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## Effort protects native fish species

Abrams Creek's cutthroat trout the only indigenous fish species in county, new research shows. **A3**

# Plan to save native fish moving forward

New research shows Abrams Creek cutthroat to be the only indigenous fish in Eagle County

By John LaConte  
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GYPSUM — In 1906, Julius Olsen dug seven miles of ditch from Abrams Creek to the Buckhorn Valley area to provide water for his ranch. It was a remarkable feat at the time, and that ditch is still used today for the Buckhorn Valley neighborhood.

Equally remarkable, however, is the fact that the fish in Abrams Creek have managed to survive virtually unchanged since that time and long before, despite the large diversion created by Olsen's ditch and the introduction of other invasive fish into the state.

Abrams Creek runs into Brush Creek, which runs into the Eagle River in Eagle. In the Eagle River Watershed, Abrams Creek is the

only area to contain a native, aboriginal fish population, unaffected by the introduction of rainbow trout, brown trout and brook trout to the area during the 19th and 20th centuries.

It's one of only a handful of indigenous populations left in the entire Upper Colorado River watershed, a fact that was recently uncovered through improvements in the field of genetic research.

Since making the discovery, Colorado Parks and Wildlife and the Buckhorn Valley Metro District have taken on an effort to preserve the Abrams Creek trout and as a result, the Metro District has set an example for the rest of the West to follow with it comes to thoughtful development, says Kendall Bakich, an aquatic biologist with Colorado Parks and Wildlife.

"We know that we're going to grow," says Bakich, "so if we can be thoughtful about that growth, and do it in a way that helps protect our resources with thoughtful engagement, thoughtful use and also thoughtfulness in what we should be protecting, hopefully

we will have some balance to be able to live near the animals we love."

## MODERN EFFICIENCY

In working with Colorado Parks and Wildlife and Trout Unlimited, the Buckhorn Valley Metro District has put together a deal that will protect the native trout in Abrams Creek for generations to come, while preserving the water rights they have to Abrams Creek.

"It's crazy to think a guy with a plow and a mule went up there and found water so far away from his land," Buckhorn Valley Metro District President John Hill said about Julius Olsen. "He dug all that ditch more or less by hand, some of it through rock, and brought the water over here to water his potato crop. So the water right is super senior because it goes back to 1906, it's among the oldest water rights on the Western Slope.

"Even though it was a great and very important cause, we weren't able to give away that water right," said Hill. "But through

negotiation and a lot of study and engineering, we came up with a plan where everybody in the Metro District is actually better off because the water quality will be better, there's less maintenance required and the fish will get their water."

The plan is, simply, to improve efficiency.

Olsen's ditch, impressive as it is, leaks about 40 percent of its water before reaching the Buckhorn Valley neighborhood, none of which makes it back to Abrams Creek.

"With a pipe we can increase the efficiency of the delivery system so we can have as much water as we've had historically, but we'll leave a lot more water in the stream," said Jeff Bennett, the Buckhorn Valley Metro District manager. "Those fish are very important to the diversity of the entire watershed."

Bennett said the Metro District has had approximately 50 meetings on the issue throughout the past five years.

**"We know that we're going to grow, so if we can be thoughtful about that growth, and do it in a way that helps protect our resources with thoughtful engagement, thoughtful use and also thoughtfulness in what we should be protecting, hopefully we will have some balance to be able to live near the animals we love."**

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Kendall Bakich  
Colorado Parks and Wildlife aquatic biologist



## FISH

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"And we did it without any courtroom battles," Hill said. "It's been a great partnership with Trout Unlimited and the DPW."

### LOW ELEVATION CUTTHROATS

When Bakich took the aquatic biologist position with Colorado Parks and Wildlife in Glenwood Springs in 2007, she was already a fish enthusiast. A native Coloradan, she grew up fishing with her family in the Flat Tops area of the White River National Forest.

She never thought she would one day be working on a project as important as this one, however, she now says in looking back.

"The field of genetics has evolved so quickly ... it's now cheaper and it's easier and they have that new ways to look at the genome," she said. "We always knew Abrams Creek was a different population than most ... so we went back to Abrams Creek ... and what we found out was this was a green lineage fish which is the indigenous fish in this drainage ... we can see within a sub species how their DNA differs from each other and each mini drainage, because when they are isolated from other drainages they evolve in different ways and their genetics reflect that."

Basically, when they first saw cutthroats in Abrams Creek, biologists thought they were the same cutthroats found in other places relatively nearby, such as

the Yampa River, but through genetic testing, they were able to prove the Abrams Creek cutthroat are a totally different and unique species.

In addition to being more distinct genetically, the Abrams Creek cutthroat "exist at a lower elevation than other cutthroat populations," says Bakich, "so that might be what lends to their genetic uniqueness, and it may speak to some adaptations they have to the warmer temperatures and lower quality conditions ... so they are a really important population, and they exist in this tiny stream."

A natural event, such as a wild-fire or a landslide in the Abrams Creek area could easily wipe these fish out, Bakich said.

"So our goal is to keep the habitat in as good shape as we can improve it as much as we can," said Bakich. "They've been able to persist in an environment that has sub optimal conditions, so if they were given a creek with optimal conditions, I can only imagine how well they would do."

### LETTERS AND DONATIONS

To make Abrams Creek function at a more optimal level for the cutthroat trout there, more than \$1 million will be needed to replace Olsen's ditch. Trout Unlimited has taken on the fund-raising efforts for the project, and on Thursday, submitted a grant application to the National Fish and Wildlife Foundation for the ConocoPhillips Spirit of



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Jeff Bennett, with the Buckhorn Metro District, checks the flow of Abrams Creek on Friday near Gypsum. The creek is home to native Colorado River cutthroat trout, which are only found in Abrams Creek due to an ecosystem that isn't inhabited by other fish, making them very rare in the area. To meet habitat requirements, 1.25 cubic feet per second of water will remain in the creek.

Conservation and Innovation grant.

Since first learning about the Abrams Creek cutthroat, Mely Whiting, with Trout Unlimited, has been fascinated. Now at the point where they can bring the project to the public for support, "I'm thrilled," she says. "This is a really good deal to bring to philanthropists and investors, because it provides a permanent water

supply for the fish out there."

As part of the agreement, The Buckhorn Valley Metro District will curtail all diversions if flows in the creek fall below 1.5 cubic feet per second, and the arrangement will become a covenant moving forward.

Support for the project is needed, both support of will and financial support. A crowd sourcing-type method will be

forthcoming, says Whiting, but for now Trout Unlimited will direct all checks made out to Colorado Trout Unlimited with the subject "Abrams Creek project" to the project.

Letters can be emailed directly to Bakich at [kendall.bakich@state.co.us](mailto:kendall.bakich@state.co.us); and check can be mailed to Colorado Trout Unlimited, 1536 Wynkoop Street, Suite 320, Denver, CO 80202.



SPECIAL TO THE DAILY

Preservation efforts aim to ensure the legacy of Colorado's cutthroat long into the future.

## Cutthroat restoration facing uncertainty; lineages baffle

Efforts to grow native remnant populations continue

Colorado fish biologists have been embroiled in a mystery surrounding Colorado's native cutthroat trout.



**Kendall  
Bakich**

For decades, biologists accepted that Colorado's native cutthroat could be distinguished by their location: Greenbacks were east of the Continental Divide while Colorado River and Rio Grande cutthroat were in their namesake watersheds.

This was important because the Colorado River and greenback cutthroat are difficult to differentiate due to similar coloration and spotting.

Thought to be extinct by the 1930s, vestige greenback populations were discovered by biologists in the 1950s. Subsequent recovery efforts led to their down-listing from "endangered" to "threatened" in 1978. However, several years ago, researchers using innovative genetic technology, revealed half of these remnant greenback populations were actually Colorado River cutthroat trout.

This was a blow to recovery efforts since many of these populations were used to



# CUTTHROAT

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establish new populations. Spurred by the revelation, fish biologists tested cutthroat populations statewide and discovered that fish genetically resembling greenbacks were numerous on the Western Slope, suggesting a possible deficiency in the genetic analyses.

At the time, genetic researchers were confident that their tests were reliable and thought the unexpected distributions of cutthroat could be reflecting the widespread sportfish stocking efforts in the late 19th and early 20th centuries. Colorado Parks and Wildlife, still wary of the findings, partnered with geneticists to develop a new genetic test to clarify the differences between our native cutthroats.

## FISHING FOR INFORMATION

Fish taxonomists dug through historic federal and state records and accounts of fish stocking to develop a better understanding and a more detailed history of past events. Researchers also evaluated extensive museum collections of trout specimens assembled and preserved up to 150 years ago by explorers, before fish stocking was rampant. These historic specimens revealed that, prior to settlement, each major river basin had a distinct lineage of cutthroat trout.

It is now clear that Colorado historically had six — not three — distinct lineages of native cutthroat trout: Greenback cutthroat originated in the South Platte River; yellowfin cutthroat, thought to be indigenous only to Twin Lakes, actually inhabited cold waters throughout the Arkansas River basin; Rio Grande cutthroat continue to persist in their namesake watershed; a previously undescribed lineage existed in the San Juan

River; and, two Colorado River cutthroat lineages were isolated in the Yampa/White and Upper Colorado watersheds. Historic fish stocking widely distributed fish, resulting in the inadvertent preservation of the greenback cutthroat outside of their native basin. Unfortunately, extensive searches for the descendants of yellowfin and San Juan cutthroat within and outside of their native drainages have failed.

Recovery efforts for our native cutthroat have always used what is considered to be the best science available. For a time, reintroduction efforts used fish that were not necessarily indigenous to the waters where they were introduced, but this increased the number of native cutthroat populations across Colorado, preserving the genetic diversity and resiliency of the species. As well, existing habitat was protected, rehabilitated and restored; and streams were secured from invasion by exotic fish species and disease. Now we are tasked with continuing these preservation efforts and expanding our unique remnant populations to ensure the legacy of Colorado's cutthroat long into the future.

To learn more about Colorado's cutthroat trout, join Bakich and Eagle River Watershed Council for a Watershed Wednesday on Wednesday at the Eagle County Paramedics Building in Edwards from 5:30 to 7 p.m. The program is free and open to the public.

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*Kendall Bakich is an aquatic biologist for Colorado Parks and Wildlife. Bakich is a friend of the Eagle River Watershed Council, which has a mission to advocate for the health and conservation of the Upper Colorado and Eagle river basins through research, education and projects. Call the Watershed Council at 970-827-5406 or visit [www.ewwc.org](http://www.ewwc.org) to learn more.*