

# Division 3 Annual Report 2014

## Water Administration

For the sixth year in a row, the Rio Grande Basin once again faced below average snowpack and streamflow conditions. Snowpack in Division 3 during the winter of 2013-2014 was below average most of the winter season, reaching a peak of approximately 81% of average before melt-out.

On most streams a series of four distinct peak flows occurred in the spring of 2014. The first peak occurred in late April, and the last, which was also the largest, occurred right at the end of May. Generally, the peaks grew in magnitude each time, and at each event it was thought that the peak flow for the year had been reached, only to be outdone by the succeeding peak. The last and largest peak significantly exceeded the long term average yearly peak flow on most streams, which was a surprise given that the forecasts were for less than average yearly flows. For instance, on the Rio Grande, the peak daily flow reached 5,390 cfs, while the average daily flow peak is approximately 3,450 cfs. On the Conejos, the daily peak in 2014 was 1,940 cfs, compared to an average peak of 1,400 cfs. However, after the relatively large peaks, the flows dropped rapidly. Within ten days of the peak, the flows on the Rio Grande had fallen below the long term average and continued falling. By the end of June the flows were nearly 1,000 cfs less than average.

Some relatively minor monsoonal flow events throughout the late summer caused the streamflows in certain area streams to once again rise. The increase in flows was most strongly felt in the isolated streams on the Sangre de Cristo range, such as on Ute Creek where the late summer peak actually exceeded the spring runoff peak. However, generally these monsoonal events were not strong enough to cause a large increase in flows.

Division 3 relies heavily on the NRCS to provide accurate streamflow forecasts in order for us to correctly deliver the proper amount of water to the downstream states under the conditions of the Rio Grande Compact. The May 1 NRCS forecast estimated the April through September flow on the Rio Grande near Del Norte to be 380,000 acre-feet. The actual flow during this time period was 519,000 acre-feet. Similarly, the NRCS forecasted an April through September upper index flow on the Conejos system at 158,000 acre-feet. The actual flow was 199,000 acre-feet. The percentage of the total flow that Colorado is required to deliver under the compact goes up as the annual flows increase. Therefore, this inaccurate forecast can cause major problems with delivery obligations on the Rio Grande and the Conejos, as may be seen by the changing curtailments and delivery targets throughout the irrigation season. Compact delivery targets began at 12% on the Rio Grande at the beginning of the irrigation season but ended the season at 28%. The curtailment for the Conejos system was

even more volatile, beginning at 12%, then dropping to 1% for most of May, then reaching a high of 47% in August before finally ending the season at 42%.

The 2014 water year was the third year in which Subdistrict #1 was fully functional and was required to replace surface water depletions to the Rio Grande as well as attempting to bring the aquifers back into a sustainable condition. As has been explained in more detail in previous annual reports, getting the first subdistrict up and operating was the culmination of nearly six years of water court activity and litigation. However, we were not through with litigation in 2014 as the objectors to the subdistrict appealed a local water court decision to the Colorado Supreme Court in the fall of 2013. Oral arguments were heard on that case in the spring of 2014, and a ruling on that appeal is still pending.

The State Engineer's irrigation season policy was once again in effect for both the beginning and ending of the irrigation season in 2014. This policy, signed by the State Engineer on April 14, 2010, sets in place the presumptive irrigation season dates of April 1 through November 1 of each year, but also sets certain criteria that could be looked at to adjust these dates. The irrigation season policy allows the Division Engineer to set beginning and ending dates for the irrigation season based upon the unique features of a drainage area, so there are usually different beginning and ending dates for the different sub-basins within Division 3. Diversions for irrigation in Division 3 began with a turn-on date of March 12, 2014 for irrigators on La Jara, Hot, and Schrader Creeks, and March 25 on Culebra Creek. Irrigators on the rest of the systems were allowed to start on April 1. Most areas of the valley ended the irrigation season on November 1, 2014. However, due to the under delivery of compact water on the Conejos system, that area was required to end the irrigation season on October 20, 2014. As a whole, Colorado was close on its Rio Grande Compact delivery obligations for 2014, with a total of approximately 6,900 acre-feet of credit at the end of the year. This number was composed of an over-delivery by the Rio Grande mainstem of approximately 9,000 acre-feet, and an under-delivery on the Conejos system of approximately 2,100 acre-feet. However, due to an ongoing disagreement between the three compact states as to the accounting methodology to be used, the final compact accounting numbers were once again not ratified by the compact commission at its regularly scheduled meeting.

Due to the ongoing drought conditions in Division 3, the unconfined aquifer continues to languish at a very low level. However, for the first time in the past five years, the unconfined aquifer actually gained water in 2014, although a very small amount. During calendar year 2014, the area involved in the "Rio Grande Water Conservation District (RGWCD) Unconfined Aquifer of the Closed Basin Change in Storage Study" gained approximately 40,000 acre-feet of water. Even with the small gain in 2014, the study showed that the aquifer contained approximately 1,200,000 acre-feet less water at the end of 2014 than it did in 1976.

## **Stream Administration**

Stream administration in Division III during 2014 was challenging due to the high flows during the runoff period, the low flows through most of the summer, and then some higher monsoonal driven flows that were experienced in late summer. The peak of the runoff occurred in late May or very early June for most rivers and streams in Division 3, which was close to the time of the normal peak. However, the magnitude of the peaks throughout the division were generally higher than average. The descending legs of the peaks were generally steeper than usual and base flows were reached on most streams by the first of July. Around the first of August the monsoonal rain events began throughout the division, bringing the streamflows up from their very low previous amounts to levels that were near average.

## **Ground Water Metering Issues**

The Division 3 Well Metering Branch technicians were able to perform approximately 300 meter tests this year, which was a little short of our goal of 400 meter tests performed. The contributing factor in our not making the goal was the malfunctioning of one of our test meters early in the irrigation season. This meter was sent in for repairs but was returned "Unrepairable" from the shop. Staff from Division 1 were helpful in loaning us a test meter but by the time we were able to get up and running with it, a major portion of the irrigation season had passed. The well tech assistants were able to visit a large portion of the meters this year and were able to inspect the meters to insure Rules Compliance.

There were approximately 400 Notice of Violation and/or Cease and Desist letters that were sent this year to well owners in Division 3. Most of these letters dealt with minor Rules violations and inoperable/malfunctioning meters and were resolved without further action on our part. We again sought the assistance of the Attorney General's Office in dealing with around 10 individuals who did not report end of year readings for 2014. This is something we plan to continue until the response rate improves.

The Well Metering team also assisted the Division Engineer in a Cease and Desist case documenting the violation of an order by the Division Engineer. This required numerous visits by well metering staff to document the number of days water was applied to a field that the owner was under order not to irrigate. The results of this work was a significant fine against the owner.

2015 will be an extremely busy year for us as we enter the year with close to 2,000 meters that will need to be certified by the independent testers. This will put an extra load on staff to check, grade and enter these tests into HBDMC. We also hope to have functioning meters to test wells with thanks in large part to the efforts of Matt Hardesty and the changes that we hope to make within the Groundwater group.

## **West Fork Fire Aftermath**

The West Fork fire complex consisted of the West Fork Fire, the Papoose fire, and the Windy Pass Fire. The fire began on June 5, 2013 with a lightning strike in a remote wilderness area at the head of the Rio Grande along the Continental Divide. Before it was finally extinguished, the West Fork Fire had become the second largest fire in Colorado history, burning over 110,000 acres in the upper watershed of the Rio Grande. As part of the recovery effort, the Division of Water Resources installed four additional streamflow monitoring gages on the Rio Grande or its tributaries. These gages were set up to monitor possible flash flood events coming from these burned areas. In 2014 these gages were once again activated and monitored on a continuous basis. Luckily this area did not experience any large flash flood events due to the burned area, but we intend to keep these gages active for at least the next several years.

## **WATER ISSUES**

For the last several years, the Rio Grande Water Conservation District (RGWCD) has encouraged the formation of groundwater Subdistricts to attempt to manage portions of the aquifer system. These types of Subdistricts were recognized in Senate Bill 04-222. They have as their goals to stabilize the aquifers associated with each Subdistrict, prevent injury to senior rights, restore the historic stream-aquifer connection, and promote a sustainable aquifer system. The first subdistrict, Subdistrict #1, became operational in May 2012. Every year the subdistrict has to submit an Annual Replacement Plan (ARP) detailing their plans for the replacement of depletions and aquifer sustainability for the upcoming year. May 1, 2014 began the subdistrict's third plan year. In this plan the subdistrict expanded their 'forbearance' contracts with various ditches. These forbearance contracts were negotiated with four separate ditch or canal companies in 2014, and the contracts state that the canal or ditch would take money instead of replacement water if they were the water right being injured by the subdistrict wells on a certain day. These contracts benefit the ditch and canal companies by providing them with money, and they benefit the subdistrict by decreasing the amount of wet water that they have to purchase and hold in storage. Each year of the plan seems to go a bit more smoothly than the previous years, with more of the 'bugs' worked out and the comfort level on this new and innovative solution growing.

The formation of other Subdistricts in the Trinchera drainage, Rio Grande alluvium, Conejos area, Saguache area, San Luis Creek area, and Alamosa-La Jara Creek area are proceeding. All of these subdistricts are eagerly awaiting the modeling results from the RGDSS model so that they will know what depletions their wells are causing to senior surface water rights. As soon as the model results are known, the other subdistricts can push forward with their development and rapidly file their own plans. Subdistrict #2, the alluvial subdistrict generally lying on the south side of the Rio Grande, is closest to completion. Petitions for inclusion into this subdistrict were actively being gathered at the end of 2014, with an anticipated deadline of March 1, 2015 for all of the petitions to have been completed.

The State Engineer is currently in the process of developing Rules and Regulations concerning the use of Groundwater in Division 3. He is being assisted in this effort by an advisory committee comprised of approximately 55 individuals representing groundwater users, surface water users, governmental agencies, etc. The goal of this advisory group is to assist in developing rules and regulations on the future use of groundwater so that senior water rights are protected and the groundwater aquifers are brought into a sustainable position. Based upon results of studies done using the Rio Grande Decision Support System (RGDSS) water model, it has been determined that most of the wells in Division 3 have some effect on senior surface water rights. Therefore, the rules will require groundwater users to mitigate their injurious depletions to senior water rights. This can be done in three ways; First, the well user may opt to develop an augmentation plan to offset any injurious depletions. These types of plans can be approved on a temporary basis through a Substitute Water Supply Plan, or on a permanent basis through water court. Second, the well user may wish to join a subdistrict. These subdistricts will in many ways act as a very large augmentation plan. The subdistricts will collect fees from their constituents and use that money in various ways, such as purchasing augmentation water, constructing recharge facilities, paying senior water rights holders for injurious depletions, etc. Third, if a groundwater user does not wish to attempt either of the first two options, that user must cease using his wells.

The majority of the work in developing the rules has been accomplished, and a very large hurdle was cleared in late 2014 when the Peer Review Team declared that the RGDSS groundwater model was sufficiently complete to move forward with the development of response functions. These response functions are used to determine the yearly injurious depletions to the river systems that must be made up by the well owners. With this large hurdle behind us, the ultimate completion of the rules is viewed with eager anticipation. It is hoped that the rules will be completed soon.

### **Rio Grande Compact Issues**

The Rio Grande Compact apportions water between the states of Colorado, New Mexico, and Texas. Over the last several years, controversy has been brewing regarding various aspects of the compact, as well as endangered species issues that may affect compact operations.

In 2011, the Bureau of Reclamation unilaterally decided to release some of Colorado's and New Mexico's credit water stored in Elephant Butte Reservoir in New Mexico and send it down to the irrigators below the reservoir. The Bureau's intention was to repay that water back to the states at the end of the irrigation season. However, by deciding to release the water without the states' permission, the Bureau violated one of the tenants of the compact and prevented Colorado and New Mexico from storing a like amount of water, by exchange, into upstream reservoirs. This action has caused all

three states to develop their own accounting for compact deliveries. As such, there continues to be no agreement on compact accounting.

In 2012, the State of Texas petitioned the United States Supreme Court to bring suit against New Mexico and Colorado, claiming violations of the Rio Grande Compact. In late 2013 the Supreme Court accepted Texas' petition. The suit is mainly against New Mexico, but Colorado is named because we are a party to the compact. The case revolves around groundwater pumping below Elephant Butte Reservoir in southern New Mexico that Texas claims is injuring its right to surface water. Texas made several other claims that, while directed against New Mexico, could have negative consequences for Colorado. In November 2014, the United States Supreme Court assigned a Special Master to hear this case. The Special Master, A. Gregory Grimsal, is an attorney from Louisiana who will have the authority to direct the proceedings and to hear evidence in the case. In December 2014, the Elephant Butte Irrigation Company filed a motion to intervene in this case. We are awaiting the Special Master's decision as to if it is proper to have a non-state entity involved in a compact case.

The State of New Mexico's lawsuit against the Bureau of Reclamation over their 2011 action has been stayed pending the outcome of the United States Supreme Court case brought by Texas.

The Rio Grande is home to two important endangered species. One is the Silvery Minnow, which resides mainly in the Rio Grande in New Mexico. Due to the ongoing drought conditions on the Rio Grande, the minnow is not faring well. Even though Colorado has been meeting or exceeding its obligations to send water downstream to New Mexico under the Rio Grande Compact, federal agencies and environmental groups downstream are beginning to broach the subject of Colorado sending additional water for endangered species efforts. We are very concerned about the direction that these groups may be headed and believe that we are doing all that we are required to do and more in relation to water deliveries to the downstream states.

The other endangered species of concern is the Southwestern willow flycatcher. The Fish and Wildlife Service designated critical habitat for the flycatcher in 2013. This designated habitat area included portions of the Rio Grande and Conejos rivers in Colorado. The designation of critical habitat in Colorado was done despite the Habitat Conservation Plan (HCP) established by the Rio Grande Water Conservation District. The HCP provides protection of the flycatcher's habitat in the San Luis Valley. Therefore, the critical habitat designation in light of the HCP is superfluous.

In 2014, The US Fish and Wildlife Service completed the evaluation process for possible listing of two other species that have habitats in the Upper Rio Grande. These are the Yellow Billed cuckoo and the Rio Grande cutthroat trout. The Service decided to list the cuckoo as a threatened species but declined to list the trout. It appears that the critical habitat for the cuckoo will be very similar to that of the flycatcher.

## **INVOLVEMENT IN THE WATER USER COMMUNITY**

As always, we strived to be as involved as possible in the water user community again in 2014. Our staff attends most of the regularly scheduled meetings of the Rio Grande Water Users' Association, the San Luis Valley Water Conservancy District, the Conejos Water Conservancy District, the Rio Grande Water Conservation District, the Closed Basin Operating Committee, the Trinchera Irrigation Company, and all other water user group meetings that we are invited to attend.

We also strive to keep the public at large informed of water issues by sitting for interviews in the local newspapers and discussing important issues on local radio stations.

Additionally, the staff has given presentations to various elementary and high schools around the Valley. The Water Commissioners make themselves available and attend many of the ditch company meetings held in their districts. We have actively participated in the San Luis Valley Wetlands Focus Group, the RGDSS Advisory Team, Upper Rio Grande Water Operations Model Advisory and Technical Teams, the Rio Grande Compact Commission Salinity Committee, The Rio Grande Headwaters Restoration Project, and many other public forums which require input on water issues. The Division Engineer is also a commissioner on the Rio Grande Natural Area Commission.

The Division staff have attended and provided input on the formation of Subdistricts throughout the valley under SB222 and in the development of service plans for these numerous subdistricts.

The Division Engineer has been attending the Rio Grande Roundtable meetings as an adviser to the Roundtable. The meetings have been an opportunity to provide education on water issues to a large group of individuals with varied backgrounds and interests. The Roundtable has been evaluating water project funding proposals for submission to the CWCB and the Division Engineer is routinely requested to give his input into these evaluations.

The staff of Division III participated in a number of public forums relating to water. Division employees have also been involved in a number of conferences and seminars in the San Luis Valley and beyond concerning water in Division 3. The level of interest is very high, especially regarding the well metering program, subdistricts, and the upcoming well use Rules and Regulations.

In addition to these meetings, Division staff have also been involved in the recently resurrected Water Leaders' Course. This course is designed for those members of the public that are interested in developing the knowledge needed to become leaders of the water community.