

**COLORADO DIVISION OF WATER
RESOURCES**

Division 3
2009 Annual Report



**COLORADO DIVISION OF WATER RESOURCES
ANNUAL REPORT
DIVISION III - 2009**

INDEX

<u>Topic</u>	<u>Page</u>
<u>Accomplishments</u>	
Water Administration	1
Rio Grande Compact.....	2
Costilla Creek Compact.....	4
Closed Basin Project	4
Reservoir Operations.....	5
Stream Administration	8
Hydrography	9
Well Metering	11
<u>Water issues</u>	14
<u>On-Going Projects</u>	17
<u>On-Going Issues</u>	20
<u>Involvement in the Water User Community</u>	21
<u>Personnel/Workload Issues</u>	22
<u>Employee Recognition</u>	25
<u>Public Recognition</u>	25
<u>Key Objectives and Goals</u>	26
<u>Major Activities in 2010</u>	27
<u>Innovative Administration Techniques</u>	28
<u>Most Important Events of 2009</u>	29
<u>Tabular Data</u>	31
<u>Organizational Chart</u>	40

ACCOMPLISHMENTS

Water Administration

Snowpack during the winter of 2008-2009 followed closely with the average throughout much of the season. At its peak, the snowpack was at approximately 110% of the average peak. It appeared as though the San Luis Valley was going to have a near average runoff and streamflow season for the first time in many years. The yearly streamflow amounts were generally near average throughout the basin, but the timing of those flows was anything but normal. Unfortunately, along with the snow, another item was falling from the sky. The mountains surrounding the Rio Grande Basin experienced significant dust on snow events throughout the winter. These events were caused by storms picking up dust and soil from the western United States, and transporting it to the mountains of southern Colorado. This dust turned the surface of the snow from a pristine white to a dirty reddish color, thereby decreasing the albedo, or reflectivity, of the snowpack and increasing the amount of energy that the snow absorbed from the sun. The effect of this dust on snow was that the runoff on most rivers and streams in the valley occurred up to one month earlier than normal. The peak of the runoff was also much sharper and higher than normal, but the runoff itself did not last as long as normal. The impact of this change on the runoff was both positive and negative for water users in Division 3. On the positive side, the higher peak allowed many junior ditches that may not have otherwise gotten into priority to run water early in the season. The earlier runoff wetted up the systems and kick-started the return flow patterns on many rivers before many of the ditches were even ready to turn on. The beneficial effect of this was seen most clearly on the Conejos River system. Due to the high peak and early establishment of the return flows, there was no curtailment of ditches for compact purposes from the start of the season on April 15 until July 9. During the vast majority of this period, all of the ditches on the Conejos system were legally in priority and physically had water available to divert. In addition, Platoro Reservoir was able to fully fill during this time, a feat that had not occurred previously since 1995. This is even more remarkable considering that overall 2009 was a slightly less than average year for total streamflow.

On the negative side, just when everyone started to think that the earlier streamflow forecasts may have been too low, the runoff season ended and the river flows plummeted. In mid-June, when the rivers and streams should have been experiencing flows near the peak for the year, the snowpack disappeared along with the water in the streams. Many ditches with mid-level priorities were turned off earlier in the season than they might otherwise have been.

Diversions for irrigation were allowed to continue until November 5th on both the Conejos and Rio Grande systems due to the probability of over-delivery of compact water to the downstream states. On November 6, ditches with decreed winter recharge rights on the Rio Grande were allowed to begin diverting their recharge water. In all, seven ditches diverted a total of 10,215 acre-feet of

recharge water from November 6 through November 30. This recharge had the desired effect as Colorado ended the year with a total of only 1,500 acre feet of credit, split nearly evenly between the two rivers.

Even though Colorado's post-compact reservoirs were under article 7 restrictions for parts of the year, Platoro Reservoir on the Conejos system was able to fill up to its flood storage restriction level, which had not occurred since 1995.

The area involved in the "Rio Grande Water Conservation District (RGWCD) Unconfined Aquifer of the Closed Basin Change in Storage Study" gained approximately 50,000 acre feet in 2009. This was the fourth year in a row in which the aquifer has gained storage. However, the aquifer is still nearly 700,000 acre-feet lower than the storage level in 1976.

Rio Grande Compact Administration

The administration of the Rio Grande Compact was challenging in 2009 due to the early peak runoff and the large drop in flows after the peak. Multiple dust-on-snow events throughout the winter caused a significant decrease in the albedo of the snow, in turn causing the snowpack to absorb much more of the sun's energy than usual. This caused the peak flows on both the Rio Grande and Conejos Rivers to occur nearly 1 month earlier than normal. The peak flows were also higher than normal due to all of the snow melting at once. However, after the peak occurred, the flows dropped hard. The native flows on both rivers went below normal in June and stayed there most of the rest of the summer. Ditches on the Rio Grande began diverting on April 1, and started the season with a 12% curtailment. Because of the significant return flows that the Rio Grande experienced at certain times of the year, curtailment of ditches for compact purposes was discontinued during most of April and for the entire irrigation season after May 26.

Ditches on the Conejos River system held off to start their diversions until April 15, and were able to start the season with no curtailment due to the large amount of return flows in the system. In a very unusual situation, there was no curtailment of ditches for compact purposes from the start of the irrigation season until July 10, a period of almost 3 full months. This unusual situation allowed nearly all of the ditches on the system to have an extremely good early water season. After July 9, a compact curtailment was reinstated to insure that Colorado's obligation was fulfilled. However, on August 31, that curtailment was again lifted. There was no further compact curtailment on the Conejos system for the rest of the season. At the end of the irrigation season, the Rio Grande was looking at a forecasted over-delivery of approximately 13,000 acre-feet. Therefore, the irrigation season was extended to November 5, and the ditches with winter recharge decrees were allowed to recharge through November 30.

Overall, Colorado started the year with an accrued credit of 10,600 acre-feet as of January 1, 2009, and ended the year with a total accrued credit of 1,500 acre-

feet. The Conejos system started 2009 with 300 acre-feet of accrued intrastate debit.

The release of water from Rio Grande Project Storage in 2009 totaled 695,000 acre-feet. This is approximately 88% of a normal release for the Project. Usable Project Storage at the beginning of 2009 was above 400,000 acre-feet. Therefore, Article 7 restrictions of the Rio Grande Compact were not in effect. Usable Project Storage remained above the 400,000 acre-feet level until August 12, 2009. It remained below 400,000 acre-feet for the remainder of the year.

Over the last 8 years, Usable Project Storage has been fluctuating above and below 400,000 acre feet. Consequently, Article VII of the Compact has been invoked and lifted several times. Article VII prevents the upstream States from increasing storage in any post-Compact reservoir without relinquishment. The major Colorado reservoir affected is Platoro Reservoir. 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 was above 400,000 acre feet at the beginning of 2009 and dropped below that level in August. Thus the 2009 season began with no limitation on project storage.

The U.S. Bureau of Indian Affairs (BIA) 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.

In 2009, Reclamation continued its carryover storage procedures for the districts below Elephant Butte Reservoir, as outlined in the operating agreement between the districts and Reclamation. The districts have unequal shares of the project water and historically unused water was simply reallocated the next year. This was not an incentive to conserve. At the end of 2009, The El Paso County Water Improvement District No. 1 (EP #1) had carryover storage in Elephant Butte Reservoir of 232,914 acre-feet (the maximum allowed under the new operating agreement). During the 2009 irrigation season, it was determined that EP No. 1's carryover account would reach its maximum allowable amount prior to end of the season. As a result, EP No. 1, EBID and Reclamation agreed that water, which would otherwise have been transferred to EBID at the end of 2009, would instead be transferred for use during the irrigation season. EBID used 41,701 acre-feet of that water during 2009, resulting in a final carryover for EBID of 40,343 acre-feet.

The Rio Grande Compact meeting was held on March 31, 2009, in El Paso, Texas.

Costilla Creek Compact Administration

The Costilla Creek Compact Commission met in Costilla, New Mexico, on May 6, 2009. The Engineer Advisors continue to review the 2005 Watermaster Operating Manual for possible improvements. However, the operations criteria as outlined in the manual seem to be working well for both states.

It was possible to deliver the 1,000 acre feet to Eastdale Reservoir by April 19, 2009, before the irrigation season started. Direct flow diversions were then allowed prior to the irrigation season. At the start of the 2009 irrigation season, May 16, 2009, Costilla Reservoir held 13,434 acre feet. The Commission determined that, based on the NRCS snowpack-forecast of 25,088 acre-feet, and the estimated yield of the Costilla Reservoir System, there would be a full supply available for the year.

Wilfred Lucero was the Watermaster on the Costilla Creek system, and Wayne Gallegos was in his first year as the assistant Watermaster. 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.

New Mexico and Colorado are concerned with the increasing costs that the USGS is charging for the operation of the Costilla gaging stations. In the past several years this increasing cost had also been accompanied by a decreasing cost share from the USGS, but in 2009 the USGS was able to slightly increase its cost share. The USGS operates six streamflow gaging stations and one reservoir station. Five of the six streamflow stations are only operated for 6 months per year. According to the USGS, the total cost to operate these stations in FY2009 was \$66,809. Of that, the USGS paid \$30,899, or 46%, and the Costilla Compact Commission was billed for \$35,910, or 54%. This cost for the Compact Commission was approximately \$1,600 less than the previous year.

The Engineer Advisers are still reviewing the operations of Costilla Reservoir to determine if the three inflow gages need to be maintained or if reservoir elevations are accurate enough to determine inflows for daily administration. If several issues with the reservoir gage can be rectified, the reservoir data may be usable to calculate inflow.

Closed Basin

The total production of the Closed Basin Project in 2009 was 17,726 acre-feet with 13,741 acre-feet of that amount delivered to the Rio Grande. All of the water delivered to the Rio Grande in 2009 was of sufficient quality to qualify for credit under the Compact. The total amount included a 366 acre-foot delivery to San

Luis Lake, of which 140 acre-feet was by exchange with the DOW. Also, 1,050 acre-feet was delivered to the Blanca Wildlife Habitat Area, of which 250 acre-feet was also by exchange with releases of DOW-owned trans-mountain water from storage in upstream reservoirs.

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 project's production. Currently, there have been 52 wells that have been re-drilled with fair success.

The Project was pumped at maximum sustainable capacity for most of the 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. Of the creditable water either delivered to the river or exchanged to the river, 5,652 acre feet was credited to the Conejos River and 8,479 acre feet was 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 2009 were as follows:

1,050 acre feet to the Blanca Wildlife Habitat Area
366 acre feet to San Luis Lake
2,569 acre feet mitigation delivery to the Alamosa National Wildlife Refuge
13,741 acre feet (all creditable) to the Rio Grande
17,726 acre feet total volume

Reservoir Operations and Dam Safety

2009 DIVISION 3 DAM SAFETY ACTIVITY SUMMARY

The 2009 inspection season reflected a typical workload in Division 3. The number of Low Hazard Dams inspected in 2009 was down considerably from last year, as many overdue inspections were conducted in 2008. With the retirement of Mike Graber, the Pueblo Dam Safety Engineer position remained vacant during the spring and summer of 2009. The vacancy dictated that the Division 7 Dam Safety Engineer make some additional trips to the San Luis Valley to respond to dam safety issues. The Pueblo Dam Safety Engineer position was filled in the fall of 2009 by Mark Perry. Dam Safety activities and highlights from the 2009 inspection season are detailed below.

2009 Dam Safety Inspections

Inspection frequencies are determined by Hazard Classification and the Risk Based Profiling System (RBPS), a tool that assesses the risk of failure of a particular structure based on the characteristics of the dam. The RBPS scores are applied only to High and Significant Hazard Dams. Low Hazard Dams are inspected every six years. Table 1 below summarizes the 2009 dam safety inspections according to Hazard Classification. Table 1 reflects only those Division 3 dams that are regulated by the Division 7 Dam Safety Engineer. Specifically, these dams are located in Water Districts 20, 21, 22, 26, and 27. Due to the vacancy in the Division 2 Dam Safety position, one additional official inspection was conducted on Smith Dam, a Significant Hazard structure located in Water District 35.

Number of Inspections by Hazard Classification for 2009 Season

Hazard Classification	Number of Dams in Water Division 3	Number of Inspections Conducted in 2009
High	9	9
Significant	14	8
Low	23	2

High Hazard Dams

All nine of the High Hazard Dams were inspected during the 2009 season. In general, the inspections did not reveal any newly discovered conditions, which immediately threatened the safety of the dams. One exception occurred at Beaver Park Dam, where the discovery of significant damage to the outlet chamber lining led to repairs implemented on an emergency basis. That incident is discussed in the summary of construction activities below. Table 2 below lists all the High Hazard Dams in Division 3 and the storage levels recommended by the 2009 Engineer's Inspection Report for each facility. There were no new storage restrictions imposed on Division 3 High Hazard Dams in 2009.

Safe Storage Levels for High Hazard Dams

Dam Name	Recommended Safe Storage Level
Beaver Park	Conditional Full Storage
Big Meadows – Main Dam	Full Storage
Big Meadows – North Dike	Full Storage
Continental	Restricted – Gage Height 64.5 Feet
Humphreys - Main Dam	Full Storage
Humphreys - Spillway Dam	Full Storage

Rio Grande	Conditional Full Storage
Santa Maria	Conditional Full Storage
Terrace	Restricted – 7 Feet Below Spill

Significant Hazard Dams

Eight of the fourteen Significant Hazard Dams located in Division 3 were inspected in 2009. Notable discoveries included finding a new sinkhole in the shallow arm of Fuchs Reservoir (near left abutment), where sinkholes have historically been a problem. This discovery was made possible by the draw-down that occurred as a result of the storage restriction imposed in 2008. Also of note, is an incident that occurred at Smith Dam in Water District 35. A particularly violent wind event resulted in severe scarping of the upstream slope; consequently, a storage restriction to two feet below the spillway crest was imposed on the dam. This restriction resulted in a loss of an estimated volume of 1100 acre-feet.

Low Hazard Dams

Only two Division 3 Low Hazard Dams were due for inspection in 2009. The light schedule for Low Hazard Dams was a result of heavy inspection schedules over the last couple of years. In the upcoming seasons, an attempt will be made to balance the workload by moving some Low Hazard Dams up in the inspection rotation. The inspections conducted in 2009 revealed mostly maintenance issues associated with these structures. No new storage restrictions were imposed on Division 3 Low Hazard Dams in 2009.

Construction Activities

There were two significant construction projects completed in Division 3 during the 2009 season. Specifically, these projects were an outlet liner repair at Beaver Park Dam and the rehabilitation of Smith Dam. Both of these projects were initiated as a result of Dam Safety Inspections as discussed below.

Beaver Park Liner Repair

On June 10, during a routine Dam Safety Inspection, it was discovered the steel lining in the outlet gate chamber had failed as a result of routine operation during spring run-off. Due to the obstruction posed by the failed liner and the damage to the exposed concrete, operation of the outlet was suspended until repairs could be made. The Owner of the Dam, the Colorado Division of Wildlife, contracted with the URS Corporation to design and oversee repairs to the liner. Moltz Construction was awarded the contract to construct the new liner. The project was complicated by extremely difficult access and working conditions, which required the services of a specialty contractor like Moltz. Repairs were completed in November of 2009. A full commissioning of the outlet is scheduled for spring 2010. Upon completion of this task, it is anticipated that the construction project will be accepted as complete. All required supporting documents have been received for this project.

Smith Dam Rehabilitation

Severe damage to the upstream slope of Smith Dam resulted in a storage restriction to two feet below the spillway crest. The Owners of Smith Dam contracted with Davis Engineering Service, Inc. to design repairs for the damaged slope. In addition to the slope rehabilitation, the design included plans to extend the outlet conduit and construct a new outlet intake. The improvements to the outlet were intended to correct a long-standing deficiency, which resulted in flow throttling with the downstream gate. Gardner Excavating Incorporated was selected to construct the improvements. Currently, repairs have been completed and the State Engineer's Office is awaiting completion documents.

Reports and Studies

In 2009, engineering consultants continued to work on several studies for Dams in Water Division 3. The studies included a hydrology report for Terrace Dam, feasibility studies for the addition of hydropower to Humphreys Dam and Rio Grande Reservoir Dam, and an engineering evaluation of Continental and Santa Maria Dams. Most notable among these is the hydrology report for Terrace Reservoir Dam, which was submitted by the URS Corporation in the summer of 2009. The study was accepted by the State Engineer's office, which marked a significant milestone for the Owners of the dam, the Terrace Irrigation Company.

Dam Safety Committees and Training

In 2009, Branch members formed two committees with the goal of establishing guidelines for performing Hazard Classification and Dam Breach Analysis. As of the end of 2009, both documents are still undergoing revisions with adoption of the guidelines anticipated in the spring of 2010. The Division 7 Dam Safety Engineer served on the Dam Breach Analysis Guidelines committee. Finally, in the May of 2009, the Division 7 Dam Safety Engineer attended the ASDSO conference in Coeur d Alene Idaho to present a paper detailing hazard potential analysis related to the formation of a landslide dam on the East Fork of the San Juan in southwest Colorado. The paper was published in the conference proceedings and the presentation was well received by those in attendance.

Stream Administration

Stream administration in Division III during 2009 was somewhat challenging due to the large and early peak runoff that occurred on most of the streams in the valley, and the dry summer that followed. The NRCS forecasts for basin yields were generally very close to what actually occurred, but would have been significantly low had an average rainfall occurred during the summer. The high peak runoffs initially caused sufficient water to pass through both the Rio Grande and Conejos systems such that no compact curtailment was necessary. The prospect of higher annual flows than predicted early in the summer led to the re-establishment of the curtailments on both the Rio Grande and the Conejos systems. Then, towards the latter part of a very dry summer, the curtailments

were taken off of both rivers. Compact curtailment on the Rio Grande reached a peak of 12% at times during the spring, but there was only compact curtailment of any amount on the Rio Grande for a total of 35 days. A 28% curtailment was the highest that the Conejos system experienced in 2009. However, there were only 52 days where there was any compact curtailment at all on the Conejos system, a fairly remarkable number given that most years have curtailments at all times throughout the irrigation season.

Hydrography

The Hydrographic Branch in Division 3 has the responsibility of providing accurate 'real-time' stream flow data and historic record production for streams within 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 currently staffed by four hydrographers, since there is one vacant position. Scott Veneman, a Hydrographic Technician performs the Lead Hydrographer duties while continuing to manage the satellite monitoring system for this division. The other Division 3 hydrographers perform regular hydro duties as well as manage and assist with other portions of the program. Stan Ditmars, a Hydrographic Technician, is the Division 3 construction manager. Lee Conner, an Engineer-in-Training, is in charge of repair and maintenance of hydrographic and construction equipment. Jesse Jaminet, a Hydrographic Technician, coordinates all snow machine travel and performs snow survey measurements. Matt Hardesty, a Professional Engineer, was in charge of construction design and ADCP measurements. Matt was recently promoted out of the hydrographic branch to the position of Assistant Division Engineer.

Division 3 operates and maintains 57 streamflow stations for which it produces historic streamflow records. From these stations the hydrographers produce 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 other streamflow records for gaging stations in the Alamosa Creek drainage. Therefore, a total of 63 historic water year streamflow records are produced. Another 10 stations are operated as administrative stations with no flow records being published. There are also 11 major diversions in the basin that the hydrographic staff assists in operation, calibration, and data collection.

In 2009, the hydrographers in Division 3 performed more than 1,000 stream and ditch measurements. These measurements were used to create and calibrate stage-discharge ratings at streamflow gaging stations and diversion structures.

Training

The Division 3 hydrographers attended the annual hydrographic training meeting in September.

Satellite Monitoring

The Satellite Monitoring System Repair Facility in Division 3 is responsible for maintenance, repair, and calibration of all electronic data collection and telemetry equipment in this division. The facility provides technical support and assistance to field engineers and technicians in other divisions for system installation, field maintenance, and modifications.

78 gages with satellite telemetry are maintained, which includes 54 stream-gage record stations. One of these stations is linked into the satellite telemetry network via a line-of-site radio bridge to a station with satellite telemetry. There are currently only 3 stream-gage record stations with no satellite telemetry. Other stations with satellite telemetry include 8 stream-gage administrative stations of which 1 is hardwired to a reservoir station, 11 stream-gage diversion stations, and 7 reservoir stations. Two of the stream gage record stations with satellite telemetry also have phone line telemetry. There are an additional 2 stream-gage administrative stations that don't use satellite telemetry but the data loggers are maintained. One is equipped with an 8210 data logger and phone line telemetry, and the other utilizes an SDR data logger. DWR owns the data logger / transmitter equipment at 66 of these stations.

This year, fifteen more DWR stations were upgraded to High Data Rate data loggers / transmitters. All DWR equipment in this division has now been upgraded with HDR systems. The Colorado Department of Health owns 4 stations within this division. One of them was upgraded this year, leaving 3 for future upgrades. There are 12 other stations owned by other entities. Three more of these were upgraded this year, which leaves 5 that still need upgrades.

New Stations/Rehabilitations/Modifications

A rock weir control was constructed at La Garita Creek near La Garita. The gage house was also relocated to the left edge of water on a new concrete well with new inlets. New inlets and a concrete well were installed at Carnero Creek near La Garita Colorado. In addition to these projects many survey monuments were installed at gages around the basin.

Flood Hardening

A large project was completed at the Conejos River below Platoro Reservoir gage. The mass anchors and cableway cable were replaced, also the pedestals for the A-frame on the right edge of water were replaced and a new A-frame built for the right edge of water.

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 current 5-year contract agreement between the State of Colorado and the USBR regarding the Closed Basin Project went into effect in February of 2005.

Well Metering

In 2009, the Well Metering program began a transition from implementation started in 2007 to administration and enforcement. The majority of the estimated 6000 wells within the scope of the Measurement Rules have been either equipped with a verified measurement device or filed as inactive. Staff focused efforts in 2009 on finalizing data entry, database development and QA/QC, and well administration/enforcement issues. Additionally, field work included annual inspections of all wells filed as Inactive and independent testing of a portion of measurement devices to verify device accuracy and certified well tester performance. Field work also continues with the installation of brass tags identifying each well by structure identification number, permit number, and court decree. Also ongoing is the scanning and linking all forms into the Laserfiche system in transition to a paperless filing system for easier access to documents by both staff and the public. 2009 saw the addition of several new faces and responsibilities within the Well Metering program. Matthew Hardesty was appointed the Assistant Division Engineer in charge of the well metering program. Steve Rivera has moved from Well Measurement Assistant to Well Measurement Technician II, and Martha Archuleta has moved from Administrative Assistant II into the Well Measurement Assistant II position.

DWR staff from Division 1 including the Republican River Basin, Division 2, and Division 3 have combined efforts as a Groundwater Coordination Committee (GWCC) in 2009. The GWCC continues to work closely with OIT to incorporate ground water measurement and use rules into the newly designed Ground Water Data Management System (GWDMS). GWCC continues to work with OIT on the scoping and implementation of future phases of GWDMS. To improve the efficiency of this process, the GWCC has undertaken the standardization of water user submittal forms and measurement rule policies. To date the Notice of

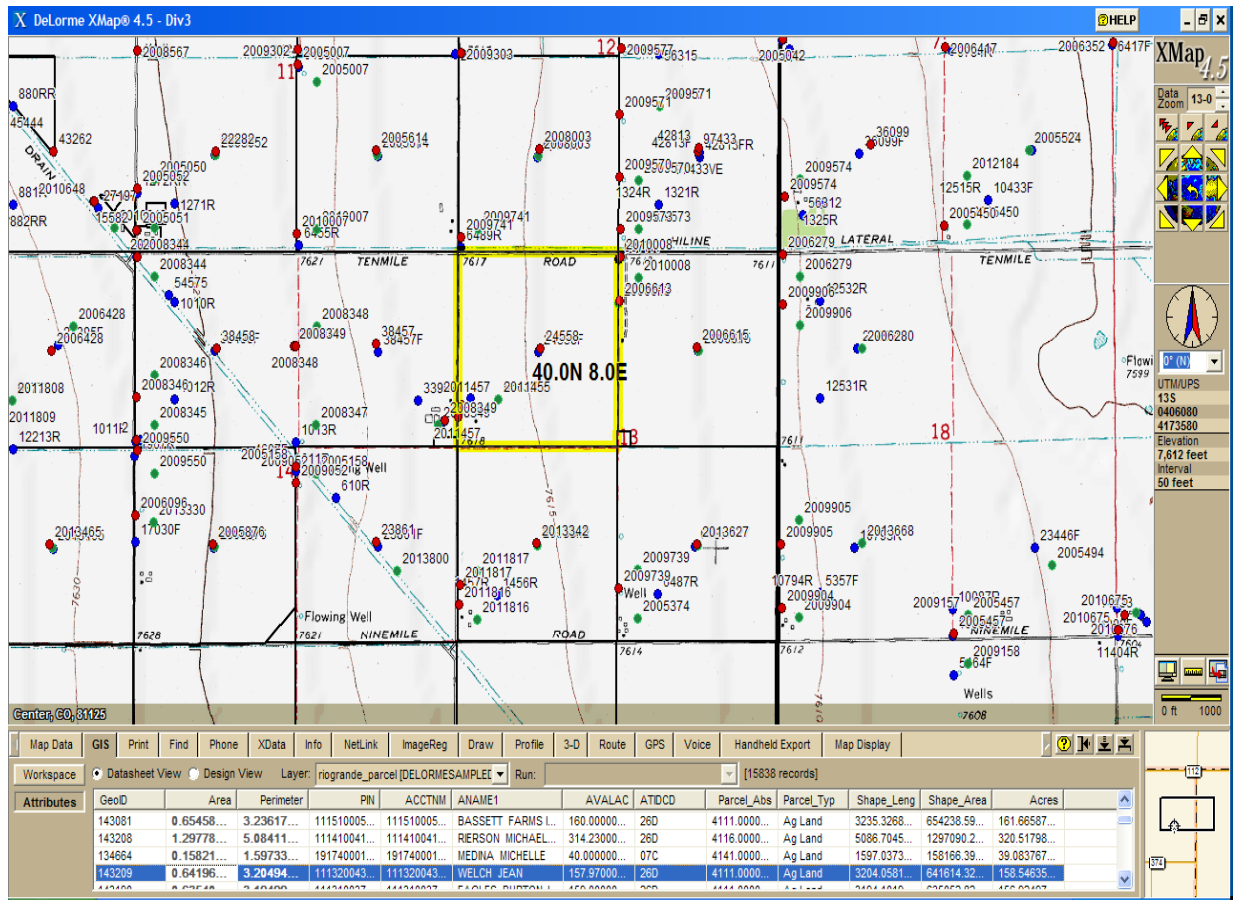
Totalizing Flow Meter Verification Form and the Notice of Power Consumption Coefficient Rating forms have been standardized. Members of the GWCC also cooperate with or sit on various other committees focused on improvement, standardization and implementation of field data collection and mapping activities.

Well metering staff assisted with the 2009 certified well tester re-certification classes that were conducted through a mail in participation process. Thanks to the help of Elizabeth Pottorff and others, the GWCC was able to conduct an evaluation of the new well tester certification and recertification classes conducted over the last five years. This evaluation was conducted by means of a mail-in questionnaire to all certified well testers providing them the opportunity to rate each area of the courses offered and to provide feedback to our staff. The GWCC is utilizing this evaluation process to improve the existing well tester curriculum to create a more effective learning environment for future well tester courses. Additionally, the new curriculum will provide statewide standardization and allow each Division the ability to administer the curriculum independently.

DWR administration of the Well Metering rules appears to be working, as better compliance with the Rules and submittal timelines by water users have occurred in 2009. Despite the improved cooperation, the division has posted 208 Well Head Orders and mailed 28 Cease & Desist Orders and 221 Violation Orders.

The Well Metering program continues to utilize the services of the Attorney General's Office (AGO) regarding water users that do not comply with measurement rules. While previous efforts made in combination with the AGO office appear to be reducing infractions, 14 Letters of Intent to file a lawsuit were mailed in 2009, of which five required filings of Complaint For Injunctive Relief with the Water Court. All of these Complaints for Injunctive Relief resulted in Stipulated Agreements requiring compliance with the measurement rules and payment of monetary penalties.

During the implementation of the well measurement program, hundreds of wells were identified as potential water rights abandonment. Significant efforts were made in 2009 to research and prioritize wells associated with water rights that will be included in the 2010 water rights abandonment process.

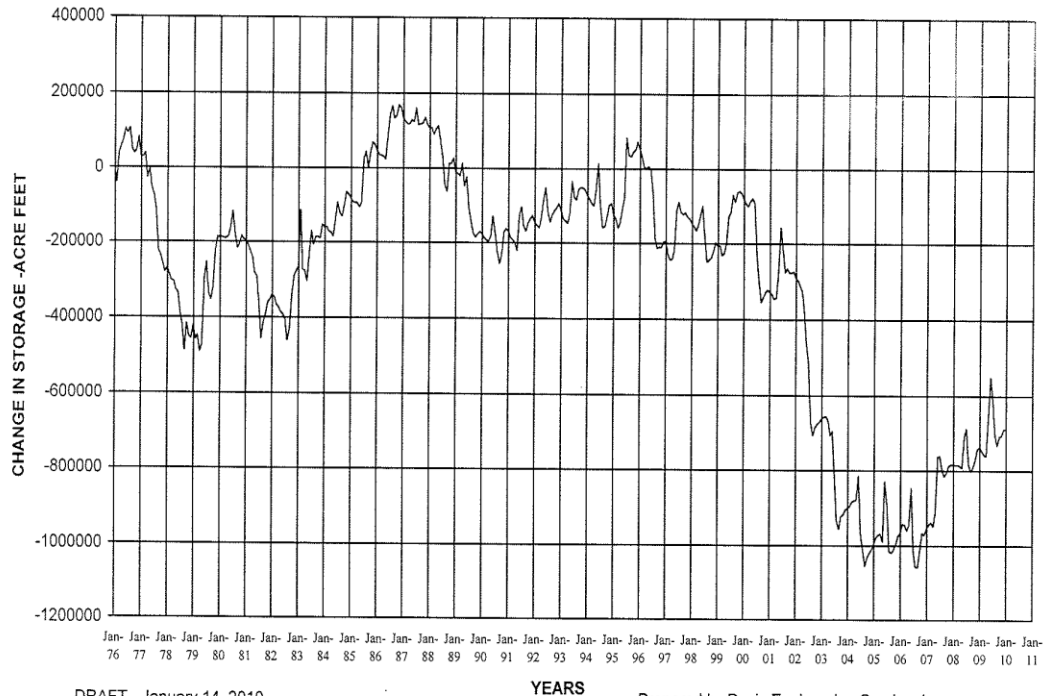


Screen shot from the mobile well tools used by metering technicians.

WATER ISSUES

2009 was forecast to be a normal to slightly below normal streamflow year on most rivers and streams in Division 3. For the most part, those predictions were correct. The early and strong runoff peak caused some issues on both systems, but also may have contributed to the lower curtailment that was required to meet the compact delivery obligations. Due to the actual streamflows on both rivers being very similar to what the NRCS and NWS forecasts had been, the diversion amounts also were as expected. The RGWCD Unconfined Aquifer Storage Study showed a gain of approximately 50,000 acre feet in 2009 (see graph below). Compared to the 1976 baseline, the study area contained approximately 700,000 acre feet less water by the end of 2009. Even though the aquifer has gained in each of the last four years, 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 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 with upcoming well administration.

**CHANGE IN UNCONFINED AQUIFER STORAGE
WEST CENTRAL SAN LUIS VALLEY**



DRAFT - January 14, 2010
Data through January 11, 2010

YEARS

Prepared by Davis Engineering Service, Inc.
For Rio Grande Water Conservation Dist.

For the last several years, the Rio Grande Water Conservation District (RGWCD) has encouraged the formation of groundwater Subdistricts to attempt to manage portions of the aquifer system. These types of Subdistricts were recognized in SB-222. They would have as their goals to stabilize the aquifers associated with each Subdistrict, prevent injury to senior rights, restore the historic stream aquifer connection, and promote a sustainable system. During the summer of 2006 the Court approved the formation of Subdistrict #1 located in the closed basin north of the Rio Grande. In September 2007 the Subdistrict #1 board of managers arrived at a plan of water management. The plan was adopted by the RGWCD and was sent to the State Engineer for review. The State Engineer approved the plan. Many objections to the action of the RGWCD and the State Engineer in accepting the plan were filed in court. Both the civil case and the water case were combined by the judge, and a trial was held in the fall of 2008. The judge

issued a ruling on this case in the spring of 2009, stating that the plan did not adequately protect senior surface water rights holders. The judge gave the subdistrict until June to come back with a revised groundwater management plan. The subdistrict board of directors did just that, and in June of 2009 the revised plan was approved by the RGWCD and subsequently by the State Engineer. The plan was then sent back to the water court, and a second trial, approximately 2 weeks in length, was conducted in the fall of 2009. As of the writing of this report (April 2010), we are still awaiting the judge's ruling on the second trial.

Meanwhile, a second subdistrict, the Trinchera Subdistrict, was officially formed in 2008. This subdistrict encompasses the wells in the area of Trinchera Creek. Currently, the petitions for formation of Subdistrict #2 (alluvium south of the Rio Grande) are being recollected for submission to the RGWCD for formal review and filing with the Water Court. Additionally, the formation of Subdistricts in the Conejos area, Saguache area, San Luis Creek area, and Alamosa-La Jara area are proceeding. All of these subdistricts are eagerly awaiting the ruling from the judge on the second trial of Subdistrict #1. If the judge rules that the first subdistrict's plan is sufficient, and/or the judge gives definite guidelines as to what criteria the plans should abide by, it is thought that the other subdistricts will push forward with their development and rapidly file their own plans

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 legislation recognizes entities like the Subdistricts outlined above, to provide a vehicle to address these issues within the valley. The three primary goals of any subdistrict plan should be to eliminate or mitigate injury to senior vested rights, restore and stabilize the aquifers, and insure that the State can meet her Compact obligations. The bill also recognizes the ability of the State to consider many different issues in the overall management of the aquifers.

The State Engineer is currently in the process of developing Rules and Regulations concerning the use of Groundwater in Division 3. He is being assisted in this effort by an advisory committee comprised of approximately 55 individuals, representing groundwater users, surface water users, governmental agencies, etc. The goal of this advisory group is to develop rules and regulations on the future use of groundwater so that senior water rights are protected and the groundwater aquifers are brought into a sustainable position. Based upon results of studies done using the Rio Grande Decision Support System (RGDSS) water model, it has been determined that most of the wells in Division 3 have some effect on senior surface water rights. Therefore, the basis for the rules will be to require groundwater users to mitigate their injurious depletions to senior water rights. This can be done in three ways;

First, the well user may opt to develop an augmentation plan to offset any injurious depletions. These types of plans can be approved on a temporary basis

through a Substitute Water Supply Plan, or on a permanent basis through water court.

Second, the well user may wish to join a subdistrict. These subdistricts will in many ways act as a very large augmentation plan. The subdistricts will collect fees or taxes from their constituents and use that money in various ways, such as purchasing augmentation water, constructing recharge facilities, paying senior water rights holders for injurious depletions, etc.

Third, if a groundwater user does not wish to attempt either of the first two options, that user must cease using their wells.

The basic idea of these rules is fairly straightforward, but there are many details that have got to be worked out in the advisory committee meetings.

In addition, Senate Bill 04-222 required that the State Engineer develop criteria for establishing an irrigation season in the San Luis Valley. The advisory committee began its duties in March 2009 and have worked diligently ever since, meeting on average once per month with the State Engineer and members of his staff to develop these rules. During 2009, a sub-committee was formed to tackle the issue of an irrigation season in Division 3. Division 3 has never had an official irrigation season, although decisions on turn-on and turn-off dates have usually been made by the Division Engineer in consultation with water user groups. The draft of the irrigation season policy sets a 'presumptive' irrigation season as April 1 to November 1. These presumptive season dates can be changed or adjusted based on a list of criteria. These criteria include temperatures, weather patterns, compact obligations, soil moisture, etc. The Division Engineer is required to meet with water user groups at the beginning and end of the irrigation season to discuss the season dates and the list of criteria, and then make a decision as to the timing of the season. The decisions of the Division Engineer shall be published in a newspaper of general circulation so that everyone knows what the dates are. The irrigation season will apply to surface water rights, as has been the case in the past, but will also apply to groundwater users. This is something that will be new to groundwater users, so we are interested in seeing how this policy will be viewed by those users.

The State Engineer promulgated Rules and Regulations regarding new appropriations from the Confined Aquifer in 2004 (Case No. 04CW24). Beginning in January 2006, a trial was held on the merits of the Rules and Regulations and the model supporting those rules. The trial lasted six weeks. The Court issued its ruling in November 2006 affirming the rules and the underlying model. In that ruling the Court opined that Sustainability will be the next great tenant in water law. That ruling was appealed and oral arguments were heard by the Supreme Court in December 2007. In 2008, the Supreme Court upheld the water court ruling regarding the confined aquifer rules.

ON-GOING PROJECTS

Rules and Regulations

As part of the Senate Bill 04-222, the State Engineer began the process of developing rules and regulations pertaining to the use of groundwater in Division 3. On December 31, 2008, the State Engineer established an advisory committee in order to help him to develop these rules. The committee is composed of approximately 55 people, representing ground and surface water appropriators as well as representatives from local, state, and federal agencies. The advisory committee held its first meeting in March of 2009, and continues to work diligently to develop rules that will protect senior water rights owners from injuries depletions caused by wells, and at the same time be fair and equitable. The State Engineer is hopeful that these rules will be completed and filed in Division 3 Water Court in the early summer of 2010.

RGDSS

As noted in Water Issues above the Rio Grande Decision Support System project was deemed sufficient by the Water Court to support the Rules and Regulations for new appropriations from the confined aquifer as required under the RGDSS enabling legislation (HB98-1011). The Supreme Court upheld this finding. The RGDSS model is most probably going to be used in the determination of injuries for all of the various subdistricts' plans of water management. Work continues to refine and update the model as more data become available. The Division Engineer participates monthly in peer-review meetings regarding the model.

Rio Grande Silvery Minnow

The Rio Grande Silvery Minnow experienced a fairly good year in 2009. This was the second year in a row in which the Fish and Wildlife Service decided not to stock the fish in the Middle Rio Grande of New Mexico. The Service reported that during the October 2009 sampling effort, Rio Grande silvery minnow were present at 19 of the 20 sites monitored in the Middle Rio Grande. Significant numbers of fish were found throughout the middle Rio Grande below Angostura. The Service reported that there was good recruitment of minnow after the snowmelt runoff.

As part of the experimental 10(j) population that was established last year in the Big Bend reach of the Rio Grande in Texas, approximately half a million more Silvery Minnow were stocked in that area. This brings to nearly a million the number of minnow that have been stocked in the Big Bend area over the last two years. All of these stocked fish came from rearing facilities in the Middle Rio Grande of New Mexico.

The Bureau of Reclamation operates a supplemental water program intended to provide additional water to the Middle Rio Grande for the benefit of the minnow and to remain in compliance with the 2003 Biological Opinion. This water is primarily obtained through the voluntary leasing of SJCP water. There is concern

that this San Juan Chama water may not be available in the amounts that it has been recently.

The USFWS completed the Silvery Minnow Recovery Plan in 2009, and the revised final plan was announced in February of 2010. This plan sets forth the downlisting and delisting criteria, and the recovery actions needed to be taken to downlist the Silvery Minnow. Of note, the recovery plan calls for the establishment of at least three separate and viable self-sustaining populations of minnow.

Southwestern Willow Flycatcher

The total number of Southwestern willow flycatcher territories from the headwaters of the Rio Grande to Elephant Butte Reservoir increased to 360 in 2009. This is an outstanding increase from the 33 territories that were counted approximately 9 years ago. The vast majority of the territories now, 319 territories, are found at the upper end of Elephant Butte Reservoir. The Colorado Division of Water Resources, along with the states of New Mexico and Texas, remains concerned about the large increase in nesting pairs of Southwestern Willow Flycatchers in this area. Although the increase of birds is a good thing, the location of the birds is less than ideal. The nests of many of these birds are within the inundation area of Elephant Butte Reservoir, and if the reservoir is filled, could cause issues to arise under the endangered species program. The three compact states have been working with the Fish and Wildlife Service and the Bureau of Reclamation to develop a plan in the event the reservoir is filled and displaces some of the birds. As of 2009, no official plan was in place to address this concern, but there was some work being planned by Reclamation to construct additional flycatcher habitat below Elephant Butte Reservoir as mitigation for any areas at the upper end of the reservoir that may need to be inundated.

During 2004 the USFWS re-designated proposed critical habitat for the endangered Southwestern Willow flycatcher. In Division III 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. However, in 2009, the Fish and Wildlife Service was sued by an environmental group over this designation. The resulting judgment ordered the service to go back and re-consider all of the proposed critical habitat areas that were left out of the final designation. The service will submit a new critical habitat designation in the summer of 2011.

Rio Grande Compact Commission Salinity Committee

Salinity in the Rio Grande is being studied. A Salinity Steering Committee has been formed and meetings are held several times per year. This committee has initiated studies of sources of salinity, primarily in the portion of the Rio Grande below Elephant Butte. The Committee is looking to the ACOE to assist with research funded under WRDA to determine sources of, and potential solutions to, salinity problems. The Division of Water Resources has been involved in the steering committee assisting with the development of a technical committee and with a scope of work for grant/funding applications.

Rio Grande Roundtable

The IBCC Rio Grande Roundtable meets monthly in Alamosa. The Division Engineer attends these meetings as an adviser and educator on water issues. The roundtable has been successful in vetting and recommending projects to the CWCB for funding including: the Rio Grande Reservoir enlargement project, the bifurcation core on the Conejos River, the analysis of the Hydraulic Divide, and funding for Conservation Easements through the Rio Grande Headwaters Trust. There is concern now that, with the raid of the CWCB funds to help balance the state budget, no money may be available in the future to fund any more of these badly needed projects.

Groundwater Enforcement

The implementation of well measurement rules has required that owners install meters on their wells. Staff inventory of wells and review of the installations and variances has shed light on a host of additional issues with respect to the current use of some wells. These are being brought to the attention of the owners so they have an opportunity to correct those problems either through administrative or court proceedings.

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 approval of the State Engineer or the Water Court. Permit terms and conditions, late registrations and decrees provide guidance along with extensive aerial photo interpretation.

Numerous issues, particularly in regards to expanded use, come to our attention by people participating in the EQIP program of the NRCS. With the Federal government's large cost share in this program, users have in many instances attempted to expand irrigated acreage beyond that allowed by the decree, permit or historic service area. DWR staff continues their tireless effort to educate the public and other agencies regarding the effect of delivery efficiency improvements associated with new pipelines, sprinklers and regulating reservoirs. To many, including NRCS staff, the concept that efficiency improvements actually increase consumption and does not create the ability to expand irrigated acreage is counterintuitive. The NRCS is now required to refer

all applications with potential for expansion of use to the Division office for review prior to NRCS approval. These efforts take considerable resources but are absolutely essential to holding the overall consumptive use in the Rio Grande Basin in check since the entire basin, including the surface streams, unconfined, and confined aquifer systems are over appropriated and any new depletions to the system cannot be allowed.

ON-GOING ISSUES

Water Court Activities

Thirty-four cases were filed in the Division III Water Court during 2009. Surprisingly, the majority (20) of the filings were seeking diligence on conditional water rights or to make conditional rights absolute. As a general rule, Division 3 has very few conditional water rights. Due to the over-appropriated nature of the upper Rio Grande basin, little or no opportunity to obtain a new conditional water right exists. Several 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, correct the decreed location or source, or convert the historic use to a new use. Most of these filings have been in response to investigations under the well metering rules. 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.

Water Court casework during 2009 was generally assigned to Craig Cotten, Corey DeAngelis, and Pat McDermott. Matt Hardesty began learning the court case process by being assigned some cases late in the year. The Water Commissioners also lend help when needed via field inspections or historical knowledge of the claim.

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. A fewer number of open cases being resolved during 2009. In all, 32 Water Court cases were closed. At the end of the year, 51 cases remained open. Judge O. John Kuenhold remained the Water Judge during 2009. However, he also had to assume the role of acting Water Referee after the unfortunate death of Water Court Referee Margaret "Peg" Russell. Ms. Russell had served as Referee since 2000, when she was appointed to replace William Martinez. The Division staff, attorneys and engineers that worked with Ms. Russell were deeply affected by this loss. Peg's warm and witty style complemented her knowledge of water law.

INVOLVEMENT IN THE WATER USER COMMUNITY

As always, we strived to be as involved as possible in the water user community again in 2009. 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.

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

Additionally, the staff has given presentations to various elementary and high schools around the Valley. The Water Commissioners make themselves available and attend many of the ditch company meetings held in their districts. We have actively participated in the San Luis Valley Wetlands Focus Group, , the RGDSS Advisory Team, Upper Rio Grande Water Operations Model Advisory and Technical Teams, The Upper Rio Grande Water Operation Plan Review, 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 SB222 and in the development of service plans for numerous subdistricts.

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

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 water in Division 3, including the Potato-Grain Conference. The level of interest is very high, especially regarding the well metering program, subdistricts, and the upcoming well use Rules and Regulations.

Members of the Division III staff have been involved in several emergency management 'tabletop' exercises in the past year. These exercises have been conducted by the emergency management coordinator for the San Luis Valley and usually involve a flooding or dam safety scenario. DWR staff members have provided crucial information and insight on streamflow, flooding, and dam safety issues to the emergency management teams, sheriff's office staff, county

agencies, and others. It is anticipated that DWR staff members will continue to be involved in future emergency coordination exercises in Division III.

PERSONNEL/WORKLOAD ISSUES

Well Administration and Permitting Activities

The amount of well permitting applications submitted to the Division 3 office continues to be lower than normal, thought to be due to the sluggish economy in 2009, 328 permit applications were submitted to the Division III office. As in prior years, much of the permitting is for new residences in the valley as well as replacement for older wells. The aquifers in the valley seem to have stabilized, and in many cases, to rise slightly, and therefore we are seeing a decrease in the number of emergency replacement well permit applications.

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. Older wells continue to fail as casings rust and collapse and need replacement. 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. The addition of the well metering branch has improved the efficiency and effectiveness of the well permitting process also. The well metering employees have completed the process of inventorying wells throughout Division 3, and that information assists our office in making permitting decisions.

A new law, HB08-1014, took effect on January 1, 2009. This law requires that a change of ownership on permitted wells or a new permit on non-permitted wells be applied for at the time of closing on any property containing wells. It is anticipated that this new law will add to the workload of the well permitting branch in the future, especially after the economy recovers and more properties are sold.

Well Inspection program

The well inspection program continues to be an important part of the Division III operations. Policy 2003-3, regarding deepening of non-exempt wells, would be difficult to oversee without a well inspector to physically review construction. Larry Hakes, the resident well 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. As with the well permitting branch, the numbers of wells being drilled this year has dropped significantly.

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 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 for ways to provide high-speed access for water commissioners as computer programs become larger, more interconnected and essential to daily activities. Many water commissioners work in remote areas and it is increasingly difficult for those with dial-up access to effectively use the tools the state is developing. The division is currently testing Mobile Broadband solutions as an alternative to provide the water commissioners essential data required for efficient water administration.

Diversion records went slowly but 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 has met several times and succeeded in reviewing the water rights tabulation system and the diversion information system. The massive database needs of the well metering program are being incorporated into the hydrobase system creating a very usable central database. The division has been evaluating potential field data collection and storage devices to allow more efficient data collection, storage and upload into hydrobase. This evaluation has been discussed with the Ground Water and GIS coordination committees and hydrobase steering committee. The division is hopeful that field evaluation may begin on a small scale in 2010.

Personnel Changes

In order to explore new possibilities, **Rob Phillips** transferred to Division 2 on March 2, 2009. Rob was the PSRS position in our office, responsible for assisting with court cases, EQIP programs, well permitting, etc.

Our IT employee, **Dustinn Valdez**, transferred to Division 2 on April 6, 2009. Dustinn will continue to provide Division 3 with IT services, but will only be in the Alamosa office on average of one day per week.

Acting Division Engineer **Craig Cotten** was formally appointed to the position of Division Engineer on April 13, 2009. Craig was formerly the Assistant Division Engineer in Division 3, and prior to that was the Lead Hydrographic Engineer in the Alamosa office.

On May 1, 2009, **Steve Rivera** was appointed as the newest Well Meter technician in the well metering group. Steve fills the position recently vacated by Sam Riegenbach.

Corey Deangelis was appointed as the Assistant Division Engineer in September. Corey was formerly the Chief of the Water Measurement Branch, and had been instrumental in getting the well metering program up and running in Division 3.

For the first time ever, Division 3 was given a second Assistant Division Engineer position. This position was filled by **Matt Hardesty** on November 25, 2009. Matt will be supervising the well metering branch and the hydrographic branch in Division 3. Matt was formerly a Hydrographic Engineer in the Alamosa office.

Martha Archuleta was selected on in December to fill the vacancy created by the promotion of Steve Rivera. Martha, who previously held the position of administrative assistant for the well metering group, is now a well metering assistant with the group.

Training Activities

Jesse Jaminet and Tom Stewart attended a one day snow survey/winter survival refresher training in New Mexico to hone their snow surveying skills. Wayne Peck and Steve Rivera attended training at the Great Plains Meter Testing Facility in Nebraska in February. At this training, well meter design, testing, and operation were explained, and many of the well meters that Division 3 uses were tested and verified to be in accurate working condition.

Workload Issues

The workload issues have exploded in Division III as new programs mature: implementation of Well Metering regulations, formation of Subdistricts, Roundtable activities and establishment of well rules and regulations.

Well Metering: With the well metering staff on board the program is running well, but has also driven the number of cease and desist orders up dramatically as problems are found such as wells with no meters or well meters that have not been certified. Our well meter technicians are also uncovering some 'skeletons in the closet', such as finding wells in the wrong location, wells with no permits or decrees, etc.

Subdistricts: The formation of Subdistricts has required the Division Engineer and staff to devote considerable time to meetings regarding formation, development of service plans, and water management plans. Much time was also spent preparing for the second subdistrict trial. State Engineer Dick Wolfe and Deputy

State Engineer Mike Sullivan testified on behalf of the Division of Water Resources during the subdistrict trial.

Roundtable: The Rio Grande Roundtable meets monthly in Division III. The Roundtable has been reviewing proposals for funding of water projects and 'becoming educated' on water issues. The Division Engineer attends all meetings, provides educational presentations, and advises the committee on water projects.

Salinity Committee: The Rio Grande Compact Commission has formed a Salinity Committee. The Division Engineer and Deputy State Engineer have been peripherally involved, however as the committee moves forward more time commitment will be required.

EMPLOYEE RECOGNITION

Water Commissioner of the Year

Jim Swanson was chosen as Water Commissioner of the Year for 2009 in recognition of his efforts in assuring that Districts 25, 26, and 27 continue to run smoothly. Jim has been involved in several recent water court cases and situations where the Division Engineer has had to issue cease and desist orders. Jim is always professional and courteous in his dealings with water users and the public. He works with users who are not abiding by the law to help them understand what the laws are and to gain compliance with our orders.

PUBLIC RECOGNITION

Water Manager of the Year

Tony Aloia was honored as the "Water Manager of the Year" for 2009. Tony is the water manager for the Division of Wildlife in the San Luis Valley. He has approached the job with no pre-conceived ideas about how water has been used by the DOW in the past, and has been able to think 'outside the box' and develop several new and innovative ways to use the water resources of the Division. In addition, Tony works well with all of the staff at DWR.

Lifetime Achievement Award

Bob Robins was honored with a special Lifetime Achievement Award from the Division of Water Resources in 2009. Bob has been the manager of the Conejos Water Conservation District for well over 30 years, and has done an excellent job of leading the district during that time. Bob is contemplating retirement this year and he will be missed.

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 2010:

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.
3. Continue the process of building suitable databases and programs to effectively collect and utilize the information gathered through the well metering program.
4. Implement the provisions of the Long-Range Plan.
5. Continue to develop and implement the quality assurance/quality control program for Division III assuring accurate present and historic diversion records, proper water rights information, current ownership/contact information, and continuing an accurate and efficient decentralized well permitting program.
6. Constantly improve the quality of our hydrographic and diversion records and meet all deadlines for the completion and submittal of final records.
7. Coordinate with water user groups, Roundtables, 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.
8. Work with CWCB, the SEO, and the consultants on the RGDSS project to update and refine the model.
9. Continue to implement Principal Centered Leadership.
10. Identify any problems with and improve water administration at every level in the organization.
11. 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.
12. Insure that all dams in Division III are monitored frequently enough to recognize any deficiencies and promptly work with owners to correct them. Promote the integrity of our dams and to provide public safety as it involves those structures.
13. Provide sound judgment and encouragement to the Subdistricts and well owners to move to a sustainable system that addresses impact to the surface streams and protects the rivers in all ways.
14. Promulgate effective rules that identify and address the issues facing this valley with regards to management of the aquifers, senior rights, and our Compact compliance.
15. Continue working with the well rules and regulations advisory committee to develop rules and regulations for the administration of wells in Division 3.

16. Work with water users throughout the valley to set yearly irrigation season dates that allow adequate utilization of surface and groundwater for irrigation purposes while at the same time ensuring that these water rights are being used beneficially for their decreed purposes.
17. Pursue the abandonment process in a fair and equitable manner. Ensure that water rights that need to be abandoned will be abandoned, but at the same time ensure that the owners of those water rights will be treated fairly and be given an opportunity to provide proof to refute our abandonment claims.

MAJOR ACTIVITIES IN 2010

The annual streamflow on most rivers and streams of the valley is predicted to be similar to what it was in 2009. The current projections of runoff vary from approximately 90% of average to approximately 130% of average. The southern drainages as well as the streams originating in the Sangre de Cristos are forecast to be in the best position for above average flows. Even though the projected forecasts are for near normal flows, there is always the possibility of flooding if temperatures get hot early in the year. Division III staff will be proactive in providing water availability/diversion information to water users and in working with emergency responders and planners if the need arises.

The formation of subdistricts in the San Luis Valley, and the work with those subdistricts to ensure that they operate correctly, will be a huge undertaking during 2010. The State Engineer, Division Engineer, and their staffs will continue to spend large amounts of time on these subdistricts.

It is anticipated that the rules and regulations governing the withdrawal of groundwater in Division 3 will be promulgated by the State Engineer in the early summer of 2010. These rules will then be submitted to the Division 3 Water Court for further proceedings. It is anticipated that there will be some objections to these rules, and that a trial may be held on the merits of the rules.

Well metering duties will continue to be a large portion of the workload of Division 3 in the coming years. Even though the well metering program has been in place for over three years in this division, there are still many new situations that arise on a regular basis. In addition to the field work, collecting, processing, populating databases, and utilizing the massive amounts of information that are related to the well metering project will present formidable tasks for the Division III staff in 2010.

Dealing with the ESA issues both in Colorado and downstream in New Mexico will be a continuing activity in 2010. The Southwestern Willow Flycatcher, which has critical habitat on the Rio Grande, and the imperiled Silvery Minnow continue 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. Each year 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.

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. This damage precludes the release of water in a range of approximately 1,200 cfs to 1,800 cfs. This causes much difficulty in water administration when the reservoir is supposed to be releasing in this range and cannot. This year, through the joint efforts of the San Luis Valley Irrigation District, the users on the Rio Grande, and the Division of Water Resources, we were able to 're-tag' water that was stored in Rio Grande Reservoir due to the gate issue. This water was deemed to be Rio Grande compact water, and the storage of that water offset a portion of the compact curtailment that was presently in place. This allowed the river to be administered as if there was no issue with the gates at the reservoir, and protected downstream senior water rights from injury. This action also ensured a pool of compact water, under the control of the Division Engineer, that could be released at a more opportune time later in the season. The owner of the reservoir, the San Luis Valley Irrigation District, is actively pursuing funding that will allow for repair of the gates and a potential expansion of the Reservoir. The Division is supporting these efforts as resolution of the gate issue and additional storage may significantly assist in water administration in the basin. However, until the repairs occur, we now have a way to ensure that the river and reservoir is operated so that no injury to other users will occur.
2. Along with the reservoir issues mentioned above, the Division of Water Resources has also entered into a short term agreement with the San Luis Valley Irrigation District, The Rio Grande Water Users' Association, and others to evaluate the feasibility and benefits of annually storing 'compact' water in upstream reservoirs. Instead of a portion of the streamflow being curtailed from the ditches and passed through the system on a daily basis, some of this 'compact' water would be stored in reservoirs for later release for compact purposes. It is hoped that this will smooth out the compact curtailment throughout the irrigation season and minimize any over or under delivery of compact water to downstream states. During 2009 approximately 5,300 acre-feet of compact water was stored in Rio Grande Reservoir. Since the Rio Grande was in a compact credit status even

- without this water being released, the water was held over in storage and released in the spring of 2010, before any of the ditches turned on.
3. During extremely dry winter months as seen in the last few 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. While the last several winters have seen a fair amount of snow on the valley floor, some areas of the valley continue to see dry conditions.
 4. 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.
 5. We are cooperating with the RGWCD and the well owners in the Valley to try and reduce the demand on the aquifer via the innovative SB04-222 legislation. This legislation allows for Subdistricts to develop groundwater management plans and “self-manage” groundwater issues under DWR review. In the interim 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 2009

An advisory committee was formed to assist the State Engineer in developing the Rules and Regulations concerning the withdrawal of groundwater in Division 3. This committee began their work in the early spring of 2009 and continues to work diligently to develop rules that will protect senior water rights and be fair to all water users.

The policy regarding the irrigation season in Division 3 is nearing completion. This policy will require that all sources of irrigation water, whether surface or groundwater, abide by a set irrigation season.

Continuing implementation of the Rules and Regulations regarding Well Metering in the Rio Grande Basin was another milestone in 2009. Well metering data was required to be submitted in December of 2008 and in December of 2009. Therefore we now have a full year of accurate data as to the pumping amounts of most all of the large capacity wells in Division 3. As we progress in this area, we will continue to gain invaluable data on the actual use of groundwater in the basin.

The second trial regarding the Plan of Water Management for Subdistrict #1 (Unconfined aquifer - Closed Basin area) was held in the fall of 2009. Review by

the court will clarify the ability for the water users in an area to solve the aquifer overdraft and attendant impacts to surface streams in new ways including the use of economic means to self fund and purchase/retire water rights and reduce impacts rather than the more familiar well administration experienced in other areas of the state.

A. TRANSMOUNTAIN DIVERSION SUMMARY—INFLOWS 2009

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	6	5	34	27	78	4670	Trib Piedra River
20	918	Don LaFont #2 Ditch	Trib Red Mtn Creek	64	24	120	27	78	4671	Trib Piedra River
20	919	Pine River	Weminuche	313	51	329	35	31	4638	NF Los Pinos
20	920	Tabor	Trib Clear Creek	704	150	827	173	62	774	Cebolla Creek
20	921	Treasure Pass Ditch	SF Rio Grande	152	33	262	63	29	4669	Wolf Creek
20	922	Weminuche Pass D	Weminuche	622	24	847	41	31	4637	Rincon LaVaca
20	923	Williams Creek Squaw Pass	Squaw Creek	337	97	257	122	78	4672	Williams Creek
26	702	Tarbell	Saguache Creek	646	81	511	80	28	4656	Cochetopa Creek

B. TRANSMOUNTAIN DIVERSION SUMMARY--OUTFLOWS

79	N/A	Hudson Branch Ditch	Huerfano River	325	77	453	75	35	657	Medano Creek
79	N/A	Medano Ditch	Huerfano River	668	59	1125	75	35	658	Medano Creek

RESERVOIR STORAGE SUMMARY
IRRIGATION YEAR – 2009
AMOUNT OF STORAGE

WD	ID	RESERVOIR NAME	SOURCE STREAM	AF	MINIMUM DATE	AF	MAXIMUM DATE	END YR
20	3532	Beaver Park	Beaver Creek	2,804	11/1/2008	4,493	6/13/2009	4,445
20	3536	Continental	North Clear Creek	811	11/01/2008	7,502	6/11/2009	2,028
20	3554	Rio Grande	Rio Grande	10,703	11/17/2008	28,069	5/26/2009	13,782
20	3558	Santa Maria	North Clear Creek	4,031	11/10/2008	9,167	5/31/2009	5,408
21	3582	La Jara	La Jara Creek	2,210	11/01/2008	5,223	5/18/2009	2503
21	3583	Terrace	Alamosa River	1,833	10/28/2009	13,361	5/20/2009	1,861
22	3574	Platoro	Conejos River	16,332	11/01/2008	54,842	6/26/2009	28,837
24	3576	Sanchez	Culebra Creek	18,574	10/06/2009	27,956	6/15/2009	18,750
35	3529	Mt. Home	Trinchera Creek	794	9/01/2009	7,195	6/21/2009	1,503
35	3530	Smith	Trinchera Creek	0	9/07/2009	4,290	4/21/2009	0

WATER ADMINISTRATION DATA SUMMARIES

WATER DIVERSION SUMMARIES 2009

WD	STRUCTURES REPORTING			ALL OTHER STRUCTURES		# Visits Structure	Total Diversions AF	Total Diversions to Storage, AF	TO IRRIGATION Total Diversions, AF
	With Record (1)	No Water Avail. (2)	No Water Taken (3)	No Info Avail. (4)	No Record (5)				
20	439	20	26	21		10199	679138	30595	651039
21	89	2	8	1		6118	173995	14382	115103
22	138	0	11	2		3106	285762	38510	267966
24	90	0	3	15		3940	80244	5615	71646
25	113	30	13	8		100	61279	0	61279
26	137	41	10	3		3671	39775	0	39242
27	42	4	12	2		731	16537	0	14547
35	30	4	74	78		1037	47841	7587	27216

RIVER CALLS - IRRIGATION YEAR – 2009

District	Most Senior Priority Curtailed	Most Junior Priority Served	Calling Right in Spring
20 Rio Grande	#163 Excelsior Ditch	1916-63A Rio Grande Reservoir	#216-A Rio Grande Canal
21 La Jara	#12 Valley Ditch	# Keystone Ditch	#6 Garcia Ditch
21 Alamosa	#1 El Viejo Ditch and Alamosa Creek Canal	#110 Terrace Reservoir	#57 Lowland Overflow Ditch
22 Conejos	#1 Manassa, Romero, Guadalupe	#196 Christiansen Ditch	#1 Manassa, and Romero Ditches
22 San Antonio	#4 Llano Ditch	#196 Eight Mile Ditch	#3 El Coda Ditch
24 Culebra	#16 Little Rock Ditch	2001 Rodriguez Ditch	#23 Guadalupe Sanchez Ditch
26 Saguache	#13 McCree, Russel, Star, Woodard B. Ditches Ditch	#68 Oklahoma Company Ditch	#19 Braun Brothers Ditch
27 La Garita	#3 Biedell #10 Ditch	#60F Home Ditch #1	#1 Biedell Ditch #10
27 Carnero	#2 Omnibus Ditch	#54 Felton Ditch	#1 Omnibus Ditch
35 Trinchera and Tributaries	#3 Sangre de Cristo Ditch	#70 Garland Ditch No. 1, Indian Creek Supply Ditch, Sangre de Cristo-Trinchera Ditch	APD to #70 Indian Creek Canal

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 2009

WD	TRANS-MOUNTAIN OUTFLOW	TRANS-BASIN OUTFLOW	MUNICIPAL	COMMERCIAL	INDUSTRIAL	RECREATION	FISHERY	DOMESTIC & HOUSEHOLD	STOCK
20	0	21315	4855	382	0	0	561	184	0
21	0	0	77	0	0	0	0	0	0
22	0	0	434	0	0	0	0	1141	0
24	0	0	260	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	199	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
35	1578	0	250	0	0	0	130	3	0
Total	1578	21315	6075	382	0	0	691	1328	0

WATER ADMINISTRATION DATA SUMMARIES
WATER DIVERSION SUMMARIES FOR VARIOUS USES - IRRIGATION YEAR 2009

WD	AUGMENTATION	EVAPORATION	GEOTHERMAL	SNOW- MAKING	MINIMUM STREAMFLOW	POWER GENERATION	WILDLIFE	RECHARGE	OTHER
20	3309	186	0	0	0	239	6347	18429	0
21	5	5	0	0	0	0	0	150	0
22	1087	0	0	0	0	0	0	255	0
24	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	818	27
27	332	0	0	0	0	0	0	1658	0
35	96	0	0	0	0	2	0	0	0
Total	4829	191	0	0	0	241	6347	21310	27

Compact Administration
2009 RIO GRANDE COMPACT REPORT
Preliminary Figures

	Acre-feet
1. Adjusted Rio Grande Index	592,800
*Adjusted Rio Grande Delivery	154,800
Required Rio Grande Delivery	159,400
Less Paper Credit per agreement	5,000
Net Required Rio Grande Delivery	154,400
2. Adjusted Combined Conejos Index	350,400
**Adjusted Conejos Delivery	134,500
Required Conejos Delivery	147,300
Less Paper Credit per agreement	5,000
Net Required Conejos Delivery	142,300
3. ***Total Delivery at Lobatos	289,300
Total Required Delivery at Lobatos	306,700
Less Paper Credit (See Compact)	10,000
Net Required Delivery at Lobatos	296,700
Credit or Debit (after evap)	8,900
Margin	1,500

4. Rio Grande Curtailment

Delivery Target	(% of Index)	Estimated Curtailment of Ditches	(% of Index)
January 1 – March 31	100%	January 1 – March 31	100%
April 1 – May 8	12%	April 1 – April 6	12%
May 9 – June 4	10%	April 7 – April 27	0%
June 5 – June 12	8%	April 28 – May 1	5-7%
June 13 – June 22	5%	May 2 – May 8	12%
June 23 – July 6	0%	May 9 – May 13	10%
July 7 – July 15	6%	May 14 – May 18	4-7%
July 16 – July 22	8%	May 19 – May 26	1-3%
July 23 – August 11	1-3%	May 27 – November 5	0%
August 12 – November 5	0%	November 6 – November 30	recharge
November 6 – November 30	recharge	December 1 – December 31	100%
December 1 – December 31	100%		

5. Conejos Curtailment

Delivery Target	(% of Index)	Estimated Curtailment of Ditches	(% of Index)
January 1 – April 14	100%	January 1 – April 14	100%
April 15 – May 8	28%	April 15 – July 9	0%
May 9 – May 14	25%	July 10 – July 15	19%
May 15 – May 21	20%	July 16 – July 22	28%
May 22 – June 12	16%	July 23 – August 4	20%

June 13 – July 6	14%	August 5 – August 30	5%
July 7 – July 15	19%	August 31 – October 31	0%
July 16 – July 22	28%	November 1 – December 31	100%
July 23 – August 4	20%		
August 5 – August 30	5%		
August 31 – October 31	0%		
November 1 – December 31	100%		

*Includes 8,265 a.f. of the creditable Closed Basin Project production.

**Includes 5,506 a.f. of the creditable Closed Basin Project production.

***Includes all the creditable Closed Basin Project production (13,771 a.f.).

Water Court Activities
January 1 – December 31, 2009

Water Court Applications in 2009 - Type of Claim

Type of Claim	Number of Cases	Number of Structures
Underground Water Right	0	0
Surface Right	1	1
Storage Right	0	0
Plan for Augmentation	2	N/A
Exchange	0	0
Change of Underground Water Right	5	18
Change of Surface Right	1	1
Change of Plan for Augmentation	0	N/A
Declaratory Judgment	0	0
Injunctive Relief	0	0
Approval of Management Plan	0	N/A
Verified Complaint	5	5
Finding of Diligence	13	20
Instream Flow Right	0	0
Diligence - Make Conditional Absolute	7	11
Total	34	56

Note- Some applications in 2009 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 2009

Type of Claim	Number of Cases	Number of Structures
Finding of Diligence on Conditional Rights	9	17
Cancellation of Conditional Rights	0	0

Conditional Right Made Absolute	2	6
Conditional Right Adjudicated	0	0
Surface Right Adjudicated	0	0
Underground Right Adjudicated	0	0
Injunction: Abandonment	0	0
Instream Flow	0	0
Plan for Augmentation Adjudicated	0	N/A
Change of Surface Right Adjudicated	0	0
Change of Underground Right Adjudicated	12	25
Change of Plan for Augmentation	1	1
Claim Denied	0	0
Total	24	49

Water Court Activities January 1 – December 31, 2009

Number of Open Cases as of December 31, 2009:	51
Number of Cases Dismissed in 2009:	0
Stipulated Agreements Entered in 2009:	08
Decrees Issued by the Court in 2009:	<u>24</u>
Cases Closed in 2009:	32

DIVISION III ACTIVITY SUMMARY
2009 CALENDAR YEAR

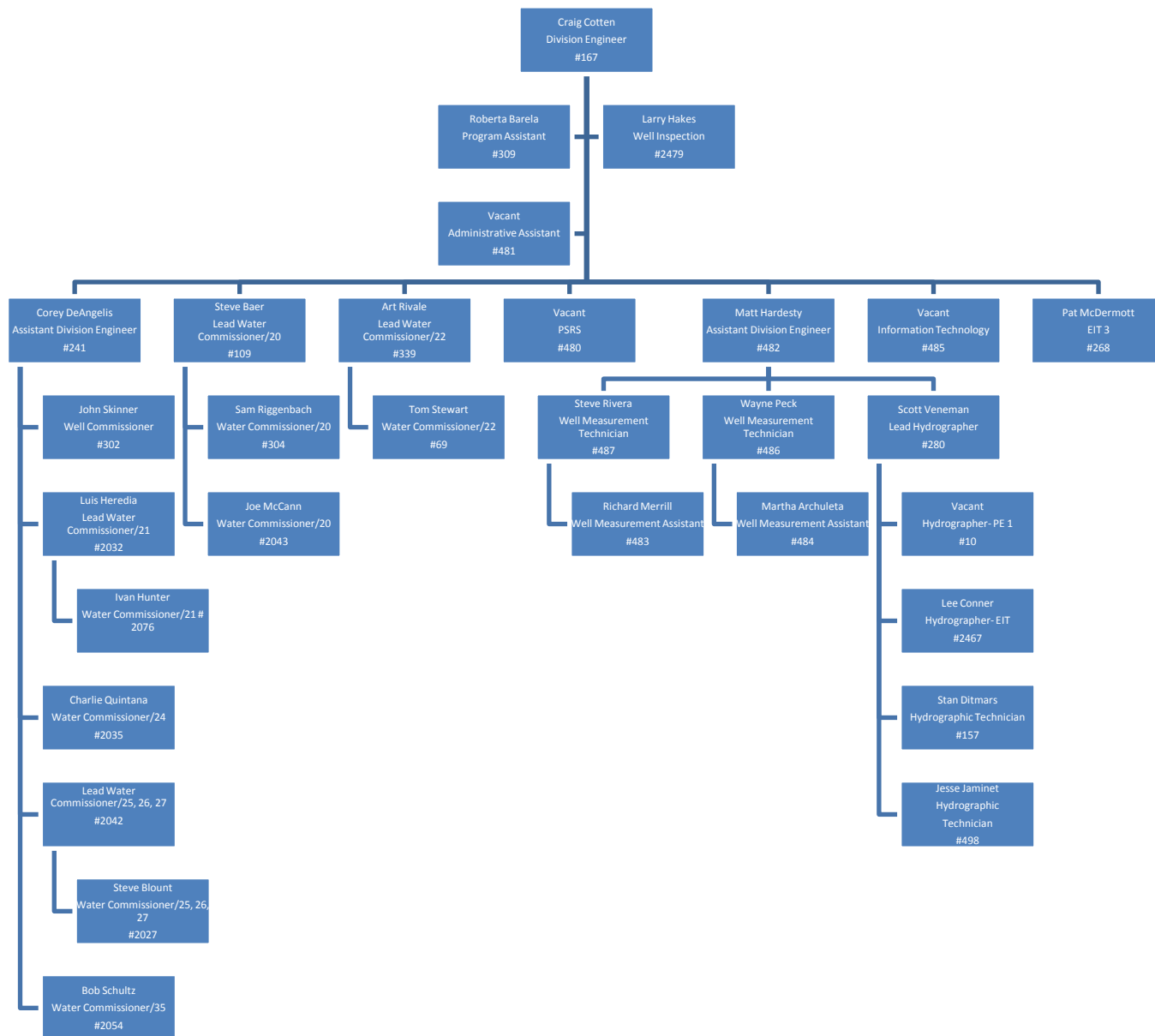
<u>ACTIVITY</u>	<u>TOTALS</u>
Number of structures observed	1656
Number of surface rights	2892
Number of reservoirs*	362
Number of wells**	23633
River measurements	992
Ditch measurements	96
Dam inspections	19
New water rights administered	0
Number of Augmentation Plans	105
Plan of Augmentation Structures***	1075
New Plans of Augmentation	0
Wells administered**	23305
Active SSPs	4
Applications for decrees	29
Decrees issued by Water Court	24
Division Engineer Recommendations Filed	25
Water Court Appearances	180
Well permits issued	328
Professional and Technical Staff	17
Clerical Staff	2
Water Commissioner FTE (Full/Part-Time)	5/4.7

e: this number estimated due to variables in Hydrobase

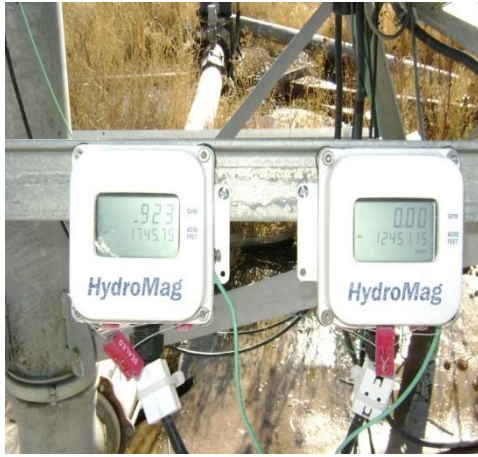
* includes Non-Jurisdictional Impoundment filings

** includes permits

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







Well Meters



La Garita Creek Construction



Smith Reservoir...Dry