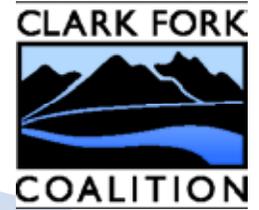


Riffles

FALL 2023

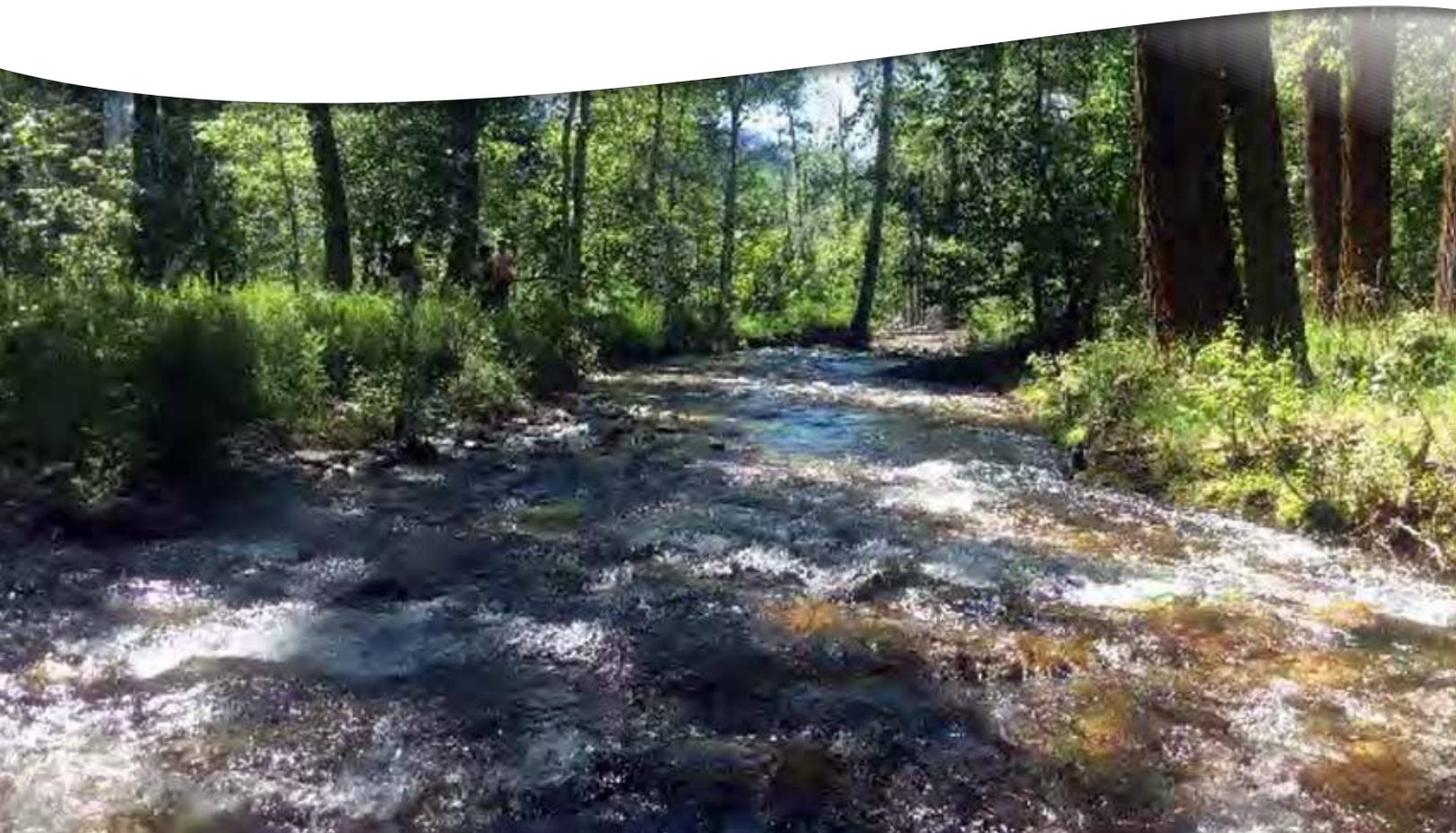


DECIDING THE FUTURE OF GRANT CREEK Missoula's Forgotten Wilderness Stream

Rushing down from the mountains in the Rattlesnake Wilderness, Grant Creek sustains robust habitat for native plants and animals and is an ecologically significant wildlife corridor and stronghold for cutthroat and bull trout. As it wends its way through Missoula, it faces the full gauntlet of human impact: diverted, paved over, piped, and re-routed to suit community convenience. Nevertheless, it is a vital

tributary to the Clark Fork River and has the potential to be an incredible natural asset for a rapidly growing Missoula.

As development along the creek accelerates and more people move into the valley, the future of Grant Creek depends on us understanding and prioritizing the creek's rich cultural and ecological functions before it's too late.



ADDRESSING A FORGOTTEN WILDERNESS STREAM

AT THE HEADWATERS OF GRANT CREEK, the stream's crystal-clear waters, flashing in the sunlight filtering through the dense forest, are a lifeline for diverse flora and fauna. Threatened bull trout find sanctuary in its cool flow. Bears and deer follow its path to find food and passage through their territory and ours.

But for the humans who call this valley home, the creek is more than a picturesque landscape—it is a source of practical and spiritual sustenance—helping recharge the valley's aquifer, watering crops, adding beauty and nature to homes and businesses. It is also sometimes a deep and dangerous ditch, a flooding nuisance, an erratic obstacle. The small wilderness creek stands as a testament to the delicate balance between the needs of community and the preservation of habitat teeming with life. It is a place where the survival of threatened species intertwines with the well-being of those who recognize its intrinsic value.

It is with this tension and the need for balance in mind that we address the future of Missoula's forgotten wilderness stream, fostering a mutually beneficial relationship between the human residents and the wonders of the natural world.

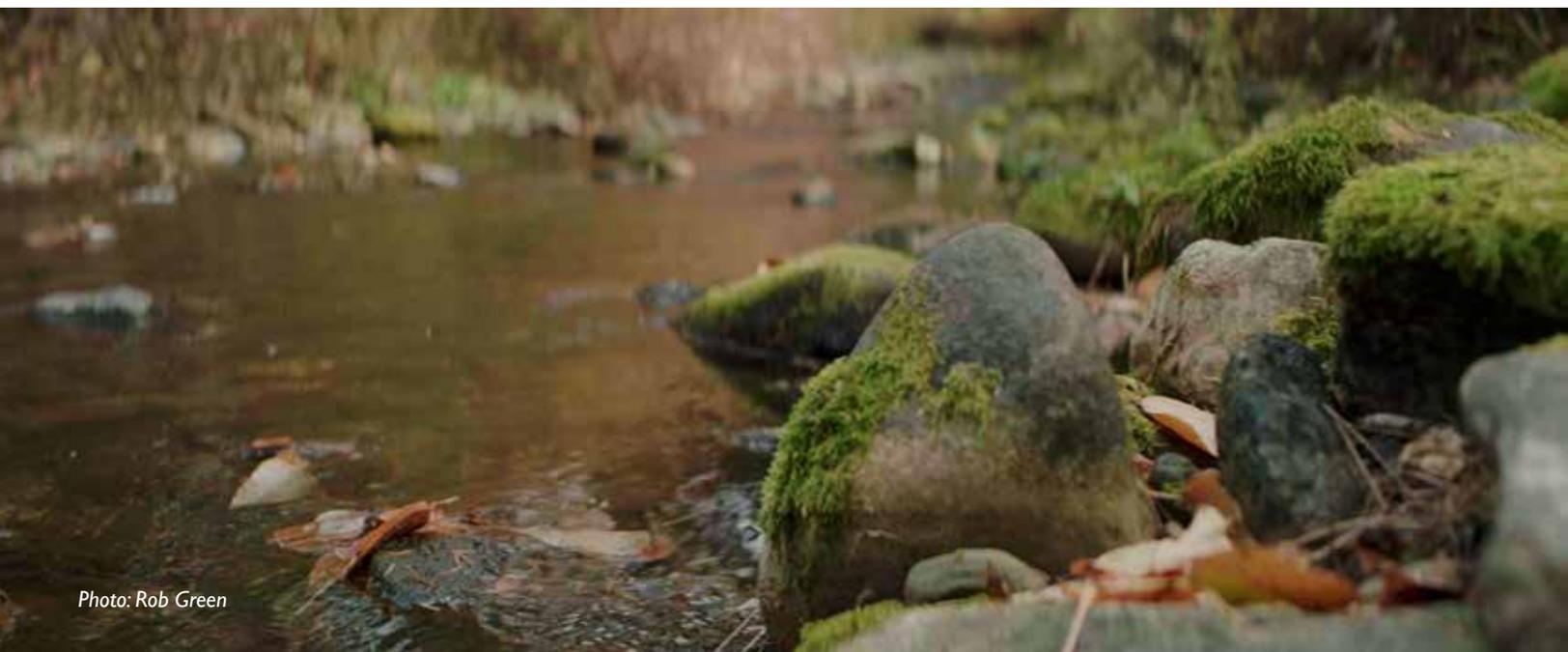
The Grant Creek watershed spans 30 square miles. Its characteristics change dramatically as it moves from

mountain lakes to the valley floor where it abruptly hits the highway, railroad, residential areas, commercial-industrial regions, and agricultural lands before slipping into the Clark Fork. The stream faces multiple challenges, including impaired water quality due to elevated nutrient levels and sedimentation, chronic dewatering, high water temperatures, and degraded aquatic and riparian habitat. The Montana Department of Environmental Quality has classified Grant Creek as an impaired stream, and Montana Fish, Wildlife & Parks (FWP) and the City and County have designated it as a "Waterbody of Concern."

Right now, as the *Sx"tpqyen* Master Plan for the area between Broadway and Mullan changes agricultural lands to residential subdivisions and commercial use, development is drastically affecting the lower part of Grant Creek. We're at a tipping point where we will determine the future of this creek. Without careful, informed guidance, the creek is in danger of further degradation and dewatering.

But we also have the potential to expand its healthy characteristics, making it a cool refuge for native trout that extends farther into the valley, connects to the Clark Fork for longer during spring spawning and migrations seasons, and offers other ecological benefits to all of us.

As FWP Biologist Torrey Ritter says, "Stream corridor restoration goes way beyond just habitat for fish and



wildlife species. Having a stream corridor that is healthy, that allows the stream to move around a bit over time, to erode some banks and deposit sediment in other areas, all that dynamic nature can also help with things like flooding, things like drought, water quality—those sorts of things when you have a stream that has a wide floodplain associated with it.”

The Clark Fork Coalition is taking steps to ensure Grant Creek thrives. Over the past two years, local landowners, businesses, and nonprofits, have collaboratively shaped a holistic vision for restoring Grant Creek, with the support of the City of Missoula and Missoula County. With these strong partners, the Grant Creek campaign is at a prime moment. Right now, we have the ability to redefine urban-communal relationships with nature, emphasizing waterway health and resilience as a priority in order to support community health, prosperity, and safety.

Fundamentally, caring for streams is a way to care for each other.

In Montana, we deeply value clean water, a healthy environment, and a connection to nature. Our common wilderness areas, recreation areas, open spaces, green spaces, and waterways form the core of our shared identity.

The Grant Creek vision builds on that identity and aims to guide development decisions, ensuring a balance between housing, growth, and ecological functionality, crucial for community well-being. Stream restoration becomes a communal endeavor, fostering care for aquatic lifelines, and building a climate-smart future.

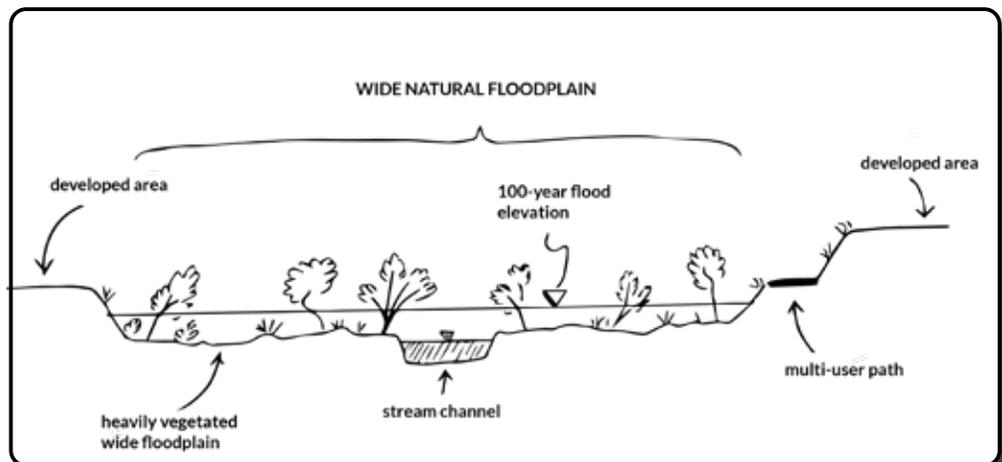


Below I-90, Grant Creek runs a gauntlet of human impacts, including a sharp right turn into this deeply insized ditch.

“Having a stream corridor that is healthy, that allows the stream to move around a bit over time, to erode some banks and deposit sediment in other areas, all that dynamic nature can also help with things like flooding, things like drought, water quality—those sorts of things when you have a stream that has a wide floodplain associated with it.”

–Fish, Wildlife & Parks
Biologist Torrey Ritter

This illustration shows a wide, natural floodplain that helps with flooding, drought, and water quality.





MONITORING GRANT CREEK

Picturing a Better Future

“Increasing habitat quality from Snowbowl Road to the Interstate is achievable. We could do it next year if we enhanced the amount of instream flow and kept the stream cool enough that it was suitable [for native trout].”

*—Ladd Knotek, Montana Fish Wildlife & Parks
Regional Fisheries Management Biologist*

THREE SUMMERS AGO, CFC staff and volunteers walked Grant Creek from Snowbowl Road to its confluence with the Clark Fork River, assessing hydrology, water temperature, riparian condition, and fish habitat. While past studies of Grant Creek showed concerns with flooding, water quality, and stream function, until 2021, a comprehensive, start-to-finish survey assessing the Grant Creek corridor didn't exist. The results now help us understand the ecology of the creek and give us a scientific basis for prioritizing restoration projects.

As we continue to monitor stream conditions, two of the main problems we see are longer periods when the creek runs dry and water temperatures are high.

Although we suspect Grant Creek is naturally an intermittent stream, we can also see that sections went dry earlier each subsequent year of monitoring. We also see that while water temperatures stay cool in the upper reaches throughout the summer, temperatures at our monitoring stations below all the irrigation withdrawals were consistently above 60°F. Native bull trout and cut-throat trout can't thrive in streams at these temperatures.

We talked with Montana Fish Wildlife and Parks Regional Fisheries Management Biologist Ladd Knotek about the data, and the potential for restoring Grant Creek.

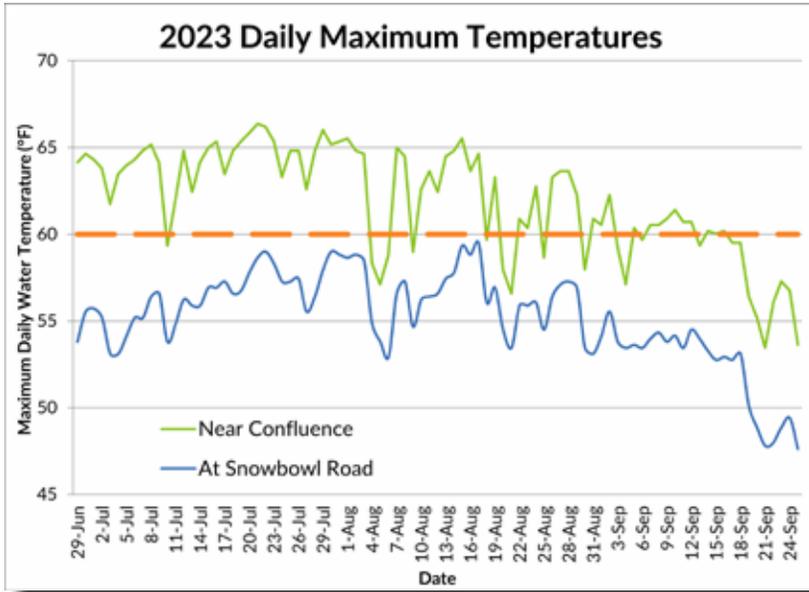
“As I look at Grant Creek relative to other streams around the valley, I think it has average productivity in

general, but what's unique about Grant Creek is that it has really intact and cold headwaters that is obviously very suitable for native trout,” he said.

A stream's “productivity” is its underlying characteristics like temperature, the amount of nutrients, and bug production—which determines the number of trout a stream supports. More water in the stream that lowers temperatures would be highly beneficial for the native species that call Grant Creek home.

Several landowners on Grant Creek and CFC are currently negotiating a possible water rights deal, which would allow us to re-water chronically dry portions of the creek and simultaneously decrease water temperatures. This change would connect native fish to cold water refuges and quickly have a significant positive impact on the fishery.

We will continue to monitor flow rates and temperatures at multiple sites along the stream to get a picture of stream conditions over time to develop achievable strategies for improving Grant Creek for people and wildlife.



Daily maximum temperatures at Snowbowl Road (about seven miles below Grant Creek’s headwaters) and farther down near the creek’s confluence with the Clark Fork. Temperatures are significantly warmer in the lower reach. The line at 60°F indicates the threshold above which native bull trout and cutthroat trout rarely occur.

▶▶ GRANT CREEK WORKING GROUP

It’s the last Friday of the month and even though it’s relatively early in the morning, Highlander Beer is humming with activity. While brewery staff prepare for customers, a different crowd is gathering in the back corner. About a dozen people drink coffee and nibble treats while others set up flip charts and a video monitor. More people make their way in and greet neighbors and coworkers who all share an interest in Grant Creek. At 9:00 a.m., almost 30 people take their seats or join on screen while CFC staff start at the top of a full agenda.

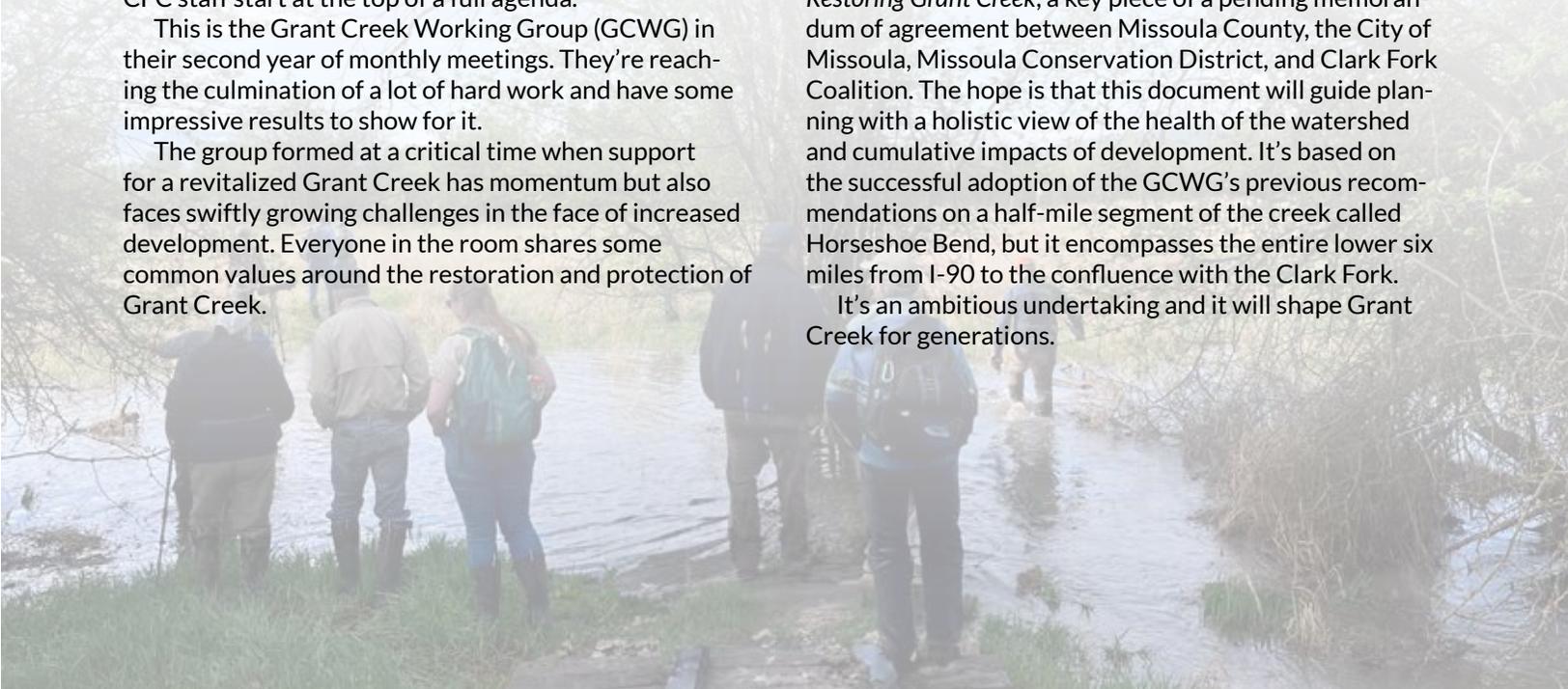
This is the Grant Creek Working Group (GCWG) in their second year of monthly meetings. They’re reaching the culmination of a lot of hard work and have some impressive results to show for it.

The group formed at a critical time when support for a revitalized Grant Creek has momentum but also faces swiftly growing challenges in the face of increased development. Everyone in the room shares some common values around the restoration and protection of Grant Creek.

The Clark Fork Coalition facilitates the working group. Participants include conservation-minded leadership at the city and county levels; landowners; businesses like Highlander, the airport, and several hotels; Montana Fish, Wildlife & Parks; and nonprofits like Grant Creek Trails Association, Friends of Grant Creek, and Five Valleys Audubon. Everyone has a stake in the health and future of the stream.

Today, GCWG is finalizing its *Vision and Strategy for Restoring Grant Creek*, a key piece of a pending memorandum of agreement between Missoula County, the City of Missoula, Missoula Conservation District, and Clark Fork Coalition. The hope is that this document will guide planning with a holistic view of the health of the watershed and cumulative impacts of development. It’s based on the successful adoption of the GCWG’s previous recommendations on a half-mile segment of the creek called Horseshoe Bend, but it encompasses the entire lower six miles from I-90 to the confluence with the Clark Fork.

It’s an ambitious undertaking and it will shape Grant Creek for generations.



PILOT PROJECT: HIGHLANDER BEER RIPARIAN PLANTING

THIS SPRING, VOLUNTEERS from Trees for Missoula and CFC planted 110 native riparian trees and shrubs along 160 feet of stream bank adjacent to the Highlander Beer patio. Much of the previous vegetation had been trampled by enthusiastic creek splashers while their parents enjoyed a summer brew. The owners of the Highlander wanted a solution that recognized the asset a beautiful stream could be, but also protected native plants and water quality. Working with Missoula Conservation District, we designed fencing and riparian planting that would help reestablish native vegetation.

On several June afternoons, dozens of volunteers from Trees for Missoula and our River Ambassadors donned gloves, grabbed spades and baby plants, and got

to work. Through the summer, most of the plants thrived, and, with a little extra water, began to establish the roots that would help stabilize the bank and make the plants hardy enough to survive on their own.

This small-scale project demonstrates the potential for restoration along the creek at other business locations that help make the stream an economic asset while improving stream conditions at the same time.

But the impact also goes far beyond addressing immediate issues of erosion and failing riparian vegetation—it inspires people who are able to engage in the long-term protection of Grant Creek. As the circle of care for the stream expands, Grant Creek becomes a center of community resilience, conservation, and unity.





Dear Friends,

Organizations are a lot like rivers. They don't stand still. They move and shift. They cut new channels. They have seasonal flows.

As the Clark Fork River went about its business of moving snow melt through western Montana the past many months, the Clark Fork Coalition (CFC) was busy with its own transitions. This summer, I announced to CFC's board and staff that I am retiring May 9, 2024, which will mark 17 years as executive director and 31 years at the CFC. This was a tough decision because I am excited about the campaigns and projects currently on CFC's plate and the opportunities for impact on the horizon. Still, I believe the timing is right for me and for the organization.

We recently finalized an ambitious 5-year strategic plan that has CFC scaling core strategies to meet the complex challenges facing the watershed. We are making headway pressing for thorough and comprehensive cleanups in the Upper Clark Fork, we are pioneering new tools to boost flows in thirsty streams, and we are knee-deep in campaigns to restore Grant Creek and clean up the toxic Smurfit-Stone mill site. CFC's finances are secure. New public-private partnerships are gelling and collaborations with conservation partners are bearing fruit. Our board is strong, our staff is extraordinary, and our base of support is expanding and loyal. We are making a significant impact restoring the health of our watershed.

The Board of Directors has created a Transition Committee and is now conducting a search process. The goal is to have CFC's next executive director in place by March 2024. I will overlap with the new ED for several weeks to ensure continuity. Stay tuned for progress updates.

As I embark on this transition, I am filled with gratitude for the opportunities that CFC gave me to do work that is meaningful, important, and based on giving back to a river that is central to everything we care about in western Montana. When I joined the team, the Clark Fork had the stigma of being a backyard dump. However, the removal of Milltown Dam, the launch of Superfund cleanups along the Upper Clark Fork, and countless CFC restoration projects and water deals have elevated the cause and delivered results that I could never have imagined possible when I hired on in 1993. Now there are boats and people on the water every day and entire communities are engaged in caring for the river.

It has been an enormous privilege to work alongside friends and supporters like you who care so deeply about the future of the watershed. Over the coming months, I will put my full effort into preparing the Coalition for the leadership transition. The cause for a clean and healthy Clark Fork is served by some of the most talented and passionate people in the West, and I have no doubt that I will be leaving this work in very capable hands.

Thank you for all you do for the river,

A handwritten signature in blue ink that reads "Karen Knudsen". The signature is fluid and cursive.

Karen Knudsen
Executive Director, Clark Fork Coalition



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Photo: Rob Green