

2023 Water Supply Conditions

The 2023 Water Year was an exciting water year to say the least. It started out with a little drier and warmer than average conditions in October and November of 2022. By December 1st 2022, snowpack conditions were only 87 percent of average for the Gunnison River Basin as a whole, and the average was being propped up by very good snowpack on the Uncompahgre Plateau and the Grand Mesa. Then, a dramatic change of events occurred. Winter storms came with regular frequency and intensity until by April 1st, 2023, the basin-wide average snowpack climbed to 165 percent of average.

Because of three of the worst consecutive water supply years in a row (2020, 2021, and 2022), the carryover storage levels in the reservoirs for the entire basin was very poor going into winter storage season. In addition, the Bureau of Reclamation made a release of water out of Blue Mesa Reservoir in 2021, as part of a Drought Response Operations Agreement (DROA), to help prop up the dangerously low level of Lake Powell. This release lowered the storage in Blue Mesa Reservoir to the lowest level since the reservoir first filled in 1966. So, recovering the storage in Blue Mesa Reservoir this season was on everyone's minds and in the news.

The spring runoff of course, turned out to be far above normal. The average April to July unregulated inflow into Blue Mesa Reservoir is approximately 672,000 acre-feet. The final measured runoff into Blue Mesa for the April through July 2023 spring runoff was 834,000 acre-feet. The May 1st forecast by the Colorado River Basin Forecast Center predicted an April through July runoff into Blue Mesa Reservoir at 830,000 acre feet, which according to the EIS Record of Decision for storage management operations at Blue Mesa, this called for a target peak flow in the Lower Gunnison River (as measured at the river gage in Whitewater, CO) of 14,350 cfs and a duration for two days at that peak flow and a 20-day sustained flow of 8,070 cfs. However, due to the record snowpack in the North Fork Gunnison River Basin, the Grand Mesa, and the Uncompahgre Plateau, achieving the target flows in the Lower Gunnison River was able to be completed without significant releases from the Aspinall Unit. In fact, Reclamation needed to control the timing of any springtime releases from the Aspinall Unit so that the City of Delta would not see flooding impacts from this year's runoff. The Gunnison River gage at Delta saw a peak of about 12,000 cfs on May 17th. At that time, only 4,500 cfs was in the Gunnison Gorge as Reclamation was carefully watching the runoff conditions from the North Fork Gunnison River and the Uncompahgre River and the impacts to the City of Delta. At the same time, Reclamation was concerned about a potential spill at Blue Mesa Dam and they made a second release through the Gunnison Gorge of approximately 7,500 cfs on June 28. The good news is that the reservoir recovered from the previous three years of drought and is now at its normal storage level.

During the irrigation season, especially from June through October, the Gunnison Basin experienced a weak or non-existent monsoon season, which did not help improve soil moisture conditions going into the 2024 irrigation season. As it was, the dry summer conditions with good irrigation supply resulted in very good hay crops and haying conditions throughout the basin.

Generally, Water District 40 is typically tightly administered with the call season beginning early spring before runoff, free river conditions during the runoff, and then back on call in early June. However, the terrific snowpack, even at low elevations, and extended runoff period, made natural flow available so that more junior diversions were able to receive much more water than they are accustomed to using. Water District 40 near Cedaredge depends heavily on storage water from the Grand Mesa reservoirs to sustain the mid and late-summer irrigation demands, especially for the orchardists. There was enough spring runoff to entirely fill every reservoir on the Grand Mesa, with reservoirs spilling into July. Reservoir water from the Grand Mesa was not needed for irrigation demands until the early part of the summer. As a result, the carryover storage going into the 2024 irrigation season was well above normal and a relief from the three previous poor water supply years.

Due to the exceptional snowpack conditions, the Uncompahgre River and its tributaries in Districts 41 and 68, no administrative curtailments were required in these districts, even though the summer was drier than normal. The Gunnison Tunnel kept running at maximum capacity, and there was enough flow

down the Uncompahgre to meet the rest of the water users' needs. Many thanks to the Uncompahgre Valley Water Users Association and Tri-County Water Conservancy District for their water management assistance. The Division of Water Resources works in collaboration with these agencies to meet the demands of water users in the Uncompahgre River watershed, which is comprised of over 85,000 acres of irrigated lands.

On the San Miguel River, the high snowpack also kept the flows high enough to satisfy the numerous senior water rights near Nucla and Naturita for the entire irrigation season despite the drier than normal summer conditions. Normally, a river call from the Highline Canal and the other senior ditches is made by August when the monsoon season is weak as in this season. The summer usually produces intense and localized thunderstorms in this part of the basin, often causing significant flooding damage. Such summertime monsoonal season precipitation was not observed in 2023.

Water Supply Recap for 2023 by Basin

The Upper Gunnison and the Uncompahgre Project

The April through July forecasted inflow to the Aspinall Unit (Blue Mesa, Morrow Point, and Crystal Reservoirs) as of May 15, 2022 was 830,000 acre-feet. As previously stated, the actual measured April through July runoff, based on streamflow gage records, was 834,000 acre-feet, or approximately 125 percent of the 30-year median seasonal average, categorizing the season as an "Average Wet" year for storage management purposes under the Record of Decision for the operation of the Aspinall Unit. Average Wet year categorization for Aspinall Unit requires reservoir releases (mainly bypassed inflow) to achieve a peak flow target in the Lower Gunnison of 14,350 cfs (sustained for two days). Also, the May 1st forecasted inflow at this level only results in a 6,400 cfs peak in the Black Canyon based on calculations in the reserve water right decree for the Black Canyon National Park. Most of the tributary streams in the Upper Gunnison Basin experienced 115 to 144 percent of average April through July runoff in 2023, depending on the local basin area. Water supply conditions were well above average in the Upper Gunnison Basin for the 2023 irrigation season.

The Uncompahgre Valley Water Users Association (UVWUA) began diverting water into the Gunnison Tunnel point of diversion on April 2nd and did not ramp up to their full diversion of 1,000 cfs until May 27th, due to so much water coming into the UVWUA system from small side tributaries off of the Uncompahgre Plateau (in record amounts actually).

The North Fork River

The North Fork Gunnison River is formed at the confluence of Muddy Creek and Anthracite Creek. Paonia Reservoir is an on-channel Reclamation project reservoir on Muddy Creek just above the confluence. Paonia Reservoir normally dominates river operations on the North Fork River during irrigation season and the storage water accounts are owned by the Fire Mountain Canal Company and the Leroux Creek Water Users Association. In addition, the Ragged Mountain Water User Association, whose water users are located above Paonia reservoir tributary to Muddy Creek, leases approximately 2,000 acre-feet of storage by exchange. The Fire Mountain Canal relies on natural flow during the spring until the runoff season ends; then it relies on storage out of Paonia Reservoir. The North Fork of the Gunnison River is a highly over-appropriated stream system and it goes on call every year, even in big water supply years such as 2023. The runoff in North Fork was 235 percent of normal this spring. Typically, the river call is initiated by the Fire Mountain Canal or the Paonia Ditch between the last week of June and the 4th of July. During 2023, the natural flow of the North Fork River was finally called out by the Paonia Ditch on July 28th, nearly a month later than normal. The call continued for the rest of the irrigation season due to the non-existent to very weak monsoon season the summer of 2023.

Because of the record snowpack in the high country as well as in the lower elevations, there was legitimate concern from County Emergency Management Services of Ouray, Montrose, Delta and Mesa Counties about potential localized flooding events during the early runoff from the Uncompahgre

Plateau, Grand Mesa, and the North Fork Gunnison River Basin. Their concerns were well justified as there was significant road damage at bridges/culverts in Montrose and Delta Counties due to the record runoff flows in small side tributaries that have not experienced such conditions in recent memory. On May 2nd, a culvert under Highway 133 at the Bear Creek crossing washed out causing a closure of Highway 133 until completion of the repairs was completed on June 19, 2023. Highway 133 is the only route to the coal mines above Paonia and a well-travelled route to the Roaring Fork Valley.

The Grand Mesa

Water supply conditions have been suffering on the Grand Mesa and at the Grand Mesa system of reservoirs since the last good snowpack/runoff season of 2019. The winter of 2022/2023 has turned that all around on the Grand Mesa, especially the Surface Creek basin, where record runoff of 38,000 acre-feet (263 percent of normal) occurred due to the multiple “atmospheric river” storm events that originated in the south pacific and spread that moisture to the southern Rockies over the course of December through April. The snowpack measured at the Park Reservoir Snotel gaging site also tied a record of approximately 50 inches of snow water equivalent at its peak in April. As a result, water rights that have not been able to divert water for three seasons have enjoyed the ability to irrigate for most of the summer of 2023. Similar to the North Fork area, there were a number of low bridges, culverts, and diversion structures that suffered significant damage from the unusually high and sustained runoff of the spring of 2023.

The San Miguel River

In water District 60, the big news was the low elevation snow runoff from the Uncompahgre Plateau and the Sawtooth Ridge area to the west of the San Miguel River. The massive amounts of low snow accumulation resulted in a peak flow in the San Miguel River at the Uravan gage of 4,640 cfs on April 14, shattering a previous record of 2,300 cfs in 1957. The flow in the San Miguel River was well above average for the entire spring into summer. Similarly, the Dolores River at the Bedrock gage was measuring in the low 4,000 cfs range for early May and over 3,000 cfs in April. These are unusual events and are worth discussing and analyzing. No mainstem call was placed on the San Miguel River in 2023, despite the drier than normal summer. However, very good hay crops were brought in because of the good water supply and hot and dry summer of 2023.

The Cone Reservoir and the Gurley Reservoir, which are privately owned and operated ditch and reservoir companies, filled and spilled this season as well.

Groundwater Administration

The Well Permitting Program in Division 4 continues to provide timely issuance of exempt well permits. There were only 188 well permits issued within Division 4 during 2022, that's down from 296 in 2021. 174 of the 188 well permits were exempt well permits issued by Greg Powers, the well commissioner for Division 4. The remaining 14 non-exempt permits were issued by the Divisions 4, 5, 6 Team staff out of the Denver Division of Water Resources Office. The Division 4 Office will continue issuing exempt well permits for the foreseeable future. The numbers by water district for well permits issued in 2023 has fluctuated over the years and seems to increase with real estate sales activity. Most well permitting activity predictably occurs in basins that do not have extensive public water supply infrastructure, such as the San Miguel Basin, North Fork Basin, and the East River Basin. These are desirable and popular areas for development, yet there is a lack of domestic water supply infrastructure and development is largely relying on individual wells for water supply.

Greg Powers has spent a considerable amount of time identifying and correcting information in the well permit database. The Well Commissioner has also undertaken several GIS projects involving this database that is proving very useful in getting parcel information from the counties in a useable form and moving toward replacing the hand drawing process on the paper maps. Use of MapViewer and the Hydrobase Database Management Console (HDBMC) has allowed the Well Commissioner to use GIS parcel

data to easily identify parcels that are locked up with a permit. His use of GIS data continues to expand to make him more efficient in approving and tracking well permit applications.

Hydrographic Activities

Division 4 has thirty-three Satellite Monitoring Stations (SMS) with forty-nine associated gages. One new gage was installed in 2023 at Carl Smith Reservoir outflow. This gage will greatly assist in maximizing and optimizing storage releases for the water users and allow the water commissioner to manage Leroux Creek administration much more efficiently. Two gages (Selig Canal and Dragon's Teeth Drop) were refurbished this year with the assistance of the Uncompahgre Valley Water Users and David Hutchins. Eleven of these gaging stations are record gages that are published annually. The data from these stations may all be found on the *Colorado's Surface Water Conditions* web site. In addition, we cooperate with the US Bureau of Reclamation at four sites and publish two of the records. Josh Kasper Division 4's only full-time hydrographer and supports the entire Division. With the assistance of several Water Commissioners, Josh maintains the eleven published gages, forty-nine administrative gages and keeps the satellite monitoring equipment maintained. In 2023, a total of 103 measurements and 159 gage visits were made by Josh Kasper. A decision item was requested in 2022 for an additional full-time hydrographer at the EPST II level and that the decision item was supported by the Executive Directors Office and approved for fiscal year 2024.

Personnel

Evan Jones completed his first year as the Assistant Division Engineer, backfilling a vacancy left by Greg Brown, who unfortunately left state service due to certain family matters which took Greg out of the state. Evan is born and raised in the Montrose area and brought some amazing technical skills to the position. Three other vacant positions were filled in 2023: The deputy water commissioner position in the Surface Creek area on top of the Grand Mesa was filled by Devon Gutierrez (a local from Cedaredge); the deputy water commissioner position in the Leroux Creek was filled by Rhonda Hall; and, the water district 62 position in the Lake Fork Gunnison area was filled by Travis Gilbertson, an experienced water commissioner from Division 1. We are very please to have all three on board for the 2023 season as well as the 2024 season.

Community Involvement

Division 4 places a high level of importance of having respectful and trusting relationships with the variety of water use organizations and members of the community. Without such trust and respect, this office would have limited effectiveness. Division 4 appears to be somewhat unique, wherein the major water user groups work together with the government organizations for the betterment of the basin. It is a pleasure to be a part of that cooperation and to hold and maintain a position of trust in the water community.

The Division 4 staff was more involved with our water users in public meetings and gatherings and at a personal level in 2023. However, we see such interaction as an increasingly important part of our responsibility as water stewards. Staff attended meetings with the Gunnison Basin Roundtable, Colorado River Water Conservation District, Upper Gunnison River Water Conservancy District, Tri-County Water Conservancy District, North-Fork Water Conservancy District, Uncompahgre Valley Water Users Association and its Board of Directors, Farmers Water Development, Surface Creek Ditch and Reservoir Company, Granby Ditch and Reservoir Company, Big Ditch Company and Park Reservoir Company and other water interest groups.

The Division Engineer attended similar online video meetings of the Colorado Water Conservation Board, Southwest Water Conservation District in Durango, US Forest Service, Bureau of Land Management, and the US Bureau of Reclamation. Not only is valuable input offered, but there is also an opportunity to be informed of many other basin issues potentially affecting this office.

Our public involvement included participation on the regularly scheduled Gunnison Basin Roundtable meetings held in Montrose, both for the Statewide Water Supply initiative, or SWSI, and the Interbasin

Compact Committee. We have worked closely with both the Executive Director's Office of DNR as well as the Colorado Water Conservation Board in providing a local perspective of basin water issues. We helped identify existing water supplies and pointed out areas where future growth might be faced with water shortages. One of the most effective annual public meetings that has really helped to heighten the awareness of all things water related is the Colorado River Water Conservation District's annual "State of the Rivers" meeting which is held in most of the major watersheds each spring. The Division Engineer's participation includes a discussion on water supply and runoff conditions.

Jason Fuller, Luke Reschke, and Sandy Ragsdale once again represented Division of Water Resources in fine fashion at the Natural Resource Festival held each May at the Riverbottom Park in Montrose. The event is an educational opportunity for students to learn about natural resource management. The event was very well attended in 2023.

Finally, many Division 4 Water Commissioners attend local water user meetings in their communities, a practice strongly encouraged by this office. As they are the local water experts in the area, they can provide local knowledge and valuable input.