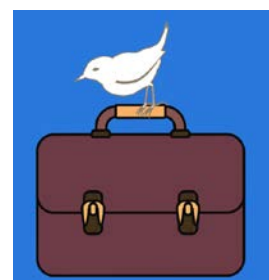
the Centennial State and for the opportunity to make a positive impact in the headwaters of the Colorado River. She brings a wealth of unique experiences working for non-profit organizations and local government in the interdisciplinary nexus of land management, applied ecology, place-based education, and volunteer program coordination. Jennifer completed her undergraduate work in natural resource management from Colorado State University and went on to graduate studies in river restoration & management at Charles Sturt University in Australia. Jennifer is passionate about engaging youth and connecting people of all ages with the ecology of their local watersheds. She enjoys exploring the outdoors with her family, jamming out to music while cooking, getting her hands dirty composting, learning to grow food, and landscaping with native plants at her family home on Silt Mesa.



Cailyn Raper has a passion for conservation that stems from her childhood spent in the beautiful mountains of Asheville, North Carolina. She graduated in 2022 from

the University of North Carolina at Chapel Hill with degrees in Environmental Studies and Political Science. Upon her graduation, she spent the greater part of a year in Southern Africa working with orphan homes in Mozambique and Zimbabwe. She moved to the Roaring Fork Valley in September of 2023 in search of more experience in the environmental field and is excited to join the team as a **Watershed Educator** with RFC. She looks forward to broadening her understanding of the Roaring Fork watershed and utilizing her passion for the environment to motivate students to be good stewards of their natural resources.

MORE WAYS TO SUPPORT RFC!



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Many employers will match charitable contributions made by their employees. By taking advantage of a company's matching gift benefit, you may be able to double or even triple the amount of your contribution! Ask your HR department today!



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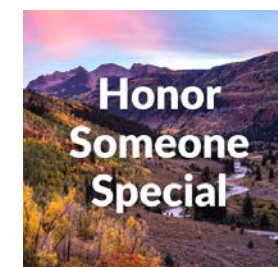
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Join us December 5 for Colorado's largest giving day!



When you donate at ColoradoGives.org/RoaringForkConservancy, you bring people together to protect your rivers, monitor water quality, preserve riparian habitat and prepare the next generation of river stewards!

Remember your Rivers on **December 5!**



Honor Someone Special with your Gift

Donating in someone's honor or memory is a meaningful way to express gratitude or recognize important life events, while helping ensure a healthy and vibrant Roaring Fork Watershed.



Consider a Charitable Rollover

Individuals over 70½ may donate up to \$100,000 per year to charities directly from their IRA, known as a Qualified Charitable Distribution (QCD). QCDs count towards any required minimum distribution (RMD) an account holder must take from their IRA. With a QCD you can benefit your Roaring Fork Watershed, fulfill your RMD requirement, and exclude that amount from your income. Ask your financial advisor if this is a good strategy for you to support your rivers!



Connect your City Market Rewards Card

- 1) Click enroll or log in to your account at www.citymarketcommunityrewards.com
- 2) Search for **Roaring Fork Conservancy** or **CV113**
- 3) Click Enroll and you're ready to support your rivers while you shop!



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The Brooksher Watershed Institute

Winter 2024 Presenters

Roaring Fork Conservancy invites you to join us for in-person presentations addressing our most precious resource, water. We'll discuss the most current water-related issues at the local, state and national level, and provide opportunities for one-on-one dialogue with these water leaders.

January 17, 2024

FISH, FLOWS AND FLEXIBILITY: HOW RUEDI RESERVOIR HELPS MULTIPLE SPECIES SURVIVE AND THRIVE

David Graf, In Stream Flow Coordinator for the Upper Colorado River Basin Endangered Fish Recovery Program, U.S. Fish and Wildlife Service

April Long, Executive Director at Ruedi Water & Power Authority

In 1962, federal authorization of the Fryngpan-Arkansas Project initiated construction of all components of the Fry-Ark Project, including Ruedi Dam and Reservoir. Ruedi Reservoir is intended to provide benefits to western slope water users to compensate for additional trans-mountain diversions from the Roaring Fork headwaters. Since 1962, the term 'water users' has expanded to include specific fishery purposes and more generally, other non-consumptive uses such as off-site hydropower generation, river health and recreation. The Upper Colorado River Endangered Fish Recovery Program was established in 1988, and in 2023 has three specific pools of water available for use in the 15-Mile Reach of the Colorado River (Palisade to the Gunnison River confluence), as well as lease water made available by Program partners that adds to the Recovery Program storage available in Ruedi. Come hear how the Ruedi Water and Power Authority and the Recovery Program collaborate on real-time flow management decision-making to sustain endangered fish in the heavily-dewatered 15-Mile Reach, and how those releases also sustain gold medal trout fishing and river health from Ruedi Dam to Glenwood and beyond.

January 30, 2024

FROM FLAKES TO FLOW: UNVEILING THE DYNAMICS OF SNOW, WATER, AND CLIMATE IN COLORADO

Jeff Derry, Executive Director at Center for Snow and Avalanche Studies

Jeff will discuss the journey a snowflake takes once it falls in the Colorado Mountains, including the timing and distribution of snow accumulation, how snowpack is measured, and how a streamflow forecast is made. Factors that influence snow accumulation/ablation, such as dust-on-snow and climate trends will also be discussed. Jeff will give an overview of the state-of-the-science research that Center for Snow & Avalanche Studies conducts and hosts in their Senator Beck Study Basin in attempts to improve understanding of our mountains, snowpack, and implications of the changes we are observing.

Each program will take place from 5:00-6:30pm at Basalt Regional Library. Registration is required for all presentations as seating is limited. Program details can be found at www.roaringfork.org/events.

February 7, 2024

AIRBORNE LASER MAPPING THE MOUNTAIN SNOWPACK - A NEW FOUNDATION FOR RUNOFF FORECASTING AND WATER MANAGEMENT

Jeffrey Deems, Ph.D., Co-Founder, Chief Technical Officer and Formulation Lead at Airborne Snow Observatories, Inc.

Airborne Snow Observatories (ASO) is bringing a new, powerful perspective to measuring and monitoring our biggest water reservoir - the mountain snowpack. Conventional, station-based measurements (like SNOTEL) provide important, continuous monitoring at a small number of locations. While these stations form the backbone of our snowpack monitoring infrastructure, their locations in forest clearings within a narrow elevation range leave us blind to the vast majority of the snowpack within a watershed. This is an important vulnerability, meaning we can have a good bit more or less snow in the watershed than indicated by the station data.

ASO is filling this gap. Using technology and data workflows developed over nearly a decade at the NASA Jet Propulsion Laboratory, ASO uses airborne laser and spectrometer mapping to provide accurate, high-resolution, and full-watershed maps of snow depth, snow water equivalent, and snow albedo. When combined with information from the SNOTEL network, we now have the necessary data resources to accurately capture the evolution of the seasonal mountain snowpack and to increase the reliability of runoff forecasting in changing climate and watershed conditions.

This presentation will explore this ongoing paradigm shift in our ability to monitor our snowpack reservoir, with examples and case studies from the Roaring Fork watershed, Colorado, and California.

February 27, 2024

WHIRLING DISEASE AT AGE 40?!?

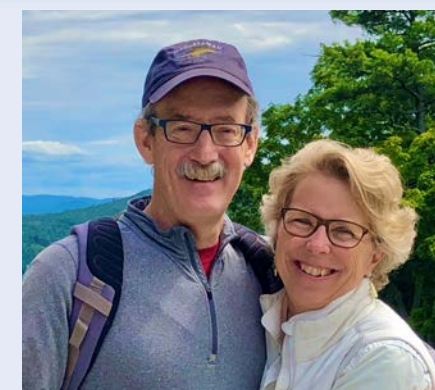
Barry Nehring, retired Aquatic Researcher from Colorado Parks & Wildlife

Whirling Disease (WD) is caused by a parasite that can infect and kill brook, cutthroat and rainbow trout when exposed during the first 2 to 3 months of life. While this malady was first described in the late 1890s in Germany, the actual life cycle of the parasite remained an enigma until 1984. It was first detected in fish hatcheries in Colorado in late 1987, found in wild trout in Colorado streams 1988-1989, and began causing the collapse of wild rainbow, brook and cutthroat trout populations in numerous coldwater streams in Colorado in the 1990s. Although it is "old news" WD continues to complicate coldwater fisheries management in the state to this day.

Barry began his career as an Aquatic Researcher working on wild trout and coldwater trout streams for the Colorado Division of Wildlife (CDOW) in 1978. He began working exclusively on the WD problem in Colorado in 1993 and has continued to do so after retiring from the CDOW up to the present time. Barry's presentation will focus on: *What Have We Learned? What Do We Know? What Are We Doing? What Can You Do?*

Shout Out to Outstanding Volunteers!

RFC would like to issue a very special thank you to Lisa & Steve Ayres.



Lisa and Steve Ayres moved permanently to the Roaring Fork Valley in 2020 and quickly became active volunteers and donors with RFC. Lisa began as a volunteer at the front desk of the River Center and assisted in summer programs. Steve enjoys helping behind the scenes at RFC fundraising events. Both love to participate in the many adult education programs offered by RFC.

Prior to retirement, Steve and Lisa lived in Boston, where Steve was the Vicar of the Old North Church of Paul Revere fame. Through operating a historic site that greeted over half a million visitors each year, Lisa and Steve learned the value of a dedicated core of volunteers. They learned about RFC through their church, St. Peter's of the Valley in Basalt, a regular participant in the annual Fryngpan & Beyond River Cleanup.

Lisa also volunteers with Basalt Middle School. She is an active birder. Steve is a substitute preacher for the three Episcopal churches in the valley. Both are avid skiers, bikers and kayakers. Lisa and Steve have one son, Matt, a budding environmentalist who just graduated from Colorado State University.

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RIVER CURRENTS

is published biannually by Roaring Fork Conservancy. Since 1996, Roaring Fork Conservancy has inspired people to explore, value and protect the Roaring Fork Watershed. We bring people together to protect our rivers and work to keep water in the streams, monitor water quality, and preserve riparian habitat. Roaring Fork Conservancy is an independent 501(c)(3) not-for-profit organization registered in the state of Colorado.

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Base flows: (n) the normal flow conditions in a river that provide adequate habitat to support diverse, native aquatic communities and maintain groundwater levels for riparian vegetation.

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Your monthly support provides dependable funding so we can focus on inspiring people to explore, value, and protect the Roaring Fork Watershed!



Join today!

December 5



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