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State Engineer

DIVISION OF WATER RESOURCES

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January 19, 1987

Dr. Jeris A. Danielson
State Engineer
Division of Water Resources
1313 Sherman Street
Denver, CO 80203

Dear Jeris:

On behalf of the staff of Division III, I submit herein the Annual Report for 1986.

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

Respectfully Submitted,

Steven E. Vandiver

Steven E. Vandiver
Division Engineer
Division III

Robert Plaska

Robert Plaska
Assistant Division Engineer
Division III

1986

ANNUAL REPORT

DIVISION OF WATER RESOURCES

DIVISION III

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I. WATER ADMINISTRATION

The year 1986 proved to be a year of repetition in Division III. The snowpack and subsequent runoff of the last two years looked like twin sisters, both producing over one million acre feet at Del Norte, providing ample water supply for the users, keeping ground water storage full and insuring that Elephant Butte Reservoir in New Mexico remained full. For the second year in a row Elephant Butte spilled which released Colorado from any delivery obligation. Yet, Colorado, because of the shortage of storage facilities on the Rio Grande, delivered over 800,000 a.f. of water to the state line, much of which was wasted to the Gulf of Mexico. This over-abundance of water in both New Mexico and Colorado in 1986 will also insure a spill in January 1987 for an unprecedented third consecutive year. The last time a spill occurred prior to 1985 was 1942. Considering the large runoff and all the things that go with it, plus the spill at Elephant Butte, 1986 was a very interesting year.

A. Current Water Year (1985-1986)

1. Accomplishments

a. Colorado's obligation under the Rio Grande Compact was again met in two ways this year, thanks to an abnormally high runoff. First, provisions in Article VI of the Compact provide that there is no annual obligation to deliver water to New Mexico in the year of a spill of water from Elephant Butte Reservoir. A "paper spill" occurred in early 1986 prior to the irrigation, assuring users that they would not be curtailed for Compact purposes. The date of the spill has yet to be determined by the Commission because of a disagreement over the interpretation of the rules governing calculated spills. Secondly, there was enough water in the Upper Rio Grande system this year to provide a full supply to all users and still meet what would have been our obligation without a spill.

For the second year in a row the Rio Grande mainstem near Del Norte produced in excess of one million acre feet of water. The 1986 runoff was the highest since 1921 on the Rio Grande producing approximately 1,034,000 a.f. It was also the fifth consecutive above-normal year on both the Conejos and Rio Grande Rivers. This, of course, helped keep ground water tables high, filled reservoirs and kept the call off the rivers except for just a couple of weeks during the late summer.

This second near-record year caused considerable concern in the town of Alamosa and its levee system. After much urging by our office as well as

the Corps of Engineers, the city, county and state combined to start a levee rehabilitation project which will meet Corps specifications. The first phase was completed early this winter and will help the flood flows move much more easily through the town. The next phase is to start in the spring of 1987.

b. The satellite monitoring system worked well during the year and the hydrographic staff was trained to handle many problems that came up. This enabled Division III to have a minimal amount of down time. The system provides extremely valuable information to administer rights, track Compact deliveries and monitor flood flows. Several commissioners are hooked into the monitoring system and can more exactly administer their streams because of the excellent data available. Our thanks to Chuck Shaeffer and Will Burt for all their help.

c. Although we have no claim to the progress on the Closed Basin Project, its construction continues to progress well with Stages 1, 2 and 3 complete and Stage 4 well ahead of schedule. There are, however, critical funding deficiencies which threaten the completion of Stage 4 and a possibility of cancellation of Stage 5. We sincerely hope this will not happen. After the spill of Elephant Butte, the Rio Grande Water Conservation Board decided that since there was no need for water to be delivered to the river from the project for Compact purposes, they asked the Bureau to pump only the amount necessary to satisfy the other priorities. The Bureau delivered 2,878.4 a.f. to the Alamosa Wildlife Refuge, 892 a.f. to the Blanca Wildlife Management Area and 24.3 a.f. to the Rio Grande River to adjust the static level of the canal.

d. A new Conejos River gaging station near Mogote was constructed by our hydro staff and District 22 Water Commissioners this summer after approval by the Compact Commission. Both gages there will be operated until a curve can be developed for the new gage. This station was built because of river channel movement and it will provide a much better stage discharge relationship of a wide range of flows.

e. The Rio Grande at 30-Mile Bridge near Creede and Alamosa gages were also rehabilitated this summer. A new well and new inlets were put in place to greatly increase the life of those stations. Many thanks to the hydros and all Commissioners who participated in the projects.

f. Thanks to Jeris, the two vacant positions in Division III were filled this year. The part-time position in District 24 at San Luis was permanently filled by Charles Quintana and the Assistant Division Engineer position which was vacant for five months was filled by Robert Plaska from the

Engineering Branch of the Denver office. Both men have already proven to be invaluable employees. Charley was instrumental in getting District 24 users to push for the exemption of the water commissioners from the Fair Labor Standards Act provisions.

g. Our well commissioner, Dennis Felmlee, was able to quickly respond to SBU, late registration and well field inspections in 1986 and also finally was able to finish a comprehensive review of all Division III augmentation plans. This for the first time ever puts us in a position to finally administer our plans in accordance with the decrees instead of haphazardly doing those that float to the surface of one's memory.

h. The in-house entering of diversion records and tabulation updates which was implemented this year has had many hitches but has all signs of becoming an excellent program to greatly increase accuracy, completeness and timeliness of both reports. The commissioners and Sue have really come a long way using the new programs. We have not been able to produce an updated tabulation as yet but we have printed out a small district list and the program does work and it appears the 1984 and 1985 updates are in the listing.

i. Our hydrographic staff is now at its prime with all three being able to complete most all field and records work with little supervision. As a result, their work is done efficiently and effectively and much ahead of schedule. This will allow us to use them in other areas such as administration and tabulation updates.

j. With Jeris' help again, we were able to hire Mr. Win through the Conejos Conservancy District to produce a feasibility study from the user's point of view for the use of Platoro. It was very controversial with the District Board and it is still being reviewed by them to determine what use, if any, they will make of it.

k. Paul Clark was chosen as Water Commissioner of the Year for 1986 in Division III. This new award was well received and is going to be something we think the commissioners will work for. Paul did an excellent job in all areas and was a very effective commissioner the entire year.

l. We were finally able to start tracking our budget in this past year and providing a monthly summary of expenditures.

2. Involvement in the Water User Community

a. Our daily routines provide constant involvement with the water user community. Several hundred people a month come into or call the Division office for help solving their particular water problems. Working with the water bar and consulting engineers also keeps us in constant contact with the users, but not always on a cordial basis.

b. I teach a class at Adams State College each year for the International Irrigation Center. These classes generally include instruction on water rights administration, Compact concerns, and state government structure.

c. Our greatest exposure to the water user community comes with the attendance at many user meetings and Conservation and Conservancy Districts board meetings. The Rio Grande Water Users Association, the San Luis Valley , Alamosa-La Jara and Conejos Water Conservancy Districts, the Rio Grande Water Conservation Board and the San Luis Valley Well Owners Association are the main users groups.

d. Dam inspections also provide a great deal of involvement with the water user community. These contacts can prove to be fairly controversial and only go to show the need for dam inspectors, whether they are from the Denver office or the Division office, to be fair, firm and above all conscious of the effects actions will cause to reservoir owners and minimize those where possible. At the same time, the problems with dams must be identified and rectified as quickly as possible.

3. Particular Issues of Concern and Their Impact

a. With the spill of Elephant Butte Reservoir in early 1986, our attention to Compact administration was replaced by trying to formulate plans on how best to administer the river when we go back to an obligation status again. Several meetings were held between Jeris, myself and attorneys representing the major user groups, to identify the problems with no debt administration, and start the process to form a plan to best meet the needs of all concerned.

b. Platoro Reservoir again caused more headaches than it should have in 1986. With the retirement of the debt and the filling of the reservoir with flood flows in 1985, usable water was in storage at the beginning of 1986. The continuing problem between the U.S. Bureau of Reclamation and the Conejos Conservancy over the contract for repayment prevented the users

from using the water until it was all but too late in the summer. The Bureau was not in favor of amending the contract or in giving the District a temporary contract to use the water until users in the District approached Senator Armstrong about the problem and he in turn convinced the Bureau to deliver water to the users. This all took so long that well users and others had little use for the water but 1200 a.f. was bought and it did help some users to cut a second cutting of hay.

c. In our opinion, river channels continue to deteriorate on the Valley floor because of the high water years. The Conejos, Rio Grande and the Alamosa Rivers are of great concern. No comprehensive program exists for any of those rivers and only spotty work is done to fix the most critical areas. This work seldom lasts more than one season and little is done to understand the effects of that work. Poor delivery efficiencies to water users and the Compact will surely result. With today's budget problems in all areas, little is expected to change.

d. The diversion record entry and tabulation updates remain somewhat illusive but we can see much progress being made especially in the diversion record portion. By this time next year, we hope to have both areas in good working order.

e. The number of court cases filed in Division III decreased significantly the last year and therefore the backlog of cases in the Court was reduced by 40%. This is very good progress considering little has been accomplished in this area over the last several years. The complexity of the cases which were filed has increased and more time is being devoted to fewer cases as a result.

f. The Division III abandonment list will be all but done as of early 1987. The last of the cases should be completed with the deletion of the Freehold decrees from the abandonment list. This will allow the final decree to enter but still leaves us unsure as to how to properly handle those seventeen decrees. Many hours were poured into those cases and it has been a tremendous drain on resources. The final decision must be made so that some normalcy can return to District 24. Proper identification of the water right owners is essential to that process.

g. The continuing problems with the gates at Rio Grande Reservoir caused much concern again this year. The reservoir was drained in the late summer and construction will begin in January 1987 to replace the three downstream regulating gates and the liner below those gates prior to the runoff season. The repair of this same problem done in 1982 was completely

destroyed over the last two years and the dam is in worse shape now than when they identified the problem in 1982. The cost and loss of storage will hurt the SLV Irrigation District very much. The State Engineer helped very much in securing funding for the repair from the Colorado Water Conservation Board.

h. Fuchs Reservoir was given approval to temporarily store water after they all but finished construction of a new spillway in late 1986. This finally clears up a problem identified many years ago and since we are out of debt on the Compact, Mr. Fuchs will be able to store in priority in this post Compact reservoir.

i. The funding and water quality problem and legal challenges to the Closed Basin Project could affect several agreements involving the allocation of its production. If for any of those reasons the Project doesn't produce, the need for extensive rules and regulations governing ground water will again become necessary. It remains to be seen what level of production the Project will produce when it is pumped.

4. Effects of Work Load Changes

a. The training of Division III staff in the use of the computer has and will continue to change the work load of several of our employees. Diversion data entry, data processing and retrieval, tabulation updates and satellite monitoring data processing has created a need to reevaluate the duties of most of the staff in the office and several of the water commissioners. Diversion data entry by the commissioners on their own computers may change some of their duties as well as our secretary's. There are many exciting possibilities in these areas which we are looking forward to addressing.

b. Having evaluated all of the Division III augmentation plans we now have the necessary information to administer those plans correctly. This new task will take the time of commissioners and Division staff and will demand efficient planning in our work load.

5. Impact of Budget on Division Operation

a. The 1985-86 operating budget deficiency continued the reduction of necessary work volume in relation to field work. Fewer hydrographic investigations, field inspection timeliness, and less frequent dam inspections cause us great concern but there is not the money to do all these things as we think we should.

b. The 1986-87 budget allocation is the same as last year, therefore these areas will continue to suffer.

B. 1986-1987

1. Concerns Which Will Impact Division Operations

a. The spill of Elephant Butte in early January 1987 once again takes away the obligation to deliver water to the stateline. This will allow the users on both streams a better water supply this year. Because of another potentially good water year considerable water will undoubtedly reach not only the state line but the Gulf of Mexico because of the lack of conservation storage on the entire Rio Grande.

b. The timely repair of the outlet works at Rio Grande Reservoir is also of much concern. The 51,000 a.f. of storage is essential not only to the owners but for taking the peak off of the high flows in the spring. The construction start will begin in late January 1987.

c. Helping the Conejos Users gain the use of Platoro in 1987 will be a high priority to insure maximum utilization of the reservoir and the water stored there, as well as solve the question of use of the reservoir once and for all.

d. As mentioned last year we predicted S.B. 5 would cause an increase in the modeling effort in the San Luis Valley. The Arkansas litigation slowed that project but it is sure to get back on track immediately. Maurice Strong of the Baca Corporation has filed a claim in court to 200,000 a.f. of non-tributary water under the Luis Maria Baca Grant No. 4 near Crestone. This is the first bonafide claim for non-tributary water in the San Luis Valley and it will surely generate great concern among the users as well as the State. A tremendous amount of resources of all concerned will be needed to properly evaluate these claims.

e. The State Engineer has also indicated that we should start putting together ideas as to what is needed in the rules and regulations concerning ground water in Division III. With so many other large demands this effort will suffer but we do intend to at least have an outline of areas which need to be addressed in the rules.

f. Defining the administration of the Closed Basin water will need our attention this year as well. With no need to pump the project again this year we have time to do some planning prior to start up of the wells.

g. Putting the finishing touches on the diversion record production and update of the tabulation will take some time in 1987. Since both programs are new to us, it will take a diligent effort to have them usable by the next record period.

h. Final decisions on how to handle the "Freehold cases" in Costilla County will take both sound legal advice and a detailed investigation as to the true owner of those water rights which we removed from the abandonment list. As to how to tabulate these rights and administer them will take much effort.

i. Pressure will continue to be applied to the different districts to keep channel rehabilitation a high priority for them. Snag and drag programs and channel aggradation problems will be identified by our commissioners routinely so that the districts can be informed about these trouble spots and handle them as money allows.

j. The San Luis Valley Water Conservancy District's two studies, i.e., Upper Rio Grande Storage and the Deep Aquifer Study, will be monitored and we will provide as much input and data as possible to insure a product which can be used.

k. Providing varied opportunities and constant exposure to all areas of administration will get Division III's new assistant "up to speed" as soon as possible. He has already proven to be invaluable and with a complete knowledge of the San Luis Valley and its varied problems will make him able to provide much needed help to me in all areas.

2. Projected Work Items Planned in 1987

a. Plan for 1988 spill of Elephant Butte Reservoir.

b. Help the Conejos as much as possible to gain the use of Platoro Reservoir.

c. Help the Denver office in the evaluation and resolution of the Baca application for non-tributary water in the confined aquifer for the Closed Basin.

d. Draft an outline of the major areas of concern that need to be addressed in the rules and regulations for the administration of ground water in the San Luis Valley.

e. Complete the update of the tabulation and diversion record program and make them completely usable by year's end.

f. Get Bob Plaska and, to a certain extent the other office engineers, updated on administration in the San Luis Valley.

g. Merge the water rights data base into the WATER data base.

h. Continue to help the staff develop their ability to utilize the computer.

i. Implement all plans for augmentation now that we have finished the evaluation.

j. Work with area legislators to provide full funding for the satellite monitoring program.

3. Priorities of Goals and Objectives

a. Take the time and resources and educate and orient the new assistant as soon as possible so that division operations can return to a normal status and the backlog is cleared.

b. A full, competent staff will then insure that our first major work items will be addressed and that the diversion data entry program conversion to DBase III will be an orderly transition and that the tabulation update program will be used effectively.

c. Securing the use of Platoro Reservoir through the Conejos Conservancy District will be a tremendous amount of work but will ultimately end up being a very effective management tool in which to improve the water supply for the Conejos users.

d. Continue to work toward ever-increasing computer utilization and abilities from the entire staff.

e. Get augmentation plan data base on the computer and implement all augmentation plans in 1987.

f. Assist the State Engineer in his rewrite of ground water rules and regulations by providing him an outline of necessary items to be covered by the rules.

g. Help the water court referee continue to reduce the backlog of cases.

h. Set time aside to do some long range planning with staff and State Engineer's office for Division III.

i. Convert water rights data base to the WATER data base.

APPENDIX A

1986 RIO GRANDE COMPACT REPORT
Preliminary Figures

	Acre Feet
1. Rio Grande River Index	1,033,000
Actual Rio Grande Delivery	552,800
*Required Rio Grande Delivery	467,600
*Margin Including 6500 AF Credit	91,700
2. Combined Conejos Index	474,700
Actual Conejos Delivery	251,900
*Required Conejos Delivery	254,600
*Margin Including 3500 AF Credit	800
3. Combined Rio Grande River System Index	1,508,800
Total Actual Delivery at Lobatos	804,700
*Total Required Delivery at Lobatos	722,200
*Margin Including 10,000 AF Credit	92,500

4. Rio Grande Curtailment

Target (% of Index)	Actual (% of Index)
Jan. 1 to Mar. 11 100+%	Jan. 1 to Mar. 11 100%
Mar. 12 to Dec. 31 0%	Mar. 12 to Dec. 31 0%

5. Conejos Curtailment

Target (% of Index)	Actual (% of Index)
Jan. 1 to Mar. 11 100+%	Jan. 1 to Mar. 11 100%
Mar. 12 to Dec. 31 0%	Mar. 12 to Dec. 31 0%

6. Water Available in Platoro Reservoir on December 31, 1986 47,511

*Assuming spill had not occurred

APPENDIX C
PRELIMINARY
TRANSMOUNTAIN DIVERSIONS SUMMARY - INFLOWS

WD	NAME	RECIPIENT STREAM	85 PREVIOUS IYR AF	85 PREVIOUS IYR DAYS	86 IYR OF RECORD AF	86 IYR OF RECORD DAYS	WD	SOURCE STREAM
20	WEMINUCHE PASS DITCH	WEIMINUCHE CR	2090	80	3170	120	31	RINCON LA VACA CR
20	PINE RIVER WEMINUCHE PASS	WEMINUCHE CR	873	116	961	105	31	N FORK LOS PINOS
20	WILLIAMS CR SQUAW PASS D	SQUAW CREEK	253	60	242	30	78	WILLIAMS CREEK
20	TABOR DITCH	CLEAR CREEK	1420	141	1300	151	62	CEBOLA CREEK
20	DON LA FONT #1 DITCH	SOUTH RIVER	107	39	0	0	78	TRIB PIEDRA RIVER
20	DON LA FONT #2 DITCH	SOUTH RIVER	339	102	12.5	26	78	TRIB PIEDRA RIVER
20	TREASURE PASS DITCH	S. F. RIO GRANDE	613	56	411	57	29	WOLF CREEK
20	TARBELL	SAGUACHE CREEK	172	31	0	0	28	COCHETOPA CREEK

PRELIMINARY
TRANSMOUNTAIN DIVERSIONS SUMMARY - OUTFLOWS

16	HUDSON BRANCH D	HUERFANO	20	NA	115	NA	35	MEDANO CREEK
16	MEDANO DITCH	HUERFANO	369	NA	190	NA	35	MEDANO CREEK

APPENDIX D

RESERVOIR STORAGE SUMMARIES

WD	RESERVOIR NAME		STREAM SOURCE	PREVIOUS IYR 1985				IYR OF RECORD 1986					
				BEG IYR		BEG IRR SEAS		BEG IYR		BEG IRR SEAS		END IYR	
				AF	%	AF	%	AF	%	AF 4/1/86	%	AF	%
20	CONTINENTAL	22,679	N CLEAR CREEK	11,241	50	9,096	40	8,266	36	10,700	47	6,145	27
20	RIO GRANDE	51,113	RIO GRANDE RIVER	23,466	46	33,714	66	33,993	67	31,689	62	0	0
20	SANTA MARIA	45,070	N CLEAR CREEK	7,030	16	13,779	31	24,422	54	24,900	55	28,724	64
21	TERRACE	15,182	ALAMOSA RIVER	6,002	40	10,200	67	7,537	50	13,000	86	7,700	51
22	PLATORO	59,570	CONEJOS RIVER	34,000	57	34,000	57	53,500	90	47,000	79	52,300	88
24	SANCHEZ	103,114	CULEBRA CREEK	37,604	36	37,919	37	41,480	40	39,500	38	41,815	41
35	MTN. HOME	17,347	TRINCHERA CREEK	3,788	22	4,895	28	3,239	19	5,220	30	6,134	35
35	SMITH	5,651	TRINCHERA CREEK	6,045	107	6,202	110	5,651	100	6,025	106	5,887	104