

INTRODUCTORY STATEMENT
ANNUAL DIVISION ENGINEER'S REPORT
IRRIGATION DIVISION NO. 2
PUEBLO, COLORADO
1985

IRRIGATION DIVISION NUMBER 2 CONSISTS OF ALL LANDS IRRIGATED FROM DITCHES AND CANALS DIVERTING WATER FROM THE ARKANSAS RIVER AND ITS TRIBUTARIES. THE DIVISION IS COMPOSED OF THIRTEEN WATER DISTRICTS (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 66, 67 and 79) COMPRISING THE COUNTIES OF EL PASO, CHAFFEE, LAKE, FREMONT, CUSTER, PUEBLO, PARK, LAS ANIMAS, TELLER, CROWLEY, OTERO, BENT, PROWERS, BACA AND KIOWA.

* * * *

A. Current Water Year

1. What were your accomplishments for the year?

- a. Winter Water1-2
- b. Arkansas Compact Operations3-4
- c. Pueblo Reservoir Operations 4
- d. Ground Water Well Inspections 5
- e. John Martin Recreation Pool 5
- f. Abandonment List and Tabulation 5

2. What had been the Division's involvement in the water user community for the year?

- a. Events the Division Engineer was invited to participate in 6
- b. Events Division Engineer participated in on a regular basis 7
- c. Other events the Division Engineer participated in 19857-8

3. Personnel

- a. Reorganization of W. D. 11 8

B. COMING YEAR

1. What particular problems and concerns will impact division operations?

- a. The Arkansas River Compact 8
- b. Augmentation 8

2. What projected work items are planned for the division staff?

- a. Sutron 8
- b. Field investigations, livestock tank application judgements8-9
- c. Wells in augmentation plans 9
- d. Wells in data bank 9
- e. PACE 9

II. RECOMMENDATIONS

A. Policies

1. Water Administration

- a. Care in the direction taken 9

B. Personnel Changes

1. One Vacancy 9

C. Budgetary Priorities

1. Satellite Monitoring System

D. Administrative Practices 10

1. Improved Communications between Denver and Division II.... 10

E. Other

1. Value of Meetings.....10-11

III. STATISTICAL INFORMATION

A. Transmountain Diversions..... 12

B. Storage Water..... 13

C. Water Diversions.....14-15

D. Court Activities..... 16

E. Office Administration..... 17

F. River Calls.....18-19

G. Compact Deliveries..... 20

H. Administration of Plans for Augmentation..... 21

I. Summary of Hydrographic Records, 1985..... 22

* * *

I-A-1(a)

The Winter Storage program is a voluntary program of the canals and reservoir companies on the Arkansas River and its tributaries including above Pueblo, designed to maximize the beneficial use of the water and take advantage of the more efficient use of the water in the summer instead of the historic practice of direct irrigation in the winter. The 84-85 Winter Storage program was the ninth voluntary program within the last 10 years, was approved by the Board of Trustees and the State Engineer. All of the water stored during the 82-83 program that was carried forward, was dumped to the river. The majority of the 84-85 Winter Water that was stored was dumped to the river because of a lack of capacity in Pueblo, which also spilled, and when it spilled its direct flow storage rights came into priority and to make room for project water. The entities who had stored the water were charged for the water and there was a considerable flap about that. The Bureau received enough heat from the ditch companies about the storing and then dumping and charging them for their Winter Water that an element in the 1985-86 Winter Storage program is that if the water is not applied to a beneficial use they will not be charged for it. That was a major concession on the Bureau's part. The Winter Storage program started on November 15, 1984, and ended on midnight on March 14, 1984. The formula for a Winter Storage program is roughly:

- A. By foregoing winter diversion, the water will be accounted for by diversion headgates or by storage in Pueblo Lake on a percentage basis of the total river production.
- B. A division of total river production below 100,000 A.F. entitled the four storage reservoirs 70 percent of the river flow and the seven ditches with direct flow rights, 30 percent of the river flow.
- C. The next 2,750 A.F. went to the Amity Canal.
- D. After the system reaches 102,750 A.F., 2,250 A.F. of water was released pro-rata from winter water stored in seven upstream of Pueblo reservoirs and credited to the Colorado Canal in Pueblo Reservoir.
- E. A division of total river production above 105,000 A.F. entitled the four storage ditches 75 percent of the river flow and the seven ditches with direct flow rights, 25 percent of the river flow.
 1. Calculation of the transit loss would be based on the Livingston Formula.
 2. Water destined for Amity would be taken at John Martin Dam and would not be depleted by transit loss from Las Animas gage station. Any transit loss that occurred from the Las Animas gage to John Martin would come from the other participating ditch companies with the exception of the Fort Lyon, whose pro-rata share would be paid by the S.E.C.W.C.D.

1984-85

Winter Water Storage Summary Sheet
(Pueblo Reservoir)

<u>CANAL</u>	<u>ACTUAL STORAGE</u>
Bessemer	10742.44 A.F.
High Line	14426.88 A.F.
Oxford	3480.27 A.F.
Catlin	15865.40 A.F.
Consolidated	3508.44 A.F.
Riverside	200.00 A.F.
West Pueblo	496.05 A.F.
Otero	1192.57 A.F.
Colorado	0 A.F.
Holbrook	0 A.F.
Fort Lyon	0 A.F.

Winter Water Summary Sheet
(Off Channel Storage)

Colorado	0 A.F.
Holbrook	2298.78 A.F.
Fort Lyon	58160.87 A.F.
Amity	40760.78 A.F.

In this summary, the figures are from November 15, 1984 through March 14, 1985.

The only release of 1984-1985 Winter Water went to the Riverside Ditch during the period April 11 through May 13, 1985. The remainder of 1984-1985 Winter Water was evacuated beginning May 26, 1985, when Pueblo Reservoir's direct flow right came into priority.

I-A-1(b)

The May, 1980, operating plan for John Martin was used again in 84-85, the water being transferred into the accounts with no major problems. We did spill John Martin for the first time since '65. We did get the outflow up to about 3,000 c.f.s., which is within bank capacity, which is somewhat higher than the normal releases, which are generally in the neighborhood of about 1,500 or so maximum. There were some reports of bank erosion and caving. There were some reports of washing around some of the major head-gates; the Fort Bent for one, which is a new diversion dam and the Buffalo, which is an old diversion dam that had to be rehabilitated only in part due to high water. There was, in my opinion, no major damage caused by the high water. We did invade the flood pool in John Martin. The water was released in a timely fashion and the operations of John Martin were fairly straight forward. There was an agreement on the spilling, all of that is in my annual report which I sent to the State Engineer on the 15th of November. There was no call from below John Martin this year though there was an agreement to handle such an event. We never got to the trigger points of the agreement between districts 14, 17 and 67.

The Compact provides for the transition of the authority to open and close the gates from the Division Engineer or the Operations Secretary to the Corps of Army Engineers, when the Flood Pool is reached. This transition was quite smooth and orderly. We did have a meeting with the Corps to discuss how it would be handled and we had no problem whatsoever; the Corps was very cooperative in John Martin as well as Trinidad and other Corps projects. Last year, I mentioned the Highland and Nine Mile had threatened to not honor a call from below John Martin. There was no call, so we don't know how that's going to go. I also mentioned last year the special golf course account. The account was dumped under the dumping procedures and it seems that both Colorado Commissioners, Kansas Commissioners and the Compact itself is going to discourage this kind of small entity using John Martin as an augmentation plan. What we wound up doing with the golf course this year was they purchased some trans-mountain water and we released that to the conservation pool from the original reservoir in which it was stored; much cleaner and does not involve Kansas whatsoever. We had several mentions about the Kesseee Ditch last year. It's an application from a ditch below John Martin to being transferred above John Martin. The case is still on hold, there has been no action on it. This will be the first time that a ditch below John Martin has been proposed to be moved above the reservoir. The Compact has asked for the engineering and none has been provided.

| The Bureau was directed to produce a study of the operating principles or Trinidad, none have been produced so far.

I-A-1(b) cont'd.

Several other cases were filed this year, one of the largest being the transfer to the city of Colorado Springs of the Lake Henry/Lake Meredith/Colorado Canal water rights owned by the Foxley Company. One of the things significant about this was that it was filed in March of '85 and a decree issued in October of '85. The decree, I think, is very fair to the river and I think they gave up quite a bit of water in getting this fast an action. One of the significant points was the fact that there was native water converted to consumptive use, which has then the effect of being treated as trans-mountain in that it can be identified as to return flows and used and reused to extinction. It is a very complex case and will require quite a bit of accounting. Colorado Springs and Pueblo have also affirmatively asserted their right and obligation to reclaim the trans-mountain component of a sewage effluent. We have been wheeling that water down the Fountain Creek and we have encountered some resistance from the water users and we do have a law suit filed in which we unsuccessfully attempted to curtail a ditch to get the trans-mountain water to the Arkansas River. The suit has not been concluded yet. Colorado Springs has also filed a suit in which they are claiming the return flow from trans-mountain component of the sewage effluent as well as the trans-mountain return flow from waters applied to the irrigation of lawns, parks and parkways within the city of Colorado Springs. The State Engineer has filed a Statement of Opposition to that component and we are rightfully, I believe, going to resist that particular element of that case.

I-A-1(c)

During the winter months of 1984 and 1985, the Bureau of Reclamation permitted water to be stored in the joint use pool. The joint use pool is a space above the conservation pool which can be used during winter months, but must be evacuated by April 15 for flood protection.

The maximum contents reached in Pueblo Reservoir was 294,023 A.F. This was obtained February 6, 1985.

On February 1, 1985, we began dumping 83-84 Winter Water carryover. On February 8, 1985, we began dumping 12,652 A.F. of 84-85 Winter Water. During the month of March we released 83-84 Winter Water carryover to several of the entities participating in the Winter Water program. All of the 83-84 Winter Water carryover was evacuated by April 25, 1985. We had to release 4915.26 A.F. by April 15, 1985, in order to meet the criteria of being at the top of the active conservation pool; a portion of it being 83-84 Winter Water carryover, the remainder consisting of 84-85 Winter Water. We released 43 A.F. of 84-85 Winter Water to the Riverside Ditch from April 11 through May 13, 1985. On May 26, Pueblo Reservoir's direct flow rights came into priority and the remainder of the 84-85 Winter Water was evacuated during the period from May 26 through June 15, 1985.

I-A-1(d)

In water year 1985, there were 104 applications to late register old domestic wells, of which 95 were field checked. Approximately 1,200 miles were driven in field checking these wells. The policy of not field checking late registrations in remote areas has saved 1,000 miles.

Thirty-three replacement well permits for decreed wells were in issued in water year 1985.

In water year 1985 seventy three well permits were issued for decreed plans of augmentation for subdivisions. These wells are not exempt and were given non-exempt permit numbers.

I-A-1(e)

Inflow and releases from Recreation Pool, John Martin Reservoir

On May 26 and 27, 2432.42 a.f. was released from the Recreation Pool. This was necessary because storage in the reservoir had reached the maximum elevation allowed under Public Law 89-298, which authorized invasion of the flood pool space by 10,000 a.f. of Recreation Pool water. At midnight, May 25, the Recreation Pool contained 12446.73 a.f. A release of 2432.42 a.f. plus 14.31 a.f. of evaporation loss brought the size of the Recreation Pool down to 10,000 a.f. at midnight, May 27.

Inflow to the Recreation Pool consisted of 45.72 a.f. on July 30, when the Division of Wildlife's Muddy Creek decree was in priority.

I-A-1(f)

There were 77 cases filed in the Water Court protesting the inclusion of 98 water rights on the 1984 Abandonment List. Each of these 98 water rights was field checked by at least one member of the Division staff. Approximately 15,000 miles were driven in field checking these abandoned water rights.

Sixty-three of these protests were resolved at Division Engineer hearings; 14 of the protests were resolved before Judge Tracey.

Of the 98 rights protested, 47 remained on the Abandonment List, 51 were removed from the Abandonment List and placed on the Tabulation.

One protest was filed by the Southeastern Colorado Conservancy District to have four water rights removed from the Tabulation and placed on the Abandonment List. This protest was refiled as a complaint as the District versus Dennis O'neil et al and is still pending.

I-A-2(a)

January 2, 1985, there was a special meeting concerning Winter Water. Water users and ditch representatives participated in the meeting with the Division Engineer fielding questions.

February 8th, the Board of Trustees with the Winter Storage Program met. The Division Engineer addressed Leadership Pueblo the same evening to discuss major assets for use in promoting expansion and growth in the city of Pueblo. His topic was, "Water--who safeguards it?"

March 3rd, a meeting of Well Drillers and Pump Installation Contractors took place. The Colorado Division of Water Resources was represented by the Division Engineer and Robert Longenbaugh, who discussed some of the considerations that go into the evaluation of permit applications and the changes in necessary forms. Time was reserved to answer questions from the audience and proposed legislative changes were also discussed.

April 19, the Upper Arkansas Watershed Association meeting took place. "What laws or what can people do to protect themselves from being left with problems that removal of water can cause?", was answered by the Division Engineer. He explained the necessity of understanding legal notices in newspapers to protect rights and the importance of securing representation. He praised the high quality of men acting as Water Judges in the Arkansas Valley.

August 28 and 29, the 4-States Irrigation Council tour was held, the 2 day tour of Kansas water projects. The experience proved that Kansans and Coloradons are all people concerned about water.

A workshop considering the potential for development of Neegronda Reservoir was held in Lamar, Colorado, November 26. Included attendees were ditch officials, a Senator, Representative from the Colorado House, experts from various state agencies and officials of county commissions. A dialogue was held to identify individual and organizational visions and concerns.

I-A-2(b)

There were a total of 13 Winter Water meetings held to report on the progress of the 84-85 program, which the Division office keeps accounting records of, and to finalize the drafting and the production of the decree for the program, which has been filed in Water Court and has had to date only one significant objector and that's Fort Lyon Canal. The Winter Storage basic concept is quite similar to Trinidad and the operating plan in John Martin, once you take them down to their basics.

Again this year the Division Engineer attended all meetings of the Southeast Conservancy District where we are on the agenda for both the regular and special meetings. There were about twenty of these this year. We make a routine report giving the contents of the major reservoirs and flows of rivers, the status of most reservoirs as well as a very quick thumbnail sketch of the administration during the month. We then answer questions of the board members and the visitors. The media, always the local paper and occasionally the t.v. stations and always the local radio stations attend, and they do quote from the Division Engineer's comments.

Of the five conservancy districts in the division, in addition to the Southeast Conservancy District mentioned above, the Division Engineer has attended four Conservancy meetings of the Purgatoire District, the staff has attended the Upper Arkansas Conservancy District meetings and we have had one staff member attend the Huerfano County Conservancy District.

The Arkansas River Compact is an enormous consumer of time and resources. The number of days spent on it I have estimated to be close to 15% of the Division Engineer's time and probably at least the same amount of two other staff members time, not counting the one technician in Las Animas, who probably spends 80% of his time on Compact and related issues. The main Compact meeting is generally a two day meeting. We have had meetings in Garden City as well as Lamar and the main meeting was held in Pueblo. And, as I said earlier in my report, Kansas has filed suit. I can anticipate the Compact issues taking maybe as much as one full time employee of resources that we do not now have.

I-A-2(c)

There were no meetings with Districts 14, 17 and 67 water users because the call from District 67 issue was made a two year program last year and since John Martin did not become theoretically dry there was no call come through this year. The agreement made that runs for two years seems to me to be reasonable as it appears to reproduce the historic practice and I don't see any problem in it. We'll have to renegotiate that agreement in 1986. Again this year, the Division Engineer both led and participated in a number of tours. There were four major ones. There was a tour by the Compact including the State Engineer of Kansas and the attorneys that are now leading the law suit. We started on the western slope in Aspen and came over to all of the major features, including the state line. We had a couple of other tours with local water interests, including the Corps of Engineers and the ditch companies. Again, these tours are time consuming, they are expensive, but, they are, I think, quite valuable in allowing the personnel of the division to meet and talk to the water users in a non-adversarial type situation.

I-A-2(c) cont'd.

I got an entirely different perspective from the State Engineer of Kansas in being on the tour with him than I have in the formal meetings and the more structured situations that we find ourselves in. We did not resolve any issues but at least we can now talk to each other a little more informally than we did. The major push now is the resolution of the dispute between the Amity and the Fort Lyon Canals. We have had a couple of meetings so far. There is another meeting to be held in December and we are hoping to bring the two ditch companies to some kind of resolution concerning the opposition to the Winter Storage program.

I-A-3(a)

The reorganization of Water District 11 was handled this year. We did hire a new deputy Water Commissioner in Leadville. We have had no problem with the transition. The deputy from Salida resigned rather than move. The Commissioner has been able to take up the slack there and we don't anticipate a great deal of problem, it seems much more efficient the way we're doing it now and it seems to be working well. We have not transferred entirely the routine reservoir accounting to the Water Resource Engineer stationed in Buena Vista as I'd hoped, but that is going to be covered under my goals for next year.

I-B-1(a)

The Arkansas River Compact has been consuming more and more of the Division time and effort. The Division Engineer is and has been elected Operations Secretary and as such we keep all records and issue all order to the dam tender as well as ditch companies. The meetings are getting more frequent with two or more a month being common. The preparations, as well as out of state travel, are time consuming and expensive. The Compact does allocate a sum of money (\$6,100) each year. What I would like to propose is they fund an F.T.E., an engineer, for my office in place of this cash money. We then could re-structure the Division Office to spread these, as well as other, duties among the entire staff.

I-B-1(b)

The two principle augmentation organizations for well owners, The Colorado Water Development and Protective Association and The Lower Arkansas Water Management Association still do not have decreed plans.

The issue of what return flow is acceptable for augmentation credit is still pending before the Water Court in the city of Colorado Springs filings.

I-B-2(a)

An important goal for 1986 is to have all Sutron stations working reliably with fewer maintenance visits by the Hydrographers.

I-B-2(b)

There has been some improvement in speeding up field investigations by having the driller contact the local Water Commissioner first, sending the application with the field report to Pueblo and then sending everything to Denver for approval.

I-B-2(b) cont'd.

There were two problems with livestock tank applications on the issue of whether the stream was "normally dry" or not. This is necessarily a judgement of the Water Commissioner, and is a problem in wet years when water is flowing in the stream when the Water Commissioner visits the site. Both problems were finally resolved.

I-B-2(c)

There are approximately 3400 decreed non-exempt wells in Division II. 412 wells are in the L.A.W.M.A. augmentation plan, 568 wells are C.W.P.D.A. augmentation plan and 280 wells are in other augmentations plans. Of the remaining wells 420 are pumping under signed Statements of Compliance of the three day rule. As time and money are available for well administration, the owners of wells not yet contacted will be asked to sign compliance forms. It should be noted that due to the depressed farm economy more than 300 wells were not pumped this year.

I-B-2(d)

There are 495 wells in Division II that have their pumpage reported in the data bank. This number will increase as more wells are drilled that are in decreed subdivision augmentation plans. The total annual pumpage for each plan is reported by each plan's Home owner Association; that is the way it is entered in the data bank.

I-B-2(e)

Again this year, we are using the Pace performance rating sheets. I think I understand how the numbering goes. I'm not totally convinced that this is exactly the way to do it. We really need, I think, some training by the personnel department and some more input from the employees themselves.

II-A-1(a)

II-B-1

At present we have only one vacancy in Division II. We have a fairly comprehensive plan to reorganize the office, which has been submitted. We are awaiting the outcome of that. The only person we lost, so far, except to sick leave, has been my senior secretary, who transferred to another agency.

II-C-1

The satellite monitoring system has been most beneficial in daily water administration in the Arkansas River basin. It has also in some instances enabled us to retrieve data that would have otherwise been lost. We are still having problems with hardware that makes the development of yearly stream-flow records impractical at this time. Simple hardware problems are very hard to deal with because of the number of stations and distances between them. We hope to have these problems resolved in the near future. We would also like some direction on what percentage of reliable data received constitutes a satisfactory final record. We are worried that shifting procedures are going to cause problems in the future because we report stream-flow readings to many different entities and use this data in daily administration of the river. We feel it will present a problem when the final record reflects changes from information already distributed, due to the smoothing and changing of shifts used in previous calculations. It is a difficult problem to deal with and we do not have any answers at this time but think it is worth some consideration.

II-C-2

We would like to have a dam inspector assigned to each division office. The employee should be trained in Denver and then transferred to the field office. This employee would work closely with the water commissioners in the training of dam inspections. Other assignments would include frequent trips to restricted dams and a better knowledge of the division to which the employee is assigned.

II-D-1

The Division 2 staff would like to see better communications between the Denver office staff (which includes dam inspectors, well inspectors and Attorney General's staff) and the Division. It would be beneficial if the Denver personnel would contact the Division office in advance when they are planning on making a visit to the Division.

If this policy can be implemented, the Division Engineer will be informed of the action to be taken and may result in both personnel and travel efficiencies. Quite often there is information known to either the water commissioner or the Division office that would aid the Denver staff and may even save him time and mileage.

II-E-1

Again, like last year, I would like to say that I got a great deal out of the Spring meeting, of the mini-meetings we have; in some cases more information is exchanged than we get at the annual meeting. I particularly like the opportunity to take the tours where you can circulate among the other Division Engineers and explore some of our problems and their problems

II-E-1 cont'd.

and exchange ideas. I think the expense is well worth the good we get out of it. I would think maybe even a Spring meeting and the Fall meeting as well as the annual meeting in January might be something to think about if we could work it in. I particularly like to hear the position and philosophy of the State Engineer, it gives us a better idea of what his goals and objectives are.

TRANSMOUNTAIN DIVERSIONS SUMMARY - INFLOWS

		RECIPIENT				SOURCE		
WD	NAME	STREAM	PREVIOUS YR		YR OF RECORD		WD	STREAM
			A.F.	DAYS	A.F.	DAYS		
14	CITY OF PUEBLO ¹	TENNESSEE CREEK	2,700	133	1,520	149	11	EWING DITCH
14	CITY OF PUEBLO ¹	TENNESSEE CREEK	5,730	139	3,700	150	11	WORTZ DITCH
14	CITY OF PUEBLO ¹	ARKANSAS RIVER	3,190	130	2,270	158	11	COLUMBINE DITCH
14	PUEBLO RESERVOIR ²	ARKANSAS RIVER	572	106	627	113	11	LARKSPUR DIT
11	SUGAR LOAF RESERVOIR ³	LAKE FORK CREEK	107,600	140	73,680	167	11	BOUSTED TUNNEL
14	CITY OF PUEBLO ⁴ HIGHLINE CANAL	LAKE FORK CREEK	9,760	178	6,260	173	11	BUSK-IVANHOE TUNNEL
14	CITY OF PUEBLO ⁵	LAKE FORK CREEK	27,930	100	10,180	128	11	HOMESTAKE TUNNEL
10	CITY OF COLORADO SPRINGS CITY OF AURORA	LAKE CREEK	8,760	366	15,900	365	11	TWIN LAKES TUNNEL

¹ CITY OF PUEBLO IS OWNER AND RECIPIENT OF THIS WATER

² FRY-ARK WATER PUEBLO RESERVOIR DISTRICT

³ FRY-ARK SUGAR LOAF RESERVOIR RECIPIENT

⁴ TOTAL ALLOWABLE STORAGE DIVIDED BETWEEN THE CITY OF PUEBLO AND THE HIGHLINE CANAL

⁵ TOTAL ALLOWABLE STORAGE DIVIDED BETWEEN CITIES OF PUEBLO, COLORADO SPRINGS, AND AURORA

RESERVOIR STORAGE SUMMARY

M.D.	RESERVOIR NAME (MAJOR RESERVOIRS BY NAME)	STREAM SOURCE	PREVIOUS YR				YR OF RECORD				
			BEG. YR	%	BEG. IRR.	SEASON*	BEG. YR	%	BEG. IRR	SEASON*	END I
			A.F.		A.F.	%	A.F.	%	A.F.	%	A.F.
11	SUGAR LOAF RES.	LAKE FORK CREEK	126,009	= 24.73	94,842	34.89	127,934	-34.32	84,021	48.84	125,057
11	TWIN LAKES RES.	LAKE CREEK	54,910	57.78	86,637	-7.14	80,454	62.71	130,906	7.06	140,153
11	CLEAR CREEK RES.	CLEAR CREEK	1,824	231.14	6,040	-65.84	2,063	140.76	4,967	76.74	8,779
14	PUEBLO RES.	ARKANSAS RIVER	210,839	34.00	282,528	-14.80	249,714	19.61	287,913	-14.64	245,791
19	TRINIDAD RES.	PURGATOIRE RIVER	37,196	17.22	43,604	-42.21	25,200	27.36	32,095	-49.12	16,330
67	JOHN MARTIN RES.	ARKANSAS RIVER	67,446	110.56	142,017	44.28	204,907	67.55	343,323	-18.14	281,054
	TOTAL OF ALL OTHERS	ARKANSAS RIVER BASIN	131,670	49.52	196,880	-4.43	188,154	80.49	339,608	-25.20	254,028
	TOTALS	ARKANSAS RIVER BASIN	629,894	35.34	852,548	1.98	869,426	40.64	1,222,833	-12.40	1,071,192

* April 1st used as the start of the irrigation season.

WATER DIVERSION SUMMARIES BY DISTRICT

W.D.	ESTIMATED NUMBER OF DITCH VISITATIONS	TOTAL DIVERSIONS - AF -	TOTAL DIVERSIONS TO STORAGE - AF -*	TOTAL DIVERSIONS - AF -	NUMBER OF ACRES IRRIGATED	AVERAGE AF PER ACRE
10	2,000	83,496		40,304	11,612	7.19
11		162,323	0	142,386	18,852	8.61
12	4,200	276,837	1,273	213,144	12,580	16.94
13		17,328		17,328	28,033	0.62
14	420	306,056	0	278,370	30,992	8.98
15	1,200	25,690	2,212	15,247	4,600	5.58
16	280	307,500	0	22,224	4,700	4.73
17	250	882,216	245,418	636,798	140,000	4.55
18	260	16,671	0	16,601	7,700	2.17
19	1,470	86,217	0	84,488	30,000	2.87
66 & 67	300	210,000		210,000	76,837	2.73
79	1,400	13,000		13,000	5,000	2.60

* Winter Storage Water Accounted for in District Used.

District 19 only partial record due to uncompleted records.

Districts 12, 13, 66, 67, & 79: No records have been made available by the Water Commissioners, therefore, these are estimates.

WATER DIVERSION SUMMARIES BY DISTRICT IN ACRE FEET (Continued)

W.D.	TRANSBASIN OUTFLOW	STOCK	MUNICIPAL	DOMESTIC	INDUSTRIAL	RECREATIONAL	FISHERY	COMMERCIAL
10		0	29,834	12,270		105		986
11	0		2,220	1,929				
12			39,757	7,609	64,240	8.0	3,184	
13								
14			27,666	19	0			
15			173	40	6,958			
16			285,040	236	0	0	0	0
17		0	0	0	0	0	0	0
18						71.0		
19		1,729	0	0	0	0	0	0
66								
&								
67								
79								

WATER COURT ACTIVITIES

No. Applications for Decrees	136
No. Consultations with Referee	190
No. Rulings Issued	252

TYPES OF RULINGS

Findings of Diligence on Conditional Rights	44
C.W.C.B. Minimum Flow Rights	16
Cancelled Conditional Rights	16
Conditional Rights Made Absolute	10
Cases Dismissed	37
Augmentation Plans Approved	13
Cases Awarding New Wells	21
Cases Awarding New Springs	7
Cases Awarding New Hydro-Electric Plants	1
Cases Awarding New Reservoirs	2
Cases Awarding Chance of Location	2
Cases Awarding Chance of Use	6
Rulings on Protest to 1984 Abandonment List	77
Cases Appealed to Colorado Supreme Court	20

NEW STRUCTURES IN DECREE

Ditches	0
Reservoirs	2
Wells	23
Springs	11
Other	1

WATER DIVISION NO. 2

ACTIVITY SUMMARY

ACTIVITY	MONTHLY TOTAL	FISCAL YEAR TO DATE
Number of professional and technical staff		7
Number of clerical staff		2
Number of Water Commissioner FTE assigned (full and part-time)		18
Number of decreed surface rights		*8,000
Number of surface rights administered		8,000
Number of wells		***23,170
Number of plans for augmentation		55
Number of consultations with Referee		348
Number of Water Court appearances		432
Number of meetings with water users		4178
Number of meetings to resolve water related disputes		
Number of contacts to give public assistance on water matters (including telephone inquiries and an estimated number of contacts made by water commissioners)		17420
<hr/> <p>* Estimate from Tabulation.</p>		
<p>** All meetings were to resolve water problems.</p>		
<p>*** Includes Domestic.</p>		

RIVER CALL

<u>DATE</u>	<u>CALL</u>		<u>DISTRICT OR DISTRICTS</u>
9-11-84	8-31-1893	Fort Lyon #3	10, 11, 12, 13, 14, 15, 17
9-12-84	1-6-1890	Highline #2	10, 11, 12, 13, 14, 15, 17, 67
9-15-84	2-21-1887	Amity	10, 11, 12, 13, 14, 15, 17, 67
9-16-84	3-1-1887	Fort Lyon #2	10, 11, 12, 13, 14, 15, 17,
9-30-84	6-9-1890	Colorado	10, 11, 12, 13, 14, 15, 17
10-2-84	9-25-1889	Holbrook	10, 11, 12, 13, 14, 15, 17
10-6-84	8-1-1896	Great Plains	10, 11, 12, 13, 14, 15, 17
10-15-84	3-9-1898	Lake Meredith	10, 11, 12, 13, 14, 15, 17
10-16-84	1948	John Martin	10, 11, 12, 13, 14, 15, 17, 19
11-15-84	10-15-1907	Mt. Pisgah	10, 11, 12, 13, 14, 15, 17
3-16-85	8-1-1896	Great Plains	10, 11, 12, 13, 14, 15, 17
4-10-85	8-31-1893	Fort Lyon #3	10, 11, 12, 13, 14, 15, 17
4-11-85	3-3-1890	Otero	10, 11, 12, 13, 14, 15, 17
4-15-85	5-1-1887	Bessemer #2	10, 11, 12, 13, 14, 15, 17
4-17-85	3-1-1887	Fort Lyon #2	10, 11, 12, 13, 14, 15, 17
4-20-85	3-3-1890	Otero	10, 11, 12, 13, 14, 15, 17
4-24-85	9-25-1889	Holbrook	10, 11, 12, 13, 14, 15, 17
4-29-85	8-1-1896	Great Plains	10, 11, 12, 13, 14, 15, 17
5-1-85	1-25-1906	Fort Lyon Storage	10, 11, 12, 13, 14, 15, 17
5-8-85	1948	John Martin	10, 11, 12, 13, 14, 15, 17
5-23-85	1948	John Martin	10, 11, 12, 13, 14, 15, 17
5-26-85	1948	John Martin Spilling	10, 11, 12, 13, 14, 15, 17
6-29-85	8-31-1893	Fort Lyon #3	10, 11, 12, 13, 14, 15, 17
6-30-85	8-3-1893	Holbrook #2	10, 11, 12, 13, 14, 15, 17
7-2-85	6-9-1890	Colorado Canal	10, 11, 12, 13, 14, 15, 17
7-12-85	1-6-1890	Highline #2	10, 11, 12, 13, 14, 15, 17
7-21-85	1948	John Martin	10, 11, 12, 13, 14, 15, 17
8-7-85	8-31-1893	Ft. Lyon #3	10, 11, 12, 13, 14, 15, 17
8-8-85	6-9-1890	Colorado Canal	10, 11, 12, 13, 14, 15, 17
8-11-85	3-1-1887	Ft. Lyon #2	10, 11, 12, 13, 14, 15, 17
8-15-85	5-1-1887	Bessemer	10, 11, 12, 13, 14, 15, 17
8-16-85	9-25-1889	Holbrook	10, 11, 12, 13, 14, 15, 17
8-18-85	5-1-1887	Bessemer	10, 11, 12, 13, 14, 15, 17
8-19-85	3-1-1887	Ft. Lyon #2	10, 11, 12, 13, 14, 15, 17
8-20-85	12-3-1884	Catlin	10, 11, 12, 13, 14, 15, 17
8-26-85	2-26-1887	Oxford #2	10, 11, 12, 13, 14, 15, 17
8-20-85 8-29-85	3-11-1886	Highline	10, 11, 12, 13, 14, 15, 17
8-30-85	12-3-1884	Catlin	10, 11, 12, 13, 14, 15, 17
9-12-85	2-26-1887	Oxford #2	10, 11, 12, 13, 14, 15, 17
9-13-85	9-25-1889	Holbrook	10, 11, 12, 13, 14, 15, 17
9-23-85	3-1-1887	Ft. Lyon #2	10, 11, 12, 13, 14, 15, 17
10-8-85	9-25-1889	Holbrook	10, 11, 12, 13, 14, 15, 17
10-9-85	1-6-1890	Highline #2	10, 11, 12, 13, 14, 15, 17
10-12-85	8-1-1896	Great Plains	10, 11, 12, 13, 14, 15, 17
11-15-85	10-15-1907	Mt. Pisgah	10, 11, 12, 13, 14, 15, 17

RIVER CALL

<u>DATE</u>	<u>CALL</u>	<u>DISTRICT OR DISTRICTS</u>
3-15-84	3-11-1886 Highline	10, 11, 12, 13, 14, 15, 17
3-16-84	3-1-1887 Fort Lyon #2	10, 11, 12, 13, 14, 15, 17
3-17-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
4-9-84	6-9-1890 Colorado	10, 11, 12, 14, 15, 16, 17
4-11-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 14, 15, 17
4-12-84	1948 John Martin	10, 11, 12, 13, 14, 15, 17
4-15-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
4-17-84	6-9-1890 Colorado	10, 11, 12, 13, 14, 15, 17
4-18-84	3-1-1887 Fort Lyon #2	10, 11, 12, 13, 14, 15, 17
4-21-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
4-25-84	3-1-1887 Fort Lyon #2	10, 11, 12, 13, 14, 15, 17
4-26-84	9-25-1889 Holbrook	10, 11, 12, 13, 14, 15, 17
4-30-84	3-3-1890 Otero	10, 11, 12, 13, 14, 15, 17
5-1-84	6-9-1890 Colorado	10, 11, 12, 13, 14, 15, 17
5-2-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
5-3-84	10-15-1907 Mt. Pisgah	10, 11, 12, 13, 14, 15, 17
5-4-84	1948 John Martin	10, 11, 12, 13, 14; 15, 17, 19
5-7-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
5-10-84	3-1-1887 Fort Lyon #2	10, 11, 12, 13, 14, 15, 17,
5-14-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
5-21-84	1-25-1906 Fort Lyon Storage	10, 11, 12, 13, 14, 15, 17
5-23-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
5-24-84	1-25-1906 Fort Lyon Storage	10, 11, 12, 13, 14, 15, 17
5-26-84	1948 John Martin	10, 11, 12, 13, 14, 15, 17
7-9-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
7-12-84	1948 John Martin	10, 11, 12, 13, 14, 15, 17
7-18-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
7-21-84	1-6-1890 Highline #2	10, 11, 12, 13, 14, 15, 17, 67
7-23-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17, 67
7-25-84	1-6-1890 Highline #2	10, 11, 12, 13, 14, 15, 17, 67
7-27-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17, 67
7-29-84	1-6-1890 Highline #2	10, 11, 12, 13, 14, 15, 17, 67
7-30-84	8-31-1893 Fort Lyon #3	10, 11, 12, 13, 14, 15, 17, 67
7-31-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17, 67
8-7-84	8-31-1893 Fort Lyon #3	10, 11, 12, 13, 14, 15, 17, 67
8-8-84	1-6-1890 Highline	10, 11, 12, 13, 14, 15, 17, 67
8-10-84	6-9-1890 Colorado	10, 11, 12, 13, 14, 15, 17,
8-11-84	8-31-1893 Fort Lyon #3	10, 11, 12, 13, 14, 15, 17, 67
8-12-84	1-6-1890 Highline #2	10, 11, 12, 13, 14, 15, 17, 67
8-14-84	3-1-1887 Fort Lyon #2	10, 11, 12, 13, 14, 15, 17
8-17-84	1-6-1890 Highline #2	10, 11, 12, 13, 14, 15, 17, 67
8-19-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
8-20-84	1-25-1906 Fort Lyon Storage	10, 11, 12, 13, 14, 15, 17
8-22-84	1948 John Martin	10, 11, 12, 13, 14, 15, 17
8-23-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17
9-5-84	8-31-1893 Fort Lyon #3	10, 11, 12, 13, 14, 15, 17
9-9-84	8-1-1896 Kicking Bird	10, 11, 12, 13, 14, 15, 17

Releases to the State of Kansas.

Release No. 1 to Kansas began at 0900 hrs., April 12, at a rate of 500.0 c.f.s. An initial release of 185.0 c.f.s. from the Transit Loss account was begun at the same time. The transit loss release was reduced gradually until it reached 0 at 0900 hr., April 18. Release No. 1 was ended at 0900 hr., April 30.

On June 16, 24 and 25, 1761.61 a.f. was released from the Kansas account pro-rata with other accounts in accordance with spill criteria adopted December 11, 1984, by the Compact Administration.

Release No. 2 to Kansas began at 1530 hr., July 5, at a rate of 500.0 c.f.s. A transit loss release of 25.0 c.f.s. was begun at the same time. The transit loss release was cancelled at 0900 hr., July 6. The account release was reduced to 400.0 c.f.s. at 100 hr., July 25, and stopped at 1400 hr. July 29.

Release No. 3 to Kansas was begun at 1230 hr., August 9, at a rate of 500.0 c.f.s. Initially, no transit loss water was released, but a 100.0 c.f.s. release was begun at 0900 hr. on August 17, and ended at 0900 hr. on August 18. The account release was stopped at 0900 hr., August 19.

Release No. 4 to Kansas was begun at 1130 hr., September 10, at a rate of 500.0 c.f.s. A transit loss release of 50.0 c.f.s. was begun at the same time. Both the account release and the transit loss release were cancelled at 1130 hr., September 11.

Release	Kansas Agreement Account	Transit Loss	Total Release to Kansas
April 12-30	17851.50	1338.87	19190.37
June forced rls.	1761.81	0	1761.81
July 5-July 29	22913.56	36.16	22949.72
Aug. 9-Aug. 19	9772.87	198.35	9971.22
Sept. 10-Sept. 11	991.75	99.17	1090.92
Totals	53291.49	1672.55	54964.04

AUGMENTATION PLANS

As in 1984, there was abundance of water this year, making the administration of augmentation water fairly easy. The surplus of surface water and high cost of pumping have caused many wells not to pump in 1985.

The two principle augmentation groups for non-exempt wells are the Colorado Water Protective and Development Association, which has 568 member wells and the Lower Arkansas Water Management Association which has 412 member wells. As of December 31, 1985, neither plan is decreed.

As of January 1, 1985, there are 77 decreed Plans of Augmentation varying in size from one well to 250 wells. 62 of these plans are in operation.

There were 13 new Plans of Augmentation decrees in 1985. The biggest and most complex was Colorado City's plan (80CW44) which involves surface water, tributary ground water, and non-tributary ground water.

In 1985, 37.75 shares of Twin Lakes water was released for 15 Plans of Augmentation that use Twin Lakes water.

STATION	TOTAL DISCHARGE A.F.	Maximum Discharge C.F.S.	Minimum Discharge, C.F.S.
Lake Fork Creek below Sugar Loaf Res.	17,400	450	2.6
Lake Creek above Twin Lakes Res.	95,340	1,620	9.3
Lake Creek below Twin Lakes Res.	234,500	1,510	3.8
Arkansas River @ Granite	415,100	3,070	120
Clear Creek above Clear Creek Res.	61,150	810	10
Clear Creek below Clear Creek Res. N/A			
Cottonwood Creek @ Buena Vista	44,830	770	3.8
Chalk Creek @ Nathrop	55,800	958	6
Arkansas River @ Salida	616,400	5,510	220
Arkansas River near Wellsville	708,400	5,880	307
Grape Creek near Westcliffe	40,790	477	6.4
Arkansas River @ Canon City	796,800	7,440	345
Arkansas River @ Portland	918,200	12,810	400
Arkansas River above Pueblo	887,800	5,850	93
Arkansas River near Nepesta	1,059,000	6,130	300
Arkansas River near Fowler	1,086,000	5,670	97
Huerfano River near Redwing	25,800	206	6.2
Cucharas River @ Boyd Ranch near La Veta	21,200	123	5.6
Purgatoire River @ Trinidad	74,150	302	1.3
Luning Arroyo near Model	494	172	0
Van Bremer Arroyo near Model N/A			
Purgatoire River near Thatcher N/A			
Arkansas River @ La Junta	300,100	9,790	32.8
Purgatoire River @ Las Animas N/A			
Purgatoire River @ Nine Mile Dam	26,330	1,580	0
Muddy Creek @ Muddy Creek Res.	177	260	0
Rule Creek off Highway 101	910	805	0