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State Engineer

**DIVISION OF WATER RESOURCES**  
WATER DIVISION I

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January 16, 1987

Dr. Jeris A. Danielson, State Engineer  
Division of Water Resources  
Room 818 - Centennial Building  
1313 Sherman Street  
Denver, Colorado 80203

Dear Dr. Danielson:

Attached please find the Annual Report for the 1986  
irrigation year.

I do appreciate the support that has been extended to me  
and our staff by you and all of the Denver people. I  
look forward to the 1987 year and to the challenges that  
need to be addressed.

Sincerely,

Alan D. Berryman  
Division 1 Engineer

ADB:ct

ANNUAL REPORT  
DIVISION NO. I  
1986 IRRIGATION  
NOV. 1, 1985 - OCT. 31, 1986

BY

ALAN D. BERRYMAN, DIVISION ENGINEER

JAMES R. CLARK, ASSISTANT DIVISION ENGINEER  
EDWARD W. BLANK, ASSISTANT DIVISION ENGINEER

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## WATER ADMINISTRATION

### CURRENT WATER YEAR

#### Accomplishments

1985-1986 was a year in which nearly 4 million acre feet of water was diverted to use throughout the division. Approximately 25,754 acre feet were released for augmentation and about 61,497 acre feet were diverted for ground water recharge. A total of 415,156 acre feet of transbasin water was diverted into the division and of this approximately 129,600 acre feet was brought into the Northern Colorado Water Conservancy District as non-charge water. The non-charge water enabled the commissioners in that part of the division to keep the call off the river until the end of June and indirectly allowed more water to be diverted in the upstream areas of the division. There were 239 days of call on the main stem of the South Platte River with the most senior call being the Brighton Ditch with a priority date of November 1, 1871. The task of administering the 9,742 water rights, including 300 augmentation plans, and the 64,433 wells in the division boundaries continues to be more difficult as the newer water rights become more complex to monitor.

Activities in the water court continue to require significant amounts of time and resources. The past water year saw 453 new applications for water rights, required the writing of 468 new or amended consultations to the court, and 355 decrees were signed into law by the water judge. Of the 453 applications, 88 of those were applications for a determination of nontributary ground water rights.

The satellite monitoring system within the boundaries of division 1 now includes 55 stations that can be accessed through the computer. An additional 12

stations will be added for use this year. The information provided by these stations has come to be most valuable in the daily administration of water rights, especially in some of the more unaccessible areas of the division. The major benefits received from the system include timely data on river conditions and reduced field time spent gathering and verifying the data. The water commissioners that have had access to the system were able to adjust and set the river more quickly and interact with neighboring commissioners more efficiently. Maintenance of the stations has proven to be time consuming for the hydrographic personnel. Recent training will enable additional repairs to be made at the division level and save both time and money.

Personnel from division 1 again participated in the dam safety program administered by the dam safety branch. Division personnel inspected a total of 116 dams, of which the majority were low hazard type structures. Restrictions of reservoir levels to achieve adequate safety resulted in the loss of 54,642 acre feet of potential storage in division 1 as of November 30, 1986. During the year approximately 33 notices to construct non-jurisdictional impoundment structures were received. An additional 15 applications were made for livestock tanks and erosion control structures.

Enforcement activities involved the normal problems concerning non-compliance with well permits and operation of wells without proper augmentation. Additionally, some more unique enforcement problems occurred that required special investigations. The question of well versus well injury was raised and resolved after relatively extensive studies by the ground water section. Administration of the long standing 1940 agreement between Consolidated Ditches and the Denver Water Board came to the forefront. Ongoing court hearings are aimed at resolving the controversy between the parties involved in that contract. Strict administration of the drainages south of the Denver metropolitan area has been either initiated or studied due to the increasing demand put on those drainages by the rapid development in that area. Lastly, review of some of the existing water rights in the division has resulted in an adjustment of administration of those rights due to the decreed

limitations on those rights that had been neglected in recent years.

With the use of the personal computer at the division level, a number of administrative files have been transferred from the Denver office to the division. These files will now be kept and updated in the division office.

#### **Involvement in Water User Community**

Interaction with water user groups in meetings and in everyday administrative situations continued to be an important part of the division's activities. Meetings of most water user organizations were attended by the division staff. Included were the Northern Colorado, Central Colorado, and Lower South Platte water conservancy districts, G.A.S.P., District 6 water users, the South Platte Coalition, Colorado Water Congress, ditch companies and well users.

#### **Key Issues/Impacts**

Probably the most significant impact on the operations of division 1 was Senate Bill 5 which dealt with nontributary ground water. As provided for in the legislation, the State Engineer promulgated rules and regulations dealing with nontributary ground water. The incorporation of these rules and their associated concepts into the water right process of the water court presented a difficult problem because of the complexity of that type of water right. A great deal of time and resources was spent interpreting the results of the rules and explaining them to the court. All water rights applications dealing with nontributary ground water were carefully evaluated.

Another issue that impacted the division office was the administration of water rights on the Platte River upstream from Denver. A temporary position was allocated to water district 80 in order to initiate a program to computerize the accounting of water right diversions in that reach of river. A large and complex spreadsheet was subsequently designed to account for

the numerous water rights involved. The majority of the accounting package is finished and future resources are earmarked to finish this task.

#### Unresolved Problems and Tasks

Several unresolved problems and tasks remain going into the 1986-87 season. Although many of the problems associated with nontributary ground water have been resolved in the past year, many issues and problems remain in that area. Included are the use of nontributary ground water in plans for augmentation, the augmentation requirements of not-nontributary wells, the accounting and monitoring of nontributary ground water withdrawals and replacements, and the continuing effort needed to produce timely findings of fact for the court and support the findings in the water right process.

Although significant progress toward instituting an accounting system to administer water rights upstream of Denver was made, the final product remains unfinished. Some additional time is required to finalize the spreadsheet for accounting purposes and calibrate it with the actual operation of the river.

The strict administration of Cherry Creek is a task that remains in the future. Once engineering studies are completed, the overall impact of this action will have to be evaluated and the method of implementation of this administrative action will have to be discussed.

#### Workload Changes/Effect on Staff

Activities in the water court involving nontributary ground water will continue to require special attention in the coming year. A large share of one engineering position will have to be devoted to this situation. The re-filling of the presently open position in the division office should help address this need.

The satellite monitoring system will continue to put increased responsibilities on the hydrographic staff to maintain the stations, especially the ones critical to the daily administration of the river.

The effort to achieve efficient river accounting above Denver will require some time to finalize the spreadsheet. This accounting will require a person to spend time using the sheet and administering the river.

As always, the workload on the water commissioners expands with the addition of the new water rights that are decreed each year. The complexity of the new rights at times is overwhelming. The commissioners will have to devote additional time to insert these rights into their administrative schedules. As a result less attention can be given to each right.

Finally, the potential administration of water rights in Cherry Creek will require more field work in an area where the water commissioners are already spread very thin. It is anticipated that part/time positions will be assigned in that area to help initiate that administration and that some help in the field can come from the Denver office.

#### **Budget Impact on Division Operations**

The budget cuts that will be imposed prior to the end of the 1986-87 year are expected to have a major impact on division 1. With the potential loss of one hydrographic position due to the budget cut, some of the gaging stations may be visited less frequently and the necessity of maintaining flow records at all stations will be reviewed to reduce any unnecessary records.

The potential loss of one water commissioner in the division will mean that some of the activities that are presently being done by that position will not be done in the future.

#### **COMING WATER YEAR**

##### **Problems/Concerns**

The upcoming year will again have some of the same problems that existed in the past in the area of water administration. The task of formulating an efficient



river accounting system for the main stem of the Platte River upstream of Denver remains to be finalized and tested. The administration of Cherry Creek and Plum Creek will take significant amounts of time and effort to get initiated.

Nontributary ground water will remain as a concern for 1986-1987. The need for timely findings of fact related to determinations of water rights for nontributary ground water continues to be very important in order to maintain the credibility that has been achieved with the court in the past year. Continued efforts are needed to promote and establish the rules and regulations for nontributary ground water.

The ensuing year will require increased efforts to maintain the satellite monitoring system in order to make the system operate efficiently and accurately. Because of the impending budget cuts, the manpower to service the system will be reduced below previous levels at a time when more manpower is actually needed.

#### Concerns Not to be Addressed

None of the above concerns can be completely ignored during the upcoming year. Priorities will have to be given to each area as the events progress during the year. While all of the concerns may not be completely resolved, progress in each area can be made depending upon the particular circumstances that arise.

#### Projected Work Items/Staff

There are several work items that the staff will address this year. An issue that requires attention is finishing the river accounting package and implementing it. By the end of the year, the accounting spreadsheet should be finished and a person in the division office should be assigned to do the accounting.

As far as the administration of Cherry Creek, the staff will be responsible for supporting the administrative efforts that occur. The staff will be assigned to do

necessary field investigations such as well inspections, determinations of aquifer and pumping data, and seepage runs when necessary to determine the river conditions. Additionally, some engineering analyses may have to be made on a case by case basis.

The staff will continue to monitor the activities in water court surrounding nontributary ground water rights and present testimony in behalf of the State Engineer. It is the goal of the division to make every effort to maintain the credibility of the state in the water court concerning matters of nontributary ground water.

#### Selected Work Items/Division Engineer

The three main tasks that faced the division engineer in the past year remain to be the main objectives for the ensuing year. The task that was the main target last year was to establish the state's credibility in the area of nontributary ground water administration. While the efforts of last year appear to have accomplished that goal, the extent and complexity of this subject matter require that further efforts be made to resolve the remaining questions and problems as well as protect and advance the concepts that have been previously won.

Another objective which remains unfinished from last year is the accounting and river administration package that is needed for proper administration of the Platte River upstream from Denver. The progress made last year needs to be furthered and finalized. The accounting spreadsheet is 80 to 90 percent complete and requires some time to finalize and check it for proper operation. Once the spreadsheet is finished, a period of time will be necessary in order to test its accuracy and ability to properly account for actual river operations. Once the spreadsheet is verified, it can be used for the accounting of river operations.

The main objective that I presently plan to be involved in for the upcoming year is that of administration of Cherry Creek and Plum Creek. Since it appears probable that such administration will be pursued, I plan to

devote the necessary time to initiate that action and to follow it up as is required. Some strategic planning will be necessary near the first of the year to lay out the groundwork for initiating this action. The specific steps necessary to carrying out the plan are unknown at this time. By the end of the year administration should be started and progressing toward integrating water rights in Cherry Creek with those in the remainder of the division.

### STATISTICAL INFORMATION

Statistical information for the following categories follows in the order listed:

A. Administration of Plans for Augmentation

Division one has approximately 300 plans for augmentation. In 1986, about 29,075 acre-feet were released for replacement purposes. For a district by district breakdown of the releases made for augmentation, refer to the summary of water diversions for 1986 in section E that follows and to the figure that follows on the next page.

B. Transmountain Diversions

C. Storage Water

D. Water Diversions

E. Court Activities

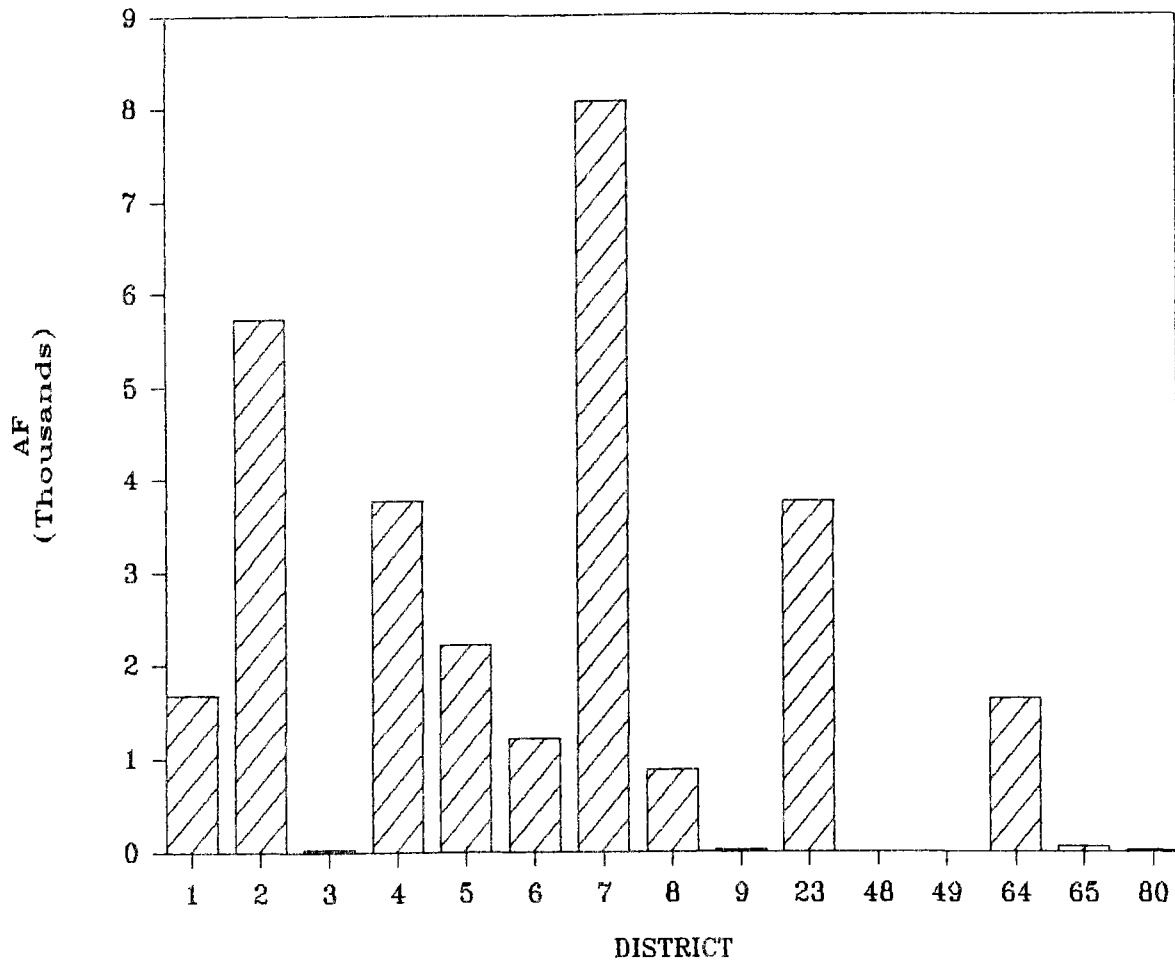
F. Office Administration

G. River Calls

H. Compact Deliveries

# DIVISION 1

## 1986 AUGMENTATION RELEASES



TRANSMOUNTAIN DIVERSIONS SUMMARY - INFLOWS

WD	NAME	RECIPIENT				SOURCE			
		STREAM	1985 WATER YEAR		1986 WATER YEAR		WD	STREAM	
			AF	DAYS	AF	DAYS			
03	Wilson Supply Ditch	Cache La Poudre River	0	0	790	21	48	Sand & Deadman Cr.	
03	Deadman Ditch	Cache La Poudre River	0	0	0	0	48	Deadman Creek	
03	Bob Creek Ditch	Cache La Poudre River	0	0	0	0	48	Nunn Creek	
03	Columbine Ditch	Cache La Poudre River	0	0	0	0	48	Deadman Creek	
03	Laramie-Poudre Tunnel	Cache La Poudre River	13,760	87	17,244	73	48	Laramie River	
03	Skyline Ditch	Cache La Poudre River	0	0	1,377	16	48	Laramie River	
03	Cameron Pass Ditch	Cache La Poudre River	0	0	0	0	47	Michigan River	
03	Michigan Ditch	Cache La Poudre River	0	0	860	110	47	Michigan River	
03	Grand River Ditch	Cache La Poudre River	20,820	131	24,481	124	51	Colorado River	
04	Eureka Ditch	Big Thompson River	0	0	0	0	51	Colorado River	
04	Adams Tunnel	Big Thompson River	285,200	365	273,800	365	51	Colorado River	
06	Moffat Tunnel	South Platte River	78,870	365	80,720	365	51	Fraser River	
07	Berthoud Pass Ditch	Clear Creek	567	105	911	91	51	Fraser River	
07	Vidler Tunnel	Clear Creek	358	72	493	71	51	Montezuma Creek	
23-									
08	Roberts Tunnel	South Platte River	27	7	980	25	36	Blue River	
23	Boreas Pass Ditch	South Platte River	0	0	0	0	36	Indiana Creek	
23	Hoosier Pass Ditch	Arkansas River	7,290	158	11,940	153	36	Blue River	
23	Aurora Homestake	South Platte River	3,211	42	1,560	18	37	Homestake Creek	

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 1

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr	%	Beg Irr Season	%	Beg Irr Yr	%	Beg Irr Season	%	
		AF		AF		AF		AF		
Bijou #2	South Platte	4,300	47	4,300	47	2,100	23	3,900	42	3,900
Empire	South Platte	11,951	32	34,930	93	19,649	52	34,930	93	17,885
Jackson	South Platte	17,634	49	21,263	60	15,083	42	34,043	96	14,784
Riverside	South Platte	16,342	25	61,597	97	6,290	10	60,849	96	17,410
Others		394	16	946	44	145	7	869	40	69

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 2

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1985-1986 IRRIGATION YEAR			End 1986 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	Beg Irr Yr AF	%	Beg Irr Season AF			
Barr		794	02	28,844	90	23,100	72	30,926	96	17,326
Bull Canal #8								4,068	68	2,667
Coal Ridge		447	68	356	55	503	77	383	59	547
Great Western		2,899	89	2,657	82	2,340	72	1,885	58	9,630
Horse Creek		11,960	70	14,350	85	10,180	60	14,945	88	2,228
Lord		338	09	338	09	73	02	459	13	0
Lower Latham		4,985	80	5,079	82	2,578	42	5,674	91	5,457
Milton		14,694	70	18,268	87	15,350	73	21,092	100	15,690
Prospect		3,404	57	4,873	82	3,650	61	5,268	88	1,893
Quincy		2,472	89	2,583	92	2,527	90	2,431	87	2,541
Standley		41,535	98	34,908	82	33,976	80	37,951	90	33,432
Others								2,733	53	3,591



RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 3

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1985-1986 IRRIGATION YEAR			End 1986 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%		Beg Irr Season AF	%
Fossil Creek	Fossil Creek	4,980	43	6,419	56	7,373	64	5,837	51	4,151
Halligan	N Fk Poudre River	5,680	88	5,680	88	6,428	100	4,306	67	0
Indian Creek	Indian Creek	1,556	82	1,524	80	1,690	89	1,588	83	1,815
Mountain Supply										
North Poudre #2	N Fk Poudre River	0	0	1,110	28	1,736	44	2,355	60	2,197
North Poudre #3	N Fk Poudre River	2,760	80	2,867	83	2,955	86	3,227	94	2,955
North Poudre #4	N Fk Poudre River	0	0	579	35	773	46	773	46	647
North Poudre #5	N Fk Poudre River	4,232	50	3,936	47	4,673	56	4,923	59	4,001
North Poudre #6	N Fk Poudre River	546	05	927	09	842	08	842	08	0
North Poudre #15	N Fk Poudre River	3,522	64	3,786	69	0		0		0
Park Creek	Park Creek	5,107	70	5,585	76	0		5,320	72	6,670
Cobb Lake	Cache La Poudre R	19,130	85	18,850	84	17,100	76	17,100	76	17,660
Seaman aka Milton Seaman	N Fk Poudre River	1,567	31	2,336	47	2,098	42	920	18	1,732
Claymore	Cache La Poudre R	105	10	550	54	409	40	688	68	177
Panhandle	Panhandle Creek	841	36	841	36	841	36	841	36	841
Seeley	Cache La Poudre R	532	35	1,138	74	0		1,069	69	1,069
Warren	Cache La Poudre R	1,501	64	1,289	55	990	42	992	39	1,030
Wood	Rollard Draw	1,619	52	1,672	54	1,724	55	1,866	60	1,596
Joe Wright aka Cameron	Joe Wright Creek	4,988	70	5,412	76	4,173	58	4,684	65	4,390
Rawhide	Cache La Poudre R	15,638	100	15,903	102	15,400	98	16,000	102	15,751
Horsetooth	Dixon Canyon Cr	63,603	42	130,528	86	86,511	57	134,524	89	89,823

RESERVOIR STORAGE SUMMARIES (Continued)

WATER DISTRICT 3

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr		Beg Irr Season		Beg Irr Yr		Beg Irr Season		
		AF	%	AF	%	AF	%	AF	%	
Douglass	Cache La Poudre R	6,100	65	6,911	74	6,958	74	7,240	77	5,839
Windsor Res. #8	Cache La Poudre R	8,023	78	7,858	76	7,438	72	7,342	71	4,968
No. 8 Annex	Cache La Poudre R	2,847	78	2,775	76	2,596	71	2,555	70	1,582
Windsor Res.	Cache La Poudre R	7,511	42	10,439	59	9,669	55	14,232	80	4,098
Chambers	Joe Wright Cr	2,253	25	4,671	53	1,197	14	3,192	36	275
Long Draw aka Grand River	Long Draw Cr	8,323	76	9,791	89	6,930	63	7,923	72	6,243
Black Hollow	Cache La Poudre R	3,700	46	3,738	46	4,089	51	4,130	51	4,130
Curtis	Cache La Poudre R	718	57	736	58	730	58	695	55	524
Kluver	Cache La Poudre R	793	69	802	70	656	57	743	65	727
Long Pond aka Water Supply #5,6,7	Cache La Poudre R	2,909	72	2,989	74	2,575	64	2,277	56	2,758
Rocky Ridge aka Water Supply #1	Cache La Poudre R	3,403	77	3,403	77	3,403	77	3,163	71	2,697
Water Supply #3	Long Pond Res.	3,161	65	3,197	66	3,514	73	3,381	70	3,842
Water Supply #4	Long Pond Res.	662	45	718	49	843	58	843	58	805
Terry aka Larimer Weld	Cache La Poudre R	4,805	59	4,890	60	5,635	69	5,816	71	3,884
Worster	Sheep Creek	181	05	622	17	480	13	675	18	228
Timnath	Duck Slough	7,306	73	9,460	94	2,667	26	10,070	100	4,250
Windsor Lake	Cache La Poudre R	588	40	866	59	0		926	63	842
Barnes	Barnes Meadows Cr	1,877	80	289	12	118	05	202	09	0
Others		4,156	24	5,885	34	7,003	41	5,533	32	4,285

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 4

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	
Boulder & Larimer aka Ish	Little Thompson	2,588	35	4,812	66	1,289	18	6,404	87	1,659
Boyd Lake	Big Thompson	36,351	62	40,590	69	28,123	48	45,450	78	14,580
Carter	Big Thompson	93,870	84	101,459	91	46,461	41	106,247	95	61,349
Donath	Big Thompson	437	38	1,004	87	65	06	1,050	91	407
Hertha Reservoir	Dry Cr. Hertha	0	00	1,703	90	385	23	1,726	101	371
Horseshoe Reservoir	Big Thompson	7,231	90	5,167	64	4,659	58	3,743	46	6,392
Lake Loveland	Big Thompson	4,335	34	12,249	96	9,265	73	11,587	91	9,724
Lon Hagler	Big Thompson	4,990	99	5,010	100	2,420	48	5,108	102	1,781
Lone Tree	Big Thompson	7,806	84	8,869	96	5,952	64	8,525	92	2,527
Loveland Lake	Big Thompson	1,574	67	1,856	79	1,271	54	1,920	82	1,336
Marino	Big Thompson	4,731	85	5,493	99	780	14	4,993	90	3,599
Welch Lake	Big Thompson	6,058	90	5,835	86	5,240	78	6,282	93	5,199
Others		2,381	54	2,391	54	1,880	42	2,236	50	1,622

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 5

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1985-1986 IRRIGATION YEAR			End 1986 Water Yr
		Beg Irr Yr	%	Beg Irr Season	Beg Irr Yr	%	Beg Irr Season	
		AF		AF	AF		AF	Water Yr
Beaver Pond	Beaver Creek	1,536	71	1,616	75	1,386	1,438	1,349
Foothills	St. Vrain	2,969	68	3,789	87	2,651	3,267	0
Highland #1	St. Vrain	916	89	1,033	100	726	937	764
Highland #2	St. Vrain	2,583	70	3,589	97	2,631	3,536	2,695
Highland #3	St. Vrain	501	31	1,669	102	723	1,598	897
McIntosh	St. Vrain	1,816	71	2,459	96	814	2,305	1,335
Pleasant Valley	St. Vrain	2,460	80	3,076	100	2,460	2,617	1,899
Oligarchy Res. #1	St. Vrain	1,659	96	1,737	100	1,471	1,640	1,640
Union	St. Vrain	12,715	100	12,568	99	10,041	12,715	10,145
Left Hand Park	Left Hand Creek	1,050	64	1,085	66	620	665	449
Left Hand Valley	Left Hand Creek	3,307	88	3,593	95	1,544	3,287	2,941
Button Rock	St. Vrain	12,715	82	14,530	94	11,455	13,836	12,300
New Thomas	St. Vrain	1,761	47	1,651	44	2,104	2,282	2,003
Lagermann	Left Hand Creek	895	71	863	68	895	867	840

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 6

PREVIOUS IRRIGATION YEAR      1985-1986 IRRIGATION YEAR

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR		1985-1986 IRRIGATION YEAR		End 1986 Water Yr
		Beg Irr Yr AF	%	Beg Irr Yr AF	%	
Albion	Creek	1,111	100	1,111	100	1,111
Barker	Creek	7,881	69	8,898	77	4,291
Baseline	Creek	3,404	64	2,702	51	4,770
Boulder	Creek	5,090	29	5,446	31	7,984
Goose	North Boulder Cr.	388	37	1,036	100	1,036
Great Western	Coal Creek	2,899	89	2,328	72	1,926
Gross	South Boulder Cr.	37,485	89	30,220	72	18,131
Hillcrest	Creek	1,942	91	1,607	75	1,878
Leggett	Creek	1,402	90	1,157	75	1,355
Marshall	South Boulder Cr.	6,725	64	225	02	6,919
McKay	South Boulder Cr.	554	65	413	49	406
Panama	Creek	3,267	65	3,459	69	4,045
Silver	North Boulder Cr.	3,935	99	3,987	100	412
Six Mile	Creek	1,022	72	569	40	1,190
Valmont	South Boulder Cr.	6,819	92	6,028	81	6,670

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 7

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr		% Season		Beg Irr Yr		% Season		
		AF	%	AF	%	AF	%	AF	%	
Ralston	Ralston Creek	10,098	79	9,628	76	8,601	67	8,191	64	6,229
Long Lake	Ralston Creek	351	26	655	48	189	14	901	67	1,064
Tucker	Ralston Creek	236	22	581	53	218	20	530	48	323
Leyden	Clear Creek	798	69	354	31	0		95	08	403
Hyatt	Clear Creek	443	40	546	50	477	44	271	25	184
Standley	Clear Creek	41,924	99	33,544	79	33,762	80	38,142	90	34,197
Coors B #3	Clear Creek	2,514	100	2,514	100	2,514	100	1,635	65	2,464
Coors B #4	Clear Creek	3,506	94	1,986	53	3,729	100	2,904	78	3,551
Blunn	Clear Creek	5,462	94	5,442	94	4,725	81	4,725	81	4,552
Others		9,669	64	6,863	46	8,510	56	7,427	49	9,345

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 8

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR						1985-1986 IRRIGATION YEAR						End 1986 Water Yr
		Beg Irr Yr		Beg Irr Season		Beg Irr Yr		Beg Irr Season		Beg Irr Yr		Beg Irr Season		
		AF	%	AF	%	AF	%	AF	%	AF	%	AF	%	
Aurora Rampart	Gulch	1,118	93	1,189	99	855	71	677	56	916				
Chatfield	South Platte	27,266	38	27,495	38	27,036	38	26,807	37	19,805				
Cherry Creek	Cherry Creek	15,103	06	14,226	06	13,598	06	13,313	05	13,754				
Marston	South Platte	9,638	56	16,231	94	10,019	58	16,010	93	7,214				
McLellan	Dad Clark Gulch	5,575	93	5,665	94	5,719	95	5,468	91	4,982				
Platte Canon	South Platte	0	00	862	90	830	86	889	92	883				
Strontia Springs	South Platte	7,166	91	7,225	92	7,333	93	6,780	86	6,798				

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 9

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	
Soda #2 (East)	Bear Creek	1,507	100	1,501	100	1,507	100	1,507	100	1,501
Bowles	Bear Creek	1,335	54	1,194	48	1,194	48	1,194	48	1,335
Patrick	Bear Creek	558	50	588	50	694	62	694	62	694
Bear Creek Res.	Bear Creek	2,154	03	2,226	03	2,027	03	2,095	03	1,990
Others		4,850	81	3,537	59	3,517	58	3,706	62	3,340



RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 23

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1985-1986 IRRIGATION YEAR				End 1986 Water Yr
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	
Antero	S Fk South Platte	15,937	19	15,996	19	15,957	19	5,164	06	15,378
Montgomery	Mid. Fk. S. Platte	4,686	92	994	20	2,916	57	1,250	25	4,797
Eleven Mile	Mid. Fk. S. Platte	102,018	104	100,532	103	98,938	101	101,906	104	97,338
Spinney Mountain	Mid. Fk. S. Platte	49,359	91	52,845	97	48,263	89	42,340	78	37,599

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 64

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1985-1986 IRRIGATION YEAR			End 1986 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	Beg Irr Season AF			
Prewitt	South Platte	21,890	76	27,904	97	16,070	56	27,450	95	19,200
North Sterling	South Platte	36,810	45	71,488	87	22,020	27	69,760	85	29,430
Julesburg	South Platte	15,213	54	23,404	83	18,547	66	20,646	73	17,190

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 80

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1985-1986 IRRIGATION YEAR			End 1986 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Season AF	%			
Cheesman	S. Fk. S. Platte	78,732	100	79,844	101	73,150	93	77,803	98	46,521
Wellington	N. Fk. S. Platte	3,358	76	4,232	96	3,036	69	3,711	84	2,909
Others		1,048	85	1,089	88	799	65	963	78	673

1986 WATER DIVERSION SUMMARIES BY DISTRICT IN AF

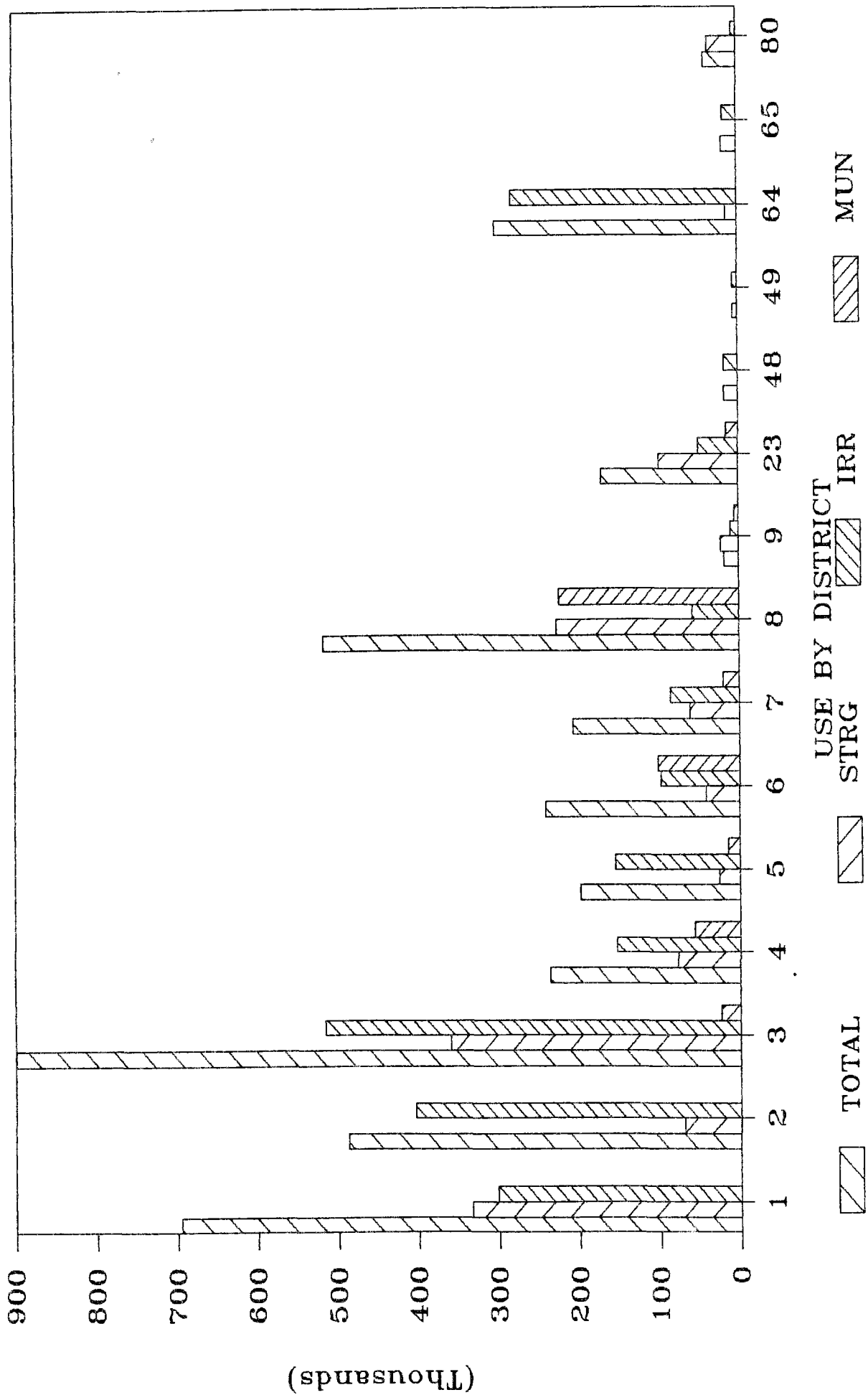
WD	TOTAL DITCHES REPORTING				NU	ESTIMATED NUMBER OF DITCH OBSERVATIONS	TOTAL DIVERSIONS -AF-	TOTAL DIVERSIONS TO STORAGE -AF-	TOTAL DIVERSIONS -AF-	IRRIGATION		AVERAGE AF PER ACRE
	WA	NWA	NR	212						NUMBER OF ACRES IRRIGATED	NUMBER OF ACRES IRRIGATED	
01	257	1	212	42	13,629	695,456	333,953	301,738	189,225	1.60		
02	235		75	13	6,769	486,728	70,436	404,066	182,226	2.22		
03	189	1	248	53	31,387	899,658	360,072	515,521	300,690	1.72		
04	274		143	3	5,980	235,498	76,868	152,986	107,706	1.42		
05	236			8	7,278	197,697	26,038	153,984	114,512	1.35		
06	194	2	119	77	8,983	241,339	41,576	98,291	100,331	0.98		
07	336		143	10	15,623	206,687	61,911	86,099	51,250	1.68		
08	437		121	55	6,416	517,145	226,605	57,731	19,811	2.92		
09	521		487	5	1,855	17,573	2,226	10,090	7,155	1.41		
23	262		225	11	13,818	170,283	98,828	49,113	15,738	3.12		
48	81		20		2,744	16,963		16,963	4,615	3.68		
49	40				324	5,489		5,489	1,555	3.53		
64	155	5	15	13	4,483	301,538	14,031	281,005	181,271	1.55		
65	30		2		872	18,502		17,417	4,720	3.69		
80	290		37	39	997	40,926	35,188	5,576	1,774	3.15		
TOTALS	3,537	09	1,847	329	121,158	4,061,311	1,404,005	2,156,069	1,282,579	1.68		

1986 WATER DIVERSION SUMMARIES BY DISTRICT IN AF (CONTINUED)

WD	TRANSMOUNTAIN OUTFLOW	TRANSBASIN OUTFLOW	MUNICIPAL	INDUSTRIAL	RECREATIONAL	FISHERY	COMMERCIAL	RECHARGE	AUG
01			10,257					49,508	1,682
02						30	7,686	2,289	5,727
03			23,826	188			7		36
04			5,644						3,768
05			13,972						2,222
06			101,546	1,474					1,216
07			19,983	51,558					8,082
08			223,657	4,165		4,717	36		872
09			5,257						18
23			15,132	3,037	3,626	545		1	3,751
48									
49									
64							860	5,367	1,634
65						1,085			58
80			142				14		9
<b>TOTALS</b>			<b>409,159</b>	<b>70,679</b>	<b>3,626</b>	<b>6,377</b>	<b>8,603</b>	<b>61,477</b>	<b>29,075</b>

# DIVISION 1

1986 DIVERSIONS



WATER COURT ACTIVITIES

No. of Applications for Decree	453
No. of Consultation with Referee	468
No. of Decrees Issued by Water Court	355

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Type of Decrees	Type of Structures					Total
	Ditch	Res.	Sprg.	Well	Other	
New Appropriation	113	10	36	8	285	347
Change	177	58	154	16	301	564
						2
						14
						15
						81
						45
						15
						18
						13
						3
						5
						16
Other	44					
						30
						2
						3
						2
						11
TOTAL DECREES	338					TOTAL NO. OF STRUCTURES
						911

### ACTIVITY SUMMARY

ACTIVITY	TOTAL WATER YEAR	TOTAL TO DATE
Number of professional and technical staff		5
Number of clerical staff		2
Number of Water Commissioner FTE assigned (full and part-time)		15 Full Time 12 Part Time
Number of decreed surface rights		9,742*
Number of surface rights administered		**
Number of wells		64,433
Number of plans for augmentation	18	300
Number of consultations with Referee	468	
Number of Water Court appearances	334	
Number of meetings with water users	555	
Number of meetings to resolve water related disputes	0	
Number of contacts to give public assistance on water matters	47,543	
Contact with other agencies	180	

\* Estimated from Tabulation  
 \*\*To be Determined



RIVER CALL 1985-1986

Calling Priority

Date Call Initiated 1985-86	Date Call Released 1985-86	Structure Name	Appropriation Date	District	Person Placing Call	Districts Affected
11/21/85	11/27/85	Denver City Pipelines	12/06/1910	08	Jim McClure	8, 23, 80
12/12/85	12/18/85	Denver Intake	12/06/1910	08	Jim McClure	8, 23, 80
01/06/86	01/24/86	Denver Intake	12/06/1910	08	Jim McClure	8, 23, 80
01/28/86	02/21/86	Denver Intake	12/06/1910	08	Jim McClure	8, 23, 80
02/26/86	04/03/86	Marston Reservoir	04/01/1911	08	Jim McClure	8, 23, 80
04/23/86	05/05/86	Marston Reservoir	04/01/1911	08	Jim McClure	8, 23, 80
05/05/86	05/16/86	Burlington	11/20/1885	02	Manuel Montoya	8, 9, 23, 80
05/19/86	05/22/86	Burlington	11/20/1885	02	Manuel Montoya	8, 9, 23, 80
05/22/86	06/05/86	Burlington	01/13/1909	02	Manuel Montoya	8, 9, 23, 80
06/13/86	06/17/86	Burlington	11/20/1885	02	Manuel Montoya	8, 9, 23, 80
06/17/86	06/18/86	Burlington	01/13/1909	02	Manuel Montoya	8, 9, 23, 80
06/18/86		No Demand				
06/26/86	06/27/86	Barr Lake, Burlington	01/13/1909	02	Manuel Montoya	8, 9, 23, 80
06/27/86	06/29/86	O'Brian Canal	03/09/1908	02	Manuel Montoya	8, 9, 23, 80
06/29/86	07/06/86	Fort Morgan Canal	10/18/1882	01	Harold Griffith	2, 3, 4, 5, 6, 7, 8, 9, 23, 80
07/06/86	07/07/86	Bijou	10/01/1888	01	Ross Osborne	2, 3, 4, 5, 6, 7, 9, 8, 23, 80
07/07/86	07/08/86	Burlington	11/20/1885	02	Manuel Montoya	8, 9, 23, 80
07/08/86	07/10/86	O'Brian Canal	03/09/1908	02	Manuel Montoya	8, 9, 23, 80
07/12/86	07/15/86	Burlington	11/20/1885	02	Manuel Montoya	8, 9, 23, 80
07/15/86	07/29/86	Bijou	10/01/1888	01	Ross Osborne	2, 3, 4, 5, 6, 7
07/29/86	07/30/86	Lower Platte & Beaver	04/15/1888	01	Bob Samples	2, 3, 4, 5, 6, 7
07/30/86	08/01/86	Farmer's Independent	11/20/1876	02	Keith Delventhal	7, 8, 9, 23, 80
07/31/86	08/06/86	Fort Morgan Canal	10/18/1882	01	Harold Griffith	2, 3, 4, 5, 6

RIVER CALL (Continued)

Calling Priority

Date Call Initiated 1985-1985	Date Call Released 1985-1986	Structure Name	Appropriation District Date	Person Placing Call	Districts Affected
08/01/86	08/18/86	Fulton	07/08/1876	Keith Deventhal	7, 8, 9, 23, 80
08/06/86	09/03/86	Bijou	10/01/1888	Ross Osborne	2, 3, 4, 5, 6
08/18/86	08/25/86	Brighton	11/01/1871	Keith Delventhal	7, 8, 9, 23, 80
08/25/86	08/29/86	Fulton	07/08/1876	Keith Delventhal	7, 8, 9, 23, 80
08/29/86	09/15/86	Burlington	11/20/1885	Keith Delventhal	7, 8, 9, 23, 80
09/15/86	11/01/86	Burlington Enlrg.	01/13/1909	Keith Delventhal	8, 9, 23, 80
11/01/86	11/17/85	Barr Lake, Burlington	11/20/1885	Keith Delventhal	8, 9, 23, 80
11/17/86		Barr Lake Enlrg.	01/13/1909	Keith Delventhal	8, 9, 23, 80

## COMPACTS

### SOUTH PLATTE RIVER COMPACT

The Colorado-Nebraska Compact on the South Platte provides that Colorado shall have the full use of the river water between the fifteenth of October of any year and the first day of April of the succeeding year but that, between the first day of April and the fifteenth of October of each year, Colorado shall not permit diversion from the river below the Washington-Morgan County line to supply water rights having priority dates junior to June 14, 1897 to the extent that they would diminish the flow of the river at the Julesburg gaging station below a daily mean flow of 120 cfs.

Normally it is not necessary to curtail any surface diversion in Colorado to honor the compact because stream flows are inadequate to satisfy all the water rights senior to the compact date.

Preliminary flow data for the Julesburg station indicates that during the 198 day period from April 1 to October 15, 1985, the mean daily flow dropped below 39 cfs on 60 days.

### REPUBLICAN RIVER COMPACT

The Republican River Compact allocates water to the signatory states, Colorado, Kansas and Nebraska on the basis of beneficial consumptive use. Colorado's total allocation of 54,100 acre feet is broken down as follows:

North Fork of the Republican River Drainage Basin	10,000 AF
Arikaree River Drainage Basin	15,400 AF
South Fork of the Republican River Drainage Basin	25,400 AF
Beaver Creek Drainage Basin	3,300 AF

and in addition, for beneficial consumptive use in Colorado annually, the entire water supply of the Frenchman Creek (River) Drainage Basin in Colorado and the Red Willow Creek Drainage Basin in Colorado.

The computed annual consumptive use in Colorado in the Republican River Basin for the 1984 water year, the last year for which official figures are available, was as follows:

<u>STREAM</u>	<u>DIVERSIONS</u>	<u>CONSUMPTION</u>	<u>PERCENT OF ALLOCATION</u>
N. Fk. Republican River	9,570	6,920	69.2
S. Fk. Republican River	9,170	10,610	41.8
Arikaree River	5,410	4,060	26.4
Beaver Creek	0	0	0

COMPACTS (continued)

LARAMIE RIVER AGREEMENT

The 1957 decree of the United States Supreme Court limits the diversions from the Laramie River and its tributaries to 49,375 acre feet annually for the State of Colorado. Of that amount, 19,875 acre feet are allocated to transmountain users and the remaining 29,500 acre feet to the meadowland users within the river basin. The meadowland users are further restricted to diversions of not more than 1,800 acre feet after July 31 of each year. In the event that the transmountain users do not divert their full allotment, the meadowland users may divert the difference between the 19,875 acre feet and the actual amount if diverted within the same year.

Sand Creek, which arises in Colorado, later becoming tributary to the Laramie River in Wyoming, is not included within the terms of the compact. Instead, Colorado and Wyoming have a working agreement whereby senior water rights on Sand Creek in Wyoming are recognized before junior diversions are made in Colorado through the Wilson Supply Canal, a transbasin diversion.

In 1986, the transmountain diversions under the Laramie River Compact totaled 18,621 acre feet of the 19,875 acre feet compact allowance. The meadowland diversions totaled 16,963 acre feet or some 58% of the allotment. Total Colorado diversions were 35,584 acre feet or 72% of the total allotment of 49,375 acre feet.