



Protecting the Essential

by Rick Lofaro, Executive Director

As the COVID-19 crisis unfolded around us, life as we knew it was changing by the hour. Much of the fabric of our daily lives was put on hold; and social distancing, intense hand-washing, sheltering in place and covering our faces became the norm. Protecting ourselves and our families became more essential. Countless businesses and services were also directed to close their doors, and only those deemed essential remained in operation, many at a reduced capacity. Providing for ourselves and our families became more essential as supermarket aisles were stripped bare and even the mightiest of retailers ran out of many essential cleaning and household supplies. For those of us fortunate enough to remain healthy and employed, our homes also became our offices and our schools overnight. The balancing act proved to be challenging as so many of us had to shift gears and adapt in an instant.

Through all of the changes and uncertainty, we also find ourselves in a surprisingly favorable position. While Governor Polis instructed Coloradans to stay at home, he also encouraged safe and responsible outdoor recreation close to home. The natural world is still open for business, and was deemed *essential*. Parks, trails, rivers and streams were all still available for us all to enjoy safely. The outdoors may have become more essential to us than previously realized. Essential for our mental, spiritual and physical health; essential to who we are

as individuals; essential to the very core of what we do. I, for one, have realized more than ever how essential the river is – to me and my family and to the rest of the community.

While the River Center remains closed, our staff carries on from home and in the field. One of my new essential work/school activities is taking my two daughters, ages 9 and 12, on weekly fishing expeditions. This helps get them outside and engaging with nature, but also provides a teaching and a learning opportunity for all of us. Each outing includes lessons that I secretly weave in, and lessons that my girls serendipitously deliver revealing more and more about the wonders of the river. Always right on cue, nature delivers when I can't as a mink reveals itself scurrying down the bank, or the first butterfly of the spring flies by. I sit back and observe as my girls turn

Each outing includes lessons that I secretly weave in, and lessons that my girls serendipitously deliver revealing more and more about the wonders of the river.

over rocks to investigate the mayflies, help net and release each other's catch and simply marvel at the beauty of the river. Happy and tired at the end of each outing, we record the day's activities, nature sightings and scientific observation in our fishing journals knowing that someday we will look back on this time of staying at home as a special time of new and continued discovery and love of the essential.

Today the style of our work may be different, but the nature of our work remains the same. Just as the river endures, so do we, continuing to protect the essential.

Crystal River Management Plan Implementation: Riverfront Park Update

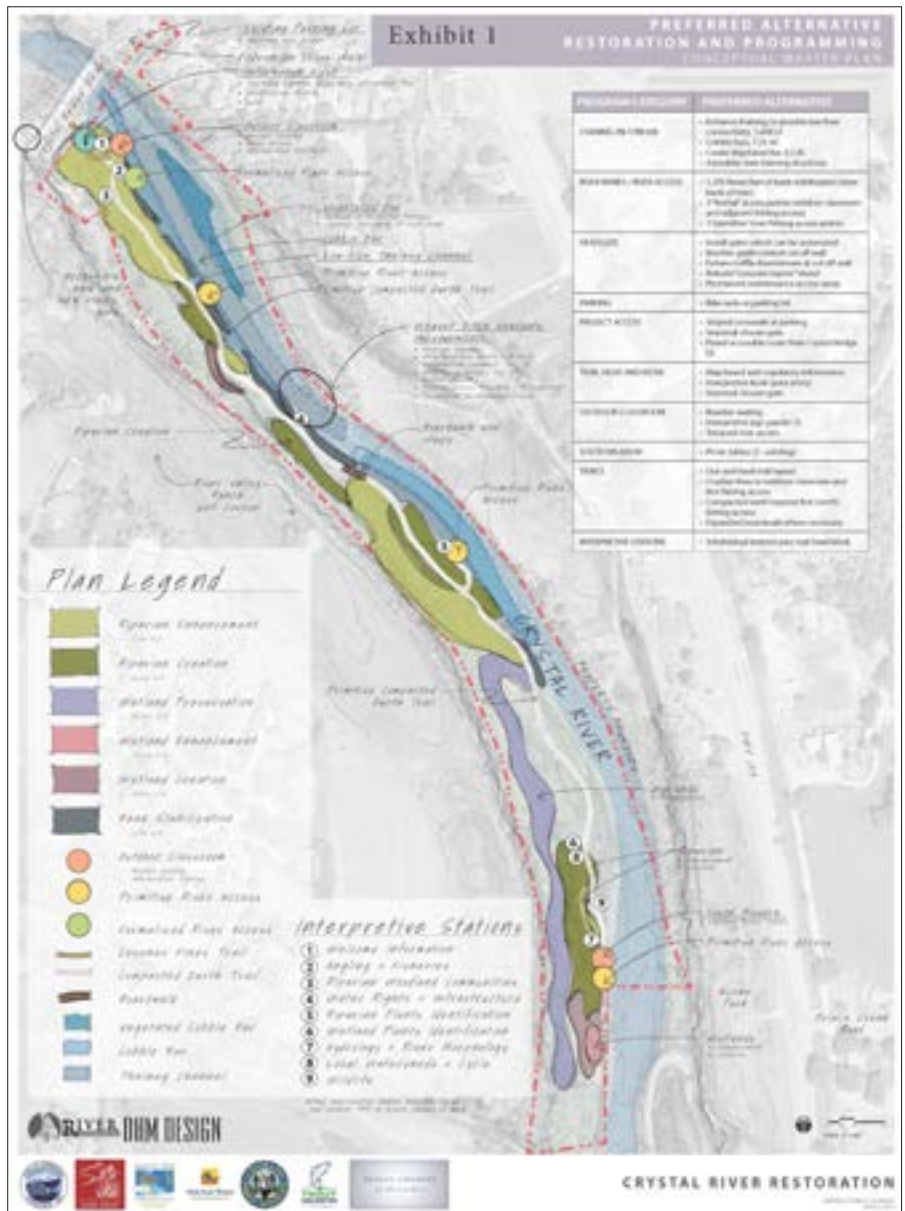
by Heather Lewin, Director of Science and Policy

Since the completion of the Crystal River Management Plan (Plan) in 2016, RFC has committed to working with a variety of partners to see implementation projects come to fruition. With work done by the Colorado Water Trust to secure Diversion Rescheduling Agreements, and Colorado Rocky Mountain School to remove non-native vegetation, and fence and restore the riparian area at the confluence of the Crystal and the Roaring Fork, the Plan has yet to gather dust. Now, RFC is working with the Town of Carbondale to spearhead a project that accomplishes and demonstrates Plan goals and benefits the river in multiple ways: instream habitat, diversion structure function and efficiency, and riparian vegetation and habitat.

The Town of Carbondale and RFC, along with partners Aspen Valley Land Trust and American Rivers, plan to restore and enhance a one-half mile reach and surrounding 18-acre riparian zone of the Crystal River as it flows through River Valley Ranch. The project will also improve the efficiency of the town-owned Weaver Ditch diversion and reduce annual in-channel maintenance. The culmination of this work will create a more functional reach of stream with a low flow channel, plentiful bird and fish habitat, an efficient diversion structure, and a passive, interpretive wildland park experience. This reach of the Crystal River – accessible to the public for fishing, bird watching, and nature walks – is located within walking distance of five Carbondale schools. With the addition of accessibility for different abilities, this project presents a great opportunity for local children to experience engaging educational trails and thoughtfully designed gathering places that will explore the project’s restorative elements and natural assets without compromising the wildland nature of the park.

With funding from the Colorado Water Conservation Board, Colorado Basin Roundtable, Aspen Skiing Company’s Environment Foundation, Colorado Healthy Rivers Fund, Pitkin County Healthy Rivers Board, Hause Family R3 Fund, and Town of Carbondale, the project team along with consultants River Restoration, DHM

continued on page 3



PROJECT GOALS:

- 1) **Restore** the ecological integrity of the riparian zone through streambank stabilization, reconnect the floodplain, and replace invasive weed communities and plant monocultures with healthy and diverse riparian plant regimes, while preserving healthy bird and wildlife habitat.
- 2) **Develop** a long-term, self-sustaining solution to improve river channel stability, fish habitat and spawning areas by promoting conditions that support and enhance instream biotic structure and diversity.
- 3) **Create** a self-sustaining diversion and head gate structure for the Weaver Ditch to function as part of the river system, while improving the water delivery for the Town of Carbondale and consistent with future ditch improvements and efficiencies.
- 4) **Enhance** passive user experiences of Riverfront Park through interpretive signs, trails, gathering spaces, and educational programs.

Riverfront Park Update continued from page 2

Design and Lotic Hydrological have completed 60% design plans. The planning process followed a similar process to the one used in the Crystal River Management Plan. The project's stakeholder group has been involved early and often, guiding the project through its development process. The project team hosted two public meetings, gathering and then incorporating feedback into the preferred alternative design. The public meetings were critical in giving the community a voice in the design phase – making community values a key part of the planning process and ensuring the end result is one that aligns with local ideals.

This project will not only enhance the quality of instream and riparian habitat at Riverfront Park, it will also turn the community's eyes towards its river. The project team is poised to leverage that attention to increase passive recreational access, nature exploration, educational opportunities, and the community's general awareness and connection to the Crystal River as it flows through the Town of Carbondale. Facilitating that connection gives community members of all abilities a chance to explore and experience the river, creating lasting connections and the opportunity to forge a new generation of river stewards.



Looking downstream at the Weaver Ditch diversion and project area.

Think outside the banks.

Healthy rivers require a healthy riparian habitat.

To learn more about your riparian habitat, or for a free riparian assessment, call Roaring Fork Conservancy at 970-927-1290.



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- Barnes, Pearson & Rudow PC
- Berthod Motors
- Bristlecone Mountain Sports
- Casey Brewing
- Cottle Carr Yaw Architects Ltd
- Crystal Fly Shop
- Incline Ski Shop
- K&W Concrete
- Karp Neu Hanlon
- Peak Architecture LLC
- Proudline Guided Fly Fishing
- The Rulon Kelly Team at Douglas Elliman Real Estate
- Ute Mountaineer

2020 STANDARD BUSINESS MEMBERS

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- Odell Brewing Co.
- Redstone Mountain Mercantile

Thank you for supporting essential river research, education and conservation work!



Stream Health – A Community Approach

by Chad Rudow, Water Quality Program Manager

In 2014, a 15-mile segment of Cattle Creek was placed on Colorado’s 303(d) list* for impaired waters due to low macroinvertebrate (aquatic insect) scores. The next year RFC embarked on an extensive study to better understand water quality impairments on the creek. Goals included addressing the 303(d) listing and understanding the transition from high water quality in the headwaters to impaired water quality in the lower reach.

Study results indicated that many factors contributed to the decline in creek health including water quality impacts from various land use activities, degradation of riparian habitat and significant water diversions. The variety of impacts necessitate a community approach to addressing the problem thus RFC worked with numerous stakeholders to study and improve the health of the creek and its riparian areas. RFC has:

- Received ongoing funding from Garfield and Eagle Counties to study and report on stream health, as well as implement recommended actions.
- Worked with Garfield County to provide Cattle Creek landowners with best management practices (BMPs) for maintaining onsite wastewater treatment systems (septic systems) and riparian areas.
- Partnered with the Bureau of Land Management (BLM) and Rocky Mountain Youth Corps to address riparian impacts and conduct a trash cleanup along the creek on BLM property.

- Monitored a diversion structure improvement project designed by the Natural Resources Conservation Service (NRCS).
- Served as technical advisor for a Colorado Department of Transportation project at the Highway 82/ Cattle Creek Bridge, helping to implement BMPs for stream health.
- Coordinated a technical advisory group to support communication and facilitate long-term fire restoration after the Lake Christine Fire (which affected Cattle Creek headwaters).
- Submitted macroinvertebrate data to the Colorado Water Quality Control Division (WQCD) to address the 303(d) listing.

In early 2020, the WQCD officially removed Cattle Creek from its 303(d) list of impaired waters for macroinvertebrates! This was based largely on RFC-submitted data and a state revision of applicable metrics. While this news represents a victory and demonstrates the value of RFC and stakeholder work, it does not represent the end point as many human-caused stressors still need to be addressed. RFC will continue efforts to understand and improve Cattle Creek health in 2020 and beyond.

**The Clean Water Act is the primary federal law governing water quality in the United States. Section 303(d) asserts each state is required to monitor waterways and document those which do not meet water quality standards. States must then prioritize impaired waters and develop remediation plans to improve water quality.*



Students Assess River Health by Conducting Riparian Surveys

by Megan Dean, Director of Education

In the Western United States, less than 2% of the land is riparian (land bordering streams and rivers) but over 80% of the animals depend on riparian areas within their lifetime. Over 100 years of scientific research informs us that these green ribbons of life are just as much a part of the river as the water.

Understanding what affects our rivers is key to protecting their health. The best way to understand the multilayered ecosystem that inhabits riparian areas and experience the stream ecosystem itself, is to explore and inventory these beautiful spaces.

RFC educators use a Riparian Ecology Survey to guide upper elementary and middle school students to assess the quality of riparian areas and learn the interconnectedness between land and rivers. Because we all occupy a spot in a watershed (an area of land that drains to one particular body of water) what we do on the land can have either a positive or negative impact on the water. In order to understand the health of rivers and the life that depend on them, we need to understand the health of the land that surrounds them.

During these field programs, students meet with RFC educators at different locations throughout the Roaring Fork Watershed and embark on an experience allowing them to assess first-hand the following indicators of riparian health; keeping in mind that healthy riparian areas have minimal human alterations and contain abundant and diverse plants. Students:

- Calculate the percentage of vegetation that covers and stabilizes stream banks to prevent sediment from eroding into the river which can smother macroinvertebrates and fish eggs;
- Describe types of rocks and substrate that makes up the sides and bed of the river which act as habitat for aquatic life;
- Use a Pollution Tolerance Index to identify macroinvertebrate populations as these animals are the base of the stream food web and indicators of stream health; and
- Conduct water quality tests to determine pH, dissolved oxygen, water temperature, and turbidity.

Students also learn through metaphor games how healthy riparian areas and wetlands act as nurseries, filters, Velcro® and a sponge. For example, wetlands like ones found at North Star Preserve near Aspen, give the river a place to slow down so that water gets absorbed into the ground where plant roots can filter impurities.

To help families experience these activities, enjoy using the guides provided in this newsletter (pages 5-7) and at www.roaringfork.org/activities.

IS THIS A HEALTHY RIPARIAN HABITAT?

Healthy riparian areas are natural with minimal human alterations and they contain abundant and diverse plants and animals.

Directions: With an adult, go to a riparian area near your home. As you explore the area, pick an animal that may live there. Ask yourself the following questions as you make observations – are there sources of food, water, shelter, places to raise young, for this particular animal? Write down what you observe in the table below. Each box you can fill out will help you understand if your animal could survive in this habitat.

Food	Water	Shelter (plants, trees, etc.)	Places to Raise Young

My animal is a _____

Location (landmark/address) _____

Discuss with your parent and/or siblings what kind of habitat your animal needs and what each of you know about this animal.

What kind of food does it eat? _____

How does it get water? _____

What kind of cover does it need? _____

Where does it raise its young? _____

How well does this riparian area provide for my animal?

How well do you know the Roaring Fork Watershed?

Use RFC's website to answer these questions. Roaring Fork Watershed maps can be found at www.roaringfork.org/your-watershed/roaring-fork-watershed-maps/

- How big (in square miles) is the watershed?
- What percentage of the watershed is public land?
- What are the three major rivers?
- How many transbasin diversions do we have? What are their names and where are they located? To where do they transport water?
- What is the highest peak and its elevation?
- What is the lowest point?
- How much water does the Roaring Fork River contribute to the total flow in the Colorado River?
- How many reservoirs can you name?

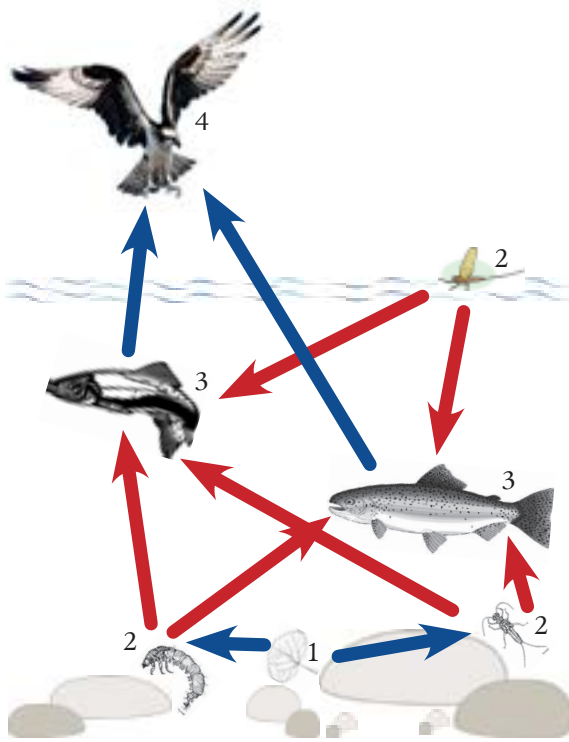
Answers for pages 6-7 can be found at www.roaringfork.org/about-us/river-currents/



RIVERSIDE CIRCLE OF LIFE



Everyone needs to eat, even if you live underwater!
 Draw arrows from each #1 to every #2, then from each #2 to each #3, and so on, to learn who eats who in a river ecosystem.

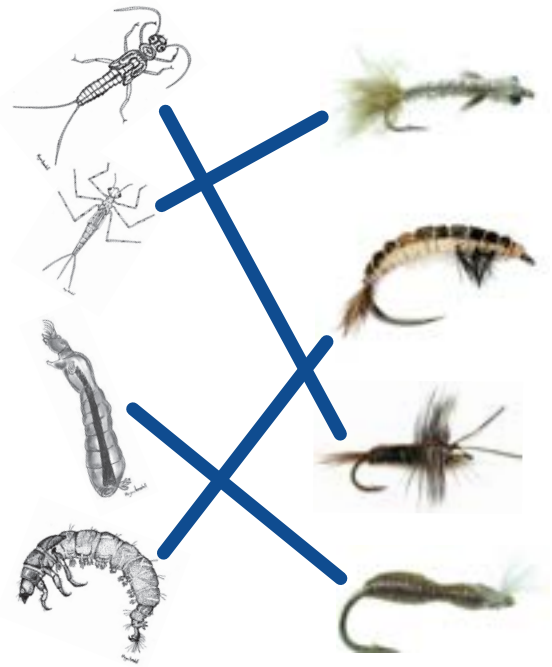


MATCH THE HATCH



Did you know? Fish eat insects! Anglers make their own “flies” that look like real insects to catch fish!

Draw a line to match the aquatic insect with the fly that is made to look just like it!



WORD SEARCH



Search up, down, forward, backward, and on the diagonal to find the hidden words.



STREAM
 WATERFALL
 TROUT
 RADIDS
 COLORADO
 CHANNEL
 MEANDER
 WATERSHED

FLOW
 FRYINGPAN RIVER
 CRYSTAL RIVER
 ANGLER
 CONFLUENCE
 TRIBUTARY
 BANK
 PEBBLE

RIPARIAN METAPHORS

A metaphor compares how one thing can be like another.

Fill in the blanks using the following riparian metaphors:

velcro® grocery store sponge filter nursery

1. A healthy riparian area is like a sponge because it can soak up extra water during floods and release it slowly during dry periods.
2. Riparian areas are like a nursery because they provide a safe place for animals to give birth and raise young.
3. Trees along a stream bank act like velcro®, holding soil in place to minimize erosion and keep sediment out of the river.
4. Trees and plants within a riparian area are like a filter because they can clean toxins and chemicals out of the water.
5. A riparian area is like a grocery store because it provides a wide variety of nutritious food for animals and plants.

Harvesting Rainwater in Colorado

by Christina Medved, Director of Community Outreach

In 2016, Colorado lawmakers approved Housebill 16-1005 allowing residents to harvest rainwater from their roofs. Due to the specifics of Colorado Water Law, there are particulars about rain barrel use in Colorado that differ from other states. Read on for answers to frequently asked questions.

Where can a rain barrel be placed and used? Any single-family home, or multi-family dwellings with four or fewer units.

How much water can be collected?

Up to two rain barrels with a combined storage of no more than 110 gallons.

Where and how can harvested water be used? On the same property at which it is collected and it must be used outside on landscapes (lawns and gardens) and NOT for laundry, livestock watering or drinking.

What legally constitutes a rain barrel?

Must have a sealable lid, be located above ground outside a residential home and used for collecting precipitation from a downspout or rooftop.

What are the benefits of rain barrels?

Ability to control application of harvested water, minimize municipal water used outdoors, unchlorinated water benefits plant growth and it's free.

How much water can be expected?

110 gallons can provide about 1" of water to a 15'x15' area.*

How to safely use your rain barrel:

■ **KEEP THE WATER MOVING!** Empty weekly or after a major rain. Check the screen weekly. Drain and dry monthly.

■ Going on vacation? Drain the barrel and redirect the gutter.

■ To winterize the barrel, disconnect it, dry it and store upside down with spigot open.

■ **Overflow** – There should be a hole two to three inches from top of the barrel where a hose can be attached.

The hose should be at least eight feet long and drain away from the home's foundation, or into a second barrel. Direct the hose into an area that can handle excess water.

■ Standing water breeds mosquitoes. The sealable lid should have a fine mesh where the gutter downspout is directed. Draining the rain barrel monthly and keeping water moving will also minimize breeding opportunities.

■ There can be water quality concerns with collecting water off a roof but there are ways to address them. If it's been several weeks between rain events, roofs most likely accumulated bird droppings, dust and other debris. Allow the first few (three to five) gallons from a storm to divert around your barrel before water gets stored. There are products that can be purchased to assist with this; we suggest looking up first flush diverters. Additionally, algae can start to grow in your barrel. This tends to occur with a light-colored barrel or one placed in direct sunlight. If you find algae growth, use a 2% bleach solution, scrub sides, rinse well and let dry.

What else to keep in mind with a rain barrel? The spigot should be placed low on the barrel but not too low. Over time, the bottom of the barrel will accumulate debris, and the best way to keep it from coming out of your spigot is to have it located a few inches (three to four inches) from the bottom.

Rain barrels are only ecologically relevant if you use them. They are not to be used to store water long-term. If abused, they can be discontinued as per the law, as they are only permitted to be used when "all water rights in the basin are satisfied."

To learn more specific information about rain barrel use including site preparation, gutter connection, landscape integration, and rain gardens, check out the resources on the left, or consider attending a future RFC Rain Barrel Workshop.



Photo: Richard Pratt



Colorado Rainwater Harvesting Resources:

- Colorado General Assembly, Housebill 16-1005: leg.colorado.gov/bills/hb16-1005
- *Colorado State University Extension, Factsheet on Rainwater Collection in Colorado: extension.colostate.edu/topic-areas/natural-resources/rainwater-collection-colorado-6-707/
- Colorado Stormwater Center: Rain Barrel Installation, Components and Maintenance: stormwatercenter.colostate.edu/resources/rain-barrels/

2019 Annual Report



Available at
www.roaringfork.org/about-us/

BECOME A MONTHLY

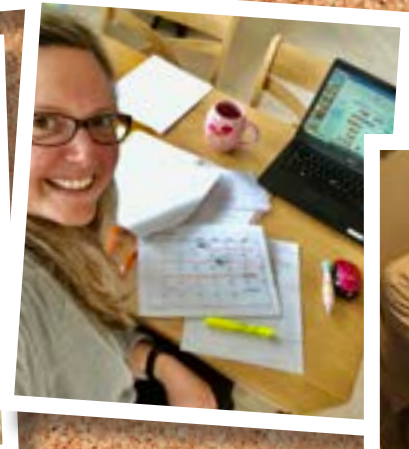
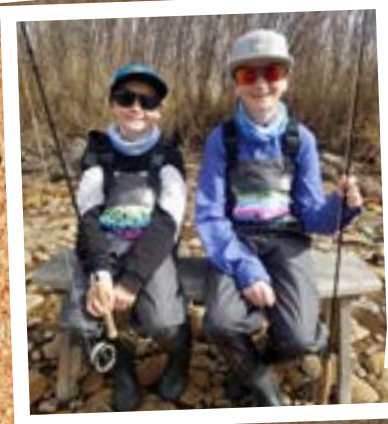
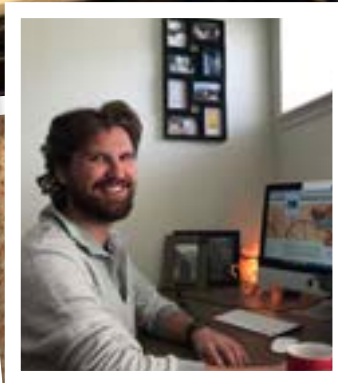
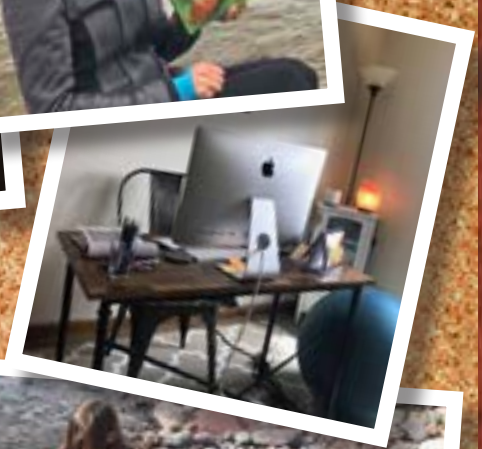
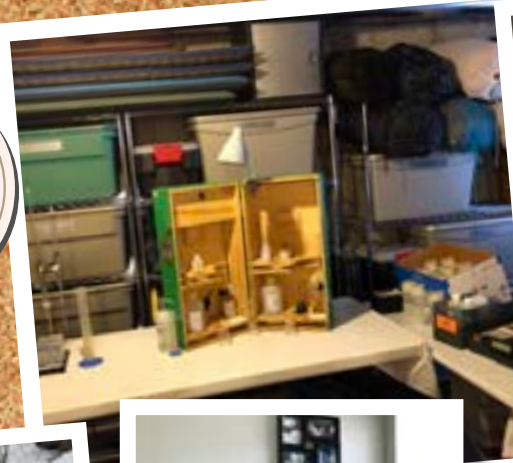
Base Flows Member

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

Learn more at roaringfork.org/baseflows

RFC Staff Working From Home

We can't wait to see you all in person!



Board, Staff & Steward Flows



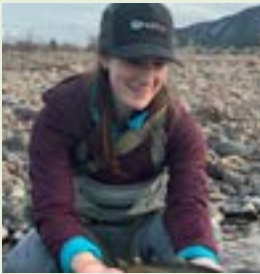
Tait Andersen, CONSERVATION ASSOCIATE – Tait was born and raised in the Seven Castles area of the Fryingpan River Valley. His first watershed exploration was as an adventurous toddler in Seven Castles Creek. The deep natural connections he established in the Roaring Fork Valley as a child drew him to a B.S. in Natural History and Ecology from Prescott College and a Master of Science Degree in International Environmental Studies from the Norwegian University of Life Sciences. The opportunity to become personally invested in the stewardship of the Roaring Fork Watershed by working with RFC is an honor and Tait is excited to see where it takes him.



Kristin Bielema, WATERSHED EDUCATOR – Growing up right along the Mississippi River, Kristin developed an appreciation for the importance of rivers and watershed conservation from a young age. In 2009, she traveled to Colorado, spending many years working with at-risk students as a social worker before returning to school to complete an additional degree in Mathematics and Computer Science for Secondary Education. As a classroom teacher, Kristin taught at the high school level for DSST Public Schools on the Front Range, and most recently at Basalt High School, teaching mathematics and serving as the National Honor Society advisor. She brings a wealth of outdoor education experience, having worked as an open-water kayak guide in Yellowstone and Grand Teton National Parks and co-led over 15 backcountry trips with students on the Western Slope of Colorado. In her free time, Kristin enjoys paddle boarding, backcountry hut trips, and traveling to new places.



Dave Everett, FISHING INSTRUCTOR – Dave was born and raised in Washington State along the mighty Columbia River. He worked for the City of Kent for 35 years, the last five being with the Parks department as a Fund Development Coordinator, Volunteer Coordinator, and formed the Kent Parks Foundation, a non-city 501(c)3. A large part of his Parks time was spent in salmon stream restoration and rehabilitation. In total, Dave and his wife, Sandi, have three grown children and nine grandchildren; having two children and seven grandchildren that live in the Roaring Fork Valley drew him and Sandi to move here. Dave has been an avid fly fisher since the early 1990's, fishing high Cascade Mountain lakes as well as local rivers and streams. Dave has a Bachelor of Arts and Certificate in Fundraising Management from the University of Washington. Along with building fly rods with his grandchildren, Dave is also an Aspen Skiing Company Ambassador on Snowmass Mountain, a member of the Roaring Fork Valley Fly Fishing Club, and certified Level 1 Teacher in the National Fishing in Schools Program.



Claudia Heath, RIVER STEWARD – Claudia Heath is an account manager at Backbone Media in Carbondale. Originally from North Carolina, Claudia first made her way west for a fishing gig in Wyoming, later moving to Jackson where she learned the meaning of “steep and deep.” After a year in Wyoming, Claudia moved to the Roaring Fork valley and got involved with RFC to help protect the natural resources that define this community. On the weekends, she enjoys all the valley has to offer, from fishing to biking to watching deer and elk in her binoculars.



Rana Dershowitz, BOARD MEMBER – Rana is the Senior Vice President, Real Estate and Chief Legal Officer at Aspen Skiing Company. While her function is broader, Rana's primary focus is as Chief Legal Officer which includes management of the three lawyer team, strategic planning, joint venture and strategic engagement negotiation, creation and activation, mergers and acquisitions, real estate development, sponsorship agreements, trademark management, operational agreements, technology agreements, and outside counsel management. Beyond responsibility for legal functions for Aspen Skiing Company, Rana also oversees the Company's real estate development activity. Her work managing the Sustainability and Community Engagement as well as Public Relations functions is geared towards ensuring that the Company manages and communicates its business in a manner consistent with its core values.

Rana has worked in international law, music and entertainment law, legal and business affairs at Madison Square Garden, and one of two in-house attorneys supporting the New York Knicks (NBA), the New York Rangers (NHL) and the New York Liberty (WNBA).

Rana left Madison Square Garden in 2007 and moved west to work with the United States Olympic Committee. After almost 8 years with them, Rana joined Aspen Skiing Company in 2014 as Vice President and General Counsel.

Rana is a graduate of Harvard College and Harvard Law School and is licensed to practice law in both New York and Colorado. When not working, Rana loves to ski, hike, bike and spend time with her family.



Join us in 2021

Congratulations to Dave “DJ” Johnson on being selected as the Robert Billingsley River Conservator! Since we have decided to cancel the River Rendezvous this year, we will honor DJ at the 2021 River Rendezvous next July. In the meantime, check out his locally owned Crystal Fly Shop (Carbondale) and Redstone Company Store (Redstone) to show him your support and to thank him for all he does to help protect our rivers!

2020 Summer Events Calendar

We have many programs scheduled for this summer but will be following public health guidelines on what programs we will be able to safely run.

Please check www.roaringfork.org/events for the most up-to-date information.

Get Ready for Summer with RFC Gear!

Long-sleeve SIMMS shirts with SPF50, stemless wine glasses, a fun variety of hats, and more!



Check out the RFC store at roaring-fork-conservancy.square.site

Shipping available!

The Keep It Clean West Slope Partners remind you

ONLY RAIN DOWN THE STORM DRAIN!



This beautiful area where we live, play and work are headwaters to rivers AND sources of someone’s drinking water.

Find these signs along local rivers reminding us to KEEP THEM CLEAN because many downstream depend on it!

For more information visit www.roaringfork.org/KeepItClean

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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