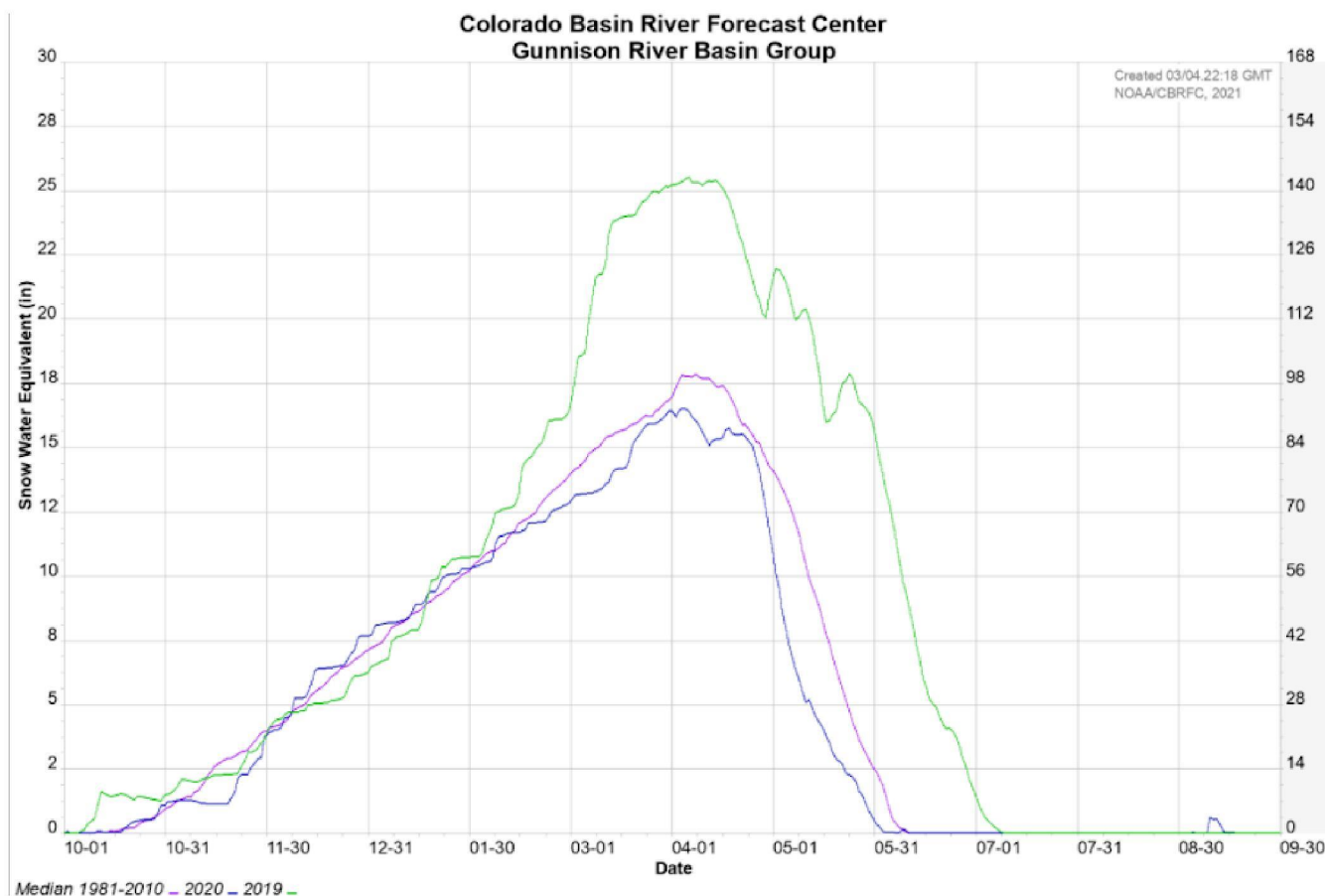


2020 Water Supply Conditions

The 2020 snow accumulation months of October through April started off well and most in the local water supply community were looking forward to a decent water supply season. However, unseasonably warm and drier than normal conditions prevailed in April and May resulting in an early melt out of the snowpack. To compound runoff woes, the lower elevation snowpack, that snow below 9600-feet in elevation, was almost non-existent. This lower elevation snow helps to bring up base flows in streams prior to the higher elevation melt off. By April 1st 2020, irrigators were in need of water due to the warm temperatures, but a cold front in the second week of April delayed the runoff until approximately the last week of April.

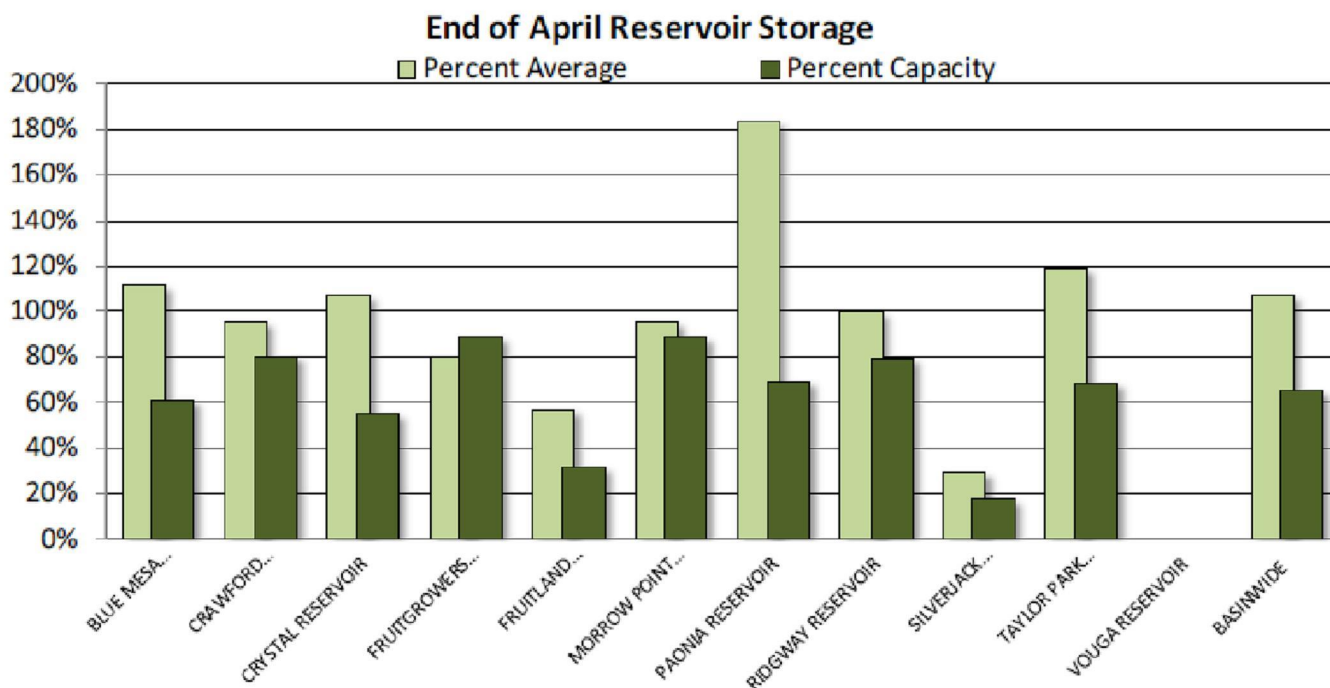
The chart below shows the snowpack conditions in 2020 began with a promising start by tracking very well with the median but only peaked at approximately 90 percent basinwide. There are three major water producing watersheds in the Gunnison Basin which include the Upper Gunnison (Blue Mesa), the Uncompahgre, and the North Fork Rivers. Turns out, the San Miguel River basin, which is also in Division 4, is tributary to the Colorado River in Utah and does not contribute to flow in the Gunnison River. Of the three sub-basins in the Gunnison Basin, the Upper Gunnison Basin experienced the best water supply conditions by snowpack peaking at just over 100 percent and very good carryover storage supplies in Taylor Park Reservoir and Blue Mesa Reservoir. However, due to the dry fall conditions of 2019 and the lack of lower elevation snowpack, the runoff forecast for the Upper Gunnison dropped from 590,000 acre-feet on January 15th to the actual April through July runoff of 387,000 acre-feet or only 57 percent of average.



The North Fork River basin fared much worse than the Upper Gunnison, with Paonia Reservoir receiving just 30,000 acre-feet of April through July inflow, which is only 32 percent of average. Water supply conditions in the Uncompahgre River basin were similar to the extreme in the North Fork River. Ridgway Reservoir received only 51,000 acre-feet of April through July inflow, which is

approximately 50% of average. The hardest hit location within the Gunnison Basin was the Grand Mesa area, and specifically, Surface Creek. Surface Creek yielded only 7,200 acre-feet of April through July runoff, or 43 percent of average. Finally, the San Miguel River also had a very poor runoff as measured at the Placerville gage at approximately 50 percent of average.

Carry over storage going into the irrigation season for 2020 was in very good shape due to the high runoff in 2019 an increased base flows in the streams for much of the season. See the chart below:



Water Supply Recap for 2020

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 1st was only 450,000 acre-feet. However, as explained above, the actual measured April through July runoff, based on streamflow gage records, was only 387,000 acre-feet, or approximately 57 percent of the 30-year median seasonal average, categorizing the season as a “Moderately Dry” year for storage management purposes under the Record of Decision for the operation of the Aspinall Unit. Moderately Dry year categorization for Aspinall Unit requires releases to achieve a peak flow target in the Lower Gunnison of 3,167 cfs and reduces baseflow target flows as measured at Whitewater to 890 cfs for April and May. Also, forecast inflow at this level only results in a 2,200 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 45 to 65 percent of average April through July runoff in 2020.

The Uncompahgre Valley Water Users Association (UVWUA) began diverting water into the Gunnison Tunnel point of diversion on March 17th and ramped up to their full diversion of 1,000 cfs on April 13th. Demand for water from irrigators was high early in the irrigation season, therefore, diversions at the Gunnison Tunnel exceeded the available natural inflow into the Aspinall Unit for approximately two weeks. This has resulted in what is termed the April hole, which has caused the UVWUA to use storage water from their Taylor Park Reservoir first fill storage account in the beginning of the irrigation season until the snowmelt in the high country beings to occur. Given the lack of native flow water in the stream systems due to the severe drought conditions, the UVWUA water managers relied heavily on storage water supplies in 2020 to keep pace with the demand. As a consequence, carryover storage at the end of the irrigation season within Division 4 was much lower than average.

The Grand Mesa

Water supply conditions went from full and spilling reservoirs during the runoff of 2019 to the lowest carryover storage on record on the Grand Mesa by the fall of 2020. As in 2018, at the beginning of the irrigation season, Tongue Creek and its tributaries (headwaters of which are on the Grand Mesa) was placed on call by demand from senior irrigation ditches down low in the system. Calls for water occurred on Surface Creek, Ward Creek and Dirty George Creek and were administered to the most senior 1883 priorities. By June 29, the number 1 water right for the Alfalfa Ditch was the only ditch in priority on Surface Creek. However, most of the reservoirs were entitled to store some of the runoff for a few weeks in 2020.

Given the challenge of managing the out of priority storage water administration, the Division of Water Resources created an administration spreadsheet tool that is shared with the public via the Division 4 webpage that uses measured gauge rod elevations to accurately determine the amount of out-of-priority storage that may occur during water short years on the Grand Mesa. This new spreadsheet tool has really improved the speed and accuracy of managing the storage decrees for this unusual number and concentration of irrigation reservoirs and helps to ensure that senior direct flow water right holders on the stream system below are not injured. There are still more plans to improve this accounting and administration with assistance through automation of collecting reservoir elevation data in the near future.

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. Typical, the river call is initiated by the Fire Mountain Canal or the Paonia Ditch between the 4th of July and July 15. Similar to 2018, in 2020, the natural flow of the North Fork River was called out quite early in the season by the Paonia Ditch on June 29 and was followed by a more senior downstream call by the Short Ditch on June, 2018 and it continued until the end of September.

The San Miguel River

In water District 60, the San Miguel River was also affected by the same drought conditions as the Grand Mesa and the Uncompahgre River. Only one summer rain event in late July disrupted the very dry post runoff season. For the third year in a row, the basin experience practically no monsoon season during the summer. The monsoon events, which typically occur from the end of July through September can bring base flows in the streams up to normal levels and help to recharge springs and ponds before the end of the irrigation season. The Cone Reservoir and the Gurley Reservoir, which are privately owned and operated ditch and reservoir companies, did not fill their storage decrees and their systems were drastically short of water resulting in very difficult conditions for cattle ranchers in the area. Gurley Reservoir, which has a storage decree for approximately 9,000 AF, had a storage restriction placed on the structure due to a slip failure on the dam face in 2019. However, with water supply conditions being so poor, the storage was not limited by the restriction, but rather the lack of stream flow to fill the reservoir.

Groundwater Administration

The Well Permitting Program in Division 4 continues to provide timely issuance of exempt well permits. There were only 268 well permits issued within Division 4 during the 2020 water year, that's down from 396 in 2019 and 402 in 2018. This significant drop in permit applications no doubt was due to the COVID-19 effect on all manner of business. 227 of the 268 well permits were exempt well permits issued by Greg Powers, the well commissioner for Division 4. The remaining 41 non-exempt permits were issued by the Divisions 4, 5, and 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 2020 was consistently down for each water district across the whole Division.

As all exempt well permits in Division 4 were issued out of the Montrose office, staff 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 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-two associated gages, an increase of three additional SMS gages this season. 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. We cooperate with the US Bureau of Reclamation at four sites and publish two of these. Josh Kasper has assumed full hydrographic support for this Division. With the assistance of several Water Commissioners, Josh maintains the eleven published gages, twenty-five administrative gages and keeps satellite monitoring equipment maintained. In 2020, a total of 155 measurements and 191 gage visits were made by Josh Kasper, Jason Ullmann (Assistant Division Engineer).

Division 4 has experimented with replacing Stage Discharge Recorders with Radar Water Level Sensors at several stations with excellent results. The radar units are more expensive than the SDRs but they require less maintenance and there are fewer electronic components associated with the system, which translates to less maintenance. Seven additional gages were installed during 2020 to monitor the Uncompahgre Valley Water Users Association system tailwater discharges at critical measuring locations. This now brings the total to 48 gages in Division 4.

Personnel

Thankfully, there were no retirements in 2020. Division 4 has 28 permanent positions, so it stands to reason that at any given time there is most likely some sort of personnel action or change in the works. For 2020, we needed to fill a few vacancies left by some previous retirements, volunteer separation from State service, and some troop movement. Denise Jackson filled the vacant position in Water District 40 left by Luke A. Reshke transferring to the Crawford area. Mark Walker filled the reservoir position on the Grande Mesa vacated by Joseph Marah. And, Mike Kuene filled the vacant position at the Granby Cabin on Grand Mesa left by the Adam Woodall voluntarily leaving state service. We anticipate some minor changes for 2021 as well.

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.

Due to COVID-19 related restrictions on public meetings and gatherings, the Division 4 staff was less involved with our water users at a personal level. However, we see such interaction as an increasingly important part of our responsibility as water stewards. To this end, we frequently attended meetings via video conferencing 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, there is an opportunity to be informed of many other basin issues potentially affecting this office. We all learned how to use Google Meet, Zoom, and Microsoft Teams platforms for hosting and attending online video conference held meetings.

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 Ullmann and Sandy Ragsdale normally make an annual presence for Division of Water Resources 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 events were cancelled for 2020 due to COVID-19 related conditions.

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.

2020
Division 4 Water Court Activities

Applications for Decrees		160
Consultations with Referee		151
Decrees Issued by Water Court		122
Dismissals		4
Complaints		0
	<u>Structures</u>	<u>Cases</u>
New Conditional Water Rights Filed	33	17
New Absolute Water Rights Filed	49	26
New Diligence on Conditional Rights Filed	186	67
New Change of Water Rights Filed	17	12
New Conditional to Absolute Apps Filed	99	58
New Augmentation Plans Filed	11	11
Cancellations of Conditional Rights	0	0
Underground Water Rights Adjudicated	51	19
Surface Water Rights Adjudicated	150	82
Water Storage Rights Adjudicated	78	40
Plans for Augmentation Adjudicated	11	11
Change of Water Rights / Use Adjudicated	5	5
In-stream Flow Rights Adjudicated	3	3