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A dam upgrade left one Colorado section of the Rio Grande dry in the winter. What will it take for water to flow again?

Local group says state, irrigation district failed to fulfill promises in project

The Rio Grande at the entrance bridge to Thirty Mile Campground, about 0.7 miles below the Rio Grande Reservoir on Nov. 15, 2023. (Photo provided by Terry Taddeucci)

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The mighty and fabled Rio Grande dwindles to barely a trickle in the winter west of Creede, exposing nearly a mile of rocky riverbed to dry under the weak sun.

This section of the river near its headwaters wasn't supposed to be left dry in the winter, according to environmental groups. A rehabilitation project on the dam that creates the Rio Grande Reservoir was billed as an upgrade that would make the river healthier and improve recreation throughout the year.

But even four years after the construction project concluded, those promises haven't materialized. That's because the dam's new valves cannot safely release water during the winter, according to the Committee for a Healthy Rio Grande, a group formed to push for more water releases from the reservoir for fishing, rafting and environmental health. The irrigation district that operates the dam closes the valves from November through March.

The lack of water in the winter kills off aquatic insects and vegetation — the base of the river ecosystem's food cycle.

"I don't want to frame this in an us-versus-them way. We're not trying to take their water," Jim Loud, founder of the committee, said of the irrigation district that operates the dam. "We're just trying to get them to use the water in a way that is also beneficial to the river."

A solution may be in the works. After four years, the San Luis Valley Irrigation District — which owns and operates the reservoir — on Dec. 1 applied for state grant money to study how the dam's valves could be modified to work in the winter, said Cole Bedford, the chief operating officer of the Colorado Water Conservation Board

"We are developing a solution that will safely provide low-flow releases during the winter," San Luis Valley Irrigation District Superintendent Rob Phillips said in an emailed statement. "And, we look forward to continuing our work with those water users and organizations in the San Luis Valley who have a unique and valued history of working together to find constructive solutions."

The issue is part of a larger challenge: How should Colorado balance the different uses of its water as climate change shrinks supplies and adds volatility to decades-old climate patterns?

"These water issues are not going to go away," said Tim Armstrong, another member of the Committee for a Healthy Rio Grande. "They're just going to get worse."

Unmet promises?

The irrigation district first sought to upgrade the dam in the 2010s because wear and tear on the century-old structure was beginning to affect operations and make the dam less safe.

The dam was leaking on its sides, Bedford said. Regulators imposed a restriction on the reservoir that meant it couldn't be filled to full capacity. The valves could release water at only two volumes — a trickle or full blast.

Before the dam was updated, the irrigation district released water when possible during the winter to keep the river healthy, said Kevin Terry, the southwest program director for Trout Unlimited. Terry lives in South Fork — one of the Colorado communities along the Rio Grande — and has been involved with the reservoir for 10 years.

But the new valves mean the Rio Grande remains dry for the first 0.8 miles downstream of the reservoir, until the first creek brings some water to the river.

“Even with the vital and complex upgrades to the dam and Reservoir outlet works, the safe operation of a reservoir at nearly 10,000 feet in elevation is extremely difficult,” Phillips wrote in his statement. “Safety is our top priority, and we must operate the Reservoir in a manner that ensures the integrity of those upgrades first and foremost.”

Flow data recorded just below the dam show that flows throughout last winter sat below 1 cubic foot per second, state records show. This fall, the flows plummeted to 3 cubic feet per second (cfs) on Nov. 1, down from 77 cfs the day before.

The flows are far below the ideal volume of water needed for aquatic life, according to the 2020 Rio Grande Stream Management Plan. The assessment found that, in the section of river below the dam, the ideal minimum flows would be 31 cfs during the winter and 85 cfs during the summer.

In an average year, that section reaches those ideals a third of the time in the winter and 94% of the time in the summer.

When there’s not enough water in the river, trout struggle to find the best habitat to weather the seasons, said Armstrong, who is a retired Adams State University biology professor.

“The deeper the pool, the better winter habitat for fish,” he said. “So as you reduce those flows, the quality of fish habitat declines all the way down the river.”

Drying a river also harms the bugs and plants that live in the river and provide food to animals higher up the food chain, Terry said.

“Obviously, drying up a river has impacts on the ecosystem,” he said.

Loud and others on the committee said the lack of winter water, along with the absence of a plan to manage the reservoir in a way that helps the river’s environment and recreation, violates promises made by the Colorado Water Conservation Board and the irrigation district.

The CWCB prioritizes funding projects that provide multiple benefits to communities. While touting that the board provided $30 million in grants and loans for the Rio Grande Dam and Reservoir Rehabilitation Project, the CWCB said the upgraded dam would keep more water in the river, increase recreation opportunities and improve wildlife habitat as well as better serve irrigation purposes.

But the habitat, streamflow and recreation improvements never materialized, said Terry, Armstrong and Loud. The end result of the dam upgrade did not meet the original vision, Terry said.

“This is a setback, but we’re still committed as a community in the San Luis Valley to the vision of this project and making (the project) the example that it is for the rest of the state and the West,” he said. “As we battle the scarcity of a shared resource, we need collaboration and we need infrastructure that benefits as many uses of the resource as possible.”

Now what?

Bedford, from the Colorado Water Conservation Board, said conversations about future management of the reservoir, including purposes beyond agriculture, are “headed in the right direction.”

It will take time to fix the valves so they can work safely in the winter, Bedford said. But people are working in good faith to get there, he said.

“There really is a lot that is working in the (San Luis Valley) — there’s a lot of trust and goodwill,” he said. “And that’s what’s going to get us to a solution on this one. I think that the folks that need to be involved are involved — and are involved in the right way.”

Loud said the grant application to pay for a new study is a step in the right direction, but fixing the valves isn’t the only change needed.

“I take that as a sign of encouragement,” Loud said of the grant application. “But there’s no indication that they’re willing or planning to manage the dam for a multi-purpose river.”