

The health and state of the Uncompahgre River, its tributaries, and its watershed
December 2024, report produced by Uncompahgre Watershed Partnership

The health of the Uncompahgre River watershed remained stable in 2024. No major human or natural events degraded the river beyond its condition from the past few decades, nor did any projects greatly improve or restore water quality, riverine function, or water supply.

The Town of Ridgway continues to work with and provide funding for the Uncompahgre Watershed Partnership, a nonprofit focused on monitoring, preserving, and restoring watershed health. As part of an action plan created during the 2023 Growing Water Smart workshop, the town completed a small turf replacement project at Hartwell Park that will conserve water in the river's watershed.

Unusual precipitation patterns in summer 2024 overshadowed the peak flow by spring runoff, swelling the river to its highest point in August and second highest point at the end of June. The more typical date of peak flow is late May to mid-June. The August storm caused major damage to roads, fields, ditches, and most importantly the Beaver Creek diversion, the main source of the Town of Ridgway municipal water. However, the flooding mostly occurred on tributaries of the Uncompahgre River and not the Uncompahgre itself.

The Uncompahgre River through Ridgway continues to be a popular recreation spot from May to August, with boaters, paddleboarders, swimmers, waders, tubers, anglers, and dogs enjoying the water. Access has become a bit more difficult downstream of the pedestrian bridge as the river has changed shape, making descending the west bank difficult and submerging the trail on the east bank under water.

The banks of the Uncompahgre River at Rollans Park continue to erode due mainly to high-flow events and the meandering nature of the river in that area. The erosion is creating high banks, exposing large boulders meant to anchor the bank, and pushing a great deal of pebbles and stones downstream to other banks and bars. The rapid water feature in the park also continues to fill in with stones, decreasing its effectiveness.

Bank erosion is also a conspicuous problem downstream, especially at the parking area adjacent to the San Miguel Power Association. Lateral migration toward the Riverwalk as well as bank steepness has become more notable after the summer's peak flow events.

These river changes are not uncommon in our geography, where many rivers face increased erosion and detachment from the floodplain. This is both natural, as we are no longer in a period of orogeny and instead a period of erosion, and anthropogenic with changes in land use including development and ranching increasing velocity, weather, and erosion.

Construction of the 38-unit residential development, RiverFront Village, neared completion with units going on sale during the summer. The Certificates of Occupancy are expected for Phase I in February 2025 and Phase II in Summer 2025. Because this development is located in the

Uncompahgre River Overlay District¹ the development was subject to additional review in previous years, including increased setbacks and perpetual easements for the River Corridor trail. While no data is available on specific water quality or riparian/wetland impacts caused by this development, more hardened, non-porous surfaces, less vegetated ground, and concentrated runoff moving at increased velocity into the river from this riverside land parcel are concerns.

The town council approved the preliminary plat of another development on the banks of the Uncompahgre River, called The Preserve. It does not have to follow the regulations in the UROD, due to the original council approval of the plat happening just before the UROD was enacted. The development has been delayed and approval of the plat postponed several times. This development will change the character of the river and riparian area. Of note, the town, county and developer are planning a sewer facility to avoid impacting water quality.

Gunnison Basin Water Supply Report

The Uncompahgre River is located within the Gunnison River Basin of Colorado. In September, the following water supply update was produced by Gunnison Basin Roundtable Public Education, Participation, and Outreach Coordinator Savannah Nelson.

After a summer of moisture, the Gunnison Basin's water supply situation offers a mixed outlook. Following a promising snowpack season, water conditions have settled into an average range.

As noted in the Colorado River District's July memorandum, the Upper Gunnison Basin experienced a favorable snowpack during the winter of 2023-2024, with snow water equivalent levels peaking slightly above the long-term median. This strong snowpack promised a healthy runoff season, contributing to above-average water supplies across many of the region's reservoirs. Blue Mesa Reservoir peaked at about 79% capacity this summer.

The Gunnison River Basin, which includes critical agricultural areas like the Uncompahgre Valley, experienced near-normal water conditions. Most upstream reservoirs, such as Taylor Park and Ridgway, filled.

Looking ahead, recent precipitation has bolstered soil moisture across the basin. This should help moderate water demands through the remainder of the season.

While the Gunnison Basin's water supply for 2024 was generally positive, it is underscored by a need for ongoing adaptive management to navigate the challenges posed by fluctuating climatic conditions and variable inflow forecasts.

UWP Note: Although we were slightly above the long-term average, this is 30-year climate normal that runs from 1990-2021, and includes the worst drought in roughly 1,500 years.

¹ The Uncompahgre River Overlay District establishes increased development setbacks near the Uncompahgre River. The standard setback, 75 feet, is larger than the stream setback adopted in many communities. On the Western Slope stream setbacks range from as little as 12 feet to as much as 100 feet.

UWP River Watch Report on Water Supply

In the Uncompahgre River Watershed, a comparison of water years 2023 and 2024 provides an interesting picture. Water year 2023 had one of the largest snowpacks in 20-plus years, with a peak of 31.1 inches of snow water equivalent (SWE) at the Red Mtn Pass SNOTEL site. This occurred on April 29, 2023, and was 124% of the median SWE peak. In contrast, for water year 2024, at the Red Mtn site SWE peaked at 21.8 inches on April 11, 2024, which was 87% of the median peak.

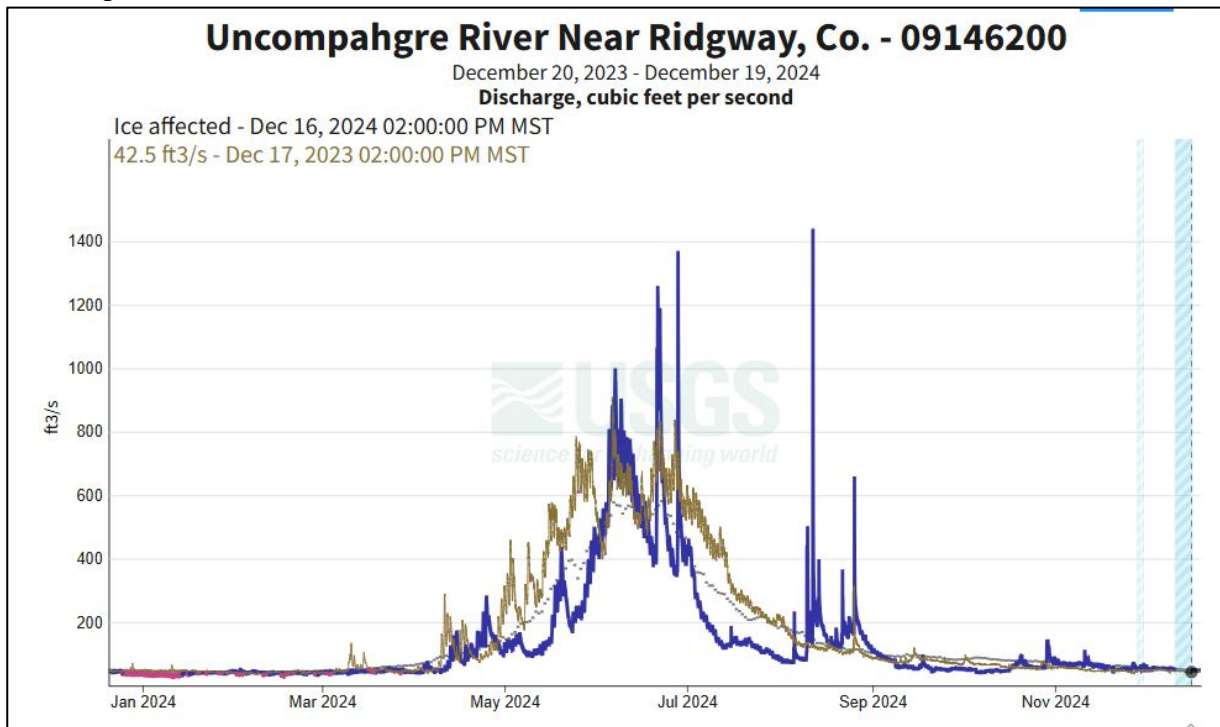


Figure 1. Discharge plots from the USGS stream gauge near Ridgway, CO. Brownish line is for 2023 and blue line is for 2024. The dotted line shows the median discharge.

Figure 1 shows that the runoff pattern on the Uncompahgre River differed markedly for 2023 and 2024. 2023 runoff from snow melt began in early May, and a relatively cool spring produced a lengthy runoff season that was like the duration of seasonal runoff noted by the median discharge curve. However, 2023 flows exceeded median values from May through the end of July. Peaks in streamflow rarely exceeded 800 cubic feet per second (cfs), so flooding from snow melt runoff was minimal.

In 2024 the discharge plot shows runoff began about two weeks later than in 2023, and occurred much more rapidly, ending around mid-July. The rapid runoff led to much higher peak flows (> 1000 cfs) than in 2023. The other main difference between the two years is the lack of increased streamflow from monsoon storms in 2023, compared to the very high peaks in flow during the monsoon season in 2024. One peak of 1440 cfs in August 2024 corresponded to a storm that produced considerable flood damage throughout Ouray County.

The late start of the runoff season in 2024 was also noted on smaller streams in the county, particularly Dallas Creek. On Dallas Creek the irrigation season began well before the main

runoff on the creek began and the streamflow dropped to less than 2 cfs from late April to early June. The low flow situation, which is very detrimental to aquatic life, prompted the Colorado Water Conservation Board to make a call on their instream flow right of 10 cfs. However, the call did not result in a flow increase. Streamflow only increased as runoff began in early June. This early season low flow pattern on Dallas Creek has been noted several times in the past 10 years.

Proposed Projects Related to Water Supply

The Cow Creek Pipeline and Ramshorn Reservoir, filed as an application in December 2019 by Ouray County and partners, is still being reviewed by the water court with negotiations ongoing between the applicants and parties that filed statements of opposition (opposers). The proposal is to divert additional water into Ridgway Reservoir. The Cow Creek diversions would benefit junior water rights holders in Ouray County as exchanges for continued water use from the Uncompahgre River that would otherwise be halted when downstream Uncompahgre Valley Water Users with senior rights put a call on that water.

The proposed pipeline and reservoir operation may decrease Uncompahgre River flows through Ridgway, though no clear data has been presented to demonstrate whether decreases would happen or not. Decreased river flows through town could potentially impact the ability for recreation to happen at Rollans Park, and the town's compliance with wastewater treatment regulations downstream of the park. More data and analysis are necessary.

The county convened a meeting in late 2023 to share modeling data prepared by contracted engineers, and the county attorney sent a proposed settlement to opposers in late November. While the county is no longer including the reservoir project in their application, other entities such as Tri-County Water Conservancy District are still discussing going forward with reservoir planning. Communication about the water rights case was at a standstill in 2024, though Tri-County, Uncompahgre Valley Water Users Association, and some other organizations promoted the projects during several public water-related gatherings.

UWP River Watch Report on Water Quality

The long-term health of the Uncompahgre River and its tributaries is adversely affected by high concentrations of dissolved and suspended metals that enter streams from many sources, but primarily from natural weathering and erosion as well as inactive mines that are still actively discharging water. Aquatic life, from the smallest invertebrates to larger fish species, are impacted due to the presence of high metal concentrations. Fish are generally absent above Ridgway Reservoir, except for non-native bass and Kokanee salmon, which are often seen as far south as Ridgway during their seasonal upstream run in the fall.

Ridgway is located on the Uncompahgre River segment COGUUN03C, from Dexter Creek to the Dallas Creek confluence just above the reservoir. This segment was evaluated in 2022 by the Colorado Water Quality Control Division (WQCD) using data from 2015 through 2019, primarily collected by the Colorado Parks & Wildlife River Watch program.

UWP River Watch volunteers monitor the three water quality sites in segment COGUUN03C. The result of the 2022 evaluation by WQCD showed that all aquatic life and water supply standards for all metals were attained for this river segment. However, data collected by UWP since 2019 indicate that the water supply standard for total arsenic may be exceeded, since about 87% of samples collected show concentrations that exceed the current standard of 0.02 µg/liter. Further, although the aquatic life standard for total iron is attained using median values from the three sites in the segment, one site at Potters Ranch showed the total iron standard was exceeded using data from 2022 and 2023.

Since 2021 UWP has added seven water quality sites in the upper segments of the Uncompahgre watershed. These have been added to aid WQCD in assessing potential impairment by metals (where data was previously lacking), as well as determining total maximum daily loads (TMDLs) of metals. [A TMDL is the maximum mass of a metal that can be added to a stream each day, so that the metal concentration stays below the standard for that metal.]

Long-term Threats to Uncompahgre River Health

- Climate change, drought, and aridification decrease snow accumulation and change the precipitation regime, which in turn reduces groundwater recharge, decreases the amount of water stored in reservoirs and lakes, and causes stream flows to fall below the rates needed to sustain watershed health and provide for various human uses. Reduced stream flows can contribute to elevated water temperatures, and increased metal concentrations, and even loading. Existing temperature data indicate that stream temperatures in the Uncompahgre Watershed remain cool enough to support aquatic life.
- Dust and microplastics in snow impact the rate and timing of snowmelt as well as water quality. While water treatment can improve the quality of public water supplies, the demands on the treatment processes are increased.
- The risk of wildfires is an ongoing concern due to potential impacts to life, economic health, wildlife habitat, watershed health, and water supplies.
- Legacy mine sites with tailings, waste rock and open rock tunnels are a major source of acid drainage and metal pollution impacting water quality in the Uncompahgre River. Restoration projects have been difficult to implement due to insufficient funding and liability issues.

Potential Changes in Uncompahgre River Health

- Thorin Resources purchased the former Ouray Silver Mines Inc. mining properties and owns the Camp Bird mine site, along tributaries to the Uncompahgre River. The company has plans for some type of mining operation that could have potential negative impacts on water quality upstream of the Uncompahgre, though careful permitting and compliance could prevent those impacts.
- Crystal Reservoir was drained by the U.S. Forest Service in April 2024, due to concerns about reservoir safety and necessity. Government leaders are considering how to manage the reservoir area into the future. The current and future management of the wetlands and fens will affect environmental and water quality upstream of the Uncompahgre, which could be positive or negative.

Uncompahgre River Health Protection & Restoration

- The City of Ouray completed constructing its new wastewater treatment facility and it began operation in November 2024. The inadequate existing facility was removed at the end of December. The new facility improves Ouray's ability to protect water quality in the Uncompahgre River.
- UWP Technical Coordinator Ashley Bembenek led a field trip along the Uncompahgre River Corridor in Ridgway in September 2024, to help citizens better understand river conditions.
- Land managers have been implementing information campaigns to reduce the risk of wildfire, and fire risk reduction measures, such as the U.S. Forest Service's Baldy Mountain Fire Protection measures (brush and tree cutting with prescribed burns). By reducing wildfires, water quality will be protected.
- The Uncompahgre Multibenefit Project, upstream of Ridgway, is aimed at improving agricultural ditch operation, reconnecting floodplains, and reestablishing native biodiversity. The project became fully funded, designed and permitted in 2024, and is expected to have a positive impact on the Uncompahgre River after implementation in 2025. The project could serve as a model for similar projects along the river.
- In November 2024, UWP submitted a major grant application for multiple fen restoration projects, seeking U.S. Bureau of Reclamation funding. If this grant is awarded in 2025, the projects will begin by 2026 and could lead to improved water quality upstream of Ridgway in the Ironton area of Red Mountain Pass.
- The U.S. Congress and President enacted the Good Samaritan Remediation of Abandoned Hardrock Mines Act in Dec. 2024. This new law authorizes 15 pilot mine site remediation projects and is expected to make it easier for nonprofits and other restoration leaders to implement water quality improvement projects, resulting in significant future water quality improvements in watersheds like the Uncompahgre River.