

Division 3 Annual Report For the 2017 Calendar Year

Water Administration

Stream Administration

For the first time in nearly a decade, the Rio Grande Basin had an above average snowpack during most of the winter. Though the snowpack was below average until mid-December, the storm track kicked in at that time and began bringing decent, regular storms to the region. These regular storms resulted in a basin wide peak snow water equivalent (SWE) of approximately 120% of average for the year.

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 peaks on both the Rio Grande and the Conejos systems were somewhat higher than the long term average yearly peak flow, but not substantially higher. For instance, on the Rio Grande, the peak daily flow reached 4,490 cfs, compared to the average daily flow peak of approximately 3,450 cfs. On the Conejos River, the daily peak in 2017 was 1,920 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 requirements of the Rio Grande Compact. Historically we have used only the NRCS to provide these forecasts. Unfortunately, over the last several years the NRCS forecasts have been less than accurate, although in 2017 the forecasts were closer to the actual amounts than in years past. In 2017 the National Weather Service continued providing Division 3 with their Ensemble Streamflow Prediction (ESP) forecast and the National Center for Atmospheric Research provided their WRF-Hydro forecast on an infrequent basis. 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. In 2017 the May 1 NRCS forecast estimated the April through September flow on the Rio Grande near Del Norte to be 505,000 acre-feet, the WRF-Hydro forecast was 613,000 acre-feet, and the ESP forecast for the same period was for 444,000 acre-feet. The actual flow during this time period was 574,000 acre-feet. Similarly, the NRCS forecasted an April through September upper index flow on the Conejos system at 339,000 acre-feet, WRF-Hydro forecasted a flow of 291,000 acre-feet, and the NWS forecasted a flow of 333,000 acre-feet. The actual flow was 379,000 acre-feet.

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. One of the potential solutions is the installation of a permanent weather radar in the Valley. This radar would have the capability to measure the amount of water within the falling snow, which could then be used by forecasting models to develop a more accurate representation of the total amount of snow water equivalent over

the entire basin, not just in the isolated areas where we have Snotel stations. Funding for the radar is currently being solicited, and there is guarded optimism that a permanent radar will be located in the Rio Grande Basin soon.

Compact delivery targets began at 19% on the Rio Grande at the beginning of the irrigation season but dropped throughout the season, reaching 0% in October and November. The curtailment for the Conejos system also had variability to it, beginning at 43%, then fluctuating from 19% to 40% throughout the season. As a whole, Colorado was very close on its Rio Grande Compact delivery obligations for 2017, with a total of 400 acre-feet of debit at the end of the year. This number was composed of an over-delivery by the Rio Grande mainstem of approximately 1,000 acre-feet, and an under-delivery on the Conejos system of approximately 1,400 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 2017 water year was the sixth 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. It is hoped that the formation of the other subdistricts, detailed below, will be much smoother.

The State Engineer's irrigation season policy was once again in effect for both the beginning and ending of the irrigation season in 2017. Diversions for irrigation in Division 3 began with a turn-on date of March 16, 2017 for irrigators in the La Jara and Hot creek drainage areas, April 1 in the Saguache, San Luis, Culebra, Schrader, Trinchera, and Alamosa Creek drainage areas. Irrigators on the rest of the systems, including in the Rio Grande and Conejos River drainages, were allowed to start on April 3. Most areas of the valley ended the irrigation season on November 1, 2017. However, irrigation continued until November 4 in the Rio Grande, Carnero, and La Garita creek drainage areas. Due to a severe restriction on the Sanchez Reservoir storage placed by DWR, the irrigators on Culebra Creek were allowed to continue diverting until the latter portions of November to limit the potential for wintertime flooding.

In 2017, for the fourth year in a row, the unconfined aquifer gained water. During 2017, the area involved in the "Rio Grande Water Conservation District (RGWCD) Unconfined Aquifer of the Closed Basin Change in Storage Study" gained approximately 67,000 acre-feet of water. Even with the gains from 2014 through 2017, the study showed that the aquifer contained approximately 1,000,000 acre-feet less water at the end of 2017 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. For even those Water Commissioners who adopted the

use of the spreadsheet, timeliness in completing diversion records was again a struggle. The HBDMC Administrative Calls tool was again utilized but was not fully adopted by staff. The Water Commissioners for our largest river system, Rio Grande, were again good about updating the tool whenever the call changed. By the end of the winter many of the other water districts had their calls entered and up to date with the intention to keep these up to date as the calls change during future irrigation seasons.

In the 2017 irrigation season, a new piece of technology was implemented here in Division 3 - small Unmanned Aerial System (UAS) or Drone. This was the first year utilizing the drone as part of our administrative process and was tested for varying types of applications. Flights included investigations of flooding (river overbanking, debris dams, and sediment plugs), dam outlet work releases and flows over spillway, winter time artesian flowing wells, and well inventory. As part of these flights we have documented the purpose, photos/videos taken, and the usefulness of the flight in a Google document with associated links here:

<https://docs.google.com/spreadsheets/d/1fVRV0dVtlz9e6etTNK1wXkxeRdKYvHYFyKdplY6iykY/edit?usp=sharing>

The pros and cons that have been identified in this first year of use are:

| <u>Pros</u> | <u>Cons</u> |
|--|--|
| The ability to see things on the ground from an aerial view. | Can't remotely read Micrometer Totalizing Flow Meters because of the covers over the displays. |
| The ability to fly over or around impassable terrain. | Not recommended to fly in winds of over 15 MPH. |
| Saves man-hours. | Flight time is limited by battery life. |
| Batteries can be recharged by using an inverter and 110 V charger in 30 to 45 minutes. | Care must be taken to keep the lithium ion batteries dry, they could burst into flame if allowed to get wet. |
| Using 3 batteries in rotation allows for multiple flights in a day. | HydroMag (brand name) meters could be read only under ideal conditions. |

Groundwater Metering

2017 saw the first year of implementation of the Groundwater Standards regarding the groundwater rules enforcement program of the State of Colorado. As part of these standards, a new meter test reporting form was developed for use by the certified meter testers in the State. Changes were also made to the process of recertifying previously certified meter testers. These changes required the demonstration in the field at a well of the testers choice the tester was competent in producing a valid meter certification. This included demonstrating knowledge of 1), Testing procedures 2), Equipment requirements and 3), Rules and Regulations of the basin the tester works in. In 2017

there were seven (7) new meter testers certified and twenty-four (24) meter testers recertified in Division 3.

During the 2017 year we were more vigorous in pursuing violations of the Metering Rules and Standards resulting the following violations and enforcement actions:

Violations of Metering Deadlines:

Violation of meter recertification deadline: **275**

Violation of annual metering data submittal deadline: **300**

Miscellaneous violations (broken TFM, no seal, unmetered discharge, etc.): **22**

Formal Division Engineer Orders sent:

Orders for missing recertification deadline: **165**

Orders for missing annual metering data deadline: **61**

Formal Water Court Actions:

Actions for missing recertification deadline: **10**

Fines/attorneys' fees received for missing recertification deadline: **\$14,650.00**

Actions for missing annual metering data deadline: **2**

Fines/attorneys' fees received for missing annual metering data deadline: **\$750.99**

Actions against well meter tester: **1**

Fines/attorneys' fees received for tester violations: **\$1,300.00**

Staff continued working on the inventory of small capacity non-exempt wells and researching and documenting candidate wells for the 2020 abandonment.

WATER ISSUES

In September 2015, Rules and Regulations concerning groundwater use in Division 3 were submitted to the Division 3 Water Court. 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. For confined aquifer Response Areas, the rules require that groundwater pumping in the various response areas be held to the same amount as to that of the average pumping throughout the period 1978 to 2000 for the first 10 years after implementation of the rules. During this time, additional studies will be done and data collected to more accurately determine the condition of the aquifers from 1978 to 2000. Depending upon the results of that study, a different metric for meeting the sustainability goals may be developed. Well owners in Response Areas that are considered unconfined systems, must develop their own concept to establish

sustainability of the aquifer. The concept would then be submitted to DWR for approval before acceptance.

Thirty individuals or entities filed statements of objection, with approximately 10 of these 'statements of objection in support' of the rules. Over the last two years, DWR has been working diligently to try to craft stipulated settlements with these objectors to address their concerns. As of the end of 2017, the state has reached settlement agreements with most of the objectors. However, there are a handful of objectors still in the case.

There is only one remaining pro se objector whose issues have to do with the establishment of an irrigation season and is still objecting to the Rules case on that point. The other handful of objectors are opposing certain portions of the rules dealing with either the RGDSS Model or the way that the rules are structured. Most of these opposers are either pro se or have a very limited scope of objection. However, there is one entity remaining that is considered a strong objector to the Rules as a whole. DWR is continuing to meet with all entities to formalize solutions prior to trial, though it is very unlikely that a trial will be avoided altogether. The trial has been reset to begin on January 29, 2018, and is expected to last from 3 to 4 weeks.

Now that the Groundwater Use Rules Case ("the Rules") is getting close to trial, all subdistricts are gearing up to be able to meet the State requirements and rules by late 2019 and early 2020. As of 2018, subdistricts have formed in six of the seven Response Areas defined in the Rules. The Rio Grande Alluvium Subdistrict (Subdistrict #2) and the Conejos Subdistrict (Subdistrict #3) intend to submit Plans of Water Management (PWM) to the State this summer. San Luis Creek Subdistrict (Subdistrict #4) and Saguache Subdistrict (Subdistrict #5) have a Board of Managers in place and have started the process of refining a PWM. The Alamosa-La Jara Subdistrict will become Subdistrict #6 under the Rio Grande Water Conservation District when they go to court to form later this summer.

Subdistrict #1 is operating under a current Annual Replacement Plan (ARP) and will continue into their seventh ARP Year on May 1, 2018. The Trinchera Subdistrict (formed under the Trinchera Water Conservancy District) is collecting petitions from their members to acquire resources under Conservancy District statutes to meet the financial obligations of their PWM that is being developed. All the subdistricts anticipate having a revenue stream by early 2020 to fund administrative and other costs necessary for them to accomplish replacement of stream depletions and sustainability requirements required by the Rules. Each subdistrict will develop a portfolio of replacement water and strategies to meet the requirements which will be submitted to the State each year in an ARP.

Currently Division 3 is reassessing all augmentation plans and determining the impact the Groundwater Rules will have, if any, on each plan. A process is being created for future augmentation plans due to the new requirements in the San Luis Valley. Many small, particularly non irrigation users will need to get a decree of augmentation or contract with a subdistrict to continue with diversions not in compliance with Groundwater Use Rules.

Rio Grande Compact

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. These controversies are exacerbated by the U.S. Supreme Court Case that Texas brought against the other states.

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 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 United States petitioned the Special Master to enter into the case as a full party, which the Special Master partially allowed. Colorado and New Mexico do not believe that the United States should be a party to a compact in which they were not a signatory, so that issue will go before the US Supreme Court in oral arguments in early January 2018.

The Rio Grande is home to several endangered and threatened species. The Fish and Wildlife Service issued a new Biological Opinion (BO) in 2016 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. The state and federal agencies

in New Mexico are learning how to work under the requirements of this new BO, and there is guarded optimism that with the new flexibility that the BO offers, they may be able to make significant progress on the recovery of these species.

Water Court Activity

Chief District Judge Pattie Swift continues to serve as Water Judge, although that was uncertain earlier in 2017 due to the fact that Judge Swift was one of three finalists for an open spot on the Colorado Supreme Court. It was fortunate for us in Division 3, but unfortunate for water users throughout the state that Judge Swift was not chosen for the Supreme Court. Nicolas Sarmiento continued in his capacity as Division 3 Water Referee.

Marijuana Issues

The Cannabis industry continued to expand in Division 3 during 2017. Throughout Division 3 there are 52 licensed marijuana cultivation facilities and 43 licensed hemp production facilities. In addition to those totals there are numerous personal use and caregiver marijuana grows throughout Division 3. The continued expansion of the cannabis industry in Division 3 has resulted in numerous questions and requests for the administration of water from the public. Division 3 also saw an increased number of Water Court and Substitute Water Supply Plan requests pertaining to the development of year-round water supplies for cannabis cultivations. New State legislation was passed on June 8, 2017 (HB 70-1220) addressing the number of plants that can be grown at residential properties for personal use and by medical caregivers. One of the largest augmentation plans in Division 3, The San Luis Valley Water Conservancy District, passed a one-year moratorium, prohibiting sales of their water to marijuana cultivations on August 17, 2017.

These challenges continued to create an increased demand on Division resources but also provided an opportunity to improve communication with water users and local governments in regard to Colorado's water laws. Division 3 staff continued to answer an increased number of questions from the public, worked with cannabis growers to develop and utilize legal water supplies, and continued to track the usage of water hauling operations to ensure that legal water supplies were used.

INVOLVEMENT IN THE WATER USER COMMUNITY

As always, we endeavored to be as involved as possible in the water user community during 2017. 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 Compact Commission Salinity Committee, the Rio Grande Headwaters Restoration Project, and many other public forums which require input on water issues.

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 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' trial.

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.