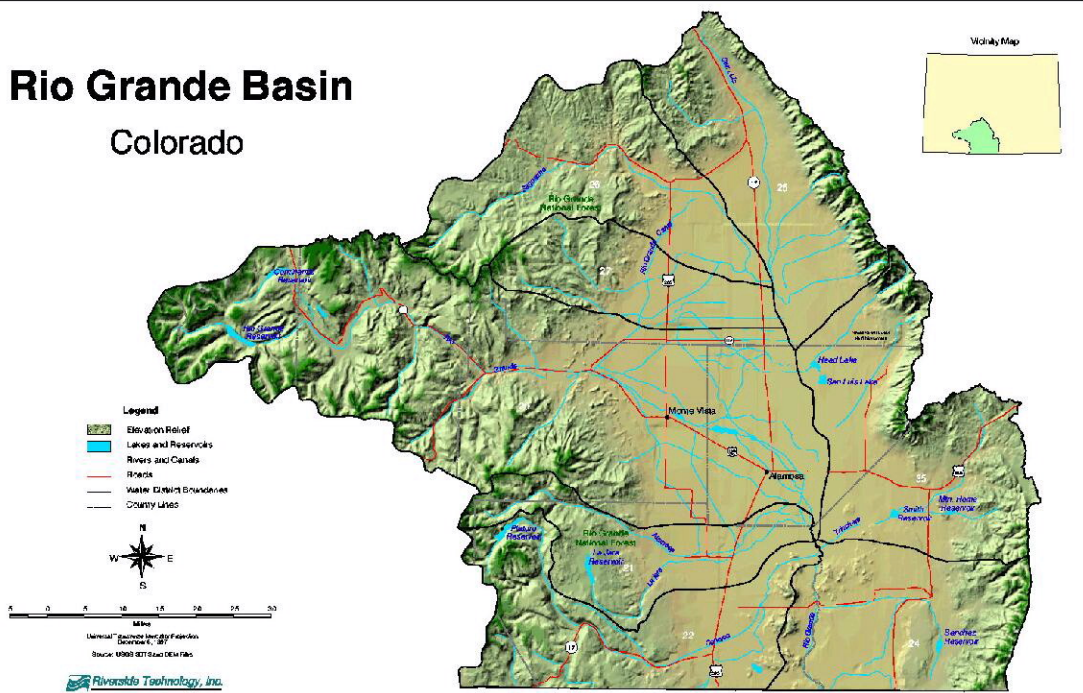


# COLORADO DIVISION OF WATER RESOURCES

## Rio Grande Basin Colorado



# ANNUAL REPORT DIVISION 3 2005

**COLORADO DIVISION OF WATER RESOURCES  
ANNUAL REPORT  
DIVISION 3 - 2004**

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## **ACCOMPLISHMENTS**

### **Water Administration**

The year 2005 was a year with above average flows. Unfortunately, it followed 4 years of much below normal flow. The depleted alluvial aquifers and constantly changing forecast made distributing water to the ditches and delivering water for compact purposes an exercise in frustration. The year started out with the highest snowpack in 30 years. Fluctuating hot and cold weather caused the river peak to rise and fall like a diurnal. However the high snowpack (130-140%) did not deliver high index flows. Indexes were roughly 120% of normal on the Rio Grande and the Conejos systems. On Saguache Creek in the northern part of the basin the flows were only 80% of normal. Then the river aquifers were so depleted that at times we were losing 200 cfs getting water to the state line. The forecast, which was high on May and June 1<sup>st</sup> dropped precipitously finally ending up over 15% lower (95,000 af) than anticipated on the Grande. Part of this is probably due to the dry antecedent conditions in the mountains and the extremely hot and dry June thru September season. No monsoon developed over the basin so normal precipitation did not occur causing a drop in the final index flows. Of course the high index forecast means a high obligation under the compact. With a high obligation we must have a high curtailment of surface water diversions to meet compact needs. We raised the curtailment on the first of June with the final high forecast numbers. When it became apparent that the high forecast was not going to materialize we quickly lowered the percentage to try and prevent over-delivery. However, the river dropped so fast and so hard that the early high curtailment produced more water than we finally needed, so all curtailment was dropped on the tail end of the hydrograph.

A major storm around the first of October generated significant river flows, which raised the indexes. The Rio Grande was able to divert this water and reduce the projected compact credit. On the Conejos this additional water pushed the river toward a debit status. To avoid going into debt water stored in Platoro reservoir for compact purposes earlier in the season was released and carried thru the system for delivery to the lower compact index gages. The area involved in the Rio Grande Water Conservation District (RGWCD) Unconfined Aquifer of the Closed Basin Change in Storage Study gained approximately 35,000 acre feet in 2005 after losing approximately 100,000 acre-feet in 2004, 270,000 acre-feet in 2003 and 400,000 acre-feet in 2002. Added to previous years draft on the aquifer, the study indicates we are approximately 1,000,000 acre-feet below the storage levels that existed in 1976 when the study was initiated. The only positive hydrology in the late summer was the very significant rainfall event at the beginning of October which added approximately 25,000 acre-feet of water to the Del Norte flows and around 10,000 acre-feet to the Conejos flows as well as added much needed moisture to the soil profile in the mountains. As a result of the observed base flows, spring flows and inflows to reservoir over the winter, this rain event dramatically helped the soil moisture conditions. This event should provide a much better base from which the 2006 runoff can be more efficient than for the last few years. It is amazing to

see what impact a single event can have on a river system. Ditches diverted almost all of the storm event flows in priority with little water taken to the state line for Compact delivery.

Following record high May and above average June flows, the rivers and creeks dropped to lows as seen in late 2001. Trinchera and Costilla creeks made contributions to the Rio Grande during the high flow period. However, stream losses were a significant factor that had to be dealt with on most streams. High losses in the Rio Grande in transporting water to the stateline required an additional curtailment of approximately 5% during the high flow season. Call records for all major streams are available in the table, River Calls, Irrigation Year - 2004.

Diversions for irrigation and recharge were allowed until November 5<sup>th</sup>, 2005 on the Rio Grande because of our status under the Compact. Diversions were shut off on the 1<sup>st</sup> of November, 2005 on the Conejos. The October 1<sup>st</sup> storm event caused a shortfall in compact deliveries on the Conejos. To avoid underpaying the compact approximately 7000 acre-feet of water stored in Platoro Reservoir during May was released and carried thru to LaSauces. Platoro Reservoir went into winter operation late in November, trying to bypass the inflow to the reservoir pursuant to Article 7 of the Rio Grande Compact for as long as possible. Article 7 restrictions were lifted on December 28, 2005 when Elephant Butte Project Storage went over 400,000 acre-feet.

#### Rio Grande Compact Administration

As was mentioned in the previous section, the administration of the Rio Grande Compact was rather challenging in 2005. A snowpack approximately 140% of normal in the San Juans yielded a hydrograph of 120% of normal. The poor antecedent conditions and dewatering of the alluvial aquifers over the past 4 years resulted in significant transportation losses during 2005. The Rio Grande and Conejos Rivers had significant Compact obligations for the year because of the initial forecasted index supply. Irrigation did not start until after April 1<sup>st</sup>. There were relatively large curtailments of index supplies due to the initial forecasts. As the year proceeded and the forecasted and actual index increased, the curtailment was increased to cover the increase in forecast and the high losses incurred. However, in July the flows dropped precipitously with the Rio Grande flows going from 3000 cfs on the first to 400 cfs on the 30<sup>th</sup>. This drop resulted 95,000 acre-feet less water than the final forecast indicated. Curtailments were eventually dropped to 0% as high initial curtailments had fulfilled compact obligations. The Rio Grande curtailment was significant even though the index supply was forecasted to be below normal. It is the belief in Division III that the higher than normal curtailment is a direct result of dewatering of the aquifer due to depletions from well pumping. The history of curtailment changes is detailed in the table, Compact Administration, 2005 Rio Grande Compact Report.

Overall, Colorado started the year with an accrued credit of 4,400 acre-feet as of January 1, 2005 and ended the year with a total accrued credit of 4,700 acre-feet. Diversions on the Rio Grande started April 1, 2004 and ended November 5<sup>th</sup>. Diversions on the Conejos started April 1, 2004 and ended November 1<sup>st</sup>. The Conejos

system started 2005 with 3,700 acre-feet of accrued intrastate credit. However, due to the inability to operate the gates at Platoro Reservoir resulted in 2,000 acre-feet being stored despite the provisions of Article VII of the Rio Grande Compact. On the 31<sup>st</sup> of March, 2004, Texas agreed to a relinquishment of 2,000 acre-feet of credit in Elephant Butte in return for the water stored in Platoro. To avoid flood operations in May, water was stored in Platoro in a Compact account for later release. The drop in forecast had the division hoping to retain that 7,000 acre-feet, however the October storm raised the index and required release of that water. Another approximately 400 acre-feet were stored during the late fall and early winter months of 2005. A similar arrangement for relinquishment of credit will have to be made with Texas or the water will have to be released prior to the 2006 irrigation season.

The release of water from Rio Grande Project Storage in 2005 totaled 677,100 acre-feet. This is approximately 85% of a normal release for the Project. Usable Project Storage at the beginning of 2005 was 170,800 acre-feet, with 40,000 acre-feet of credit water additionally in storage. Useable Project Storage was 407,600 acre-feet at the end of December, 2005 with 41,800 acre-feet of credit water in storage (4,700 for Colorado and 37,100 for New Mexico).

On July 2, 2002, Usable Project Storage dropped below 400,000 acre-feet. Consequently, Article VII of the Compact was implemented. Article VII prevents the upstream States from increasing storage in any post-Compact reservoir without relinquishment. The major Colorado reservoir affected is Platoro Reservoir. The U.S. Bureau of Reclamation (USBR) has taken the position that they can store 'Prior and Paramount' rights for the New Mexico Pueblos in El Vado Reservoir regardless of the status of Article VII. The Commission has historically opposed this action to no avail. Colorado continues to take the position that the Conejos can re-regulate pre-compact direct flow rights in Platoro as long as they are released in the same season. Project Storage exceeded 400,000 acre-feet on May 20, 2005 relaxing the restrictions of Article VII. However project storage again dropped below 400,000 acre-feet August 26<sup>th</sup>, then exceeded the magic number on December 28, 2005. The Bureau of Reclamation forecasts indicate that Usable Project Storage will again drop below 400,000 acre-feet during spring 2005.

The Rio Grande Compact meeting was held on March 31, 2005, in Santa Fe, New Mexico. New Mexico did approve the accounting sheets for 2005 because the Rio Grande Compact Commissioners directed the USBR hold credit water constant during the year and calculate evaporation at the end of the year as Compact accounting originally occurred.

#### Costilla Creek Compact Administration

The Costilla Creek Compact Commission met in Santa Fe, New Mexico, on May 5, 2005. Once again, the Commission adopted the Watermaster Operating Manual drafted by the Engineer Advisers of the two compact States for operations during 2004. The Commission adopted the Costilla Creek Watermaster Operating Manual at the meeting.

The Commission directed the Engineer Advisers to continue to review the manual for possible improvements.

It was possible to deliver the 1,000 acre-feet to Eastdale Reservoir by April 12, 2005 before the irrigation season started. Direct flow diversions were then allowed prior to the irrigation season. At the start of the 2005 irrigation season, May 16, 2004, Costilla Reservoir held 7,737 acre-feet. The Commission determined that there was a full water supply and declared that surplus water would be available for the year based on the forecast for the Costilla drainage. It was an extremely good year with little reservoir water needed for irrigation needs. Direct flow provided most of the needs for the two states and Colorado direct flow ditches in Garcia were in priority into August 2005.

Luis Trujillo continued as the Watermaster with assistant Watermaster Wilfred Lucero for the 2004 irrigation season. The Watermaster used the spreadsheet developed by New Mexico to track the daily water deliveries and to determine the delivery amounts available to each ditch. With the Operations Manual and the spreadsheets, administration has settled down to a fairly routine affair. The Watermaster e-mailed a daily diversion sheet (most days) to the Colorado Engineer Advisor.

Due to the high runoff Costilla Creek water made it to the confluence with the Rio Grande during April and May 2005.

The New Mexico hydrologist remains concerned that the Canyon Mouth Gage, operated by the USGS, is not correctly determining the stream discharge at this location. Colorado again reviewed the operation of the gage and inspected the station. Colorado still agreed that the USGS operation and rating were within normally accepted standards, but suspected that the meter used by New Mexico might have been giving erroneous data.

Receiving daily diversion reports from the Watermaster helped relieve the time requirements. The State of Colorado has limited input into the supervision of the Watermaster and less in day-to-day activities, so receiving this document allows Colorado to ensure that water is being fairly divided. The Division Engineer remains involved in the finalization of the Watermaster Manual. The drafting and adoption of the Watermaster Manual has also helped to ensure that the Compact is fairly operated.

### Closed Basin

The Closed Basin Project delivered 10,720 acre-feet to the Rio Grande in calendar year 2005. Most of the delivery met water quality standards for the Rio Grande Compact and therefore was creditable to Colorado's delivery to the Stateline. One-Hundred Twenty acre-feet did not meet the standards and thus was not creditable water. The Project produced a total of 16,184 acre-feet for all of the various purposes outlined in the enabling legislation and the decree. The total amount delivered from the Project for all purposes was approximately 102% of last year's total.

The Project continues to be plagued by iron bacteria contamination, commonly known as biofouling. This biofouling continues to reduce the output capacity of the wells by a large percentage. The USBR has tried various remedies for the problem, but has met with limited success. In 2001, the USBR began a well re-drilling program in an attempt to increase the Project's production. The Bureau and Conservation district continue to re-drill wells to boost the projects production. Currently there have been 30 wells that have been redrilled with good success but not enough have been redrilled to make any difference in the overall production of the Project.

The Project was pumped at maximum sustainable capacity for nearly the entire year. Testing and rehabilitation of the contaminated wells reduced pumping levels at times and, therefore, the overall output of the Project. The Allocation Committee for the Project set the initial allocation at 60% for the Rio Grande and 40% for the Conejos early in the year and it remained there for the entire year. In August 2005, due to an expected compact credit for the 2005 year, it was decided to use some Project water to refill San Luis Lake. San Luis Lake had been drawn down in previous years to improve the fishery. The expected credit status of Colorado, as of August 2005, made diversion of water to San Luis Lake feasible. Of the acre-feet of creditable water delivered to the river, 4,288 acre-feet were credited to the Conejos River and 6,432 acre-feet were credited to the Rio Grande. The 15-year cumulative allocation expressed as a percentage of the total is 60.1% for the Rio Grande and 39.9% for the Conejos.

Project deliveries made during 2005 were as follows:

- 1,200 acre-feet to the Blanca Wildlife Habitat Area
- 2,644 acre-feet mitigation delivery to the Alamosa National Wildlife Refuge
- 10,720 acre-feet (creditable) to the Rio Grande
- 1,518 acre-feet to San Luis Lake
- 16,184 acre-feet total volume

#### Reservoir Operations and Dam Safety

During the 2005 calendar year, the Dam Safety program goals for completion of inspections according to the frequency established by the State Engineer were generally met or exceeded. The stated program goal requires the regular safety inspection of all Class 1 dams every year, Class 2 dams every 2 years, and Class 3 dams every 6 years. In Division 3, all of the Class 2 dams except one were inspected in 2005, in significant exceedance of the program goal, and only one Class 1 dam and one Class 3 dam which were due for inspection in 2005 did not actually receive that inspection. The lone Class 1 exception (Sanchez – East Dike) is a subordinate feature to the main dam that very rarely serves any impoundment function and has not had water against it for many years. The Class 3 exception (Trout Lake Dam), while it has not been inspected for quite a number of years, is located well within the Weminuche Wilderness in a hard-to-reach location, which prevented access by the inspector, who struggled with knee problems throughout the inspection season. In all, full safety inspections were completed on 11 Class 1 dams, 14 Class 2 dams, and 4 Class 3 dams. Follow-up inspections were performed as deemed necessary to check for

problems and compliance with requirements. A total of 3 follow-up inspections were completed, two on Class 2 dams, and one on a Class 3 dam.

Outlet inspections were performed on 3 Class 1 dams (Terrace, Rio Grande, and Continental) during the year, in order to evaluate the condition of those outlets. All were found to be in acceptable condition. The inspections at Terrace and Rio Grande involved only the downstream segments of the tunnels below the regulating valves, but the inspection of the conduit at Continental was done at a time of full reservoir drawdown, enabling the inspection of the conduit upstream of the control gates. The inspection at Terrace included an examination of the gate chamber and access shaft from the dam crest, and was combined with a final construction inspection of the modifications to the gate valve operating system completed during 2004. This system was observed to perform as desired during the 2005 runoff year, enabling much simpler and more direct operation of the gate valves.

No new reservoir restrictions were imposed during the year, nor were any existing restrictions revised. In response to dam improvements satisfactorily completed by the owner, an existing zero storage restriction was removed from Bristol Head #1 Dam, a small, Class 3 dam in Water District 20.

After a number of years of substandard snowpacks in Division 3, the 2005 snowmelt runoff season benefited from good snowpack conditions. While this was beneficial to all water users within the area, dams which had typically experienced relatively low reservoir levels during the drought years were once again subjected to more substantial reservoir loadings. Fortunately, no significant problems were encountered, as most reservoirs were able to fill into pools which were at below-normal levels after years of drought. One exception to this was at Terrace Reservoir, where, during a good runoff year, the flow in the Alamosa River is sufficient to fill the reservoir very quickly, despite a low starting level and early large releases through the outlet. During the peak of the 2005 snowmelt runoff, the rate of rise at Terrace prompted some concern that the reservoir might fill into the restricted pool, which is established at 7 feet below the spillway crest. However, this never materialized, as the inflow peak dropped off dramatically at a level just below the restriction, and control of the reservoir level with the outlet was regained. This event did, however, illustrate the importance of a fully functional outlet system at Terrace, as was assured by the 2004 construction project on the outlet tunnel.

Seepage conditions through the left abutment at Trujillo Meadows Reservoir continue to be problematic, and will require remediation work in 2006. The reservoir was restricted to 1 foot below the spillway crest in 2004, and continues to show problems. Investigation work was performed during 2005 in an attempt to identify the nature of the problem and the appropriate corrective actions.

Revision of the Dam Safety Rules and Regulations was initiated during the year, and, to familiarize engineers and dam owners with the proposed changes and to obtain their input concerning those changes, several workshops were held throughout the state. Owners and engineers from the Division 3 area, along with those from the Division 7



area, were invited to a workshop in Durango in early March, conducted by Deputy State Engineer Jack Byers. Participation was good, useful feedback was received, and those in attendance seemed appreciative of the opportunity to become familiar with the proposed revisions and to voice their opinions.

To help support improved hydrologic analysis of reservoir basins above dams, the Hydrology Committee was reformed within the Dam Safety Branch, consisting of Dam Safety Engineers from various locations around the state. One of the perceived weaknesses of the methodology by which inflow design floods are developed for reservoirs has been in the conversion of rainfall to runoff, particularly in the mountainous areas of the state. To develop a more sound methodology, the Hydrology Committee, under the guidance of Jack Byers, initiated a contract with consulting hydrologist George Sabol to perform a "Basin Response Study" to hone in on improved basin parameters for converting rainfall to runoff, particularly for mountain areas of the state. It is hoped that this will provide more realistic runoff values than the methodologies currently in use, when the time comes to evaluate the high-altitude dams, including those in Division 3, for hydrologic adequacy.

### Stream Administration

Stream administration in Division III during 2005 was challenging. Following four years of below normal runoff the 2005 runoff was approximately 120% of average. However, the drought had dewatered the alluvial system making it difficult to efficiently deliver water to the stateline for compact purposes. In what had historically been a gaining system, additional curtailment was needed to overcome the losses in getting water thru the system. These additional "loss" curtailments, on top of a high obligation for the compact caused surface water users to complain. On top of the large delivery requirements, the weather again impacted the valley with virtually no precipitation in the summer causing streamflows to drop to well below average by August 1<sup>st</sup>. Surface water rights were severely impacted. Meanwhile the well owners continued pumping. The net result of the above average year was a minor 35,000 acre-foot gain in the unconfined aquifer study area. This issue continues to fan the flames for groundwater administration. The River Call table later in this report is very illustrative of the shortage of water supply throughout the basin.

### Hydrography

The Hydrographic Branch in Division 3 has the responsibility of providing accurate 'real-time' stream flow data and historic record production for streams in and around the San Luis Valley of Colorado. This includes the Rio Grande and its tributaries, the Conejos River and its tributaries, and those streams tributary to the Closed Basin. The Hydrographic Branch also supports the water commissioners and other DWR personnel by providing services such as ditch measurements, seepage investigations, structure installations, water-related consultations, etc.

The Hydrographic Branch in Division 3 is staffed by four hydrographers and is managed by Lead Hydrographer Craig Cotten. The three other Division 3 hydrographers perform

hydro duties as well as manage portions of the hydrographic program. Hydrographic technician Scott Veneman manages the satellite monitoring system for this division as well as Divisions 4 and 7, Stan Ditmars, also a hydrographic technician, is the Division 3 construction manager, and Lee Conner, an Engineer-in-Training, is in charge of repair and maintenance of Division 3 hydrographic and construction equipment.

In Division III, 76 gages with satellite telemetry are maintained, which includes 52 stream-gage record stations, 6 stream-gage administrative stations, 11 stream-gage diversion stations, and 7 reservoir stations. One of the reservoir stations also transmits outflow data for 1 additional stream-gage administrative station. Of the 76 gages with satellite telemetry, 2 of them also have phone line telemetry. An additional 1 stream-gage administrative station that doesn't use satellite telemetry, but is equipped with phone line telemetry is maintained. DWR owns the data logger / transmitter equipment at 65 of these stations.

Division 3 operates and maintains 57 streamflow stations for which it produces streamflow records. From these stations the Division 3 Hydro Branch produces 59 published water year streamflow records and 9 published calendar year streamflow records. In addition, the Hydrographic Branch in Division 3 cooperates with the Colorado Department of Health to produce and publish 4 streamflow records of other gaging stations in the San Luis Valley.

In 2005, the hydros in Division 3 measured and/or developed meter notes for stream and ditch measurements over 1,100 times. These measurements were used to develop fifty-nine water year records of flow, which will be published in the Division of Water Resources annual streamflow publication. Division 3 also assisted in the development and reviewed records from four Department of Health stations, which will also be published in the annual streamflow publication. The hydros also developed nine calendar year records for use by the Rio Grande Compact Commission. In addition, several stations were operated as administrative stations with their flow records not being published.

### Satellite Monitoring

The Satellite Monitoring System Repair Facility in Division III is responsible for maintenance, repair, and calibration of all electronic data collection and telemetry equipment in Divisions III, IV, and VII. The facility provides technical support and assistance to field engineers and technicians in these divisions for system installation, field maintenance, and modifications.

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these stations. Approximately 35 percent of one full-time position is spent operating the facility.

In addition to the everyday repair and maintenance duties, several other functions were performed by the facility. In Division III, five satellite systems had to be removed and re-installed. Three of them, Alamosa Creek below Terrace Reservoir, North Crestone Creek near Crestone, and Trinchera Creek above Turner's Ranch, were due to new gage installation. One, North Branch Conejos River near Conejos, was due to vandalism of the shelter. The other, Beaver Creek Reservoir, was due to excessive moisture on equipment. A new HDR data logger / transmitter system was installed at Sanchez Reservoir, where there was no previous satellite system. This system included an Accubar pressure transducer and nitrogen bubbler system to monitor the reservoir elevation.

This year, in Division III, seven more stations were upgraded to High Data Rate data loggers / transmitters. Three of these stations belong to Colorado Division of Wildlife, so DOW provided the HDR equipment. The other four belong to DWR. This brings the total number of DWR owned HDR systems in this division to 36. Since there are 65 stations with DWR owned satellite telemetry, the upgrade phase is over half complete. There are 11 stations with satellite telemetry owned by other entities. Only 3 of these have been upgraded to HDR. Most of the HDR stations in this division required a special visit to set the transmitter's UTC offset to -14 seconds before a "leap second" was added to Universal Standard Time on January 1, 2006.

The National Weather Service provided four more tipping bucket rain gauges to be installed and interfaced to DWR data logger / transmitters at Division III gages of their choice. These rain gauges were installed at Conejos River near Mogote, La Jara Creek near Capulin, Ute Creek near Fort Garland, and La Garita Creek near La Garita, bringing the total number of rain gauges located at DWR Gaging Stations to eight.

A trip was made to Razor Creek and Vouga Reservoir in Division IV to replace stolen and vandalized equipment and to repair a broken orifice tube. Two days were spent with David Hutchens in Division VII. Several stations were visited on each day to troubleshoot, repair, update grounding, or upgrade equipment to HDR.

#### New Stations/Rehabilitations/Modifications

Trinchera Creek above Turners Ranch gage was also replaced this year. A new concrete well, inlets, and an exposed aggregate gage house were installed. The project also included the installation of a rock weir. Funding for this project came from the hydrographic gage maintenance fund.

The A-frames for the cableway at Rio Grande above the mouth of Trinchera Creek gage were replaced. A new rock weir was installed at the Wild Cherry Creek near Crestone, CO gage. New inlets were installed at Willow Creek near Crestone, CO and Spanish Creek near Crestone, CO. The existing control at Culebra Creek near Chama CO was rebuilt after some damage from high flows this spring.

A new HDR data logger / transmitter system was installed at Sanchez Reservoir, where there was no previous satellite system. This system included an Accubar pressure transducer and nitrogen bubbler system to monitor the reservoir elevation.

### Flood Hardening

The gage for Alamosa Creek below Terrace Reservoir was replaced in March. Flood hardening monies were used to pay for the installation of a concrete well, all new inlets, and an exposed aggregate gage house. These structures were needed to replace the existing small wooden structure that had been in place at this location for over fifty years. The old station was at a low enough elevation that, during very high flow events, the gage would actually be surrounded by water. The new station was built up to raise it up out of the flood area during high water. The cableway at this location was also replaced with a bank-operated cableway.

### Closed Basin

The Hydrographic Branch in Division III is charged with fulfilling the terms and conditions of a contract between the State of Colorado and the USBR. This contract provides for streamflow measurement and data collection on the Closed Basin Project. It is the responsibility of the Hydrographic Branch to measure, record, and disseminate flow information to the USBR and to other public entities. In addition, the Hydrographers are consulted on certain areas of concern regarding streamflow and measurement within the Project. Specifically, the Division of Water Resources is responsible for the operation of the gaging station on the Closed Basin Canal, and the development of monthly and yearly streamflow records for this location. In addition, there are at least nine other locations on the Closed Basin Project area that are to be measured when the need arises.

The previous agreement between the State of Colorado and the USBR regarding the Closed Basin Project went into effect in October of 1999 and expired at the end of September of 2004. The Division of Water Resources negotiated with the Bureau of Reclamation to develop a new agreement for the next 5-year period, and this new contract was put into effect in February 2005.

## **WATER ISSUES**

In June of 2005, the Division of Water Resources promulgated rules on the measurement of groundwater in Division 3. Titled "Rules Governing the Measurement of Ground Water Diversions Located in Water Division 3, The Rio Grande Basin," these rules call for the metering of all non-exempt wells over fifty gallons per minute located in Division 3. The Rio Grande Water Users Association filed an objection to the rules, citing among other things, a concern that meter manufacturers may not be able to supply reliable well meters in a timely manner. The deadline for having meters installed on these wells is March 1, 2007. In May 2006, a class will be held in Alamosa to qualify interested persons to verify the accuracy of well meters.

The continuing impacts of the drought in 2002, 2003, and 2004 were felt far and wide in the entire Valley. The depletion of groundwater supplies and the dry antecedent conditions caused much concern and changes to normal administration. River transit losses that occurred in 2002, 2003 and 2004 continued to be an issue in 2005 when high compact obligations required additional curtailment to make delivery. There were higher than normal diversions into the Closed Basin again during the year. However, late season dryness required heavy reliance on well pumping in the latter half of the season. The RGWCD Unconfined Aquifer Storage Study showed only a slight gain of 35,000 acre-feet in 2005 as compared to the losses of 100,000 acre-feet in 2004 and the 270,000 acre-foot decline in 2003. Compared to the 1976 baseline, the study area contained approximately 1,000,000 acre-feet less water by the end of 2005. This situation makes all concerned very aware of the importance of managing the aquifer systems to achieve an overall balance in the system. The importance of a coordinated recharge system and matching the demand to it is being recognized by even the most skeptical. In early 2004, SB-222 was passed at least in part because of this well and aquifer situation and provides the State Engineer a mechanism in which to proceed if he thinks that well administration is necessary.

For the last three years, the Rio Grande Water Conservation District (RGWCD), through its president Ray Wright, has attempted to form groundwater subdistricts to attempt to manage portions of the aquifer system. These efforts have as their primary purpose, to restore historic aquifer levels and manage them in a manner that would provide a sustainable system. At the October 2005 meeting the petitions for formation of Subdistrict #2 (alluvium south of the Rio Grande) were submitted to the RGWCD for formal review and filing with the Water Court. The Unconfined Closed Basin Subdistrict (Subdistrict #1) has also submitted petitions (January, 2006) for referral to the water court. Additionally the formation of a Subdistrict in the Conejos area started collecting petitions in the latter half of 2005, and discussions have been had regarding formation of Subdistricts in the Saguache/San Luis area, the Trinchera Area, and the Alamosa-La Jara area. These types of subdistricts were recognized in SB-222, discussed below. They would have as their goal to stabilize the aquifers associated with each subdistrict and prevent injury to senior rights and restore the historic stream aquifer connection. Absent some kind of entity and effort to address the impact of wells on the system, the State Engineer will surely have to step in and require some kind of administration of the aquifers to address these issues. SB-222 and the State Engineer is giving the well owners every chance to address the depletion issues themselves but at some point will have to act.

SB04-222 was passed in the 2004 session of the Colorado legislature. This bill was the combined effort of the water entities in the valley to address the confusion revolving around the ability of the State Engineer to promulgate rules regarding well administration. It cleared the way for that to happen while allowing considerable flexibility to the state in addressing these issues. The three primary goals of any plan would be to restore and stabilize the aquifers, minimize injury to senior vested rights, and insure that the State can meet her Compact obligations. The bill recognizes entities like the subdistrict outlined above, to provide a vehicle to address these issues within the valley without having the State come in and promulgate rules that would be much

less flexible. The bill also recognizes the ability of the State to consider many different issues in the overall issue of management of the aquifer.

## **ON-GOING PROJECTS**

### RGDSS

The Rio Grande Decision Support System project was deemed sufficiently complete in 2004 that the State Engineer could promulgate Rules and Regulations for new appropriations from the confined aquifer as required under the RGDSS enabling legislation (HB98-1011). After extensive model runs the rules were filed with the Secretary of State and the Division 3 water court on June 30, 2004. Statements of Opposition both in support of and opposing the rules were filed with the court by various entities. Extensive discovery, document production, depositions, and briefs were held or generated during late 2005 as a prelude to the trial. The Water Court has scheduled a trial on the validity of the rules for six weeks starting January 30<sup>th</sup>, 2006.

### Rio Grande Silvery Minnow

The Rio Grande Silvery Minnow continues to cause everyone on the Rio Grande in New Mexico to reconsider how and why things are done and where to find enough water to keep the river wetted throughout the reach from Albuquerque to Elephant Butte. While they an existing relinquishment agreement in place The State of New Mexico did not have to relinquish water to Texas this year in order to store water in El Vado, McClure and Nichols Reservoirs due to the above normal runoff and the superb production from the San Juan Project.. The minnow had adequate water throughout the 2005 season but a portion of the river did go dry during the year below San Acacia. Minnow salvage efforts saved over 600,000 fish during 2005.. The minnow population census in late 2005 showed recovery over the past couple years to the population levels when the fish was first listed. But the fish was originally listed due to concerns about its restricted range and not its abundance. New Mexico's Congressional delegation got legislation passed this passed in 2004 which made it abundantly clear that San Juan Chama water could not be used by the Bureau of Reclamation (USBR) without a willing buyer and willing seller agreement for the lease of contractors' water. USBR had up to that time used water at their whim to provide water to the river for the minnow. The division was involved in the drafting of the Silvery Minnow Recovery Plan. The draft was finalized in October, 2005 and submitted to the regional office of the USFWS for review. Unofficial comments have praised the draft plan for its thoroughness and completeness.

### Southwestern Willow Flycatcher

During 2004 the USFWS (Service) re-designated proposed critical habitat for the endangered Southwestern Willow flycatcher. In Division 3 the new designation included the Conejos River up to HWY 285 and the Rio Grande up to Del Norte. The Division and the RGWCD spent many hours providing comments on the listing to the USFWS. The RGWCD also formulated a Habitat Conservation Plan (HCP) that is designed to help maintain the habitat the bird needs. Additionally the USFWS personnel at the local

wildlife refuges (Alamosa and Monte Vista National Wildlife Refuges) spend considerable effort in assuring useful habitat for the species. As a result of the comment, the work on the HCP, and the Refuges extraordinary success in sponsoring the bird, the final designation of critical habitat (2005) did not include any land in Colorado.

#### Upper Rio Grande Water Operations Model

The Upper Rio Grande Water Operations Model being constructed by the Federal agencies in New Mexico is basically complete. The Bureau of Reclamation and Army Corps of Engineers have used it for the accounting since 2000. The accounting module has been approved in its present state by the Engineer Advisers and the Commission for use in the future. The model is being refined on a continuing basis.

#### Alamosa River Restoration Project

The Alamosa River Watershed Restoration Committee obtained funding via a settlement with the parties involved in the Summitville Mine project. There are severe restrictions on the use of those funds. The Committee continues working with the Colorado Water Conservation Board and an independent engineering firm to analyze the needs of the watershed and determine the best use of the acquired funds. The Division has attended scoping and planning meetings to provide input on the water rights implications of various proposed projects. The Committee has developed a list of projects which includes items from river stabilization structures, instream flows, to grazing management in riparian areas. The Committee is completing ranking the projects and will soon move on to drafting a Master Plan for the watershed.

#### Rio Grande Headwaters Restoration Project

With the completion of the feasibility study, the Rio Grande Restoration Project is now in transition to implementation. The report in that study will be used to continue the project in the implementation phase and will be a guide for the work to be done. The advisory team was very pleased with the product and is now pushing hard to start the project.

#### Groundwater Enforcement

The Division III staff continues to make concerted efforts to address numerous issues regarding the use of groundwater. Since there are no groundwater administration rules in effect, the staff has tried diligently to address issues of expanded use, improper use of wells on land they were not intended to serve and change of uses without confirmation by the State Engineer or the Water Court. Terms and conditions on permits, late registrations and decrees provide our initial guidance along with extensive aerial photo interpretation. These issues arise in various ways, but many find us without any effort on our part. Numerous issues, particularly in regards to expanded use come to our attention by people participating in the EQUIP program of the NRCS. With the Federal government's large cost share in this program, users have in many instances tried to add new acreages beyond that of a wells stated or historic service area. The

delivery efficiencies of new pipelines, sprinklers and regulating reservoirs in many instances creates “extra water” that they want to take to new ground and dramatically increase the consumptive use of a wells production. There is little understanding that the increase in consumptive use in an over-appropriated system is detrimental to the entire area. NRCS staffs have in some cases not grasped the concept that conservation and efficiency cannot and does not create the ability to add new acres. It is very hard for many to understand that there is no water savings just because there may be less water pumped but the new system and its efficiency has increased consumption. We have met with the NRCS on numerous occasions and they now refer all potential “water expansion” applications to the Division office for review prior to NRCS approval. These efforts take considerable resources but are absolutely essential to us holding the line on overall consumptive use in the Rio Grande Basin. The Rio Grande and Conejos River systems are consumptive use limited pursuant to the Rio Grande Compact, and since the Basin is already overappropriated we cannot afford any new depletions to the system.

## **ON-GOING ISSUES**

### *Water Court Activities*

Twenty-one cases were filed in the Division III Water Court during 2005. The majority of the cases filed during the year sought a change of underground water right. Typically, the Applicant sought to adjudicate an existing alternate point of diversion or supplemental well or convert the historic use to a new use. The Division continues to oppose those Water Court applications that seek to deepen an existing non-exempt well or construct a new alternate or supplemental point of diversion. Pursuant to Policy 2003-3, the State Engineer has denied well permit applications for deepening wells and/or construction of a new supplemental or alternate point of diversion. This policy has been backed by Statements of Opposition filed against such claims. A trial, scheduled to be heard in front of Judge Kuenhold during November, 2004 on this matter, was dismissed as the Applicant chose to pursue assistance with formation of a groundwater subdistrict rather than defend his right to a change of water right in Court.

While most cases in Division III are resolved through the Division Engineer’s recommendation and negotiation of those terms and conditions placed in the decree, some require a hearing or a trial. Judge Kuenhold remains the Water Judge and Margaret “Peg” Russell continued as Water Court Referee.

Water Court casework is currently assigned to Mike Sullivan, Craig Cotten, or Pat McDermott. The Water Commissioners also lend help when needed via field inspections or historical knowledge of the claim.

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

As always, we strived to be as involved as possible in the water user community again in 2005. Our staff attends 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.

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. It has become apparent that in order to reach higher numbers of people and inform them about water issues in the Valley, attendance at ditch company meetings and smaller user group meeting is going to be required.

We have actively participated in the San Luis Valley Wetlands Focus Group, the Rio Grande Silvery Minnow Recovery Plan Team, the Southwestern Willow Fly Catcher Recovery Technical Advisory Team, the Bureau of Land Management Rio Grande Corridor Plan, the RGDSS Advisory Team, Upper Rio Grande Water Operations Model Advisory and Technical Teams, The Upper Rio Grande Water Operation Plan Review, The Rio Grande Headwater 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 under SB222.

The staff of Division III participated in a number of public forums relating to water. The Division Engineer has also been involved in a number of conferences and seminars in the San Luis Valley concerning the drought. The level of interest is very high since 2002 especially regarding the aquifer conditions and the lack of streamflow and how to incorporate wells into the priority system. Several hundred people have attended these conferences and much information has disseminated. Several voluntary actions are being suggested for well owners to reduce their draft on the aquifer and impact to stream system. Another area that the Division staff has been involved in is the Saguache Water Users Association. Issues about winter water use and well impact are a continuing issue to be dealt with.

## **PERSONNEL/WORKLOAD ISSUES**

### *Well Administration and Permitting Activities*

The well permitting workload softened somewhat in 2005 with over 350 permits issued from the Division III office. Much of the permitting is for new residences in the valley as well as replacement for older wells. The State Engineer determined that no deepening of non-exempt wells would be permitted, as this may be an expansion of use. Any applicants seeking to deepen an existing non-exempt well or construct a new alternate point of diversion are advised to file a Water Court application.

Pursuant to the Well Permitting Guidelines for Water Division III dated October 28, 1999, the Division staff continues to submit recommendations with all non-exempt well

permit applications processed by the Denver staff. Dozens of non-exempt irrigation wells were replaced during 2005 as aquifer levels continued to decline. The age of the wells is playing a bigger role on how the well functions. A great deal of research goes into each checklist before it is submitted to the Denver office. Although this process is cumbersome at times, it allows the staff the opportunity to discover any discrepancies with the existing permits and decrees and prevent expansion of use.

### Well Inspection program

The well inspection program continues to be an important part of the Division 3 operations. As noted above policy 2003-3, regarding deepening of non-exempt wells, would be difficult to oversee without a well inspector to physically review construction. The inspector continues to assure that exempt and non-exempt wells are constructed in accordance with the Construction Rules as promulgated by the Board of Examiners.

### Water Records and Information

In this age of satellite uplinks and computer record keeping the Water Commissioners would not be able to perform their duties without the computer. The availability of gage information from the computer each morning allows the Commissioners to make and implement decisions regarding diversions early in the day. The administrative gages in District 20 and 22 have greatly assisted in "setting the river" and delivery of water to the users. More gages have been requested by the other Districts to assist in their administration of water rights, however manpower availability in the Hydrographic branch is a limiting factor in operation of additional gages. The information, published daily in the stream administration sheet that is available to the water users, allows for more efficient allocation of this valuable resource. It also keeps the water users more informed about the conditions on the river each day. Daily diversion sheets are posted in all districts and are available in the division office. The division continues to look toward improving the daily sheets to better serve our users.

Diversion records went smoothly this year with the division again using Hydrobase for diversion records. The division also participates in the Hydrobase team meetings in efforts to standardize record keeping and production. The Team met several times last year and succeeded in reviewing the water rights tabulation system and the diversion information system. The Division anticipates seeing the proposed changes to the data entry system sometime in 2006.

### Personnel Changes

John Skinner joined Division 3 as the new well commissioner in June of 2005. John has been familiarizing himself with the permitting systems. John brings years of customer service experience to the position. This tied with his degree in Geology has greatly assisted our customers and made for a smooth transition in permitting.

Jim Swanson was hired as the deputy water commissioner in 25/26. Jim was a ditch rider on the Rio Grande Canal for 24 years. Jim's water delivery experience has been

very helpful in administering the Saguache and San Luis Creeks systems. Jim started with the division in late July 2005.

Steve Vandiver, Division Engineer retired August 31, 2005 after 32+ years with the Division of Water Resources. Steve went from Hydrographer, straight out of college, to Division Engineer in his career with DWR. As Division Engineer for 24 years Steve witnessed the wet period of the 80's where Elephant Butte Reservoir spilled releasing Colorado from a 500,000+ Acre-foot debt to the compact, to the drought of 2002, the worst year ever recorded. Steve was an expert in Compact operations on both the Rio Grande and the Costilla compacts. Steve's experience and influence with the water community will be missed at DWR. Steve continues to work in water as the Manager of the Rio Grande Water Conservation District.



*"Twenty-four years as Division Engineer"*

### Training Activities

Training in Division III centered on new computer applications and safety requirements for our employees. Additionally the Program Assistant attended COFERs training and three Water Commissioners attended Supervisory training in January 2005.

### Workload Issues

We continue to try to diversify the experience of our staff by involving them in as many issues and situations outside their primary responsibilities as time allows. Many of the water commissioners have been assisting in well permitting by performing field inspections on “late registrations” and non-exempt well permit applications. Additionally some water commissioners assisted in the RGDSS effort by performing multiple cross-sections of the major rivers and rectifying permit/rights files. With a large number of Senior Water Commissioners retiring, the Division has been actively cross-training younger water commissioners to try and keep the knowledge and experience within the Division. The Division relied on the experienced Water Commissioners to help carry us thru the times when we were short staffed.

As is true throughout DWR the workload continues to increase. The increasing complexity of water court cases, the impact the drought has had on well permitting requests and requirements, and new legislation with regard to subdistricts and rulemaking authorities, have all contributed to the staff’s workload.

## **EMPLOYEE RECOGNITION**

### Water Commissioner of the Year

Perry Alspaugh was chosen as Water Commissioner of the Year for 2005 because of his efforts to provide consistent and diligent water administration.

## **PUBLIC RECOGNITION**

### Water Manager of the Year

Bob Robbins was honored as the “Water Manager of the Year” for 2005. Bob has worked for the Conejos Water Conservancy District (CWCD) since XXXX starting as a board member, president, and finally ending up as the manager of the district. Bobs daily interaction with the water commissioners, his diligent efforts in managing Platoro Reservoir, and his willingness to go the extra mile for the water users are some of the many reasons Bob received this award.

### Ditch Superintendent of the Year

Eddie Bechaver was honored as the “Ditch Superintendent of the Year” for 2005. Eddie has been with the Manassa Ditch Company for two years and runs the extensive Manassa ditch system. Eddies quick response to changes, willingness to help our water commissioners, and can-do attitude earned him this award.

## **KEY OBJECTIVES AND GOALS**

Many of our key objectives and goals are on-going from year to year, but they form the basis for what we do and how we do it. The following are our key objectives for the year 2006.

1. Administer the Rio Grande and Costilla Creek Compacts in a manner that ensures the entitlements of Colorado under each Compact are fully realized and utilized and that Colorado's obligations are met.
2. Operate the Division III office in a manner that allows us to stay within our budget, including the development of a budget process acceptable to the State Engineer for the utilization of Compact funds for Compact related expenses. This issue continues to be important with the fiscal tightrope the State is walking. Trying to devise ways to continue the critical programs and do what is necessary to administer water rights will be a challenge.
3. Implement the provisions of the Long-Range Plan.
4. Continue to develop and implement the quality assurance/quality control program for Division III data, including historic diversion records, water rights information and ownership information.
5. Provide training to our staff in the use of the computer applications available to us - in particular word processing, spreadsheets, communications, databases and Hydrobase.
6. Correctly issue well permits on a timely basis under the well permit decentralization program. This item will take an extra effort with wells continuing to go dry and with recent replacement of our well commission.
7. Constantly improve the quality of our hydrographic and diversion records and meet all deadlines for the completion and submittal of final records.
8. Coordinate with water user groups, individuals and other State and Federal agencies on issues such as endangered species, instream flows, Compact administration, Interstate litigation and Water Court applications, in order to maximize cooperation and minimize disputes.
9. Work with CWCB, the SEO, and the consultants on the RGDSS project to ensure that the system meets the needs of the users and that it is correctly done and leads to useful and administrable rules for new appropriations from the confined aquifer.
10. Continue to implement Principal Centered Leadership.
11. Identify any problems with and improve water administration at every level in the organization.
12. Try to help restore the travel, personnel services and the operating budgets that has been cut substantially over the last few years.
13. To effectively accomplish the Water Court process responsibilities with efficiency to provide terms and conditions that will practically and effectively deal with impact to other vested rights.
14. Insure that all dams in Division III are monitored frequently enough to recognize any deficiencies and promptly work with owners to correct them. All these efforts to insure the integrity of our dams and to provide public safety as it involves those structures.
15. Provide sound judgment and encouragement to the Districts and wells owners to move to a sustainable system that they understand and agree with and that addresses impact to the surface stream and protects the river in all ways.

16. Promulgate effective rules that identify and address the issues facing this valley with regards management of the aquifers, senior rights, and our Compact compliance.

## **MAJOR ACTIVITIES IN 2006**

The potential for a well-below runoff is a real possibility as of this writing. At present, the March 1, 2005, forecast is being predicted at approximately 45% on the Rio Grande and slightly lower on the Conejos system. Several activities will affect our workload in the coming year. Foremost the Trial on the Rules and Regulations for new appropriations in the confined aquifer will most assuredly require additional staff time. The proposed rules were filed in June 2004 and court review begins January 30th 2006. Additionally, the Division expects the number of well permit applications to continue to increase as the continuing drought takes its toll on surface water and the groundwater aquifers.

The State Engineer promulgated "Measurement Rules for Groundwater Withdrawals in the Rio Grand Basin" on June 30, 2005. The RGWUA objected to the rules. We will be meeting with them to discuss their concerns with the rules as promulgated to attempt to settle the concerns so the water court may finalize the rules. The rules require meters to be in place by March 1, 2007.

Additionally the staff will be reviewing/drafting rules for post compact depletions above the Compact index gages for possible promulgation in late 2006 or early 2007.

A real concentration on quality water administration and record keeping will be one of the top priorities of 2006.

Dealing with the ESA issues both in Colorado and downstream in New Mexico will be another major activity in 2006. The Southwestern Willow Flycatcher, which is currently listed but has proposed critical habitat on the Rio Grande and Conejos rivers and the continuing potential for the Rio Grande Cutthroat to be listed, are areas of concern that will have to be closely monitored. The imperiled Silvery Minnow continues to effect water administration on the Rio Grande in New Mexico.

The administration of the two Interstate Compacts in Division III will be a major interest in our workload. After the past four years, we are reminded of how fickle the systems can be and how carefully we must consider the action we take, the effects of those actions and how we set up the river administration as the season goes by.

The US Park Service filed an application at the end of 2004 to preserve and protect the aquifer under the Great Sand Dunes. This unique application claims all unappropriated water in the aquifers below the dune mass. This application will surely cause us to spend more time in the court room.

## **INNOVATIVE ADMINISTRATION TECHNIQUES**

At the request of the State Engineer, we will attempt to describe a few techniques to solve problems that we have or are working on to address problems that do not lend themselves to normal remedies:

1. The outlet gate structure in the dam at Rio Grande Reservoir has suffered damage on several occasions apparently due to unusual turbulence conditions in certain ranges of flow. Through the joint efforts of the San Luis Valley Irrigation District, the users on the Rio Grande, other reservoir owners, and Division of Water Resources, operating criteria will continue to be reviewed and developed to release flows outside of the damaging range of flow and protect the downstream vested rights. This criterion will have to ensure that no senior users downstream or our ability to deliver Compact water to New Mexico is impacted by this release restriction. We continue to be in contact with the District to find those tools necessary to accomplish the above.
2. During extremely dry winter months as seen in the last two years, there are areas in the San Luis Valley that are prone to domestic wells going dry and the problem of stock out of water. After several different scenarios were suggested, tried, and failed, we will amend our normal Compact administration in some cases when possible. We will try to let specific ditches divert small amounts of water during the winter and pay the Compact back later in the spring by giving up a part of their irrigation supply. This has been accomplished over the past couple years with great success. We continue to have extremely dry warm winters on the Valley floor and this issue is very persistent.
3. Similar to that, we are working with ditches that want to divert earlier than the majority wants the irrigation season to start. We are allowing the diversion of what, in the past, has been Compact water under terms and conditions that require repayment later in the season to the extent there is a Compact curtailment.
4. We are currently working on an operating plan that would allow the use of a pre-Compact reservoir to "pre-store" Compact water that would normally be run to the Stateline to try to minimize the over- or under-delivery of our obligation.
5. The use of private irrigation reservoirs to control flooding. With the agreement of a reservoir company, we are trying to re-regulate the peak of the hydrograph in high years to prevent flooding of vulnerable areas downstream on several river basins in Division III.
6. We are cooperating with the RGWCD and the well owners in the Valley to try and reduce the demand on the aquifer. In 2006 this will amount to a continuing request to reduce the amount of irrigated acreage under wells by 50%. This may help stop the fall in water tables and help reduce the amount of stream depletions that we have seen these past years. With the reduced runoff coming, many well owners may experience difficulty in producing sufficient water from their wells to support a full crop. With the continuing decline in many portions of the aquifer we are still urging well users to continue to reduce their pumping to the extent possible in their individual operations to jump start any recovery.

## **MOST IMPORTANT EVENTS OF 2005**

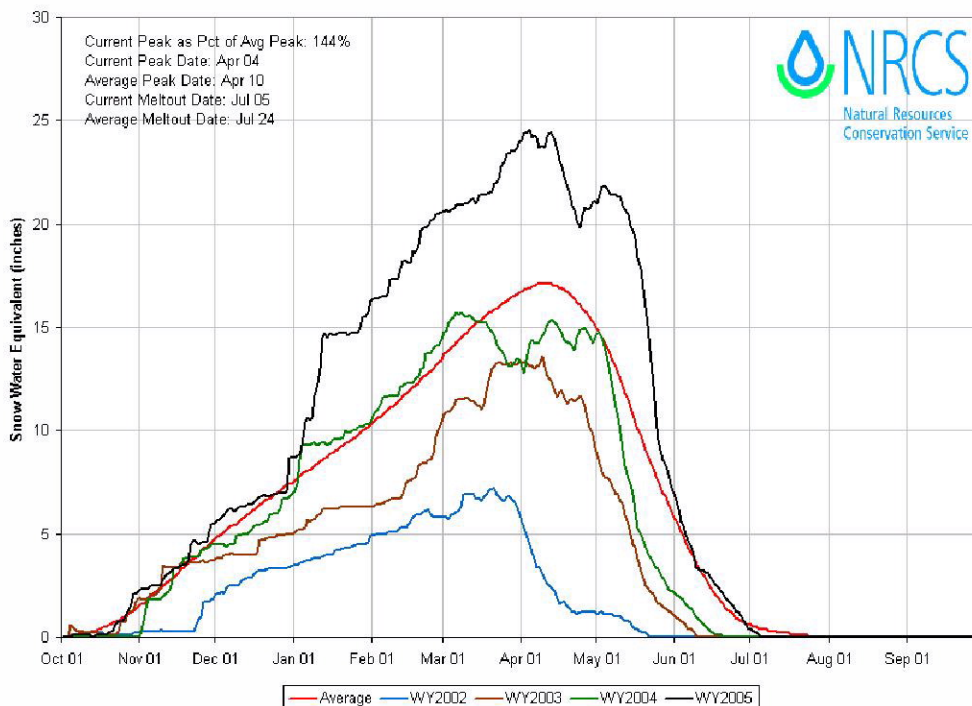
The resignation of Steve Vandiver after 24 years as Division Engineer greatly effected the Division office. Steve's experience and acumen in the administration both water rights and the Compact will be missed. Vacancy savings practices and the slow pace of filling vacancies means this vacancy has and will have an impact on office operations well into 2006.

The Rio Grande drainage continued to experience conditions unequaled in the history of the Rio Grande Compact. A banner year following a third year of drought including the drought of record made it another very difficult water year for the water users. The Rio Grande index came in at about 120% of average. However antecedent conditions made it difficult to convey water through the system for compact deliveries. The repeat of 2001, where we had a high runoff and then a precipitous drop in flows and no monsoon, made administration a difficult task. Both rivers delivered their Compact obligation very closely and will both have just a very small amount of credit to begin this very low runoff year.

The promulgation of rules and regulations regarding New Appropriations from the Confined Aquifer, in June of 2004, has generated significant work for DWR in 2005. With trial scheduled to begin in January 2006, trial preparation took its toll on manpower.

The promulgation of Rules and Regulations Regarding Measurement of Groundwater in the Rio Grande Basin was accomplished in June 2005. While challenged, the Division and objectors believe that settlement of the issues is possible.

Upper Rio Grande Basin Time Series Snowpack Summary  
*Based on Provisional SNOTEL data as of Sep 30, 2005*





**A. TRANSMOUNTAIN DIVERSION SUMMARY—INFLOWS**

RECIPIENT								SOURCE		
10-Year Average						Current Year				
WD	ID	NAME	STREAM	AF	DAYS	AF	DAYS	WD	ID	STREAM
20	917	Don LaFont #1 Ditch	Trib Red Mtn Creek	1	2	13	16	78	4670	Trib Piedra River
20	918	Don LaFont #2 Ditch	Trib Red Mtn Creek	23	19	41	22	78	4671	Trib Piedra River
20	919	Pine River	Weminuche	407	67	474	67	31	4638	NF Los Pinos
20	920	Tabor	Trib Clear Creek	725	140	1070	156	62	774	Cebolla Creek
20	921	Treasure Pass Ditch	SF Rio Grande	171	37	337	48	29	4669	Wolf Creek
20	922	Weminuche Pass D	Weminuche	829	27	2710	88	31	4637	Rincon LaVaca
20	923	Williams Creek Squaw Pass	Squaw Creek	654	91	632	95	78	4672	Williams Creek
26	702	Tarbell	Saguache Creek	747	87	1120	119	28	4656	Cochetopa Creek

**B. TRANSMOUNTAIN DIVERSION SUMMARY--OUTFLOWS**

79	N/A	Hudson Branch Ditch	Huerfano River	216	66	879	245	35	657	Medano Creek
79	N/A	Medano Ditch	Huerfano River	533	53	845	60	35	658	Medano Creek

**RESERVOIR STORAGE SUMMARY**  
**IRRIGATION YEAR – 2005**  
**AMOUNT OF STORAGE**

WD	ID	RESERVOIR NAME	SOURCE STREAM	AF	MINIMUM DATE	AF	MAXIMUM DATE	END YR
20	3532	Beaver Park	Beaver Creek	2901	11/01/2004	4529	5/23/2005	2918
20	3536	Continental	North Clear Creek	0	7/26/2005	6875	5/11/2005	0
20	3554	Rio Grande	Rio Grande	6511	11/01/2004	27988	6/15/2005	14348
20	3558	Santa Maria	North Clear Creek	4761	11/01/2004	12757	5/05/2005	6108
21	3582	La Jara	La Jara Creek	1311	9/01/2005	2546	6/02/2005	1358
21	3583	Terrace	Alamosa River	1982	11/01/2004	12835	6/08/2005	3669
22	3574	Platoro	Conejos River	8174	11/05/2004	31745	7/02/2005	10776
24	3576	Sanchez	Culebra Creek	6605	11/08/2004	31080	6/30/2005	21100
35	3529	Mt. Home	Trinchera Creek	892	9/26/2005	10774	6/28/2005	1417
35	3530	Smith	Trinchera Creek	640	12/06/2004	4478	5/13/2005	1192

## WATER DIVERSION SUMMARIES

WD	STRUCTURES REPORTING			ALL OTHER STRUCTURES		# Visits Structure	Total Diversions AF	Total Diversions to Storage, AF	TO IRRIGATION		
	With Record (1)	No Water Avail. (2)	No Water Taken (3)	No Info Avail. (4)	No Record (5)				Total Diversions, AF	Number of Acres Irrigated	Average AF Per Acre
20	300	27	35	25	7775	11563	656877	38518	638720	310687	2.05
21	95	4	6	3	95	4991	164138	8821	120188	61684	1.96
22	122	0	22	5	1637	5057	260875	14983	257712	86809	2.96
24	78	2	2	12	386	4,525	98,339	36112	72,974	21,824	3.34
25	76	34	27	8	661	2,233	57,310	0	56,941	24,495	2.32
26	81	70	16	7	1,392	2,699	39,717	0	38,850	15,650	2.48
27	24	16	9	5	1,272	876	14,296	0	12,558	4,022	3.12
35	51	3	38	31	626	2332	64585	11830	60849	20457	2.97
TOT	827	156	155	96	13,844	34,276	1,356,137	110264	1,258,792	545,628	2.31

**WATER ADMINISTRATION DATA SUMMARIES**  
RIVER CALLS - IRRIGATION YEAR – 2005

District	Most Senior Priority Curtailed	Most Junior Priority Served	Calling Right in Spring
20 Rio Grande	#178 Rio Grande Canal	1963-63A Rio Grande Reservoir	#146 Rio Grande & Piedra
21 La Jara	#7 McCunniff Ditch	#57-18 L.E. Shawcroft & Sons Ditch	#57-7 Reynolds-Reed Ditch
21 Alamosa	#2 Terrace Main Canal	#110 Terrace Reservoir	#11 Gabino Gallegos Ditch
22 Conejos	#1 Guadalupe, Romero and Manassa	#190 Christenson Ditch	#1 Guadalupe Ditch
22 San Antonio	#3 El Coda	#194 8-mile Ditch	#3 El Coda Ditch
24 Culebra	#56 Jose M. Sanchez	2002 North Ventero Ditch	#23 Guadalupe-Sanchez
26 Saguache	#14 Hearn Ditch	#51 Irwin Ditch	#14 Hearn Ditch
27 La Garita	#5 Home #1 Ditch	All	#2 Biedell #10 Ditch
27 Carnero	#9 Shown Ditch	60G Shown Ditch	#9 Shown Ditch
35 Trinchera and Tributaries	#32 Seyfried	#99 Bryant Ditch	#3 Sangre De Cristo #3

Because of the idiosyncrasies of the administration scheme in District 25, no such information could be obtained which made sense.

**WATER ADMINISTRATION DATA SUMMARIES**  
**WATER DIVERSION SUMMARIES FOR VARIOUS USES - IRRIGATION YEAR 2005**

WD	TRANS-MOUNTAIN OUTFLOW	TRANS-BASIN OUTFLOW	MUNICIPAL	COMMERCIAL	INDUSTRIAL	RECREATION	FISHERY	DOMESTIC & HOUSEHOLD	STOCK
20	0	19057	5848	326	0	0	1091	195	0
21	0	0	55	0	0	0	0	0	0
22	0	0	1987	0	0	0	0	983	0
24	0	0	199	0	0	0	0	0	0
25	0	0	63	540	0	0	0	0	0
26	0	0	224	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
35	1724	80	287	2	0	0	130	77	0
<b>Total</b>	<b>890</b>	<b>19137</b>	<b>9177</b>	<b>894</b>	<b>0</b>	<b>0</b>	<b>1366</b>	<b>2985</b>	<b>0</b>

**WATER ADMINISTRATION DATA SUMMARIES**  
**WATER DIVERSION SUMMARIES FOR VARIOUS USES - IRRIGATION YEAR 2005**

WD	AUGMENTATION	EVAPORATION	GEOHERMAL	SNOW- MAKING	MINIMUM STREAMFLOW	POWER GENERATION	WILDLIFE	RECHARGE	OTHER
20	3632	170	0	0	0	890	6456	6190	13394
21	6	5	0	0	0	0	0	5	52617
22	7638	3	0	0	0	0	0	187	0
24	0	0	0	0	0	0	0	0	385
25	0	0	0	0	0	1474	0	0	369
26	0	0	0	0	0	0	0	643	0
27	0	0	0	0	0	0	0	1887	0
35	220	0	0	0	0	96	0	280	8735
<b>Total</b>	<b>11496</b>	<b>178</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2460</b>	<b>6456</b>	<b>9192</b>	<b>75500</b>

**Compact Administration**  
**2005 RIO GRANDE COMPACT REPORT**  
Preliminary Figures

	Acre-feet
1. Adjusted Rio Grande Index	793,300
*Adjusted Rio Grande Delivery	250,500
Required Rio Grande Delivery	253,200
Less Paper Credit per agreement	5,000
Net Required Rio Grande Delivery	248,200
2. Adjusted Combined Conejos Index	416,100
**Adjusted Conejos Delivery	197,500
Required Conejos Delivery	202,200
Less Paper Credit per agreement	5,000
Net Required Conejos Delivery	197,200
3. ***Total Delivery at Lobatos	448,000
Total Required Delivery at Lobatos	455,400
Less Paper Credit (See Compact)	10,000
Net Required Delivery at Lobatos	445,400
Margin	2,600

4. Rio Grande Curtailment

Delivery Target	(% of Index)	Estimated Curtailment of Ditches	(% of Index)
January 1 – April 3	100%	January 1 – April 3	100%
April 4 – May 5	28%	April 4 – June 7	28%
May 6 – June 7	29%	June 8 – June 23	32%
June 8 – July 12	32%	June 24 – July 12	37%
July 13 – July 22	21%	July 13 – July 22	27%
July 23 – August 3	14%	July 23 – August 3	20%
August 4 – August 25	5%	August 4 – August 25	5%
August 26 – November 6	0%	August 26 – November 6	0%
November 7 – December 31	100%	November 7 – December 31	100%

5. Conejos Curtailment

Delivery Target	(% of Index)	Estimated Curtailment of Ditches	(% of Index)
January 1 – April 10	100%	January 1 – April 10	100%
April 11 – April 27	42% + relinq.	April 11 – April 27	0%
April 28 – May 5	42%	April 28 – May 5	42%
May 6 – June 7	39%	May 6 – June 7	40%
June 8 – June 23	41%	June 8 – June 23	42%
June 24 – July 12	43%	June 24 – July 12	46%
July 13 – July 21	40%	July 13 – July 21	43%
July 22 – August 3	30%	July 22 – August 3	33%
August 4 – August 25	12%	August 4 – August 25	20%
August 26 – August 31	5%	August 26 – August 31	5%
September 1 – October 31	0%	September 1 – October 31	0%
November 1 – December 31	100%	November 1 – December 31	100%

\*Includes 6,432 a.f. of the creditable Closed Basin Project production.

\*\*Includes 4,288 a.f. of the creditable Closed Basin Project production.

\*\*\*Includes all the creditable Closed Basin Project production (10,720 a.f.).



**Water Court Activities**  
**January 1 – December 31, 2005**

**Water Court Applications in 2005 - Type of Claim**

Type of Claim	Number of Cases	Number of Structures
Underground Water Right	0	0
Surface Right	0	0
Storage Right	0	0
Plan for Augmentation	3	N/A
Exchange	0	0
Change of Underground Water Right	10	22
Change of Surface Right	2	4
Change of Plan for Augmentation	0	0
Rules: Confined Aquifer	1	N/A
Declaratory Judgment	1	1
Petition to Correct Location	0	0
Finding of Diligence	3	3
Instream Flow Right	0	0
Diligence - Make Conditional Absolute	1	1
<b>Total</b>	<b>21</b>	<b>31</b>

Note- Some applications in 2005 contained more than one type of claim or action (e.g. Change of Water Right and Plan for Augmentation). The type of claim was tabulated above under only one category of application.

**Type of Decree Entered in 2005**

Type of Claim	Number of Cases	Number of Structures
Finding of Diligence on Conditional Rights	2	3
Cancellation of Conditional Rights	0	0
Conditional Right Made Absolute	0	0
Conditional Right Adjudicated	0	0
Surface Right Adjudicated	5	5
Underground Right Adjudicated	4	4
Injunction: Abandonment	0	0
Petition to Correct Location	0	0
Plan for Augmentation Adjudicated	3	4
Change of Surface Right Adjudicated	1	1
Change of Underground Right Adjudicated	10	23
Change of Plan for Augmentation	0	0
Complaint for Declaratory Judgment Resolved	0	0
Complaint Resolved	0	0
<b>Total</b>	<b>25</b>	<b>40</b>

**Water Court Activities January 1 – December 31, 2005**

(Continued)

Number of Open Cases as of December 31, 2005:	58
Number of Cases Dismissed in 2005:	7
Number of Cases Withdrawn in 2005:	2
Decrees Issued by the Court in 2005:	<u>25</u>
Cases Closed in 2005:	34

**DIVISION III  
ACTIVITY SUMMARY  
2005 CALENDAR YEAR**

<u>ACTIVITY</u>	<u>TOTALS</u>
Number of structures observed	1234
Number of surface rights	2889
Number of reservoirs*	343
Number of wells**	22627
Number of observations	34276
River measurements	958
Ditch measurements	145
Dam inspections	32
New water rights administered	9
Number of Augmentation Plans	93
Plan of Augmentation Structures***	1058
New Plans of Augmentation	3
Wells administered	22627
Active SSPs	1
Applications for decrees	21
Decrees issued by Water Court	25
Division Engineer Recommendations Filed	26
Water Court Appearances	184
Meetings with water users	451
Meetings to resolve water related disputes	70
Public assistance contacts	52449
Well permits issued	366
Miles driven by staff	272,607
Professional and Technical Staff	9
Clerical Staff	1
Water Commissioner FTE (Full/Part-Time)	4/5.75

\* includes Non-Jurisdictional Impoundment filings

\*\* includes permits

\*\*\* includes "domestic" wells under aug plans. # calc from Hydrobase & Welltools data.

Division 3

