

STATE OF COLORADO

**DIVISION OF WATER RESOURCES
WATER DIVISION THREE**

Office of the State Engineer
Department of Natural Resources

422 4th Street
P.O. Box 269
Alamosa, Colorado 81101
Office: (719) 589-6683
FAX: (719) 589-6685

<http://water.state.co.us/default.htm>



Bill Owens
Governor

Greg E. Walcher
Executive Director

Hal D. Simpson, P.E.
State Engineer

Steven E. Vandiver
Division Engineer

March 1, 1999

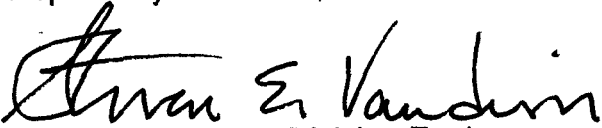
Hal Simpson, State Engineer
Division of Water Resources
Room 818
1313 Sherman Street
Denver, Colorado 80203

Dear Hal:

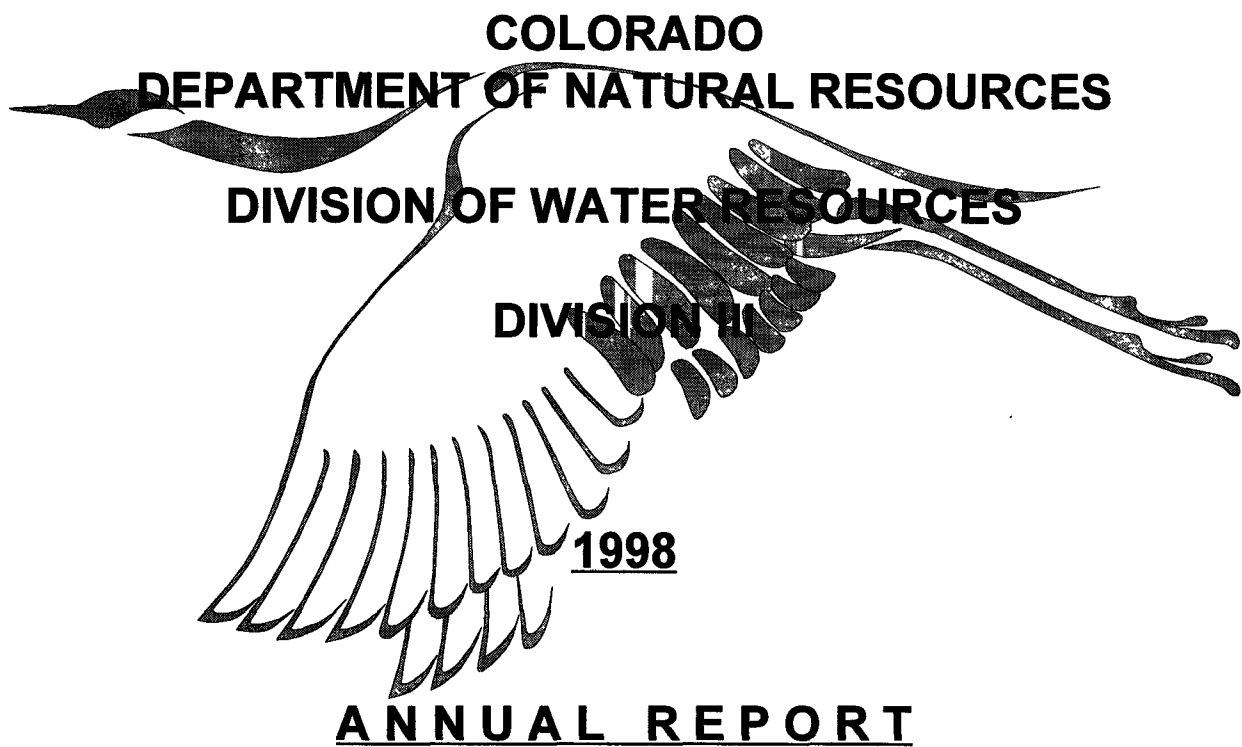
On behalf of the staff of Division III, we submit herein the Annual Report for 1998.

I would like to express special thanks to the Division III staff, as well as you and your staff for the help and support in fulfilling the various responsibilities of water administration in our division.

Respectfully submitted,


Steven E. Vandiver, Division Engineer
Division III


Michael J. Sullivan, Assistant Division Engineer
Division III



**COLORADO
DEPARTMENT OF NATURAL RESOURCES**

DIVISION OF WATER RESOURCES

DIVISION III

1998

ANNUAL REPORT

Table of Contents

I. Water Administration	1
A. Current Water Year – 1998.....	1
1. Accomplishments.....	1
a. Water Administration.....	1
b. Rio Grande Compact	3
c. Costilla Creek Compact.....	5
d. Closed Basin Project	6
e. Reservoirs	7
f. Stream Administration.....	8
g. Water Court	9
h. Dam Safety	9
i. Hydrographic Program	
1. Duties	11
2. Closed Basin	12
3. Construction Projects.....	12
4. Satellite Monitoring Repair Facility	12
j. Ground Water and Well Permitting.....	13
k. Water Records and Information.....	14
l. Special Projects	15
2. Water Issues	17
3. Involvement in the Water User Community.....	18
4. Workload Changes/Administration/Personnel.....	19
a. Training.....	20
B. Key Objectives and Goals	20
C. Major Activities for 1999	21
D. Innovative Administration Techniques	22
E. Acknowledgements	24
II. Water Administration Data Summaries	
A. Transmountain Diversion Summary - Inflows/Outflows	25
B. Storage Water - Reservoir Storage Summary Irrigation Year 1998.....	26
C. Water Diversions - Water Diversion Summary Irrigation Year - 1998	27
D. Water Diversion Summaries for Various Uses - Irrigation Year 1998	28
E. River Calls	29
F. Compact Administration - 1998 Rio Grande Compact Report.....	30
III. Office Administration and Workload Measures	
A. Personnel.....	31
B. Division III Organizational Chart	32
C. Activity Summary - 1998 Calendar Year.....	33
D. Activity Summary - 1997 - 98 Fiscal Year.....	34
Appendix A - Water Court Activities 1998	

I. Water Administration

A. Current Water Year – 1998

1. Accomplishments

a. Water Administration

Again, water administration in Division III was very different than was projected early in the year. The administration of both water rights and the Compact were dynamic in 1998. Streamflows ultimately were below the 10-year average. Late winter season snowstorms generated a higher streamflow forecast and consequently relatively high early curtailment of water rights was initiated on the Conejos. Then persistent high velocity, warm winds in May and June sublimated a significant amount of the snowpack. As a result forecasts for the Conejos and the Rio Grande were downgraded several times during the season. Early curtailment on the Conejos coupled with the fact that the forecast was not realized meant that for much of the latter part of the season there was no curtailment. On June 1 the projected Conejos annual index for in June was 336,800 acre-feet but the year ended with 267,300 acre-feet. The Rio Grande was projected at 666,200 acre-feet with an actual index of 577,600 acre-feet. Therefore the Conejos ended up at about 80% of the forecast and the Rio Grande about 87% of the forecast.

Due to the curtailment situation outlined above, and the later long steady runoff some of the more junior rights on both the Rio Grande and the Conejos did not receive water this year. This is particularly true in that the reservoirs on both the rivers never came into priority during the runoff in 1998. The most junior priority served on the Rio Grande was the Prairie Ditch 1903-34E that was in priority for only a few days. The most junior water right served on the Conejos was the Eight-Mile Ditch, priority No. 196. Other streams in the basin had a mixed bag for streamflow with Trinchera Creek staying well above normal for most of the year and others running relatively short. Trinchera Creek did

contribute to the flow of the Rio Grande at the Stateline during the late winter and early spring that helped with the Compact deliveries. Call records for the different streams in Division III are listed in Section IIE.

On the Rio Grande mainstem in particular, the only Compact curtailment imposed once the irrigation season started in late March was some curtailment of return flows during the runoff. After that, there was no curtailment through the end of the year. A late season irrigation demand by the Rio Grande Canal was allowed because of the very mild fall. On November 9, 1998, the winter recharge decree was honored and the six ditches were able to divert until December 7. The ditches covered by the recharge decree diverted approximately 20,000 acre-feet during that month. This will undoubtedly help the 1999 season in both the areas of return flows and for the groundwater table conditions.

A unique situation arose in the fall of 1998 that took advantage of the flexibility of the operation and accounting of the Closed Basin Project. The Division recommended late in the season that the allocation committee allow the allocation percentage of the Project production between the Rio Grande and the Conejos to be changed from the previously set 60/40 to 80/20 for the entire calendar year. This allowed the over delivery of the Conejos to be lowered, the Rio Grande to recharge throughout the fall, and the long-term average in the 60/40 agreement to be closer to the 15-year long term 60/40 percentage. As a result of all of the above-described administration, at year's end, the Rio Grande had over delivered approximately 600 acre-feet and the Conejos 7,900 acre-feet.

b. Rio Grande Compact

Elephant Butte and Caballo started 1998 with a total of 1,967,700 acre-feet in storage. Of that amount, 108,400 acre-feet was credit water of New Mexico (105,500) and Colorado (2,900). The forecast, while relatively good in the upper basin, did not lead the Division to expect a spill from the Project in 1998. As has been discussed in previous reports, the Commission has for many years been unable to agree how we should account for the flood reservation which the United States Bureau of Reclamation (Reclamation) invoked in Elephant Butte Reservoir in 1986. The commissioners reached an agreement in a special meeting in September 1998 concerning this issue. In return for recognizing the 50,000 acre-foot flood storage pool in Elephant Butte and Caballo in the accounting Colorado agreed with the other two States to recognize the standard Compact accounting.

Colorado ended 1998 with approximately 11,100 acre-feet of credit. New Mexico ended the year with approximately 153,000 acre-feet credit in Elephant Butte Reservoir. New Mexico did not experience the heavy summer precipitation in the middle and lower valley this year and therefore did not have the significant over delivery that they have had in recent years. There was approximately 808,000 acre-feet of water released from Project Storage this year, which once again exceeds the normal release from the Project (790,000 acre-feet). Total Project Storage at the end of 1998 was 1,741,000 acre-feet.

Additionally, Reclamation filed a quiet title suit to the water rights of the Rio Grande Project. The Federal District Court that was assigned the case ordered the parties to mediate the issues if possible. This action lead to many negotiation meetings to work out an operating procedure for the project and the issue of title. At the present, mediation between the principal parties (The Bureau of Reclamation, Elephant butte Irrigation District, and the El Paso County Water Improvement District No. 1) is continuing with Colorado and

New Mexico and other parties awaiting the opportunity to become involved in the negotiations. Parties in the San Luis Valley still hope there is the ability to address Colorado's concern about Project operation and to limit any impact to them as the uses in the area below Caballo Reservoir change to municipal and industrial uses.

Changes in personnel continued to be the norm with the Compact. Jack Hammond, Commissioner for Texas, unexpectedly resigned near the end of the year. Joe G. Hanson has been named his replacement. Norman Gaume took Jay Groseclose's position as Engineer Adviser for New Mexico.

A call on the Rio Grande for irrigation by the Rio Grande Canal occurred in the middle of March again this year. Knowing there was some possibility that there would be Compact curtailment of index flows, the Division agreed to the early demand as long as it was understood that if there were curtailments, the Canal would pay back the portion of their diversion that occurred prior to April 1st to the Compact.

From that point forward, there was no curtailment of Rio Grande index flows through the end of the year. Tributary inflows, Closed Basin Project production, late December flow and return flows were used to meet the obligation of the Rio Grande mainstem. Administration of the Compact and water rights is a constant challenge because of the many different conditions involved in this complex basin. Runoff forecasts, Compact status, late season precipitation, antecedent conditions and tributary inflow make for an interesting combination of variables to consider. A more detailed accounting of Colorado's Compact status is found in Section IIF of this report.

The Conejos on the other hand had significant curtailment from the beginning of the irrigation season. This was brought on in part because of the size of the April through September forecast, which turned out to be approximately 40,000 acre-feet in excess of what was predicted on June 1st. The range of curtailments was from 35 to 0 percent.

c. Costilla Creek Compact

The Costilla Creek Compact Commission met in Garcia, Colorado this spring, the first time any one can recall that the meeting has been held in the Basin. Holding the meeting in the middle of the Costilla Basin lead to a very large turnout. Part of the reason that the turnout was the turmoil concerning the administration of the Creek. Eddie Trujillo, the long time Engineer Adviser for New Mexico retired early in the 1998 calendar year. His pending retirement led to a complete review of the administration of the Creek. During that review, it became apparent to the Colorado contingent that there were a number of unexplained procedures that had been used to administer the water rights outlined under the Compact. These questions led to a number of field investigations and review of why the Creek is in the situation it is. For the past several years there have been complaints from a number of users on the Creek that it isn't being administered correctly. This, as well as involvement of Amigos Bravos, an environmental organization, caused many questions to be asked of the Watermaster and New Mexico as to the justification of issues that were identified. At the annual meeting the Commissioners directed the Engineer Advisers to develop an operating manual for the Watermaster. The Commissions also directed the Watermaster to publish the daily administration sheet in Costilla so all water users would know how the water was being delivered. The Commissioners also requested the Advisers review all the measuring structures on the Creek and advise them of any deficiencies. The Division Engineer, who is the Engineer Adviser to the Colorado Commissioner, spent considerable time following up on the Commissioners' directives.

At the time of this writing, the Engineer Advisers have a rough draft of the Watermaster Manual and will try to have a final draft for review at this spring's meeting. Colorado is still questioning a number of specific issues still unanswered by New Mexico.

The upcoming season will surely bring a number of new challenges in the administration of Costilla Creek.

d. Closed Basin Project

The Closed Basin Project delivered a total of 29,986 acre-feet to the Rio Grande in calendar year 1998. Of this, 29,980 acre-feet were creditable as deliveries for the Compact and 6 acre-feet were not creditable due to exceeding water quality standards in the Compact. Including the water that was pumped for all purposes, the Project produced a total of 34,310 acre-feet this year. The Project continues to be plagued by iron bacteria contamination commonly known as biofouling. This has reduced the output capacity of some wells by a large percentage. The Bureau of Reclamation has continued to work on the problem during the year by hiring a number of consultants to address this critical problem. Some attempts to rid the wells of the contamination have met with limited success but most have been temporary fixes if at all. The Project produced a maximum flow of 71 cfs this year, but the mean flow for the 1998 calendar year was 45.8 cfs. The Project was pumped at full capacity during a substantial portion of the year. The water produced and delivered to the river was extremely helpful in that effort to deliver the water necessary to meet the Compact obligation. Water quality levels were maintained so that all of the water met the requirement under the Compact except for the 6 cfs mentioned earlier.

The Allocation Committee set the initial allocation of Project water in April at a 60/40 percentage for water that reached the river from the Project in 1998. Late in the season it became apparent that the Conejos River system would over deliver due to the high over forecast of the index and early high curtailment. The Allocation Committee recognized the benefit of reallocation of the Project water and reset the allocation at an 80/20 percentage in late fall. This allowed the over delivery by the Conejos to be reduced, the Rio Grande the opportunity to recharge throughout the late fall and early winter, and

brought the long-term average of the 60/40 agreement closer to the agreed upon value. Of the total of 29,980 acre-feet of creditable water delivered to the river, 5,996 acre-feet went to the Conejos under the 80/20 split and 23,984 acre-feet went to the Rio Grande. Project deliveries made during 1998 were as follows:

- 1,120 acre-feet to the Blanca Wildlife Habitat Area
- 3,204 acre-feet to the Alamosa National Wildlife Refuge
- 29,980 acre-feet (creditable) to the Rio Grande
- 6 acre-feet (non-creditable) to the Rio Grande
- 34,310 acre-feet total pumping

e. Reservoirs

Due to the below normal snowmelt runoff, the reservoirs were unable to store under their priority storage right in 1998. While they started out with a modicum of water most ended the year with less in storage than the previous year. Table B in Section II lists the maximum and minimum storage levels for the major irrigation reservoirs in the San Luis Valley. As shown in this table, most of the reservoir storage levels varied throughout the year as they gained during the irrigation season from direct flow storage and then released water during the remainder of the season.

As was mentioned in last year's report, Rio Grande Reservoir, on the mainstem of the Rio Grande, experienced damage to the gate's outlet structure in the runoff of 1997. The reservoir was drained in December 1997. The repairs were made successfully but dramatically shortened the storage season for the Reservoir. The damage and repair has been a problem for the San Luis Valley Irrigation District in the past and is difficult and costly. This problem is not well understood and has resulted in drafting of a formal Memorandum of Understanding with the State for the operation of the reservoir. While not finished at the time of this writing, it will hopefully provide for the safe operation of the

reservoir, protect downstream water rights and the States ability to meet Compact obligations.

Of other significant note is the draining of Trujillo Meadows Reservoir mid-summer to allow for gate repair and the installation of a cutoff trench in the dam to reduce seepage. This work is a continuing effort to upgrade the dam to address changing hazard ratings of the area below the dam. The work was done very well from all appearances and will be put to the test as the reservoir fills over the winter. The water from the reservoir was exchanged to Platoro for the construction period and is being exchanged back during the 1998-99 winter.

f. Stream Administration

Stream administration was relatively straightforward during 1998 with most streams in the San Luis Valley sustaining near normal flows throughout the year. No flood events occurred and even though there was limited precipitation the summer flows held up very well. As always, the vagaries of the weather provide for very challenging tasks to insure that we maximize diversions in the Valley and still meet our Compact obligations. Spring winds, late season precipitation, return flows, stream losses and tributary inflow all offer another variable that we need to consider. The continual challenge of insuring that proper administration of water rights is accomplished requires regular review of procedures and open and frequent communications. A commitment by the water commissioners, Division Engineers and their Assistants to do that is extremely important in our efforts to serve the public in an effective, efficient and proper manner. The administration of water rights and the accurate recording of the diversions should remain the highest goal of the Division.

Direct flow storage, exchanges, and augmentation plans continue to complicate how the rivers are run and how we handle the accounting. On the Rio Grande,

the daily water administration sheet continues to get more complicated and takes more time for the District 20 staff to complete. We continue to refine the administration sheets for the other districts, too. As administration and record keeping changes to accommodate these new decrees, we need to consider the privilege we have in the flexible water rights system that is in place in Colorado.

g. Water Court

The activity in Water Court was similar to 1997. There were a total of 40 cases filed in 1998 as compared to 35 cases filed in 1997. Some of these cases were filed in anticipation of Stockman's Water filing an application during 1998. Appendix A contains a breakdown of the Court activity for the year. The long awaited filing by Stockman's water had not occurred at the end of 1998 and apparently will not be filed until later in 1999.

Pat McDermott continued to handle the bulk of the day to day Water Court activity, while Craig Cotten and Mike Sullivan handled some of the caseload. They reviewed the applications and supplied recommendations to the Division Engineer for inclusion into the Consultation Report to the Referee. The staff spent a lot of time working with applicants and attorneys to prevent injury to other water users by crafting appropriate terms and conditions. However, the time spent on negotiations has led to very few applications having to go before the judge.

We continue to have excellent working relations with the Water Referee, William Martinez and the Water Court and feel that, although we have increased our workload in this area, the job is well done.

h. Dam Safety

A circumstance affecting the Dam Safety Branch was the Legislative Audit. A major recommendation of the audit was to eliminate duplication of inspections by qualified State, Federal, and private engineers. The initial impact of this recommendation was to

change our policy regarding routine inspections of Federally licensed or owned dams. In Division 3, this resulted in one Class I dam being removed from our routine inspection schedule.

Another factor affecting the Dam Safety Program is the ongoing proceedings of the Extreme Precipitation Committee. This committee is developing new standards for modeling extreme precipitation for elevations above 7500 feet. Hydrology studies on existing Class I and II dam spillways are being postponed pending the outcome of this committee.

Dam safety inspections in Division 3 were conducted by Frank Kugel, the Dam Safety Field Engineer shared with Division 7. Twenty-seven dams had annual safety inspections performed by the Field Engineer.

The Colorado Division of Wildlife undertook a major modification of Trujillo Meadows Dam. The upgrading from Class II to Class I required an enlargement of the spillway to safely pass the new Inflow Design Flood. The spillway was widened from the original 118 feet wide to 130 feet wide, and the dam crest was raised 7.6 feet to increase freeboard. The 36-inch corrugated metal pipe outlet was extended some 100 feet downstream to lessen its susceptibility to landslide damage from the steep right abutment. Finally, a slurry cutoff wall was constructed in the left abutment contact zone. This slurry wall is designed to eliminate the unsafe seepage conditions at the left groin.

The outlet works at Rio Grande Dam underwent a major repair to correct vibration and cavitation damage. New steel plating was welded into the ceiling of the downstream gate chambers. Pressure grouting was used to fill in the voids between the chambers and the rock tunnel walls. Cavities in the concrete immediately downstream of the gate chambers were filled in with new concrete. A proposed outlet operation plan is designed to minimize any future outlet damage caused by turbulent flows.

i. Hydrographic Program

1. Duties

The Hydrographic Branch in Division 3 has the responsibility of providing quality and accurate 'real time' stream flow data and historic record of streamflow in and around the San Luis Valley of Colorado. This includes the Rio Grande and the Conejos Rivers and their tributaries, as well as those streams tributary to the Closed Basin. The Branch operates and maintains over fifty gaging stations, and produces a yearly flow record on forty-three of those stations. In addition to our duties in Division 3, we have also been asked to assist three other divisions with their hydrographic programs this year.

The Hydrographic staff assisted in installing fourteen additional stations under the Rio Grande Decision Support System. A total of twenty-two new DCP's will also be installed. Twelve of these were new installations on streams, and 10 are to be installed on major diversions from the Rio Grande and Conejos Rivers. Most of the new stream stations were installed along the east rim where there is little information on the inflows to the Closed Basin. Two of the stations are to be on the Conejos River where they will assist in determining the deliveries and use on the north and south channels. The Ditch and Canal companies were very receptive to having DCP's installed in their shelters. Installation of most of the new shelters was completed by the end of the year. Installation of the DCP's in the diversion shelters continues and should be complete before the 1999 irrigation season begins. The majority of the gages have been established and more than half of the satellite systems are now transmitting. It is our plan that next year we will have added sixteen yearly records to our publication, and will be well on the way to increasing our knowledge of the hydrologic system in Division 3 and producing a broader base of data for future water related endeavors.

2. Closed Basin

The Hydrographic Branch in Division 3 is also charged with fulfilling the terms and conditions of a cooperative agreement between the State of Colorado and the U.S. Bureau of Reclamation. This agreement 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 Bureau of Reclamation and to other public entities. In addition, the hydrographers are consulted on certain areas of concern regarding streamflow and measurement within the project.

The current cooperative agreement has been in place since 1994 and is set to expire in September of 1999. We are currently involved in negotiations with the Bureau of Reclamation to develop a new agreement that will be mutually beneficial to all parties.

3. Construction Projects

Construction of the new Rio Grande at Alamosa gage was the main construction project completed by the hydrographic branch during 1998. The old Rio Grande at Alamosa gage was replaced due to the upgrade of the levee through Alamosa. Other projects completed include the placement of bench marks at Rio Grande at Del Norte gage and North and South Channel Conejos River near La Sauses gages, the hydrographic staff has also been instrumental in the ongoing installation of the gaging stations associated with RGDSS.

4. Satellite monitoring Repair Facility

The Satellite Monitoring System Repair Facility in Division III is responsible for the 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. Approximately 30 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. Two privately owned satellite systems were installed in Division 3. One was installed at the Empire Canal near Monte Vista and the other was installed at the Pine River Weminuche Trans-Mountain Diversion Ditch at Weminuche Pass. The satellite equipment at Rio Grande at Alamosa was relocated to a new gage. New cable and conduit was placed at Mountain Home Reservoir from the gatehouse to a shaft encoder at the outlet. Water temperature probes were installed and connected to existing satellite equipment at Rio Grande River near Lobatos and Rio Grande River near Del Norte. The new Sutron satellite equipment for the RGDSS installations was prepared and tested, and the computer files were set up to receive data from these stations. Satellite equipment training was provided for Division 4 personnel.

The Facility had its hands full this year as it took on, in addition to regular duties, the additional 22 new DCP's for the RGDSS. All units needed to be setup and bench tested prior to installation in the field.

j. Ground Water and Well Permitting

In 1998, 522 well permits were issued from the Division III office under the decentralized permitting system. The average turn around time was less than nine days. Nearly all members of the office staff can assist the public with permit applications and with researching permits and court cases.

The Division assisted the Denver office during Well Blast Week. Jerri Baker and Joe McCann provided valuable assistance in helping clear up the backlog of permits.

In addition to permitting, over 120 field inspections were performed. Many of these were to verify historic use of irrigation and domestic wells. Other inspections pertained to Water Court applications and to administration of court decrees.

Expansion of use of registered and/or adjudicated irrigation wells continues to be a concern. In the early 1970's, hundreds of irrigation wells were adjudicated for 1000 gpm or more. Many of these wells were not then and are not now capable of producing those quantities. With the rise in value of agricultural land and products these wells are now being used to their fullest extent and alternate points of diversion and supplemental well permits are being applied for. At present, each of these requests is dealt with individually.

k. Water Records and Information

The Water Commissioners continue to rely more heavily on the computer to perform their duties. The availability of gage information, from the computer each morning, allows the commissioners to make and implement decisions regarding diversions early in the day. This information, published in the daily stream administration sheet and available to the water users, allows for more efficient allocation of the resource. It also keeps the water users more informed about the conditions on the river each day.

This year was an interesting one for Mike Sullivan, the new Assistant Division Engineer, and the Water Commissioners. Mike had to learn the whole system and the Water Commissioners had to be patient with his endless questions about how their system operated. Fortunately, the Water Commissioners have a good handle on the toolkits, which made developing the diversion records an easier task. This year the Division again copied the final diversion records in the Division Office, which resulted in the information being available to the public by mid- January 1999.

The Water Commissioners ended the year by updating the ownership information in the computers, however, no concerted effort was made on the QA/QC program dealing with historic data other than this.

In 1998 all of the deadlines for submittal of hydrographic records to the US Geological Survey, the Denver Office, and the Rio Grande Compact Commission were met. The Hydrographic staff, with the help of a Water Commissioner, does a great job getting the records compiled and checked.

The public access computer for well information was well used this year. The 'regular' customers are very literate in operation of the system. The once-a-year user is still given a lot of assistance in accessing the well records, decrees, and diversion records.

I. Special Projects

The newest special project in the Division is the Rio Grande Decision Support System. Under House Bill 1011 the legislature directed the Colorado Water Conservation Board to implement the Rio Grande Decision Support Study (RGDSS). The Division 3 office has taken on the installation of the 22 new DCP's in the valley. Fourteen of these were new installations on streams on the northeast side of the valley and on the Conejos River. Eight stations are slated for major diversion structures on the Rio Grande and the Conejos River. By the end of the year most of the new stream shelters were installed and the DCP's on line.

The Rio Grande Silvery Minnow Recovery Team completed the recovery plan. The Division Engineer was intimately involved in the development of the recovery plan making many trips the New Mexico to meet with the recovery team. The Regional Director of the US Fish and Wildlife Service has since accepted the plan. The reach of river most impacted by the recovery plan is the Middle Rio Grande. There was no known impact

on the Upper Rio Grande. Environmental groups have sued the Service to force them to designate critical habitat for the minnow.

The Division Engineer continues to be the Colorado Engineer Advisor on both the Rio Grande and Costilla Creek Compacts. The time requirement for both of these compacts was substantial this year.

The Costilla Creek Compact met in Garcia this spring. A great number of the local citizens attended the meeting. The Costilla Creek Compact Commissioners directed the Engineer Advisors to develop an operations and accounting manual for the Watermaster. The Division Engineer developed a draft document and presented it to the New Mexico Engineer Adviser. There have been many meetings and field trips to outline the operations manual.

The National Water Quality Assessment program published its final report this spring. There were a number of concerns about the conclusions and certain statements in the final report and it is our understanding that the USGS is considering making revisions to the report as it relates to the Rio Grande.

The final report of the Western Water Policy Advisory Commission was published in 1998. The State of Colorado had many objections to the assumptions, recommendations and conclusions in the report. Several letters were written to the Commission voicing those concerns but it appears that none were considered in the final report.

Another special project dealing with interstate issues included attending meetings regarding the development of an Upper Rio Grande Water Operations Model. The model is being developed by several federal agencies. This model will be used to look at water storage and delivery operations in the Upper Rio Grande Basin. Brian Ahrens from the Denver office has been very involved in the project and has been a great help.

The Division Engineer has been extensively involved in quiet title action initiated by the Bureau of Reclamation on the Rio Grande Project. The Federal court has directed the parties to the case to mediate the issues. A great many meetings were held in Texas and New Mexico trying to draft an operating plan for the Project. The mediation continues but at the time of this writing only three of the principal parties in the suit are involved in the negotiations. The three Compact states have been left out of this portion of the mediation, much to their chagrin.

The Rio Grande Project Operations Study has slowed to a snails pace because of the loss of personnel from the Contractor for the job. In 1998 several products were delivered but much work remains to be done.

The Alamosa River Restoration Project has been meeting every month in an attempt to locate funding for design and restoration of the River channel from State Highway 15 to State Highway 371. The authority for the involvement of DWR and other DNR agencies was an executive order issued by Governor Romer. This project has taken a great deal of time and the project does not seem to have an end in sight.

The Rio Grande Restoration Project is just beginning to get off the ground. During the year the Division helped identify some of the problems on the mainstem of the Rio Grande and locate an entity able to head the restoration program. This project addresses severe erosion and deposition in areas of the Rio Grande mainstem between South Fork and Alamosa. In their January meeting the Colorado Water Conservation Board approved \$200,000 to initiate the planning and data acquisition for this project.

2. Water Issues

The biggest issues in the Valley this year were the two initiatives placed on the statewide ballot by Stockman's Water Company. These ballot initiatives would have required water users to pay for water pumped from under state lands and to install totalizing

flow meters on all non-exempt wells in the valley. They would have also required extensive State monitoring and enforcement activities and no provisions to accomplish these activities were considered in them. The citizens in the valley banded together to fight these initiatives and were successful in defeating the initiatives at the polls.

Coupled with the initiatives was the anticipated Water Court application by Stockman's Water. Again, no application was filed this year, despite repeated rumors that Stockman's Water was prepared to file. According to Stockman's they will delay filing an application pending possible legislative action during the 1999 session.

One of the larger court cases was the San Luis Valley Canal and Prairie Ditch Company filing for recharge decrees. Work on developing terms and conditions to prevent injury to other water users continued through much of the year.

The US Forest Service reserved rights case settlement discussions took a turn for the worse this past year. After years of discussion and near settlement, the Service representatives in Washington have rejected the concept which had evolved and the parties are apparently facing a lengthy trial on these issues. The local and regional Service staff who have diligently worked toward a settlement with the parties are as disappointed as anyone involved.

Water users in the San Luis Valley provide a constant flow of issues and ideas that for consideration involving water right and Compact administration. The staff field those ideas and try to identify new ways we can effectively accomplish both with as little impact as possible on the community. Many of these ideas have merit and with wide spread support can be done in ways that help us provide better service to the water rights holders.

3. Involvement in the Water User Community

As always, we strive to be as involved as possible in the Water User Community. 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 and all other water user group meeting which 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.

We have actively participated in the San Luis Valley Wetlands Focus Group, in the Rio Grande Silvery Minnow Recovery Plan, the Southwestern Willow Fly Catcher Recovery Technical Advisory Team, the Bureau of Land Management Rio Grande Corridor Plan and many other public forums which require input on water issues.

4. Workload Changes/Administration/Personnel

The Assistant Division Engineer, Bob Plaska, was promoted to Division Engineer in Division 6 effective February 1, 1998. We congratulate Bob on his promotion and new job, but his historical knowledge of the Division will be missed. Mike Sullivan was selected as the new Assistant Division Engineer and began work in May of 1998. Mike came to us from the CWCB and private consulting firms and offers a great variety of experience that will be a valuable asset to the Division 3 office and the DWR. Tables III-A, B, and C list the employees assigned to the Division along with a summary of their activities in the past year.

A number of workload changes occurred during the year as we made adjustments for the new Assistant Division Engineer. Changes were made in Water Court activities, administration analysis, well permitting supervision and Water Commissioner supervision during this transition period. Other than that issue, we have tried to involve staff as time allowed in many issues and situations outside their primary responsibilities. This allows them to prepare for eventual changes in jobs and offers new thinking into the usual way of doing things.

Two examples of that are Craig Cotten and Joe McCann who have been given new areas of responsibilities including water rights analysis, court case investigations and well permit application analysis. They have done very well in learning these new tasks, improved their ability to compete for promotions or transfers and greatly increased our ability to do our job. Another example is sending Jerri Baker and Joe McCann to Denver for the Well Blast Week to help with the backlog of permit applications. It is our belief that this exercise brought a whole new appreciation for the field and Denver responsibilities of permitting non-exempt type wells.

a. Training

Division 3 personnel took part in a joint training session with Division 7 in March that covered water administration. Will Burt presented an overview of CPP, too. Jerri Baker attended COFRS training in Denver. Mike Sullivan and Scott Veneman attended GIS training in Boulder and Steve Baer attended GPS training in Montrose. The Division 3 staff was trained in CPR and First Aid in June.

B. Key Objectives and goals

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

1. Administer the Rio Grande and Costilla Creek Compacts in a manner that ensures the entitlements of the Colorado under the 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.
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 the forthcoming water commissioner toolkits.
6. Correctly issue well permits on a timely basis under the well permit decentralization program.
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 the CWCB, the SEO, and the consultants on the RGDSS project to ensure that the system meets the needs of the users and is correctly done.
10. Continue to implement Principal Centered Leadership.
11. Identify any problems with and improve water administration at every level in the organization.

C. Major Activities for 1999

There are several activities that we anticipate will affect our workload in the coming year. Foremost is the implementation of the RGDSS study. The division will be assisting the consultants by providing information on the operations of the each district. The division will also be spending some time correlating the well permit records with the water court records to eliminate the "double counting" of wells in the division. Additionally, the division

will continue to determine actual locations of headgates and structures using the available GPS technology.

The Division anticipates the Rio Grande Project quiet title case mediation will again take up a lot of the Division Engineer's time.

The administration of the Compacts will again be one of the most important duties. Administration in 1998 was difficult due to the circumstances we were faced with in both basins. The early snow reports and spotty snow conditions seem to be pointing toward a dryer year for 1999.

A major activity in 1999 will be familiarizing ourselves with the new level of technology for both our water commissioners and the Alamosa office. With the impending shift to Hydrobase, new user interfaces, and new hardware with which to use it, we anticipate that a lot of time will be spent getting the water commissioners trained and comfortable with the new systems.

A real concentration on quality water administration and record keeping will be one of the top priorities of 1999.

D. 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. We are working with the San Luis Valley Irrigation District, the users on the Rio Grande and other reservoir owners to operate the reservoir releases outside of the damaging range of flow and protect the downstream vested rights. We are trying to use a variety of existing decrees to ensure that no

senior users downstream or our ability to deliver Compact water to New Mexico is impacted by this release restriction.

2. During extremely dry winter months there are areas in the San Luis Valley that are prone to domestic wells going dry and stock unable to be watered. After several different scenarios were suggested and failed, we will amend our normal Compact administration in some cases where possible. We will try to let specific ditches divert small amounts of water now and pay the Compact back later in the spring by giving up a part of their irrigation supply.
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 requires repayment later in the season to the extent there is a Compact curtailment.
4. We are currently in the brainstorming process of trying to achieve in-stream flows on the Alamosa River in an area that is typically dried up in the winter by reservoir storage. Along with a number of other entities we are trying to identify the possibility of a pool of water that can be stored in the summer and released in the fall and winter to keep a live stream. At the current time it doesn't seem possible or practical, however, we are identifying areas of common ground that may be used as a basis for an agreement between the reservoir company and the direct flow users to accomplish everyone's goals.
5. We are currently working on an operating plan that would allow the use of a post-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.

6. 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.

E. Acknowledgements

I would again like to express my appreciation to the Division 3 for the professional and dedicated service that they provide to the public we serve. With all the things that can detract from their jobs, they constantly try to provide an honest, dedicated, effective and efficient work ethic that shows each and every day.

I would like to especially like to mention Bob Plaska and express my appreciation for 11 years of exemplary service to Division 3.

Ben Cannon was selected as Water Commissioner of the Year in 1998 for his outstanding efforts in the administration of the Rio Grande in District 20. Mike Spearman was chosen as water user of the year for his efforts in helping support the proper administration of Carnero and LaGarita Creeks in District 27. The Saguache Creek Water Users Association was selected as the Water Manager of the Year for their tireless efforts to make a more efficient delivery system on the creek and helping the water commissioner in his efforts to properly administer the creek.

II. WATER ADMINISTRATION DATA SUMMARIES

A. Transmountain Diversion Summary - Inflows/Outflows

1. TRANSMOUNTAIN DIVERSION SUMMARY – INFLOWS

Recipient										
				10-Year Average		Current Year		Source		
WD	ID	Name	Stream	AF	Days	AF	Days	WD	ID	Stream
20	N/A	Weminuche Pass Ditch	Weminuche	652	37	459	21	31	4,637	Rincon LaVaca
20	N/A	Pine River	Weminuche	433	66	375	44	31	4,638	N.F. Los Pinos
20	N/A	Williams Creek Squaw Pass	Squaw Creek	308	73	289	102	78	4,672	Williams Creek
20	N/A	Tabor	Trib Clear Creek	846	159	924	141	62	774	Cebolla Creek
20	N/A	Don LaFont #1 Ditch	Trib Red Mtn Creek	23	23	0	0	78	4,670	Trib Piedra River
20	N/A	Don LaFont #2 Ditch	Trib Red Mtn Creek	175	62	0	0	78	4,671	Trib Piedra River
20	N/A	Treasure Pass Ditch	S.F. Rio Grande	98	29	233	63	29	4,669	Wolf Creek
26	N/A	Tarbell	Saguache Creek	310	53	774	106	28	4,656	Cochetopa Creek

2. TRANSMOUNTAIN DIVERSION SUMMARY – OUTFLOWS

16	N/A	Hudson Branch Ditch	Huerfano	117	35	0	0	35	657	Medano
16	N/A	Medano Ditch	Huerfano	1,047	56	834	60	35	658	Medano

II. WATER ADMINISTRATION DATA SUMMARIES

B. Storage Water

RESERVOIR STORAGE SUMMARY
IRRIGATION YEAR - 1998

				<u>Amount in Storage (AF)</u>				
				<u>MINIMUM</u>		<u>MAXIMUM</u>		
<u>WD</u>	<u>ID</u>	<u>RESERVOIR NAME</u>	<u>SOURCE STREAM</u>	<u>AF</u>	<u>DATE</u>	<u>AF</u>	<u>DATE</u>	<u>END OF YEAR</u>
20	3532	Beaver Park	Beaver Creek	3,879	10/31/98	4,467	4/30/98	3,879
20	3554	Rio Grande	Rio Grande	1,992	11/21/97	14,587	5/31/98	9,656
20	3558	Santa Maria	North Clear Creek	6,304	11/1/97	8,174	5/31/98	7,846
20	3536	Continental	North Clear Creek	991	11/1/97	7,914	5/31/98	1,290
21	3583	Terrace	Alamosa River	2,851	10/31/98	13,217	4/24/98	2,851
21	3582	La Jara	La Jara Creek	3,166	10/15/98	5,130	5/8/98	3,166
22	3574	Platoro	Conejos River	20,104	10/29/98	37,513	6/22/98	20,156
24	3576	Sanchez	Culebra Creek	32,213	10/12/98	40,169	6/5/98	33,223
35	3529	Mt. Home	Trinchera Creek	4,197	10/13/98	11,349	6/15/98	4,370
35	3530	Smith	Trinchera Creek	931	9/29/98	6,375	5/14/98	1,590

II. WATER ADMINISTRATION DATA SUMMARIES

C. Water Diversions

WATER DIVERSION SUMMARY IRRIGATION YEAR -- 1998

WD	Structures Reporting			Others		Estimated Number of Water Commissioner Visits	Total Diversions -AF-	Total Diversions to Storage -AF-	To Irrigation		
	With Record	No Water Available	No Water Taken	No Information Available	Ditches and Reservoirs with No Record				Total Diversions -AF-	Number of Acres Irrigated	Average AF per Acre
20	228	41	18	45	7,521	8,680	582,500	10,987	558,329	355,266	1.57
21	106	0	7	1	924	4,367	108,733	7,805	97,101	61,206	1.59
22	149	0	14	5	1,577	4,988	222,837	8,398	214,439	87,850	2.44
24	94	0	7	8	354	4,256	94,190	19,904	74,286	29,589	2.50
25	57	9	14	34	616	1,167	56,807	0	56,807	17,098	3.32
26	72	69	32	3	1,334	1,420	42,565	0	42,565	15,740	2.70
27	33	5	5	4	1,214	967	24,517	0	21,081	6,135	3.44
35	94	3	25	5	592	6,294	117,168	10,958	79,584	29,367	2.71
Totals	833	127	122	105	14,132	32,139	1,249,317	58,052	1,144,192	602,251	1.90

II.

II. WATER ADMINISTRATION DATA SUMMARIES

D. Water Diversion Summaries For Various Uses - IRRIGATION YEAR 1998

WD	TRANS-MOUNTAIN OUTFLOW	TRANS-BASIN OUTFLOW	MUNICIPAL	COMMERCIAL	INDUSTRIAL	RECREATION	FISHERY	DOMESTIC & HOUSEHOLD	STOCK
20	0	20,761	7,498	266	0	0	494	128	0
21	0	0	73	0	0	0	0	0	0
22	0	0	2,486	0	0	284	0	5,794	0
24	0	0	202	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0
35	834	0	433	55	155	0	0	36	0
Total	834	20,761	10,692	321	155	284	494	5,958	0

WD	AUGMENTATION	EVAPORATION	GEOTHERMAL	SNOW- MAKING	MINIMUM STREAMFLOW	POWER GENERATION	WILDLIFE	RECHARGE	OTHER
20	3,256	47	0	0	0	890	6,886	3,060	37,079
21	7	7	0	0	0	0	0	33	25,779
22	112	0	0	0	0	0	0	145	0
24	39	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	0	0
27	0	0	0	0	0	0	0	3,295	0
35	389	0	0	0	0	0	0	127	25,431
Total	3,803	54	0	0	0	890	6,886	6,660	88,289

II. WATER ADMINISTRATION DATA SUMMARIES

E. RIVER CALLS

IRRIGATION YEAR - 1998

District	Most Senior Priority Curtailed	Most Junior Priority Served	Calling Right in Spring
20 Rio Grande	#216-A Rio Grande Canal	1903-34E Prairie Ditch	#216A Rio Grande Canal
21 La Jara	#12 Valley Ditch	#1957-18 L.E. Shawcroft & Sons Ditch	#1957-14 Murphy Crowther Ditch
21 Alamosa	#2 Terrace Main	1995 J. H Valdez	#1 El Viejo Ditch
22 Conejos	#1 Guadalupe Romero and Manassa	#189 Bosque Irrigation	#32 La Saucos Ditch
22 San Antonio	#3 El Coda Ditch	#196 Eight Mile Ditch	#24 Rincones
24 Culebra	#14 San Francisco Ditch	#1951-2 Lobato Ditch No. 2	#2 San Pedro
26 Saguache	#14 Hearn Ditch	#52 Werner B. Ditch	#44 Hearn Ditch
27 LaGarita	#11 Biedell No. 10 Ditch	All Rights	#3 Biedell Ditch No. 10
27 Carnero	#8 Omnibus Ditch	1988 C. Ditch	#21 Green Ditch
35 Trinchera and Tributaries	#7 New South Ditch	#56 New South Ditch	#381/4 Notley Ball Ditch

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

II. WATER ADMINISTRATION DATA SUMMARIES

F. Compact Administration

**1998 RIO GRANDE COMPACT REPORT
Preliminary Figures**

- 1. Adjusted Rio Grande Index 577,600 a.f.
 *Adjusted Rio Grande Delivery 149,500 a.f.
 Required Rio Grande Delivery 153,900 a.f.
 Less Paper Credit per agreement 5,000 a.f.
 Net Required Rio Grande Delivery 148,900 a.f.

- 2. Adjusted Combined Conejos Index 266,800 a.f.
 **Adjusted Conejos Delivery 89,700 a.f.
 Required Conejos Delivery 86,400 a.f.
 Less Paper Credit per agreement 5,000 a.f.
 Net Required Conejos Delivery 81,400 a.f.

- 3. ***Total Delivery at Lobatos 239,200 a.f.
 Total Required Delivery at Lobatos 240,300 a.f.
 Less Paper Credit (See Compact) 10,000 a.f.
 Net Required Delivery at Lobatos 230,300 a.f.
 Margin 8,900 a.f.

4. Rio Grande Curtailment

Delivery Target	% of Index	Estimated Curtailment of Ditches	% of Index
January 1 – March 29	100	January 1 – March 29	100
March 30 – May 6	7	March 30 – July 23	0 + return flows
May 7 – July 1	12	July 24 – December 6	0
July 2 – December 6	6	December 7 – December 31	100
December 7 – December 31	100		

5. Conejos Curtailment

Delivery Target	% of Index	Estimated Curtailment of Ditches	% of Index
January 1 – March 29	100	January 1 – March 29	100
March 30 – May 6	17	March 30 – April 19	10
May 7 – July 1	26	April 20 – May 14	0
July 2 – August 5	10	May 15 – June 9	35
August 6 – December 31	0	June 10 – August 5	20
		August 6 – December 31	0

*Includes 23,984 a.f. of the creditable Closed Basin Project production.

**Includes 5,996 a.f. of the creditable Closed Basin Project production.

***Includes all the creditable Closed Basin Project production (29,980 a.f.)

III. OFFICE ADMINISTRATION AND WORKLOAD MEASURES
A. PERSONNEL

1998
DIVISION III
Office Staff

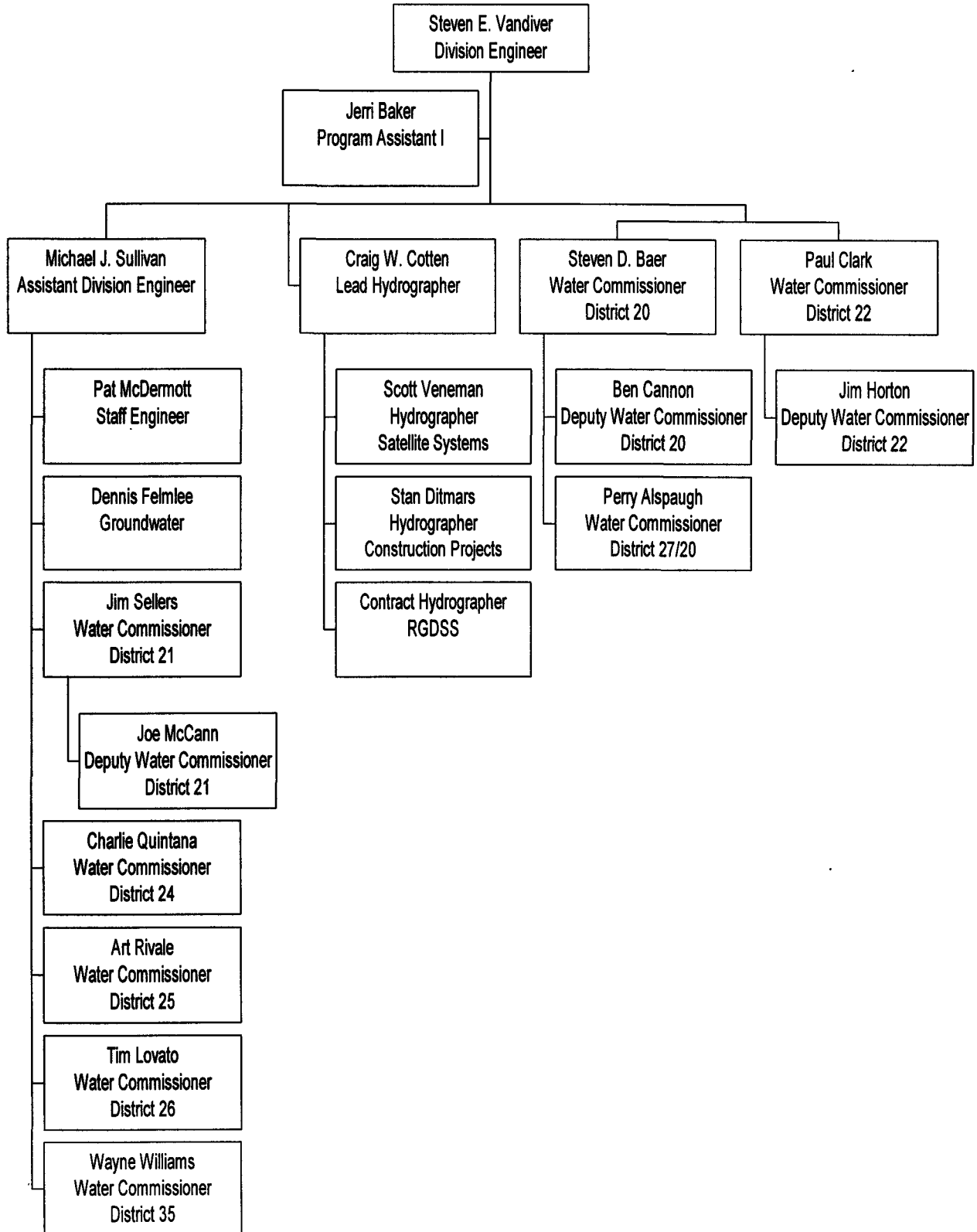
Steven E. Vandiver	Division Engineer Professional Engineer IV
Michael J. Sullivan	Assistant Division Engineer Professional Engineer III
Jerri L. Baker	Program Assistant I
Patrick J. McDermott	Engineer-in-Training II
Craig W. Cotton	Professional Engineer I
D. Scott Veneman	Engr/Physical Science Tech II
Dennis L. Felmlee	Engr/Physical Science Tech II
Stanley J. Ditmars	Engr/Physical Science Tech II

Water Commissioners and Deputies

Steve Baer	Engr/Physical Science Tech III, District 20
Ben Cannon	Engr/Physical Science Tech II, District 20
Perry Alspaugh	Engr/Physical Science Tech II, Districts 20/27
Jim Sellers	Engr/Physical Science Tech II, District 21
Joe McCann	Engr/Physical Science Assistant II, District 21
Paul Clark	Engr/Physical Science Tech III, District 22
Jim Horton	Engr/Physical Science Tech II, District 22
Charlie Quintana	Engr/Physical Science Tech II, District 24
Art Rivale	Engr/Physical Science Tech I, District 25
Timothy Lovato	Engr/Physical Science Tech I, District 26
Wayne Williams	Engr/Physical Science Tech II, District 35

III. OFFICE ADMINISTRATION AND WORKLOAD MEASURES

B. Division III Organization Chart



III. OFFICE ADMINISTRATION AND WORKLOAD MEASURES

C. ACTIVITY SUMMARY

WATER DIVISION III

1998 CALENDAR YEAR

ACTIVITY SUMMARY

<u>ACTIVITY</u>	<u>TOTALS</u>
Professional and Technical Staff	7.00
Clerical Staff	1.00
Water Commissioner FTE (Full/Part-Time)	4/5.75
Decreed Surface Water Structures	2,516
Surface Rights Administered (water diverted this year)	900
Number of Decreed Wells	12,642
Consultations with Referee	436
Water Court Appearances	92
Meetings with Water Users	402
Meetings to Resolve Water Related Disputes	64
Contacts to Give Public Assistance on Water Matters	33,538+

III. OFFICE ADMINISTRATION AND WORKLOAD MEASURES

D. ACTIVITY SUMMARY

WATER DIVISION III

1997-98 FISCAL YEAR

ACTIVITY SUMMARY

<u>ACTIVITY</u>	<u>TOTALS</u>
Professional and Technical Staff	7.00
Clerical Staff	1.00
Water Commissioner FTE Assigned (Full/Part-time)	4/5.75
Decreed Surface Rights	*
Surface Rights Administered	*
Wells	*
Consultations with Referee	432
Water Court Appearances	96
Meetings with Water Users	324
Meetings to Resolve Water Related Disputes	107
Contacts to give Public Assistance on Water Matters	32,251+

*See Calendar Year Activity Summary

APPENDIX A
WATER COURT
ACTIVITIES

1998

WATER COURT ACTIVITIES
January 1 Through December 31, 1998

Number of applications received from January 1, 1998, through December 31, 1998:
98CW01 through 98CW40.

Types of claims received:

47	Wells
15	Ditches
15	Springs
1	Reservoirs
1	Storage
1	Augmentation Plan
0	Canals
0	Gravel Pit
0	Power Plant
0	Snowmaking Diversions
0	Pipelines
0	Creek
<u>0</u>	<u>Ponds</u>
78	TOTAL

Number of cases terminated: 28

Number of cases pending as of December 31, 1998: 99