

### **Water Supply**

The previous year's irrigation season (2012) was one of the top five driest years on record in the Gunnison Basin, in which the snowpack peaked at only 68 percent of average basinwide. The 2013 snowpack tracked much the same as the previous season; in fact, it was shaping up to be worse. With storage supplies severely diminished by the 2012 drought, the possibility of a Gunnison Tunnel call on the Upper Gunnison River basin was a real threat to the junior storage rights waiting for the runoff to begin to fill reservoir storage decrees. By the end of the third week in March 2013, it appeared as though the peak snowpack had occurred and runoff was beginning with supply conditions looking worse than 2012. The weather took a positive turn and at the end of the first week in April, a series of wet storms added over three inches of snow water equivalent to the basin in two weeks time, ending the snowpack season at approximately 78 percent of the thirty year average. April and May remained cool and the runoff came off slowly to the advantage of the waiting water users.

The Gunnison Basin received dramatic monsoon rainfall for the last week of July and the first two weeks of August. The historic rainfall event in mid-September that caused record flooding on the front range resulting in base flows on all streams in the Gunnison Basin to increase to normal or above normal flow rates for the remainder of the season and some reservoirs were able to store water in priority.

### **Surface Water Administration**

The April-through-July inflow to the Aspinall Unit (Blue Mesa, Morrow Point, and Crystal Reservoirs) for the 2012 water year was 32 percent of normal, the second lowest inflow on record since Blue Mesa Reservoir was built in the middle 1960's. 2013 was improved but still at only 52 percent of normal. As another comparison showing improved conditions over the 2012 irrigation season, the reservoir lost a total of 317,000 acre-feet during the 2012 season and ended the year with only 326,600 acre-feet in storage. This is the type of year when reservoir storage is critical and is the main reason the Aspinall Unit was built. By comparison, during the 2013 irrigation season, the Gunnison Tunnel began diverting water on April 1<sup>st</sup>, which was about two weeks later than expected due to cool weather conditions the end of March and early April, and content in Blue Mesa Reservoir was 336,370 acre-feet at that time. By the end of the irrigation season, because of the generous and extended monsoon season, Blue Mesa Reservoir content was 348,723 acre-feet on October 31, 2013. It actually increased in content! Aspinall Unit operational criteria for maintaining base target flows in the Lower Gunnison for the Upper Colorado River Endangered Fish Recovery Program were affected by back to back dry years. According to the operational criteria for the Aspinall Unit, "During Dry and Moderately Dry" years, if Blue Mesa Reservoir content drops below 600,000 acre-feet, the Whitewater base-flow target is reduced from 1050 cfs to 900 cfs until Blue Mesa Reservoir content exceeds 600,000 acre-feet. One administration effect of maintaining these target flows is that it keeps the water right for the Redlands Power and Canal Co. whole, thus alleviating a potential call by that senior water right which is down at the bottom of the stream system.

Because the runoff forecast for Blue Mesa was projected to be only 340,000 acre-feet as of April 1, 2013, various meetings were held with government agencies and water users in the Gunnison and Uncompahgre Basins to deal with the drought conditions and what appeared obvious; a call on the upper Gunnison River by the Gunnison Tunnel and a call on the Uncompahgre River by



the M&D Canal from the Uncompahgre Valley Water Users Association. These two mainstem river calls call out all of the storage water decrees in the two basins, such as the Apsinall Unit, Silverjack Reservoir, and Ridgway Reservoir. The most critical time period is from April 1<sup>st</sup> until the runoff is sufficient to supply the Gunnison Tunnel right and the M&D Canal decrees. Conditions were such that it became evident by the last week of March this scenario was inevitable. The Upper Gunnison River Water Conservancy District purchased a contract pool of water (4,500 acre-feet) from the Bureau of Reclamation for the purpose of making that water available to meet the shortage at the Gunnison Tunnel. What happened subsequently was that the weather cooperated by adding over three inches of snow water equivalent in the span of about three weeks. Natural flow in the Gunnison River above the Gunnison Tunnel was sufficient to supply the water right until the end of June when storage accounts were drawn upon to keep the Tunnel diversion whole. Because supply was going to be an issue this season, the Uncompahgre Valley Water Users Association operated at 50 percent delivery for most of the irrigation season.

In addition, due to a potential call on the Upper Gunnison Basin by the Uncompahgre Valley Water Users Association, the Upper Gunnison River Water Conservancy District (UGRWCD) requested their second fill account in Taylor Park Reservoir be released to increase the natural flow in the river to satisfy the Gunnison Tunnel demand. A formal request to this office was made by UVWUA for the release and accounting of second fill to cover the natural flow shortage at the Tunnel (in lieu of first fill storage water).

The second fill in Taylor Park Reservoir had accumulated just over 33,000 acre-feet, and releases from that account were necessary to keep the call off the river by the Gunnison Tunnel for approximately one month from the end of June to the end of July and then again for approximately one month from the middle of August to the middle of September when the monsoons increased base flows throughout the entire basin. Incidentally, the second fill water was released for the uses of recreation and piscatorial, not for direct irrigation in various ditches, and is accounted as natural flow available to the Gunnison Tunnel once it is released from Crystal Dam. For many users in the upper basin, this allowed them enough water and time to irrigate most of their hay crop.

On the Uncompahgre River, a call by the M&D Canal was kept off due to the Uncompahgre Valley Water Users Association supplying their system primarily through the Gunnison Tunnel. The late spring snows and cool spring weather provided for more prolonged runoff conditions than expected, which was a big bonus, given the lack of snowpack over the winter.

In District 40, the runoff conditions from the Grand Mesa were poor and water users were using reservoir water by the first week of June. Reservoir storage is critical in this area, thus the hundreds of reservoirs constructed on the Grand Mesa. However, the late March and early April precipitation helped to delay the timing of the runoff and reservoir were able to fill prior to the main stream systems (Ward Creek and Surface Creek) going on call. The season ended with significant rainfall and normal carryover storage at 38 percent (as opposed to last season's pitiful 17 percent) as well as increased base flows heading into the next season. In addition, the twenty-nine reservoirs on Leroux Creek system were able to fill during the runoff period.



The storage in Paonia Reservoir is primarily owned by the Fire Mountain Canal Company. 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 natural flow was called out by the Short Ditch on July 2, 2013, marking the earliest the Fire Mountain Canal has gone on storage water since the reservoir was constructed.

Surprisingly, the San Miguel River held up fairly well. A call from the Highline Canal was expected earlier in June, but wasn't placed until July 1<sup>st</sup> and lasted only until July 31<sup>st</sup> due to the significant precipitation during the monsoon season.

### **Groundwater Administration**

The Well Permitting Program in Division 4 continues to provide timely issuance of exempt well permits. There were 189 well permits issued within Division 4 during the 2013 water year, on track with the 191 permits issued the previous year, which continues a rather static trend for the past four years. The increase is likely due to real estate prices bottoming out and improvement in the local economy and real estate market. 150 of the total 191 permits were exempt well permits issued by Scott King, the Division 4 well commissioner. The remaining 39 non-exempt permits were issued by the Divisions 456 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.

Water District 40 is the largest district and much development relies on individual wells for water supply. Similarly, development and growth in Water Districts 59 and 60 rely on individual wells for water supply. Due to the availability of a treated potable water supply throughout the Uncompahgre Valley, comparatively fewer domestic use wells are drilled in Districts 41 and 68.

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.

One event of interest in Div 4 this season included the installation of two hydroelectric generating stations on the South Canal. Hydroelectric use was contemplated in the original decree and these low head, high volume units are operated under the original decree during the irrigation season only. The first one rated at 4 Megawatts, the next downstream unit is rated at 3.5 Megawatts. The penstock pipe diameter is eleven feet and can divert in excess of 1,000 cubic feet per second. The project was completed in cooperation with the Delta Montrose Electric Association.

### **Hydrographic Activities**

Div 4 has twenty-nine Satellite Monitoring Stations (SMS). Nine 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 nine published gages, twenty administrative gages and keeps satellite monitoring equipment maintained. In 2013, a total of 200 measurements were made by Jerry and the water commissioners that assist him. In addition, Jerry Thrush was subpoenaed to testify in Broomfield for a murder trial that ended in a mis-trial in 2012 and was re-tried in 2013 to provide expert witness testimony for the Attorney General's Office. Finally, Jerry provided front range Division 1 hydrographic support as a result of the 2012 flooding on the South Platte River and tributaries that damaged or destroyed numerous record gauges in that Division.

### **Abandonment**

The decennial abandonment list and process for Division 4 was concluded in 2013. The original prior to all pre-Colorado River Compact water rights being removed included list included 211 structures, 64 of which were removed before publishing the initial list of water rights to included on the Division Engineer's filing with the court. Statements of Objections were filed with the Division Engineer's Office and 47 water rights were removed from the published list through the owners providing substantial evidence rebutting the presumption of abandonment. Water court case, 11CW151, was filed in December of 2011 and contained 100 decreed water rights at 88 structures. Two protests were filed with the water court, which were settled by the protestant and this office without a trial and the decree was signed by the water court Judge in October 30, 2013.

### **Personnel**

With no statewide hiring freeze in effect, Division 4 was able to fill three vacant positions. However, during the irrigation season, three water commissioners retired or resigned, leaving Division 4, once again, short-handed for part of the season. These positions were a deputy position on the Grand Mesa, a deputy position in the upper North Fork Gunnison area, and a full-time lead water commissioner position in Water District 60, the San Miguel River Basin.

### **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 2013 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, 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.



**South Canal Hydroelectric Project 2013 – 4 Megawatts**