

An Introduction to Your Headwaters

by Rick Lofaro, Executive Director

Allow me to introduce you to one of the many things that make our watershed and our state so special – headwaters. What are headwaters, you ask? Headwaters are tributary streams of a river close to or forming part of its source. In other words, the highest points and humble beginnings of our most precious streams and rivers where winter snowmelt turns into water. The Roaring Fork Watershed is comprised of three major rivers - Roaring Fork, Fryingpan, and Crystal - yet dozens of headwaters tributary streams tumble down from the high country, fueling these systems with clean, cold water.

Colorado is the “headwaters” state for much of the western and central United States. That means that most of its rivers begin in the Rocky Mountains and flow across state lines. Four of the nation’s major rivers originate in Colorado: the Arkansas, Colorado, Platte, and the Rio Grande. The Roaring Fork Watershed contributes an average annual flow of one million acre-feet to the Colorado River, which equates to 10% of the annual flow. Additionally, the majority of streams in the Roaring Fork Watershed are headwater streams. Protecting these vital waterways at their source and beyond is critical to our mission, our programming, and our everyday work.

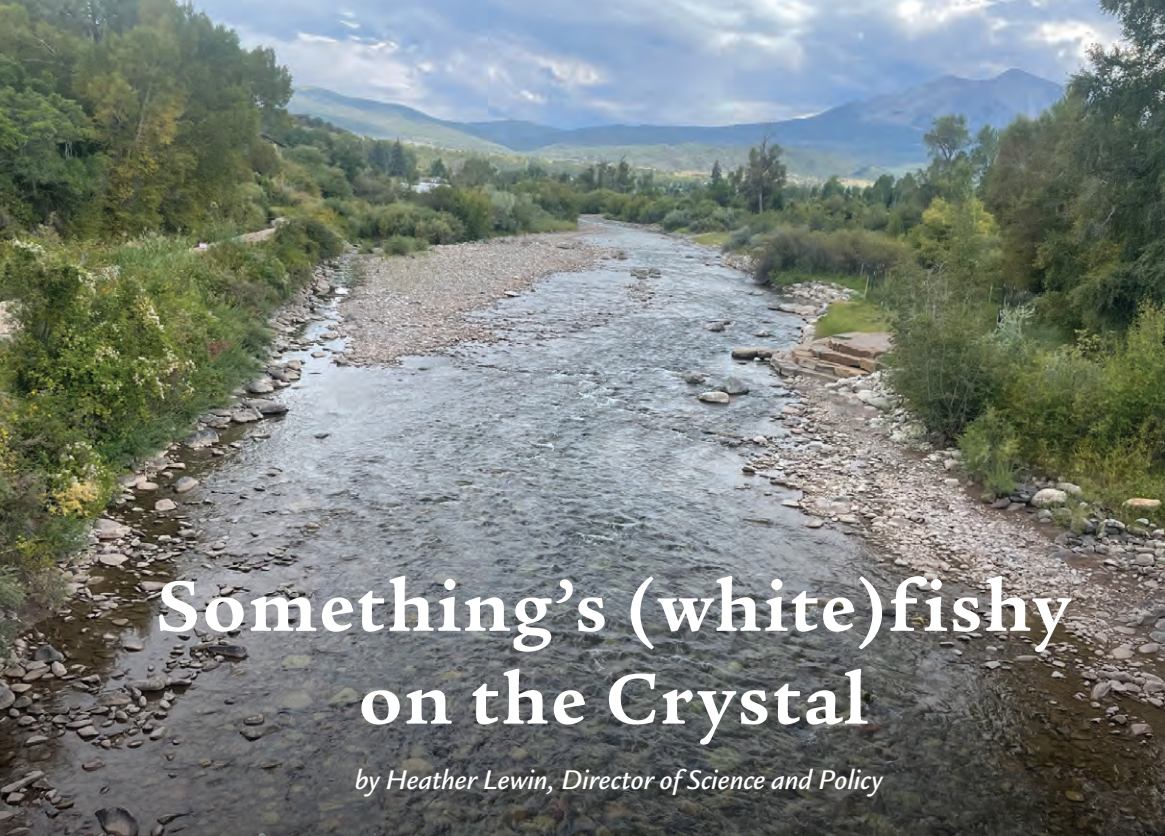
Recently, the Colorado Water Quality Control Commission designated four local streams as Outstanding Waters, the



highest level of protection the state can provide to uphold the integrity of these high-quality mountain streams. However, in some cases like Lincoln Creek, the water emanating from the mountains above Grizzly Reservoir is laden with dissolved metals from a natural source, rendering conditions uninhabitable for aquatic life. To learn more about Outstanding Waters and Lincoln Creek, read the article on page 3.

Headwaters are critical to both the ecology and the economy of Colorado. Twenty-four major transmountain tunnels and collection systems move the precious headwaters to the Front Range, providing water for millions of people. Do those people know where that water comes from? This question was the inspiration for the Watershed PenPal and Meet Your Headwaters program, connecting 5th graders from Basalt and Aurora through old-fashioned letter writing and questions posed about the source of their water. The program culminated this summer in a three-day tour of the Roaring Fork Watershed including tours of Ruedi Dam, the upper Fryingpan, and even a day rafting through Glenwood Canyon.

Next time you’re out hiking, hunting, skiing, or fishing in the high country enjoying the view and all the headwaters around you, remember that this water is vital to millions of people. Explore, value, and protect our headwaters. They’re worth fighting for; they’re worth protecting.



Something's (white)fishy on the Crystal

by Heather Lewin, Director of Science and Policy

I pulled into the parking lot on Crystal Bridge Drive on a sunny September afternoon. My plan was to check out the conditions at Riverfront Park, as I like to do when I'm nearby and have the time. I knew water levels had recently dropped, so I wanted to see how the low-flow channel, streambanks, and diversion, all completed around this time last year, were looking. As I pulled in, I was pleasantly surprised to see "Hutch" Hutchinson, a local fishing guide and Roaring Fork Fishing Guide Alliance board member putting his boots on. Like me, Hutch was eager to explore the area and see the recent changes, particularly the potential for new angling spots.

I took the opportunity to share the highlights and challenges of completing the restoration project—the delays, grant applications, billings, and reports—and how, in the end, it all feels worthwhile when looking at the finished instream and riparian work. From the bridge, we had a clear

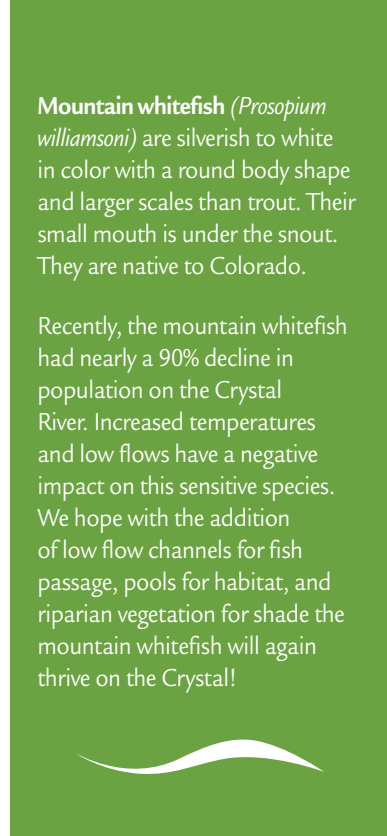
view of the well-established thalweg, or low-flow channel. This concentrates moving water at low flows and creates opportunities for fish to migrate through at a much larger variety of flows than the monocultured, shallow reach that existed prior to the restoration efforts.

As we descended the smooth new staircase, adjacent to the accessible ramp, we met the golf path and headed under the bridge to the park entrance. Through the new gate, that will restrict access to the park during the winter closure, we walked the short distance to the outdoor classroom space and main angling access. As the river bubbled by, we made note of how high the water had been in June, and discussed how the work seemed to be holding up well. The discernible low flow channel, and a nice deep pool near the fishing access stood out as significant changes since the construction's completion. We turned a few rocks, finding a bustling benthic

macroinvertebrate community, food for fish and birds, thriving in the river.

We walked together just a bit further to see the reconnected floodplain area, filled with native grasses and willow plugs that were planted in August, already boasting abundant green leaves. At this point, I sent Hutch down the trail to discover the new boardwalk and fish his way back. I left the site, listening to a chorus of birds chirping, with a renewed excitement in the project - seeing the vegetation really thriving through the wet late summer.

But my pleasant surprises were not quite over! Later that afternoon, I received a text from Hutch, "Nice work to the entire team for the work done on the Crystal. Here is about a 16" whitefish. They were sitting where they should have been in the deepest, slowest moving water. I saw a couple more in there as well. I also caught a few rainbows and browns! Cheers to healthier rivers!!"



Mountain whitefish (*Prosopium williamsoni*) are silverish to white in color with a round body shape and larger scales than trout. Their small mouth is under the snout. They are native to Colorado.

Recently, the mountain whitefish had nearly a 90% decline in population on the Crystal River. Increased temperatures and low flows have a negative impact on this sensitive species. We hope with the addition of low flow channels for fish passage, pools for habitat, and riparian vegetation for shade the mountain whitefish will again thrive on the Crystal!



Hutch Hutchinson

We are looking forward to seeing the Riverfront Park site continue to mature into a revitalized instream and riparian habitat. And hope to raise our glasses again in the future under a canopy of cottonwoods to cheers a healthier river!

At the Source: Successes and Challenges in the Roaring Fork Headwaters

by Chad Rudow, Water Quality Program Manager



Matthew Anderson, RFC's water quality technician, conducts OW sampling on Avalanche Creek.



Highly mineralized water entering Lincoln Creek.

Throughout the world, headwater streams are critical tributaries that contribute to water quality and quantity of larger downstream rivers. Headwaters represent a stream or river's starting point, or source. They are small and have no tributaries of their own. They can be perennial streams which flow year-round or intermittent streams flowing only part of the year. These important streams account for 80% of the world's waterways!

The Roaring Fork Watershed is no exception, with small headwater streams making up the vast majority of "stream miles" and playing an integral role in the health of downstream rivers. The watershed contains many headwater streams of high water quality and a few that have noteworthy impacts. Streams of both types have been the focus of recent RFC projects, representing water quality successes and challenges.

Outstanding Waters Success

"Outstanding Waters" (OW) is a designation given by the State of Colorado to streams of high water quality and exceptional ecological or recreational significance. The intent of this designation is to preserve these high quality characteristics from long-term degradation. The Roaring Fork Watershed has numerous stream reaches already designated OW including most headwater streams within federal wilderness areas.

In 2022, RFC joined the Colorado River Basin Outstanding Waters Coalition (CRBOWC) to propose additional stream reaches in western Colorado for OW designation. This two-year process included robust water quality sampling, significant outreach to stakeholders at federal, state, and local levels, and a comprehensive proposal to the State Water Quality Control Commission. In August 2024, the Commission unanimously approved the designation of approximately 385 miles across 15 rivers and streams in the Colorado, Eagle, Yampa, and Roaring Fork River basins as Outstanding Waters!

These OW designations protect some of Colorado's most deserving streams including four local reaches: Avalanche, Hunter, Middle Thompson, and Woody Creeks. The commission's ruling provides these high-quality streams with protections necessary to maintain ecological and recreational values for future generations.

Lincoln Creek Challenge

Lincoln Creek is a headwater tributary to the upper Roaring Fork River near Independence Pass. This creek is increasingly impacted by elevated metals concentrations stemming from a highly mineralized area near its headwaters. These metals are transported down the creek, through Grizzly Reservoir, and eventually to the Roaring Fork River where elevated levels have been measured as far downstream as Aspen, Colorado.

In 2021, the Environmental Protection Agency (EPA) initiated a large collaborative effort to study water quality concerns along the creek, and RFC was one of the only non-government agencies asked to participate. RFC staff provided local knowledge and sampling expertise during the year-long water quality study that ensued. Ultimately, study findings showed that reaches of Lincoln Creek exceed aquatic life standards for numerous metals, and effects are likely increasing due to climate change.

After the EPA report was released, RFC transitioned to a local workgroup led by Pitkin County, to continue studying this water quality concern. RFC took on a leadership role, coordinating water quality work being conducted by federal, state, and local entities. Overall, this creek and its related concerns will be a focal point for RFC and the Lincoln Creek Workgroup for many years to come.

To learn more about current workgroup efforts to study Lincoln Creek and related concerns, please join RFC in early 2025 for a series of Brookshier Watershed Institute presentations focused on this impacted headwater stream. See page 8 in this newsletter for more information.

RETURN TO THE RIVER

THANK YOU TO OUR SPONSORS & SUPPORTERS

Judy & David Baum | The Brooksher Family
Cornelia Long | Barb & Pat McMahon
Maria & Jock Stafford

Gail & Mike Attas | Janie & Eddie Bradley
Sue & Mike Bowlin | Caryl & David Cherry | Eleanor Davis
Ruth & Dan Flournoy | Mary & Dan Horn | Dick Kipper
Bonnie & Harry Kloosterman | Claudia & Fred Lummis
Michelle & Dieter Schindler | Gayle Waterman
Kay & Robert Watson

Bonner & George Ball | Pat & Jane Bolin
Janis Merrill & Bob Campbell | Marsha & David Dowler
Jennifer & Cap Grossman | Dave Hoff | Marnie & Lee Hogan
Kay & Ned Holmes | Tammy & Tom Kenning
Denise & Michael Latousek | Jean Moore | Lauren & Jeff Read
Mary Ann & John Virant | Patti & Jay Webster
Alex & Donn Willins



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



SUMMER 2024

Summer is a very active time for every single RFC staff member. Take a look at some of our highlights from this summer.



Soaking up the sunshine & beautiful North Star scenery as the tandem duckies bumper boat their way down the river - all laughs! Yep, that was a moose in the bushes!
-Jayla

I enjoyed gathering with my community in support of our rivers and learning more about them!
-Elliott



Greetings from Estes Park where I trained the education staff from the International Game Fish Association and staff from the National Park Service in the National Fishing in the Schools Program.
-Christina

The three watershed PenPal Musketeers! Aurora water Educator Sherry Meschko, Vista Peak Exploratory 5th Grade Teacher Kaaryn Child, and I take a break from exploring the headwaters of the Fryingpan River with students.
-Megan



A perfect day, the most beautiful columbines, and a brookie and a cutthroat from the tippy top of the Fryingpan!
-Rick



Monitoring water quality at a remote headwater stream which is now designated "Outstanding Waters" by the state of Colorado.
-Chad



There's nothing like getting away from my desk to explore the headwaters.
-Sheryl



Just one of the 216 square meters sampled for the season. That's just over 59% of an acre, cut by hand to ground level, packaged, weighed, and analyzed.
-Andrea



A sunny day for my fifth visit to Lincoln Creek this summer, joined by others from the incredible Lincoln Creek workgroup.
-Matthew



FALL 2024 AND WINTER 2025 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.

November 19, 2024

The Shoshone Water Rights Preservation Campaign and the Roaring Fork Valley

Andy Mueller, General Manager at Colorado River District and **Brendon Langenhuizen**, Director of Technical Advocacy at Colorado River District

On behalf of a diverse group of local governments, water entities, and regional organizations, the Colorado River District is working to purchase and permanently protect the water rights associated with hydropower production at the Shoshone Power Plant in Glenwood Canyon. These large and very senior water rights are foundational to water management across the state and provide myriad benefits for the environment, recreation economies, agriculture, and municipal drinking water from Grand County to the state line. Learn more about how this \$99 million deal will impact the Roaring Fork River watershed and surrounding communities.

December 5, 2024

Grappling with Barriers to Agricultural Water Conservation on Colorado's West Slope

Seth Mason, Principal Hydrologist at Lotic Hydrological and Ph.D. Candidate at Colorado State University

The Upper Colorado River Commission identifies voluntary and compensated reductions in consumptive water use as an important tool for managing Colorado River water supplies in the face of a drying climate and falling water levels in Lake Powell. Water leasing programs are also an important tool for watershed groups like the Roaring Fork Conservancy working to meet local environmental flow targets. However, participation rates in water conservation programs remain low locally and regionally. Seth Mason will share insights from research activities conducted in the Roaring Fork Watershed and across Colorado's West Slope that probe the factors that limit water conservation program participation rates and attempt to identify opportunities for increasing the appeal and effectiveness of future water conservation programs.

Presentations are free and will take place from 5:00pm-6:30pm at Basalt Regional Library.

Registration is required as seating is limited. Program details can be found at www.roaringfork.org/events.

LINCOLN CREEK SERIES

January 14, 2025

What's the Big Deal with Lincoln Creek?

Megan McConville, Ph.D., Water Quality Specialist at Colorado Parks & Wildlife and **Chad Rudow**, Water Quality Program Manager at Roaring Fork Conservancy

It's been in the news a lot over the last two years but how well do you know it? We'll take you on a quick tour of Lincoln Creek, discuss historical sampling and recent concerns, and share how exactly scientists measure, test, and monitor a stream at 10,000 feet. Then, once we have all the samples, what happens to them? And how do we expect this data to inform future work?

January 23, 2025

Are there Rare Earth Elements and Trace Metals in Lincoln Creek?

Athena Bolin and **Adam Odoriso**, Master of Science in Environmental Engineering students, Institute of Arctic and Alpine Research, College of Engineering and Applied Science, University of Colorado Boulder

During the summer of 2024, with the support of many outside agencies, two graduate students at the University of Colorado Boulder conducted a comprehensive study of Lincoln Creek to evaluate the presence of rare earth elements and trace metals and assess their implications for the creek's ecological health. They collected a variety of samples to address critical research questions. Find out the significance of rare earth elements and the potential ecological challenges facing this important water system.

SPRING – to be announced

Lincoln Creek Water Quality Results: What Does it All Mean?

After multiple agencies conducted numerous water quality tests over the past year, what does it all mean? Join RFC as we host the Lincoln Creek Workgroup to share results and analysis of the data.

MORE WAYS TO SUPPORT RFC!



Double your Impact with a Company Match

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 and email Sheryl@roaringfork.org



'FUNDRAISEFORK' at Minted.com

Order your holiday cards to benefit your rivers! When you shop Minted.com's marketplace of independent artists to find the perfect card, personalized stationery or gift using our code: **FUNDRAISEFORK** - you'll save 20% + Minted.com will donate 15% of your order to Roaring Fork Conservancy!



Give the Gift of Healthy Rivers

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. Talk to your financial advisor to find out if this is a good strategy 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!

Learn more at www.citymarket.com/account/enrollCommunityRewardsNow



FOR THE PLANET
- ENVIRONMENTAL PARTNER -

RFC is a 1% for the Planet Environmental Partner

Roaring Fork Conservancy is proud to be a part of the 1% for the Planet network, which connects businesses and nonprofits to protect the planet. If you own a business, consider joining 1% for the Planet, naming RFC as your beneficiary! Learn more at onepercentfortheplanet.org.



Catching the Bug: Spreading Infectious Excitement About Preserving River Health

By Jayla Brown, Education Program Coordinator

For 28 years, RFC staff have been casting our educational fishing lines with a programming hook capable of capturing the attention of all ages. Our macroinvertebrate program is one of the most popular education programs we teach, with close to 750 classes delivered to over 1,800 participants since our founding.



Benthic macroinvertebrates are small animals without backbones that live on the bottom of our freshwaters. Most are aquatic insects, like the ones fly anglers try to mimic at the end of their lines: caddisflies, stoneflies, and mayflies, to name a few. Even though they're tiny, macroinvertebrates play a significant role in our rivers by serving as an important link in aquatic food web between producers, like leaves and algae, and higher consumers, such as fish and American dippers. Additionally, macroinvertebrates serve as indicators of water quality, with certain taxa known to



be more sensitive or tolerant to pollution than others. Since many of these aquatic insects spend up to 2-3 years of their life in the water before shedding their exoskeletons and emerging as terrestrial flying insects in their short-lived adult form, their presence or absence can tell us a story about the health of a river.

Our macroinvertebrate program begins at the bottom of the river with an RFC educator doing the "Boot Scootin' Boogie" in their hip waders with a large kick net in hand, turning over rocks and kicking up the bottom of the streambed in hopes of collecting a hearty sample of these aquatic organisms to share. We take great care to ensure that we keep them in cold, well-oxygenated water by adding ice blocks and aerators to the viewing trays that we

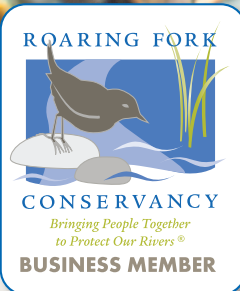


stage so that after the class, we can return these important members of the aquatic ecosystem to the river.

After teaching about these amazing creatures' anatomy and life cycles, we turn students loose with delicate hand tools, magnifying lenses, and microscopes to watch the magic of their wonder and excitement unfold. A game of Macroinvertebrate Bingo helps to focus younger students' observations, while older learners and adults dive into the use of dichotomous keys, leading to positive IDs on their mystery creatures. By the end of the program, it's always hard to pull the students away and, if we've done our jobs well, we may have just hooked a river enthusiast for life!



Macroinvertebrate drawings by Megan Arsendorf



2024 UNDERWRITER BUSINESS MEMBERS

Alpine Bank
Blazing Adventures
Cabela's / Bass Pro Shops
Ferguson Schindler
Law Firm PC
OpenSnow
Stacey K Kelly at Christie's
International Real Estate

2024 PREMIER BUSINESS MEMBERS

32 Winds Wine
Barnes Pearson & Rudow PC
Bristlecone Mountain Sports
Colorado Wildlife Science, LLC
Harbour
K and W Concrete, Inc
Karp Neu Hanlon
Organic Return
RJ Paddywacks Pet Outfitter
Sopris Fishing Outfitters
Two Leaves and A Bud Tea
Company
Woody Creek Distillers

2024 STANDARD BUSINESS MEMBERS

Aspen Flyfishing
fishpond
Odell Brewing Company

**Thank you,
Business Members!**



Become a Business Member

Current as of September 2024

Shout Out to Outstanding Volunteers!

RFC would like to issue a very special thank you to Nick Kilbourn for 15 years of volunteer excellence and support!



Nick grew up in Burlington, Vermont, but prior to that lived for a brief, yet formative period in Rifle, Colorado. Nick's father would often return to Colorado to visit family and friends and relax among the mountains and rivers of the Western Slope. When he was about 13 years old, Nick began joining his father, and this is where the affinity for the peace and serenity of the outdoors was nurtured. Hours would pass like minutes for Nick while targeting zealous brook trout in crystal clear alpine streams. He moved to Colorado after college in the Spring of 2005, and fate would land Nick back on the western slope. He was introduced to RFC through his former boss and previous RFC board member, Louis Meyer.

Not long after, Nick joined the River Stewards. In his 15-year tenure, he has remained a driving force of the Stewards, and an outstanding and reliable volunteer for RFC. Nick has endeavored to educate and engage his peers to be responsible recreationist, to help maintain the high-quality habitat of the Roaring Fork Valley for the benefit of us and future generations. Whether it's a 4th grade fishing day, a Runoff Party or River Float, or helping serve drinks at the Basalt Wednesday Night Concerts, Nick was always the first to arrive, the last to leave, and brings his easy-going and positive attitude to everything he does.

Thanks a million, Nick!

Staff & Board Flows



Breckie Hunt holds a degree in Environmental Studies with a focus in natural resource management from the University of Colorado Boulder. She also pursued further education and certification in Landscape Design from Colorado Mountain College. After spending several years in Hawaii, she established her own landscape design company, specializing in native Hawaiian plants, and became a master gardener through the University of Hawaii at Manoa. She and her husband

moved from Hawaii to the Roaring Fork Valley in 2012. Breckie's entrepreneurial spirit led her to own and operate an independent food business in Willits for several years. Since then, she has dedicated her time to raising her kids and volunteering in her community through various education and non-profit organizations. She was a long-time supporter of RFC before joining the board in September 2024. In her free time, Breckie enjoys mountain biking, yoga, gardening, and spending time with her family in the mountains.

Thank you to....

Shashi Neerukonda for a year of dedicated work with RFC's Science and Policy department. During her tenure she played an integral role in tracking down Ruedi Reservoir contracts, getting Capitol Creek flow monitoring off the ground, and finding funding for the Crystal Riverfront Park Project impact reporting. We appreciate all her time and efforts and wish her the best in her next chapter as a graduate student working towards her Mid-Career Masters of Public Administration at Harvard University.

Nikole Yeiser, Roaring Fork Valley native, joined RFC this summer to support our bustling event schedule, including the Return to the River dinner series. Her dedication, meticulous attention to detail, and positive attitude were crucial to the success of our events this season. We are incredibly grateful for her contributions and wish her all the best as she starts her new position with the Roaring Fork School District.

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.

Board of Directors:

Pat McMahon PRESIDENT
George W. Kelly III VICE PRESIDENT
Michelle Schindler SECRETARY/TREASURER
Jeff Conklin
Rana Dershowitz
Breckie Hunt
David Knight
Jim Light
Rick Lofaro EXECUTIVE DIRECTOR
Don Schuster
Diane Schwener
Larry Yaw

Staff:

Rick Lofaro
EXECUTIVE DIRECTOR
Heather Lewin
DIRECTOR OF SCIENCE & POLICY
Christina Medved
DIRECTOR OF COMMUNITY OUTREACH
Sheryl Sabandal
DEVELOPMENT DIRECTOR
Megan Dean
DIRECTOR OF EDUCATION
Chad Rudow
WATER QUALITY PROGRAM MANAGER
Elliott Audette
BUSINESS MANAGER
Matthew Anderson
WATER QUALITY TECHNICIAN
Andrea Tupy
ECOLOGIST
Jennifer Brown
EDUCATION PROGRAM COORDINATOR

River Stewards Steering Committee

Alyssa Drake
Alex Heller
Chase Ellsperman
Nick Kilbourn
PJ Murray
Melissa Wills

Thanks to our newsletter sponsor:



GRAN FARNUM PRINTING



ROARING FORK CONSERVANCY
P.O. Box 3349 ~ Basalt, Colorado 81621
(970) 927-1290 ~ www.roaringfork.org

NONPROFIT ORG
U.S. POSTAGE PAID
GLENWOOD SPGS, CO
PERMIT NO. 90



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.

BECOME A MONTHLY *Base Flows Donor*

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 10



ColoradoGivesDay.org



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!