

Division 3 Annual Report 2016

WATER ADMINISTRATION

For the eighth year in a row, the Rio Grande Basin again faced average to below average snowpack during most of the winter. Storm events in April and early May helped to extend the snowpack and improved the streamflow forecasts throughout the Valley. Basinwide snowpack in Division 3 reached a peak of approximately 86% of average before melt-out.

The timing of the runoff was near average with increasing flows throughout April and May and most streams reaching their peak daily flow in early June. The 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 5,720 cfs (which coincidentally was the same peak flow as in 2015), while the average daily flow peak is approximately 3,450 cfs. On the Conejos River, the daily peak in 2016 was 1,950 cfs, compared to an average peak of approximately 1,400 cfs.

Division 3 relies heavily on accurate streamflow forecasts in order to correctly deliver the proper amount of water to the downstream states under the conditions of the Rio Grande Compact. Historically we have used the NRCS to provide these forecasts. Unfortunately, over the last several years the NRCS forecasts have been less than accurate. In 2016 the National Weather Service continued providing Division 3 with their Ensemble Streamflow Prediction (ESP) forecast and the National Center for Atmospheric Research began providing their WRF-Hydro forecast. It was hoped that having these additional forecasts would act as a check to the NRCS forecast and provide a better picture of the streamflow to come. Unfortunately, the three forecasts were drastically different from each other, causing even more consternation about which forecast was correct. The May 1 NRCS forecast estimated the April through September flow on the Rio Grande near Del Norte to be 445,000 acre-feet, the WRF-Hydro forecast was 542,100 acre-feet, while the ESP forecast for the same period was for 659,000 acre-feet. The actual flow during this time period was 555,600 acre-feet. Similarly, the NRCS forecasted an April through September upper index flow on the Conejos system at 208,500 acre-feet, WRF-Hydro forecasted a flow of 297,700 acre-feet, and the NWS forecasted a flow of 327,000 acre-feet. The actual flow was 253,100 acre-feet. Because of the wildly different streamflow forecasts on both stream systems, a streamflow amount in between the range of forecasts was chosen. The estimated flow used to administer the Rio Grande Compact at the beginning of May for the Rio Grande basin flows were 3% lower and the Conejos River basin flows were 5% greater than actual April through September flows. It is hoped that the streamflow forecasts in the

future will improve greatly, and Division 3 is working closely with Joe Busto of the CWCB to develop innovative solutions to the forecasting problem. Some of these solutions may be the installation of a permanent radar station in the Valley, increased Snotel stations, enhanced modeling procedures, or other options.

Compact delivery targets began at 15% on the Rio Grande at the beginning of the irrigation season and stayed near that level until mid July. From there, they fluctuated from 0 to 9%. The curtailment for the Conejos system also had the same pattern to it, beginning at 22% and staying near that level until the last three months of the irrigation season when the curtailments fluctuated from 0 to 13%. As a whole, Colorado was close on its Rio Grande Compact delivery obligations for 2016, with a total of approximately 7,300 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 6,100 acre-feet, and an over-delivery on the Conejos system of approximately 1,200 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 annual meeting.

The 2016 water year was the fifth 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 unconfined aquifer 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. 2016 was the first year of operation in which some portion of Subdistrict #1's Plan of Water Management or Annual Replacement Plan was not being litigated.

The State Engineer's irrigation season policy was once again in effect for both the beginning and ending of the irrigation season in 2016. 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 for both surface and groundwater diverters 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 14, 2016 for irrigators on La Jara, Hot, and Schrader Creeks, and April 7 on the Conejos System and Saguache 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, 2016. However, irrigation continued until November 8 on the Rio Grande, Culebra, Schrader, Rock, Carnero, and La Garita Creeks. On the Rio Grande, winter recharge was allowed from November 9 through 14 due to the likelihood of being over delivered on the Compact.

For the third year in a row, the unconfined aquifer gained water in 2016. During 2016, the area involved in the "Rio Grande Water Conservation District (RGWCD) Unconfined Aquifer of the Closed Basin Change in Storage Study" gained approximately 58,000

acre-feet of water. Even with the gains from 2014 through 2016, the study showed that the aquifer contained approximately 1,050,000 acre-feet less water at the end of 2016 than it did in 1976.

Technology both assisted and hindered some in our daily administrative duties. Leading up to the irrigation season, Water Commissioner Spreadsheets were again distributed to the Water Commissioners for their use in collecting and documenting diversion records throughout the year. Even for those Water Commissioners who adopted the use of the spreadsheet, timeliness in completing diversion records was a struggle. The HBDMC Administrative Calls tool was in its second year of operation but continued to cause difficulty in setting calls on our smaller streams that have divergent branches. By the end of the irrigation season the bugs were fixed and all stream systems' calls were functional within the tool. In Water District 21 we rolled out a new Daily Sheet that was built on top of the Water Commissioner Spreadsheet, similar to the tool built for WD 20 in 2015. This tool automatically pulls in data from the satellite monitoring stream gages and ditches to give the Water Commissioners more confidence in their calculations of available flow and setting of the call each day. Historically, these calculations had been done by hand. The new tool now allows the Water Commissioners to have confidence in the accuracy of the calculations while freeing up time to focus on field administration of the diversions.

Stream Administration

Stream administration in Division 3 during 2016 was challenging due to the less than average snowpack at the beginning of the irrigation season that resulted in high flows during the runoff period and low flows through most of the remainder of the summer. The peak of the runoff occurred in 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. Base flows were reached on most streams by the middle of July, with the exception of those streams in the northern portion of the San Luis Valley. Saguache Creek, San Luis Creek, and their tributaries experienced higher than average flows, and also experienced some minor flooding events during the runoff season, but to a lesser extent than occurred in 2015.

Ground Water Metering Issues

We had to say goodbye to Well Metering Assistant Michael D'Errico as he took employment managing a series of wildlife refuges along the Sacramento River in Northern California. As a result, we welcomed Michael Monclova into the DWR family in 2016. Michael comes to us with several years of meter testing experience and is proving to be a valuable addition to the metering program. The metering group continues to look for opportunities to increase the number of wells that get tested

annually. 2107 will bring changes to the metering program in general as Program Standards will be implemented on a Statewide basis culminating many months of work by many persons in the Groundwater group.

2016 saw the metering group work to locate and inventory close to 1,000 small capacity wells that had been decreed with some non-exempt uses. As Use Rules began to be implemented and Sub-Districts were formed, these wells had to be inventoried to give the owners the opportunity to include the wells in the Sub-Districts if they wanted to keep the Non-exempt uses and be covered under the Sub-Districts' replacement plans. These wells had not been inventoried previously because their decreed rate was less than 50 gpm. A process was developed to allow the owners to downgrade the wells to exempt status if the owner wanted to.

WATER ISSUES

In September 2015, Rules and Regulations concerning groundwater use in Division 3 were submitted to the Division 3 Water Court. Thirty individuals or entities filed statements of objection, with approximately 10 of these being 'statements of objection in support' of the rules. As of the end of 2016, two entities have signed stipulations and four entities are in the process of agreeing to stipulations. DWR is working with the municipalities, organizations, and individuals who filed statements of objection to reach common ground and negotiated settlements without the need for a trial. If resolutions cannot be reached with all objectors, a trial on the rules is set to begin January 2, 2018.

The rules require groundwater users to mitigate their injurious depletions to senior water rights. This can be done in three ways; the well user may opt to develop an augmentation plan, the well user may wish to join a subdistrict, or that user must cease using his wells. The rules also require that well owners develop plans to ensure that the aquifers are recovered to, and then kept at, a sustainable level.

The Rio Grande Water Conservation District (RGWCD) has been accepting petitions from well owners for the formation of groundwater Subdistricts in five different Response Areas. Each Subdistrict Response Area represents hydrologically and geologically similar regions in the San Luis Valley. The first subdistrict formed under RGWCD, Subdistrict #1, became operational in May 2012. May 1, 2016 began the subdistrict's fifth plan year. The formation of Subdistrict #2, the Alluvial Rio Grande Subdistrict, was approved by the Court on March 1, 2016. A Board of Managers has been appointed and is developing their Plan of Water Management that will be submitted to DWR for approval. The remaining Subdistricts representing the Conejos, San Luis Creek, Saguache, and Alamosa-La Jara Response Areas are in various stages of preparing documentation to present to their individual District Court for

approval of their formation. RGWCD expects that at least three of the four will be formed by the end of 2017, with the fourth by early 2018.

The Trinchera Subdistrict actually formed in 2008 under the Trinchera Water Conservancy District. However, legal issues concerning how the entity might be able to operate under the statutes of a Conservancy District kept the Subdistrict from going forward with developing their Plan of Water Management. Trinchera Subdistrict received a favorable ruling on this issue through the Rules case and is now in the process of finalizing their plan.

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 erupted 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 2013, 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. 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. A Special Master, A. Gregory Grimsal, was assigned to the case in 2014 by the U.S. Supreme Court. Mr. Grimsal is an attorney from Louisiana with no background in western water law or water compacts, so he has been spending much of his time trying to learn the intricacies of this very complex branch of law. In August 2015, hearings were held on two motions in this case. The first was a motion from the State of New Mexico to dismiss the case, and the second was a motion from the Elephant Butte Irrigation Company (and later the El Paso Water Improvement District #1) to intervene in the case. In February 2017, the Special Master issued a decision denying the motions. However, he also included nearly 200 pages of 'fact-finding' that Colorado does not believe is appropriate to put into the simple motions' ruling. The Special Master has billed in excess of \$700,000 in this case so far.

The Rio Grande is home to several important endangered species. The Fish and Wildlife Service issued a new Biological Opinion (BO) in regards to the Silvery minnow, the Southwestern willow flycatcher, and the Yellow-billed cuckoo in New Mexico. This non-jeopardy BO is generally viewed favorably by Division 3 because it does not impose river flow targets or other mechanisms that may threaten the benefits that Colorado receives under the Rio Grande Compact.

In early 2016, The US Fish and Wildlife Service finished a 90 day review process for possible listing of two other species that have habitats in the Upper Rio Grande. These are the Rio Grande Chub and the Rio Grande Sucker. At the end of this 90 day review, the Service decided that these two species meet the fairly low bar of a potential listing, and the Service thus began the more comprehensive multi-year review to make the final decision on listing.

Water Court Activity

Chief District Judge Pattie Swift continued to serve as Water Judge. Nicolas Sarmiento was selected to succeed the previous Water Referee in late 2015, and served as Water Referee throughout 2016. Division 3 saw 39 Water Court applications filed in 2016.

Marijuana Issues

The State legislation enabling the cultivation and use of marijuana has had a significant impact on the work tasks of Division staff. A relatively large influx of people have moved into Division 3 seeking to be able to grow marijuana. Many of the people moving into Division 3 have moved to Saguache and Costilla Counties because those counties allow legal marijuana grow operations. However, many of these people find that the conditions for having a legal grow operation are too restrictive, so we have a large number of small, illegal grow operations. In order to grow plants, these growers need water, and in many cases there is not a legal source of supply readily available to these new 'freedom seekers'. Therefore, we have many instances of people using their in-house use only wells, pumping out of nearby streams without a water right, or in some cases pumping directly out of someone else's ditch without permission to obtain the needed water.

As the numbers of both licensed commercial and personal use grow operations increase, so does the need to provide administration of this new industry in order to protect vested water rights. Many of these new legal cultivation facilities proposed to haul water from legal sources, as water rights to cover their new uses were not available. Others applied for Substitute Water Supply Plans and change of use cases in the Division 3 Water Court to cover their new year-round irrigation uses.

These new challenges created an increased demand on Division resources but also provided an opportunity to explain Colorado's water laws to people locally and from all over the country who are interested in growing marijuana in Colorado. Division 3 staff answered an increased number of questions from the public, worked with growers to develop legal water supplies, and instituted new administration methods to track the demands of water hauling operations and Substitute Water Supply Plans. The Division 3 staff also continued to work with Saguache and Costilla Counties to review the proposed water supplies stated in land use applications related to marijuana cultivations. New employee Kevin Boyle has been assigned the primary task of tracking the multiple marijuana operations and ensuring that current and future operations are using water legally.

INVOLVEMENT IN THE WATER USER COMMUNITY

As always, we endeavored to be as involved as possible in the water user community during 2016. 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, the Saguache Creek Water Users Association, San Luis Creek Water Users Association, 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 and volunteered as judges at the Regional Science Fair. 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, the Rio Grande Headwaters Restoration Project, and many other public forums which require input on water issues. The Division Engineer was also a commissioner on the Rio Grande Natural Area Commission, which completed its assigned tasks in 2016.

The Division staff have attended and provided input on the formation of Subdistricts throughout the valley under SB04-222 and in the development of service plans for these numerous subdistricts.

The Division Engineer has been attending the Rio Grande Basin 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 Roundtable group was also involved in the formulation of the Rio Grande portion of the State Water Plan.

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 Water Leaders' Course sponsored by the RGWCD and the SLVWCD. This one-week course is designed for those members of the public that are interested in developing the knowledge needed to become leaders of the water community. The sponsors typically select 20-25 individuals to participate in this annual course.

When asked to present, Division staff attend meetings of the San Luis Valley Board of Realtors. These sessions allow Division employees to pass on vital information to the realtors regarding well use, irrigation season, etc.