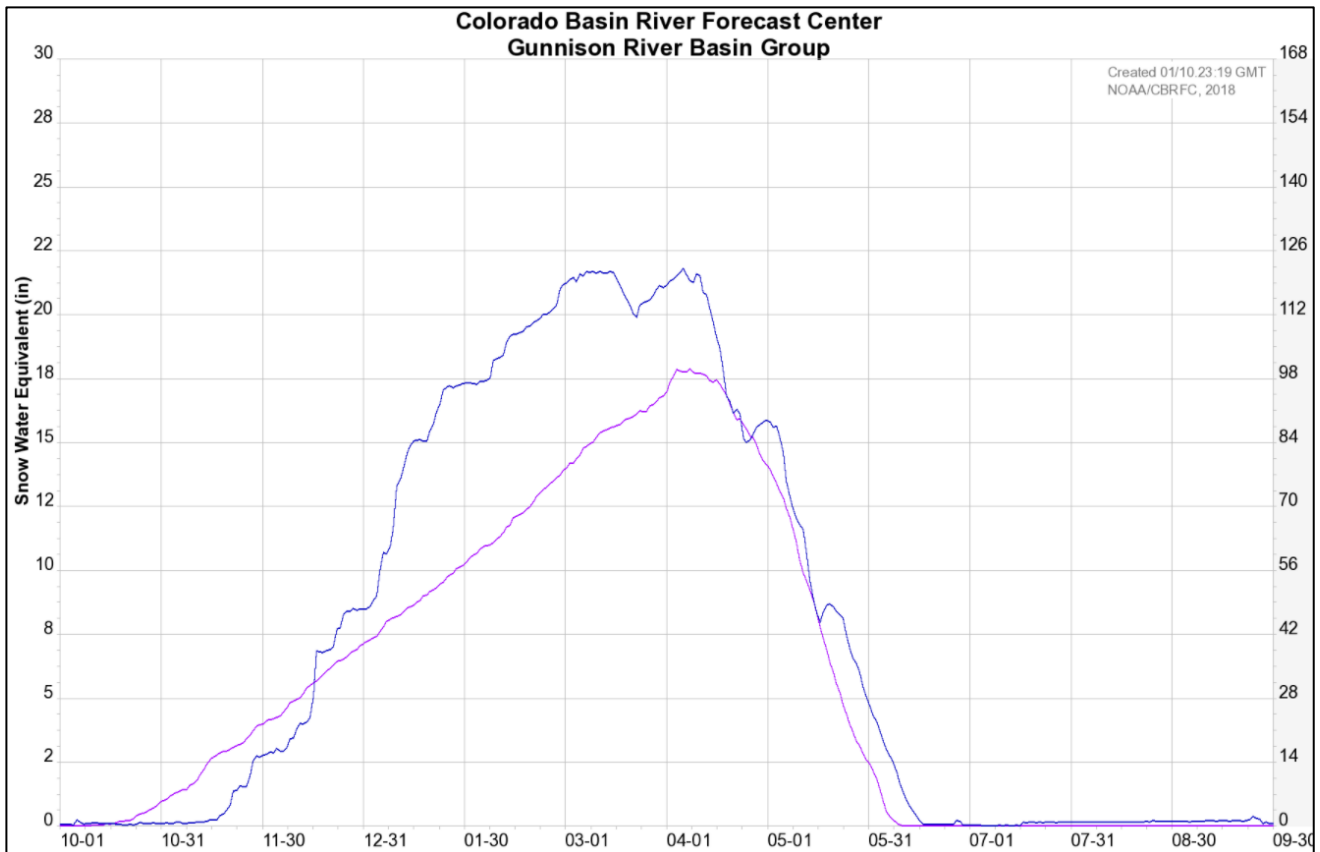


## Division 4 Annual Report Water Year 2017

### Water Supply

The 2017 water year began with drier than normal conditions as temperatures maintained in the normal range and snowpack accumulated minimally until the month of December when weather conditions changed considerably and Pacific storms tracked through the rocky mountains and Colorado specifically. The Gunnison Basin received 170% of normal snowpack in December 2016, then followed by 245% in January 2017, and 105% in February. A few weeks of warmer than normal weather in March resulted in a record March runoff into the Aspinall Unit. This warming trend was beneficial for the Upper Gunnison Basin in one respect; it allowed for the release of some of the higher elevation snowpack for a short duration, which would prove to relieve potential flooding impacts when the spring runoff finally commenced right on time in the upper Gunnison Basin - in mid-April. Favorable cool temperatures prevailed for the remainder of April and May as well as significant precipitation events which helped boost expected runoff totals for the season and helped to extend the runoff until the end of June. Such runoff timing is beneficial to irrigators because they are able to take advantage of free river conditions longer before having to fall back to senior direct flow water rights. In addition, the extended runoff helps to preserve storage supplies for use later into the summer. The Gunnison Basin finished with snowpack conditions reaching 122% of normal for the season, with the Upper Gunnison area turning out to be the big producer.

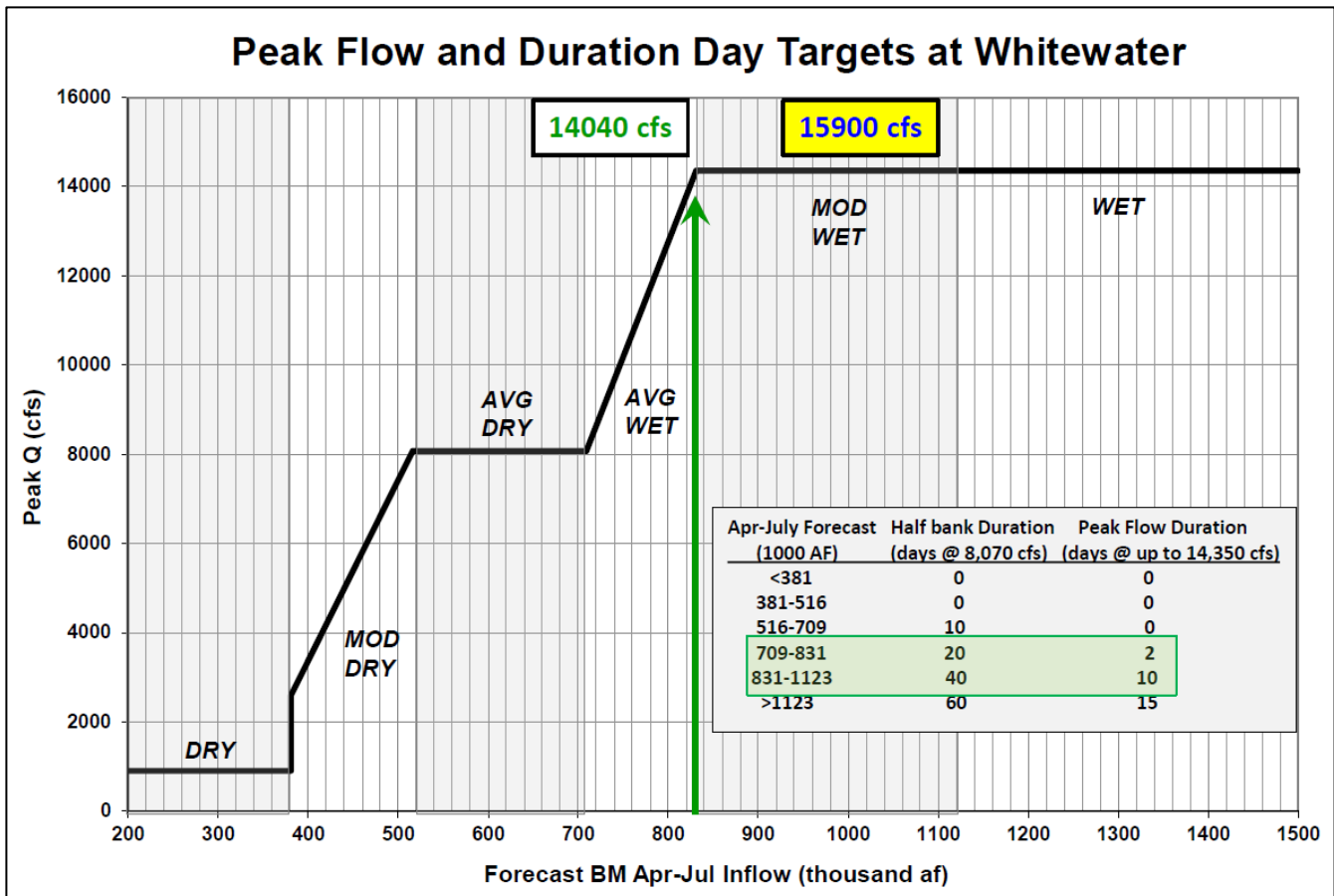
A chart of the 2017 snowpack conditions in the Gunnison Basin is shown below. The three major water producing watersheds are the Upper Gunnison (Blue Mesa), the Uncompahgre, and the North Fork Rivers. The following narrative on water supply focuses on these drainages, as well as the San Miguel River which is not tributary to the Gunnison River, but flows into the Dolores River and joins the Colorado River across the state line in Utah. The Upper Gunnison River drainage produced approximately 142 percent of its annual April through July average. The North Fork River finished at approximately 115 percent and the Uncompahgre River yielded approximately 117 percent of its April through July runoff average flow. Over all, as one can clearly see, the 2017 irrigation season was blessed with ample water supply conditions.



In addition to the cool spring weather and late snow and rain in April and May, the Gunnison Basin received another good monsoon season in July and September, adding significantly to storage supplies and helping to postpone or reduce the impact of river calls for the irrigation season in most stream systems. Base flows on all streams in the Gunnison Basin remained at or above normal flow rates for the most of the irrigation season. Many reservoirs were also able to store water in priority before the reservoir fill season began on November 1<sup>st</sup>. In summary, snowpack conditions throughout the Gunnison Basin were well above normal and the wet spring helped to extended water supply conditions into the summer and resulted in the postponement of most typical river calls which occur in June on many streams throughout the basin. Some streams such as the San Miguel River had no river call throughout the entire irrigation season.

### Surface Water Administration

The April-through-July forecasted inflow to the Aspinall Unit (Blue Mesa, Morrow Point, and Crystal Reservoirs) as of May 1<sup>st</sup> was 850,000 acre-feet, or about 126 percent of the 30-year median seasonal peak, categorizing the season as a “moderately wet” year for storage management purposes under the Record of Decision for the operation of the Aspinall Unit. However, due to the late April and May precipitation, the actual April through July runoff volume into Blue Mesa Reservoir finally measured at 915,000 acre-feet. Based on the Colorado Basin River Forecast Center’s May 1<sup>st</sup> forecasted inflows into Blue Mesa Reservoir, the target peak flow in the critical stream reach of the lower Gunnison River for 2017 was 14,040 cfs as measured at the Whitewater stream gage, shown in the chart below. The peak flow was sustained for four days and was accomplished primarily by normal releases from Crystal Reservoir, combined with tributary runoff from the Uncompahgre River. The North Fork River peaked two weeks earlier and was not a big factor in the peak measured the Whitewater stream gage of just over 15,900 cfs on May 26<sup>th</sup>.



Again, each year, the Bureau of Reclamation attempts to meet the peak flow target on the critical habitat stretch of the lower Gunnison River as measured at the river gage at the little town of Whitewater at the lower end of that critical stream reach. In addition, there is a duration component involved with the annual release schedule from the Aspinall Unit as show in the inset table on the chart above. For example, in 2017, the peak flow to meet at the Whitewater gage was 14,040 cfs with a duration target of 10 days. Depending on water supply conditions and actual runoff conditions, the duration of the peak flow target duration may or may not be achieved. At the conclusion of the release schedule, based on water supply and runoff conditions, the Bureau of Reclamation was able to achieve a peak flow greater than 14,040 cfs for four days and half bank full flows of greater than 8,070 cfs for twenty three days. The maximum peak flow at the Whitewater gage was 15,900 cfs on May 26, 2017. Rivers flows at this level do have negative flooding impacts in the City of Delta. The photograph of a newly planted field adjacent to the lower Gunnison River is an example of the impact to private property as a result of the high flow releases.



As explained above, the delayed runoff conditions coupled with higher than average precipitation during April through June for much of the basin, and certainly in the upper Gunnison River Basin, resulted in much more inflow into Blue Mesa Reservoir than could have been forecasted by the snowmelt runoff alone.

Taylor Park Reservoir had its first fill account filled at the beginning of the fill season with excess carryover storage left in the account in Blue Mesa Reservoir and 70,250 acre-feet of water in Taylor Park Reservoir as of November 1<sup>st</sup>, 2016. The second fill account in Taylor Park was filled very early, June 17<sup>th</sup>, due to the high runoff conditions in the Upper Gunnison Basin above Taylor Park Reservoir. Given the ample water supply conditions in the Upper Gunnison River basin, the Uncompahgre Valley Water Users Association was able to provide 100 percent supply to its users in 2017. There was no chance of a call on the Uncompahgre River during 2017 due to the sufficient supply through the Gunnison Tunnel and thanks in part to the late spring snows and cool spring weather which provided for more prolonged runoff conditions than expected.

In District 40, the North Fork Gunnison River, the runoff conditions from the Grand Mesa were also above average, and carryover storage was also better than average. Fruitgrowers Reservoir filled in priority over the winter due to the increased base flows from the monsoon season. In addition, the twenty-nine reservoirs on Leroux Creek system were able to fill during the runoff. Water users did not need to start using reservoir water this year until July. Reservoir storage is critical to for apple, peach, and cherry orchards in this area. The irrigation season enjoyed excellent water supply conditions and the season ended with significant rainfall in September. Yet drier and warmer conditions persisted from October into November and there was concern with conflict between stockwater decrees and reservoir fill decrees. The dry and warm October on the Grand Mesa and in the Cedaredge are resulted in reducing the carryover storage amount for the 2018 irrigation season.

Paonia Reservoir 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 Farmer's Ditch placed a river call on the North Fork River on July 11, which calls out the Fire Mountain Canal. This action is typical of a normal water administration year. Due to modifications required to be made to Paonia Dam this irrigation season, the storage pool was drained earlier than normal to make the necessary repairs.

In water District 60, the San Miguel River held up surprisingly well due to the above average snowpack conditions in the San Juan Mountains and the seasonal monsoon events. As a result, there were no calls by the downstream irrigators (namely the Highline Canal) on the San Miguel River in 2017.

### **Groundwater Administration**

The Well Permitting Program in Division 4 continues to provide timely issuance of exempt well permits. There were 344 well permits issued within Division 4 during the 2017 water year, a fair increase from the 274 permits issued the previous year. 297 of the total 344 permits were exempt well permits issued by Scott King, the Division 4 well commissioner and Scott's replacement, Josh Kasper, the new well commissioner for Division 4. The remaining 47 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.

In an interesting trend, largely due to an improved economy and a surge in development locally, there was a significant increase in exempt well permits within Water District 41 in 2017, which is geographically comprised of eastern Montrose County and a small portion of Delta County. Similarly, development and growth in Water Districts 59 and 60, which rely significantly on individual wells for water supply, have also seen an increase in well permit activity in 2017.

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 Aquamap 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**

Div 4 has thirty-one Satellite Monitoring Stations (SMS), an increase of two 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. Hydrographer Jerry Thrush continues to provide hydrographic support for this Division. With the assistance of several Water Commissioners, Jerry maintains the eleven published gages, twenty-five administrative gages and keeps satellite monitoring equipment maintained. In 2017, a total of 160 measurements were made by Jerry and the water commissioners that assist him.

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.

Jerry led an informal training session this year at the Cedaredge Field Office with the water commissioners who assist him concerning communication with DCPs and going over proper field procedures. Four water commissioners performed a total of 47 measurements, some administrative only, others for published records.

## **Personnel**

The year 2017 saw many personnel changes within Division 4, largely due to retirements, which led to a number of subsequent movements of personnel within the Division as a result. The biggest change and most dramatic event in Division 4 was, after 46-years of dedicated service, the retirement of the Division of Water Resources' most enduring employee, Stephen Tuck. Steve began his career with the Division of Water Resources as a permanent part-time deputy water commissioner at the Engineering Physical Sciences Assistant II level, working out of the Cedaredge Field Office on April 15, 1971. Steve was managing the family farm at that time as well, which included potato fields in the Delta area and apple orchards in the Cedaredge area. Steve was promoted to a full-time assistant to the lead water commissioner position at the Cedaredge Office in 2000, at the Engineering Physical Sciences Technician I level in 2000. With the retirement of the lead water commissioner in the North Fork area in 2004, Steve was finally promoted to the lead position for that area working out of a home office and supervising four deputies. During Steve's tenure as the lead water commissioner in the North Fork River area, Steve worked tirelessly to ensure water administration in this highly over-appropriated area was conducted with the highest of standards. Steve also took great care and pride in the supervision of his four deputies, ensuring them that he was always there to deal with problems, questions and concerns as they arose. If any water commissioner ever wore the mantle of "water cop", it was Stephen Tuck. He is renowned for his fairness and good judgement as well as his firmness and courage. We wish all the best to a man who truly deserves the best and we will miss his presence and friendship.

Another long time personnel who retired in 2017 was Garrett Jackson, Dam Safety Engineer. Although Garrett did not work directly out of the Division 4 Office, Garrett's duties include oversight on many dams in Division 4 on the Grand Mesa and the Uncompahgre Plateau.

Finally, Alfred Kasinger, who was hired in 2005 to be a reservoir administration water commissioner on the Grand Mesa, in the Granby Reservoirs area, retired after the irrigation season ended in 2017. It takes a special individual to operate the reservoirs on the Grand Mesa all season long. The work can be very long days in inclement weather in extremely rough terrain. Alfred will not be easy to replace and we will miss his "can do" attitude and easy going nature.

Two new hires from the outside were brought onboard in 2017. Jason Fuller started his first season as the water commissioner for Water District 42, Kannah Creek area. His knowledge of the area is excellent and we look forward to many years of service from Jason. Joseph Marah filled a vacant water commissioner position on the Grand Mesa, assigned to reservoir administration in the Park Reservoir area.

## **Community Involvement**

Past experience has revealed the extreme 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.

The Division 4 staff was greatly involved in 2017 with our water users and we see such interaction as an increasingly important part of our responsibility as water stewards. To this end, we frequently attended meetings of the 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, Overland Ditch and Reservoir Company, and other water interest groups.



The Division Engineer consistently attended 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.

Our public involvement included participation on the Gunnison and San Miguel Basin Roundtables, 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.

Many 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.

## **2017 Division 4 Water Court Activities**

Applications for Decrees	142
Consultations with Referee	144
Decrees Issued by Water Court	145
Dismissals	3
Complaints	0

	<u>Structures</u>	<u>Cases</u>
New Conditional Water Rights Filed	33	21
New Absolute Water Rights Filed	41	30
New Diligence on Conditional Rights Filed	223	51
New Change of Water Rights Filed	19	15
New Conditional to Absolute Apps Filed	75	43
New Augmentation Plans Filed	12	11
Cancellations of Conditional Rights	14	11

Underground Water Rights Adjudicated	93	28
Surface Water Rights Adjudicated	205	99
Water Storage Rights Adjudicated	112	44
Plans for Augmentation Adjudicated	5	5
Change of Water Rights / Use Adjudicated	NA	7
In-stream Flow Rights Adjudicated	NA	2