INTRODUCTORY STATEMENT

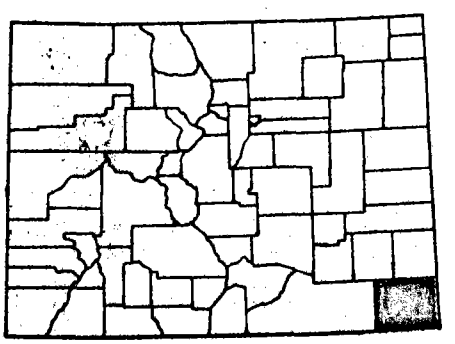
ANNUAL DIVISION ENGINEERS REPORT
IRRIGATION DIVISION NO. 2
1972

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 ELEVEN WATER DISTRICTS (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 66 AND 67) COMPRISING THE COUNTIES OF ELPASO, CHAFFEE, LAKE, FREMONT, CUSTER, PUEBLO, PARK, LAS ANIMAS, TELLER, CROWLEY, OTERO, BENT, PROWERS, BACA AND KIOWA. THE AREA THAT IS ENCOMPASSED BY IRRIGATION DIVISION NUMBER 2 MAY BE BEST DESCRIBED BY THE FOLLOWING SUMMARIZED TABLES.

IRRIGATION DIVISION II

BACA COUNTY

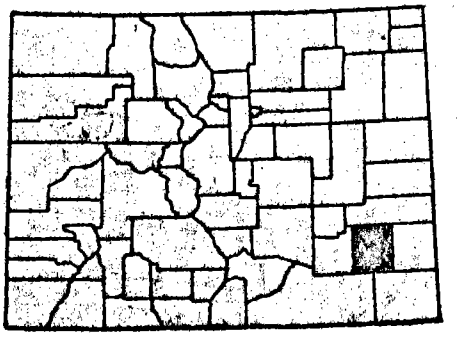
MAJOR CITY	SPRINGFIELD
1970 POPULATION	5,516
URBAN POPULATION	NO CITY OVER 2500
RURAL POPULATION	5,516
COUNTY AREA	2,565 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	4,356
MAJOR STREAM	CARRIZO
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	56,910
AVERAGE GROWING SEASON	169 DAYS
ANNUAL MEAN TEMPERATURE	52.2°
AVERAGE ANNUAL RAINFALL	14.73 INCHES
AVERAGE ANNUAL SNOWFALL	27.7 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	750
WATER RESOURCE PROJECTS	UNDERGROUND WATER DISTRICT
LAND OWNERSHIP	
PRIVATE	1,736,612 ACRES
FEDERAL	205,500 ACRES
STATE	42,928 ACRES
COUNTY AND MUNICIPAL	86 ACRES



IRRIGATION DIVISION II

BENT COUNTY

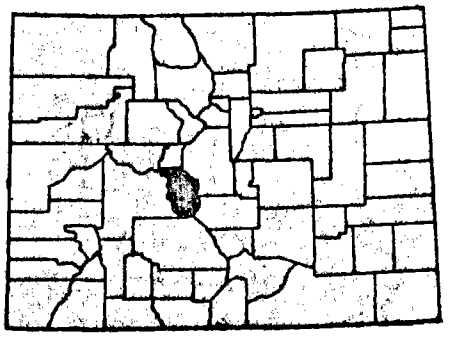
MAJOR CITY	LAS ANIMAS
1970 POPULATION	6,343
URBAN POPULATION	2,955
RURAL POPULATION	3,388
COUNTY AREA	1,517 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	3,901
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	PURGATOIRE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	45,292
AVERAGE GROWING SEASON	158 DAYS
ANNUAL MEAN TEMPERATURE	51.3°
AVERAGE ANNUAL RAINFALL	12.25 INCHES
AVERAGE ANNUAL SNOWFALL	21.0 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	450
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	939,722 ACRES
FEDERAL	10,233 ACRES
STATE	142,673 ACRES
COUNTY AND MUNICIPAL	147 ACRES



IRRIGATION DIVISION II

CHAFFEE COUNTY

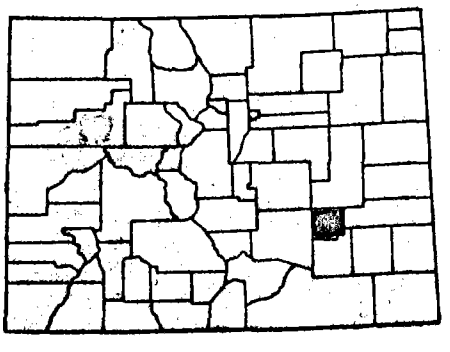
MAJOR CITY	SALIDA
1970 POPULATION	9,663
URBAN POPULATION	4,322
RURAL POPULATION	5,341
COUNTY AREA	1,039 SQ. MILES
TERRAIN	MOUNTAINOUS
ELEVATION (MAJOR CITY)	7,036
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	SOUTH ARKANSAS
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	16,216
AVERAGE GROWING SEASON	112 DAYS
ANNUAL MEAN TEMPERATURE	46.3°
AVERAGE ANNUAL RAINFALL	10.87 INCHES
AVERAGE ANNUAL SNOWFALL	46.2 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	170
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	128,736 ACRES
FEDERAL	502,651 ACRES
STATE	20,103 ACRES
COUNTY AND MUNICIPAL	3,511 ACRES



IRRIGATION DIVISION II

CROWLEY COUNTY

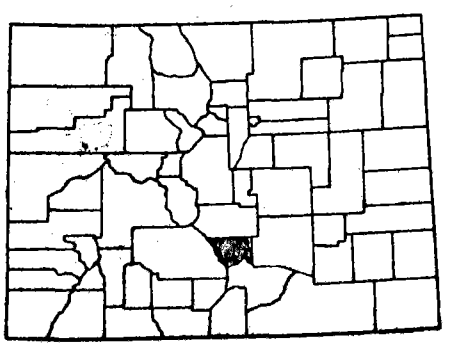
MAJOR CITY	ORDWAY
1970 POPULATION	2,947
URBAN POPULATION	NO CITY OVER 2500
RURAL POPULATION	2,947
COUNTY AREA	803 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	4,312
MAJOR STREAM	HORSE CREEK
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	25,010
AVERAGE GROWING SEASON	162 DAYS
ANNUAL MEAN TEMPERATURE	51.4°
AVERAGE ANNUAL RAINFALL	12.31 INCHES
AVERAGE ANNUAL SNOWFALL	21.2 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	400
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	531,034 ACRES
FEDERAL	5,054 ACRES
STATE	62,711 ACRES
COUNTY AND MUNICIPAL	897 ACRES



IRRIGATION DIVISION II

CUSTER COUNTY

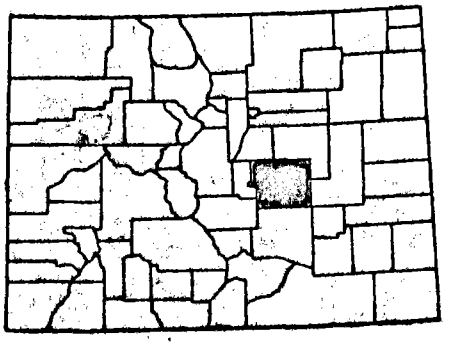
MAJOR CITY	WESTCLIFFE
1970 POPULATION	1,028
URBAN POPULATION	NO CITY OVER 2500
RURAL POPULATION	1,028
COUNTY AREA	737 SQ. MILES
TERRAIN	MOUNTAIN VALLEY
ELEVATION (MAJOR CITY)	7,888
MAJOR STREAM	GRAPE
MAJOR TRIBUTARY	TEXAS
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	15,930
AVERAGE GROWING SEASON	86 DAYS
ANNUAL MEAN TEMPERATURE	43.7°
AVERAGE ANNUAL RAINFALL	16.47 INCHES
AVERAGE ANNUAL SNOWFALL	88.1 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	180
WATER RESOURCE PROJECTS	U.S.G.S. UNDERGROUND STUDY
LAND OWNERSHIP	
PRIVATE	298,001 ACRES
FEDERAL	186,695 ACRES
STATE	11,989 ACRES
COUNTY AND MUNICIPAL	452 ACRES



IRRIGATION DIVISION II

EL PASO COUNTY

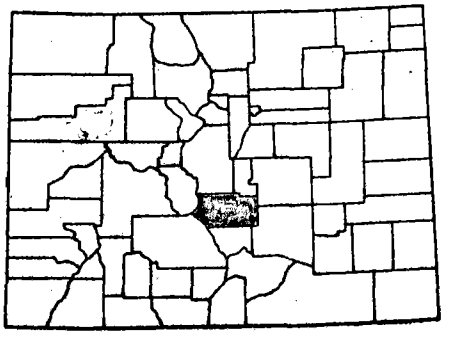
MAJOR CITY	COLORADO SPRINGS
1970 POPULATION	229,113
URBAN POPULATION	201,145
RURAL POPULATION	27,968
COUNTY AREA	2,158 SQ. MILES
TERRAIN	FOOTHILLS
ELEVATION (MAJOR CITY)	6,012
MAJOR STREAM	FOUNTAIN
MAJOR TRIBUTARY	MONUMENT
MAJOR WATER USE	COMMERCIAL/IRRIGATION
IRRIGATED ACRES	13,630
AVERAGE GROWING SEASON	148 DAYS
ANNUAL MEAN TEMPERATURE	48.0°
AVERAGE ANNUAL RAINFALL	14.49 INCHES
AVERAGE ANNUAL SNOWFALL	35.0 INCHES
MAJOR SOURCE INCOME	MILTARY, MANUFACTURING
NUMBER OF FARMS	750
WATER RESOURCE PROJECTS	FRYING-PAN; HOMESTAKE
LAND OWNERSHIP	
PRIVATE	981,504 ACRES
FEDERAL	187,866 ACRES
STATE	192,482 ACRES
COUNTY AND MUNICIPAL	14,839 ACRES



IRRIGATION DIVISION II

FREMONT COUNTY

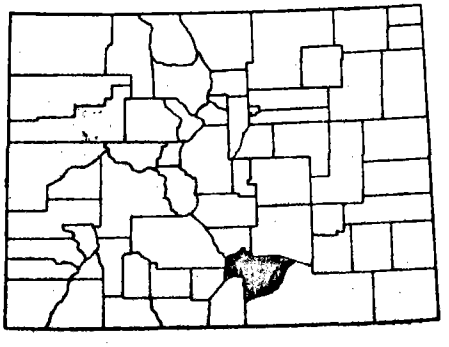
MAJOR CITY	CANON CITY
1970 POPULATION	20,220
URBAN POPULATION	11,917
RURAL POPULATION	8,303
COUNTY AREA	1,562 SQ. MILES
TERRAIN	FOOTHILLS
ELEVATION (MAJOR CITY)	5,332
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	GRAPE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	14,920
AVERAGE GROWING SEASON	164 DAYS
ANNUAL MEAN TEMPERATURE	54.1°
AVERAGE ANNUAL RAINFALL	12.66 INCHES
AVERAGE ANNUAL SNOWFALL	35.6 INCHES
MAJOR SOURCE INCOME	AGRICULTURE INDUSTRY
NUMBER OF FARMS	421
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	523,202 ACRES
FEDERAL	441,445 ACRES
STATE	65,326 ACRES
COUNTY AND MUNICIPAL	7,785 ACRES



IRRIGATION DIVISION II

HUERFANO COUNTY

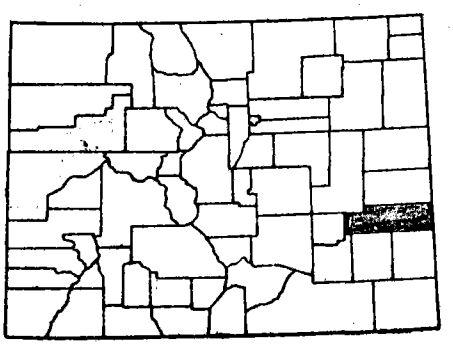
MAJOR CITY	WALSENBURG
1970 POPULATION	6,410
URBAN POPULATION	4,277
RURAL POPULATION	2,133
COUNTY AREA	1,578 SQ. MILES
TERRAIN	MESA, TABLELAND
ELEVATION (MAJOR CITY)	6,185
MAJOR STREAM	HUERFANO
MAJOR TRIBUTARY	CUCHARA
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	11,453
AVERAGE GROWING SEASON	151 DAYS
ANNUAL MEAN TEMPERATURE	50.2°
AVERAGE ANNUAL RAINFALL	14.13 INCHES
AVERAGE ANNUAL SNOWFALL	69.0 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	280
WATER RESOURCE PROJECTS	NONE
LAND OWNERSHIP	
PRIVATE	747,900 ACRES
FEDERAL	211,670 ACRES
STATE	43,525 ACRES
COUNTY AND MUNICIPAL	320 ACRES



IRRIGATION DIVISION II

KIOWA COUNTY

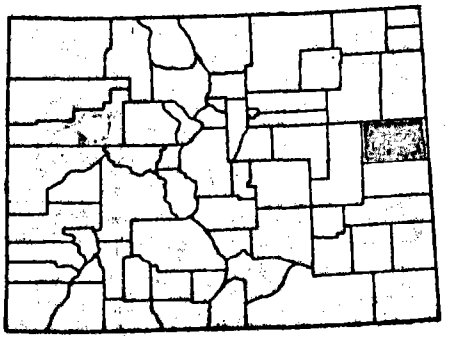
MAJOR CITY	EADS
1970 POPULATION	2,006
URBAN POPULATION	NO CITY OVER 2500
RURAL POPULATION	2,006
COUNTY AREA	1,792 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	4,213
MAJOR STREAM	BIG SANDY
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	5,127
AVERAGE GROWING SEASON	156 DAYS
ANNUAL MEAN TEMPERATURE	51.0°
AVERAGE ANNUAL RAINFALL	13.78 INCHES
AVERAGE ANNUAL SNOWFALL	22.3 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	350
WATER RESOURCE PROJECTS	NONE
LAND OWNERSHIP	
PRIVATE	1,413,911 ACRES
FEDERAL	3,875 ACRES
STATE	70,893 ACRES
COUNTY AND MUNICIPAL	365 ACRES



IRRIGATION DIVISION II

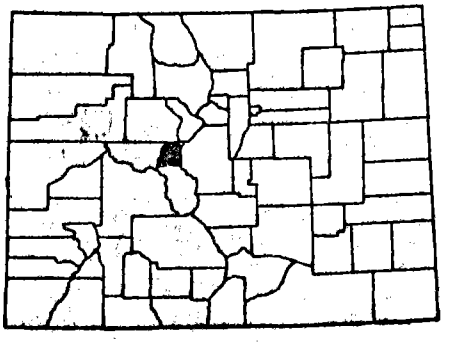
KIT CARSON COUNTY

MAJOR CITY	BURLINGTON
1970 POPULATION	7,379
URBAN POPULATION	2,784
RURAL POPULATION	4,595
COUNTY AREA	2,171 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	4,163
MAJOR STREAM	REPUBLICAN
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	56,576
AVERAGE GROWING SEASON	154 DAYS
ANNUAL MEAN TEMPERATURE	50.3°
AVERAGE ANNUAL RAINFALL	16.35 INCHES
AVERAGE ANNUAL SNOWFALL	22.7 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	840
WATER RESOURCE PROJECTS	NONE
LAND OWNERSHIP	
PRIVATE	1,324,600 ACRES
FEDERAL	292 ACRES
STATE	56,486 ACRES
COUNTY AND MUNICIPAL	985 ACRES



LAKE COUNTY

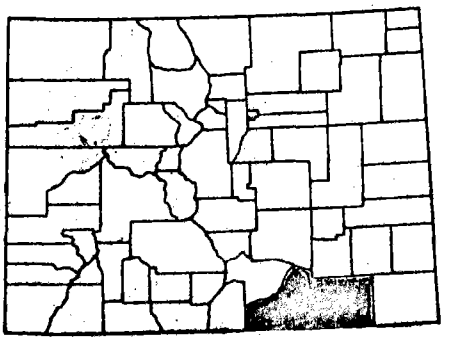
MAJOR CITY	LEADVILLE
1970 POPULATION	8,138
URBAN POPULATION	4,265
RURAL POPULATION	3,873
COUNTY AREA	380 SQ. MILES
TERRAIN	MOUNTAINOUS
ELEVATION (MAJOR CITY)	10,152
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	LAKE FORK
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	6,036
AVERAGE GROWING SEASON	82 DAYS
ANNUAL MEAN TEMPERATURE	37.3°
AVERAGE ANNUAL RAINFALL	18.48 INCHES
AVERAGE ANNUAL SNOWFALL	124.7 INCHES
MAJOR SOURCE INCOME	MINING
NUMBER OF FARMS	17
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	71,342 ACRES
FEDERAL	198,844 ACRES
STATE	1,795 ACRES
COUNTY AND MUNICIPAL	1,620 ACRES



IRRIGATION DIVISION II

LAS ANIMAS COUNTY

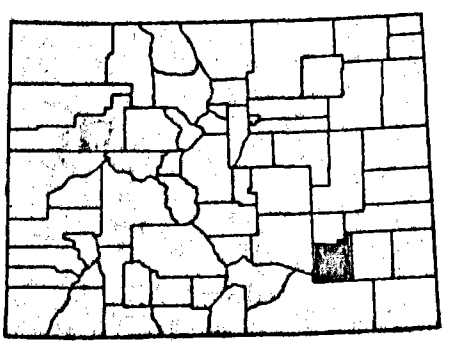
MAJOR CITY	TRINIDAD
1970 POPULATION	15,291
URBAN POPULATION	9,721
RURAL POPULATION	5,570
COUNTY AREA	4,794 SQ. MILES
TERRAIN	FOOTHILLS
ELEVATION (MAJOR CITY)	6,025
MAJOR STREAM	PURGATOIRE
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	19,463
AVERAGE GROWING SEASON	156 DAYS
ANNUAL MEAN TEMPERATURE	50.4°
AVERAGE ANNUAL RAINFALL	15.03 INCHES
AVERAGE ANNUAL SNOWFALL	47.7 INCHES
MAJOR SOURCE INCOME	AGRICULTURE, COAL MINING
NUMBER OF FARMS	200
WATER RESOURCE PROJECTS	TRINIDAD DAM
LAND OWNERSHIP	
PRIVATE	3,179,204 ACRES
FEDERAL	151,214 ACRES
STATE	163,997 ACRES
COUNTY AND MUNICIPAL	3,482 ACRES



IRRIGATION DIVISION II

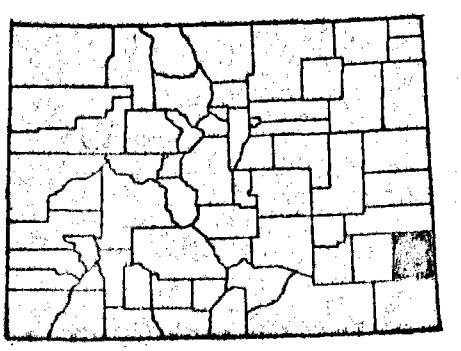
OTERO COUNTY

MAJOR CITY	LA JUNTA
1970 POPULATION	22,824
URBAN POPULATION	12,514
RURAL POPULATION	10,310
COUNTY AREA	1,267 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	LA JUNTA
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	HORSE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	57,675
AVERAGE GROWING SEASON	162 DAYS
ANNUAL MEAN TEMPERATURE	52.0°
AVERAGE ANNUAL RAINFALL	12.31 INCHES
AVERAGE ANNUAL SNOWFALL	26.7 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	690
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	506,310 ACRES
FEDERAL	169,004 ACRES
STATE	120,572 ACRES
COUNTY AND MUNICIPAL	2,050 ACRES



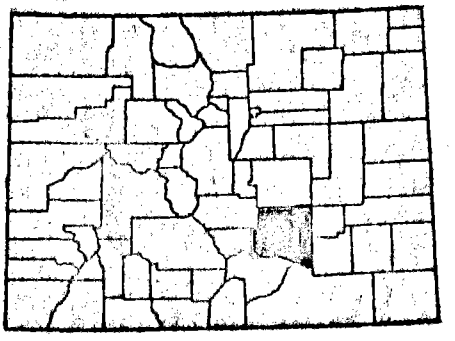
PROWERS COUNTY

MAJOR CITY	LAMAR
1970 POPULATION	12,877
URBAN POPULATION	7,510
RURAL POPULATION	5,367
COUNTY AREA	1,626 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	3,622
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION
IRRIGATED ACRES	93,044
AVERAGE GROWING SEASON	163 DAYS
ANNUAL MEAN TEMPERATURE	52.0°
AVERAGE ANNUAL RAINFALL	14.20 INCHES
AVERAGE ANNUAL SNOWFALL	26.0 INCHES
MAJOR SOURCE INCOME	AGRICULTURE
NUMBER OF FARMS	469
WATER RESOURCE PROJECTS	NONE
LAND OWNERSHIP	
PRIVATE	996,952 ACRES
FEDERAL	1,064 ACRES
STATE	44,667 ACRES
COUNTY AND MUNICIPAL	1,794 ACRES



PUEBLO COUNTY

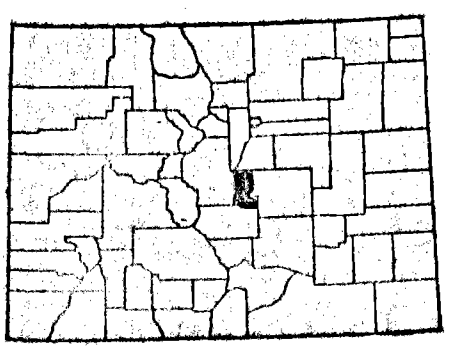
MAJOR CITY	PUEBLO
1970 POPULATION	117,212
URBAN POPULATION	106,656
RURAL POPULATION	10,556
COUNTY AREA	2,401 SQ. MILES
TERRAIN	PLAINS
ELEVATION (MAJOR CITY)	4,695
MAJOR STREAM	ARKANSAS
MAJOR TRIBUTARY	FOUNTAIN
MAJOR WATER USE	IRRIGATION, INDUSTRIAL
IRRIGATED ACRES	35,749
AVERAGE GROWING SEASON	169 DAYS
ANNUAL MEAN TEMPERATURE	51.2°
AVERAGE ANNUAL RAINFALL	12.14 INCHES
AVERAGE ANNUAL SNOWFALL	31.3 INCHES
MAJOR SOURCE INCOME	INDUSTRY
NUMBER OF FARMS	469
WATER RESOURCE PROJECTS	FRYING-PAN
LAND OWNERSHIP	
PRIVATE	1,173,398 ACRES
FEDERAL	76,712 ACRES
STATE	232,519 ACRES
COUNTY AND MUNICIPAL	3,045 ACRES



TELLER COUNTY

MAJOR CITY	CRIPPLE CREEK
1970 POPULATION	3,033
URBAN POPULATION	NO CITY OVER 2500
RURAL POPULATION	3,033
COUNTY AREA	554 SQ. MILES
TERRAIN	MOUNTAINOUS
ELEVATION (MAJOR CITY)	9,949
MAJOR STREAM	FOUR MILE
MAJOR TRIBUTARY	NONE
MAJOR WATER USE	IRRIGATION, COMMERCIAL
IRRIGATED ACRES	865
AVERAGE GROWING SEASON	68 DAYS
ANNUAL MEAN TEMPERATURE	NA
AVERAGE ANNUAL RAINFALL	NA
AVERAGE ANNUAL SNOWFALL	NA
MAJOR SOURCE INCOME	AGRICULTURE; TOURISM
NUMBER OF FARMS	10
WATER RESOURCE PROJECTS	NONE

LAND OWNERSHIP	
PRIVATE	195,257 ACRES
FEDERAL	156,671 ACRES
STATE	8,755 ACRES
COUNTY AND MUNICIPAL	5,598 ACRES



PERSONNEL

Division No. 2

DIVISION OF WATER RESOURCES

Fiscal Year 7/1/71 to 6/30/72

NAME	POSITION	DISTRICT	MONTHS WORKED	MILEAGE
Rudy Styduhar	Division Engineer	Division No. 2	Full Time	16,449
Robert Jesse	Asst. Div. Engr.	Division No. 2	Full Time	14,682
Rufus Marshall	Water Commissioner	#10	7 months	9,549
Merle Hardin	Deputy Water Commissioner	#10	3½months	5,340
Robert Ermel	Water Commissioner	#10	5 months	9,459
Ralph Barnhart	Water Commissioner	#11	11 months	11,265
Jim Everett	Water Commissioner	#11	1 month	293
Forrest Schneider	Deputy Water Comm.	#11	6 months	7,016
John Farwell	Deputy Water Comm.	#11	6 months	5,155
Larry Brown	Deputy Water Comm.	#11	2 months	1,417
Jack McDonough	Water Commissioner	#12	12 months	15,976
Byron Bean	Deputy Water Comm.	#12	6 ½ months	7,190
Thomas Young	Deputy Water Comm.	#12	6 months	5,292

NAME	POSITION	DISTRICT	MONTHS WORKED	MILEAGE
Gayle Patterson	Water Commissioner	#13	12 months	7,798
Casper Seybold	Deputy Water Comm.	#13	5 months	4,669
Cecil Shepard	Water Commissioner	#14	12 months	9,726
Beverly Klipfel	Water Commissioner	#15	11 months	12,206.7
Ralph Barnhart	Water Commissioner	#15	1 month	1,980
Joe Faris	Water Commissioner	#16	9 months	4,885
Robert Brgoch	Deputy Water Comm.	#16	10 months	9,277.6
Augustine Garcia	Deputy Water Comm.	#16	9 months	7,774.6
William Pattie	Water Commissioner	#17	12 months	15,688
George Watson	Deputy Water Comm.	#17	3 days	None
George Stakich	Water Commissioner	#18	7 ½ months	5,687
Robert Mariano	Water Commissioner	#19	11 months	8,133
John Cusimano	Deputy Water Comm.	#19	3 days	108
Manuel Vigil	Deputy Water Comm.	#19	None	None
Henry Marquez	Laborer	#19	1/2 month	788
Lane Hackett	Water Commissioner	#67	12 months	14,840
Robert Clodfelter	Deputy Water Comm.	#67	1 1/3 month	470

NAME	POSITION	DISTRICT	MONTHS WORKED	MILEAGE
Ray Liesman	Hydrographer	Division No. 2	11 months	None
Kenneth Cooper, Jr.	Hydrographer	Division No. 2	1/2 month	None
Daries Lile	Hydrographer	Division No. 2	Full Time	None
Jim Kasic	Hydrographer	Division No. 2	Full Time	None
Juanita Jones	Int. Clerk Typist	Division No. 2	Full Time	None

Total Miles Water Commissioners: 180,023

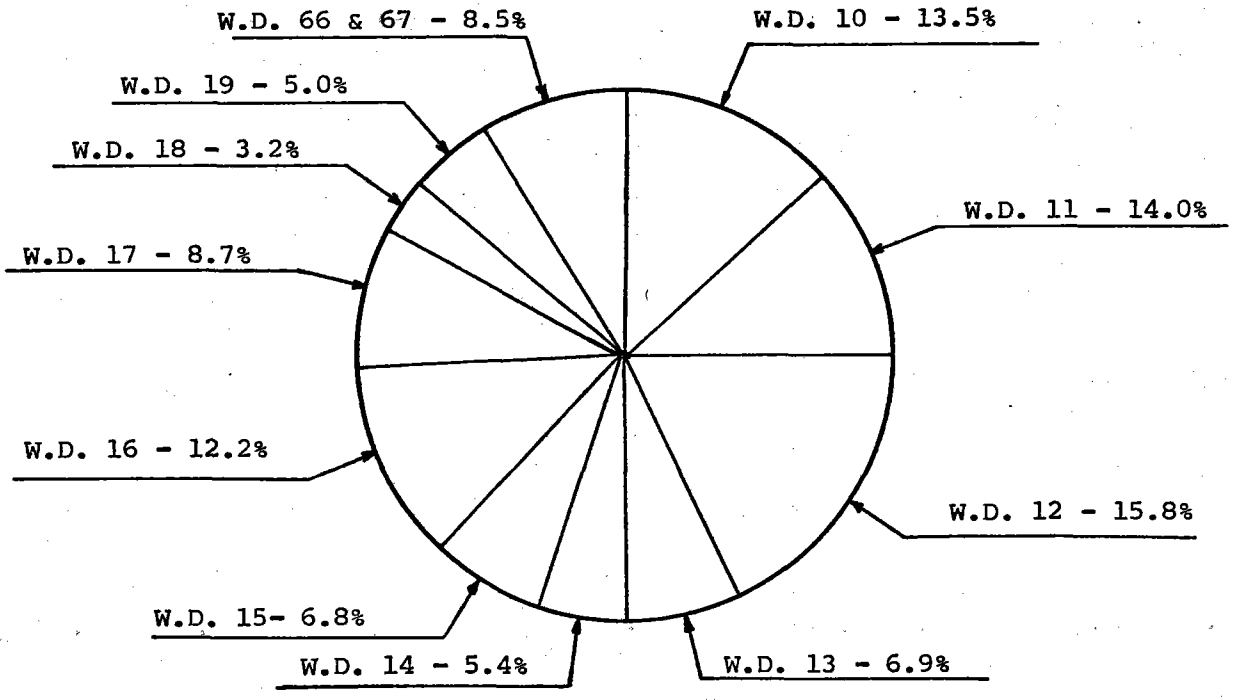
Total Miles Division Engineer and Assistant: 31,131

TOTAL 211,154

IRRIGATION DIVISION NO. 2

Water District Mileage

July 1, 1971 to June 30, 1972



Total Miles for Water Districts: 180,022 miles

SNOW PACK

IRRIGATION DIVISION NO. 2

STATION	WATER CONTENT % NORMAL - MAY 1972	SNOW DEPTH	WATER CONTENT MAY 1, 1972	AVERAGE INCHES
BIGELOW DIVIDE		0"	0	2.2
COOPER HILL	97%	47"	10.8	11.1
EAST FORK	92%	23"	6.8	7.4
FOUR MILE PARK		0"	0	1.0
FREMONT PASS	105%	60"	18.9	17.9
GARFIELD	61%	15"	5.2	8.5
MONARCH PASS	79%	38"	13.1	16.5
TENNESSEE PASS	106%	26"	8.2	7.7
TWIN LAKES TUNNEL	139%	32"	12.1	8.7
WESTCLIFFE		0"	0	1.0
BLUE LAKES		0"	0	0.5
CUCHARAS PASS		0"	0	-
LA VETA PASS		0"	0	1.6
BOURBON		0"	0	1.7

THERE HAVE BEEN NO WEATHER MODIFICATION ATTEMPTS IN DIVISION 2.

THE U. S. FOREST SERVICE LAKE CREEK WATER SHED IMPROVEMENT AND SNOW FENCE AVALANCHE CONTROL EXPERIMENT IS CONTINUING FROM THE PREVIOUS YEAR.

SPRING TEMPERATURES IN THE HIGH MOUNTAIN AREAS WERE GENERALLY SOMEWHAT LOWER THAN NORMAL WHICH RESULTED IN A GENERALLY LOWER THAN AVERAGE SNOWPACK OVER THE SEASON. SNOWMELT PEAKS AT THE RIVER STATIONS WERE GENERALLY LOWER IN MAGNITUDE; HOWEVER, THE RUN-OFF WAS SPREAD OVER A LONGER PERIOD THAN NORMAL.

Precipitation
Irrigation Division #2

STATION	APRIL 1972	DEPART. FROM NORMAL	MAY 1972	DEPART. FROM NORMAL	JUNE 1972	DEPART. FROM NORMAL	JULY 1972	DEPART. FROM NORMAL	AUGUST 1972	DEPART. FROM NORMAL	SEPTEMBER 1972	DEPART. FROM NORMAL
Lamar	2.17	.87	1.22	1.18	2.50	.43	1.47	.38	3.73	1.66	1.65	.57
Leadville									.65	1.46	1.03	-.32
Pueblo	.68	-.50	.84	-.96	.98	-.24	1.99	.17	1.96	.11	1.12	.28
Trinidad	.28		1.09		1.82		2.05		1.22		.84	
Westcliffe	.15		.70		1.51		.79		3.15		1.02	
Colorado Springs	.42	-.89	1.46	-.67	2.07	.48	1.71	1.30	3.55	1.39	4.13	3.06

B. Precipitation:

Rainfall was generally below normal during start of growing season with scattered showers. This year was unusual in that showers appeared to be confined to small areas of high intensity, which tended to reduce the effective precipitation, and increase run off.

Precipitation at most stations increased in the latter part of the season to near normal, and with a more normal or ordinary pattern of storm formation and movement the relative intensity was reduced and precipitation was more effective.

No hail suppression was made in Division 2.

C. Floods:

No reports of major damage by floods were made in 1972. There were incidents of roads being temporarily under water due mainly to poor design of culverts and possibly the apparent unusual intensity of thunder storms. The peak flows due to rainstorms on the main Arkansas were not records. There were three major rain peaks at Nepesta;ranging from 2.00 c.f.s. to the maximum of 5,800 c.f.s on August 4, 1972.

The intense storm on the upper Huerfano caused no appreciable damage but there was 5,000 c.f.s. at the Manzanares crossing gage this was considerably below the maximum recorded peak which was 10,000 c.f.s. which occurred in 1951.

Dams:

There were no reports of major dam failure causing property damage in 1972.

Division staff inspected various dam sites in company with Dam section personnel. Most were built without Plans and Specifications being filed. In most cases the Dam Section issued orders for plans to be filed.

To date no case has progressed to the Water Court; but the "Parsons" Dams on a tributary of the Purgatoire should be in court in the next year.

WATER YEAR 1971

WATER BUDGET, ARKANSAS RIVER IN COLORADO

DERIVIATION OF BASIN YIELD	Units 1,000 A.F.
1) Recorded flow of Arkansas River at Salida (includes 110,600 A.F. Transmountain)	519.6
2) Estimated depletion by irrigation above gage 1.5 ft. x 18,00 A.	27.0
3) Drainage area yield at Salida gage	546.6
4) Recorded flow South Arkansas River at Salida	31.9
5) Estimated depletion by irrigation above gage 1.5 ft. x 2,000 A.	3.0
6) Drainage area yield at gage	34.9
7) Recorded flow Texas Creek at mouth	11.8
8) Estimated depletion by irrigation above gage 1.5 ft. x 6,000 A	9.0
9) Drainage area yield at gage	20.8
10) Recorded flow Grape Creek near Westcliffe	22.3
11) Net Change in storage DeWeese Reservoir	.5
12) Estimated depletion by irrigation above reservoir 1.5 ft. x 15,000 A	22.5
13) Drainage area yield	45.3
14) Estimated flow at Four Mile Creek based on 11 months recorded and 1 month estimated	17.7
15) Estimated depletion by irrigation above gage 1.5 ft. x 3,000 A	4.5
16) Drainage area yield at gage	22.2
17) Estimated flow at Beaver Creek based on 11 months and 1 month estimated	3.0
18) Estimated depletion by irrigation above gage 1.5 ft. x 3,300 A	5.0
19) Drainage area yield at gage	8.0
20) Estimated flow at Fountain River at Pueblo based on 8 months recorded and 4 months estimated from recorded flow of Fountain River at Security. 14,784 A.F. + Est. 2,000 A.F. x 4 months	22.8
21) Estimated depletion by irrigation above gage 1.5 ft. x 25,000 A	37.5
22) Drainage area yield at gage	60.3

WATER BUDGET

		Units 1,000 A.F.
23)	Recorded flow for St. Charles River near Vineland	6.4
24)	Estimated depletion by irrigation above gage 1.5 ft. x 8,500 A	12.8
25)	St. Charles diversion to C.F & I.	18.0
26)	Drainage area yield at St. Charles gage	37.2
27)	Recorded flow for Huerfano River near Redwing	15.2
28)	Estimated depletion by irrigation above gage 1.5 ft. x 1,800 A	2.7
29)	Drainage area yield at gage	17.9
30)	Recorded flow for Cucharas River at Boyd Ranch	9.6
31)	Estimated depletion by irrigation above gage 1.5 ft. x 500 A	.8
32)	Drainage area yield at gage	10.4
33)	Recorded flow Apishapa River at Fowler	19.7
34)	Estimated depletion by irrigation above gage 1.5 ft. x 4,700 A	7.0
35)	Drainage area yield at gage	26.7
36)	REcorded flow for Purgatoire River near Las Animas	33.8
37)	Estimated depletion by irrigation above gage 1.5 ft. x 36,000 A	54.0
38)	Drainage area yield at gage	87.8
39)	Total basin yield (3) + (6) + (9) + (13) + (16) + (19) + (22) + (26) + (29) +(32) + (35) + (38)	918.1

WATER BUDGET

		Units 1,000 A.F.
DEPLETION BY MUNICIPALITIES:		
1)	Municipal Diversions Colorado Springs	45.0
2)	Municipal Return Flow Colorado Springs	27.0
3)	Depletion to City of Aurora (Transmountain imported then exported)	2.2
4)	Total depletion	20.2
5)	Municipal Diversion Pueblo	22.6
6)	Municipal Return Flow Pueblo	14.0
7)	Depletion by Pueblo	8.6
8)	Total Depletion by Municipal Use	28.8
DEPLETION BY INDUSTRIAL USE: (C.F. & I. only)		
9)	Diversion by Minnequa Canal	+84.5
10)	C.F. & I. Diversion from St. Charles	+18.0
11)	C.F. & I. Effluent Salt Creek	-76.8
12)	Depletion by Industry	25.7
IRRIGATION DIVERSION		
13)	Water District 10	60.4
14)	Water District 11	132.1
15)	Water District 12	151.9
16)	Water District 13	37.0
17)	Water District 14	322.2
18)	Water District 15	21.9
19)	Water District 16	11.1
20)	Water District 17	500.2
21)	Water District 18	2.5
22)	Water District 19	33.4
23)	Water District 67	230.0
24)	Total Diversion by Irrigation	1,502.7

WATER BUDGET
SUMMARY

1)	Total Basin Yield (line 39, page 2	918,100 A.F.
2)	Depletion by Municipal Use (line 8, page 3)	28,800 A.F.
3)	Depletion by Industrial Use (line 12, page 3)	25,700 A.F.
4)	Estimated irrigation depletion by individual drainage (lines 2,5,8,12,15,18,21, page 1 and lines 24,28,31, 34, and 37 page 2)	185,800 A.F.
5)	Recorded State Line Flow	105,900 A.F.
6)	Irrigation depletion Main Arkansas River (W.D. 12,14,17 and 67 and non-beneficial use, (line 1 minus lines 2,3,4, and 5)	571,900 A.F.
7)	Total Irrigated area considered.	500,000 A.
8)	Total estimated and computed depletion by irrigation.	757,700 A.F.
9)	Irrigation Depletion A.F. per acre.	1.52 Ft.

A) Recorded runoff data from Water Year October 1970 Thru September 1971.

B) Diversion data from Water Commissioners Summary Water Year November 1970 thru October 1971.

C) Irrigation consumptive use in area above gaging station extimated by judgement.

D) Irrigation consumptive use in Main Arkansas area (W.D. 12,14,17 and 67) computed (line 6, page 4)

E) No data available on depletion due to ground water pumping or water table exchange.

F) Reservoir change-in-storage not reflected in computation except in Grape Creek drainage.

G) Number of acres irrigated above gaging stations based on data found in Water Resources Data For Colorado 1971, and Water Commissioners estimates.

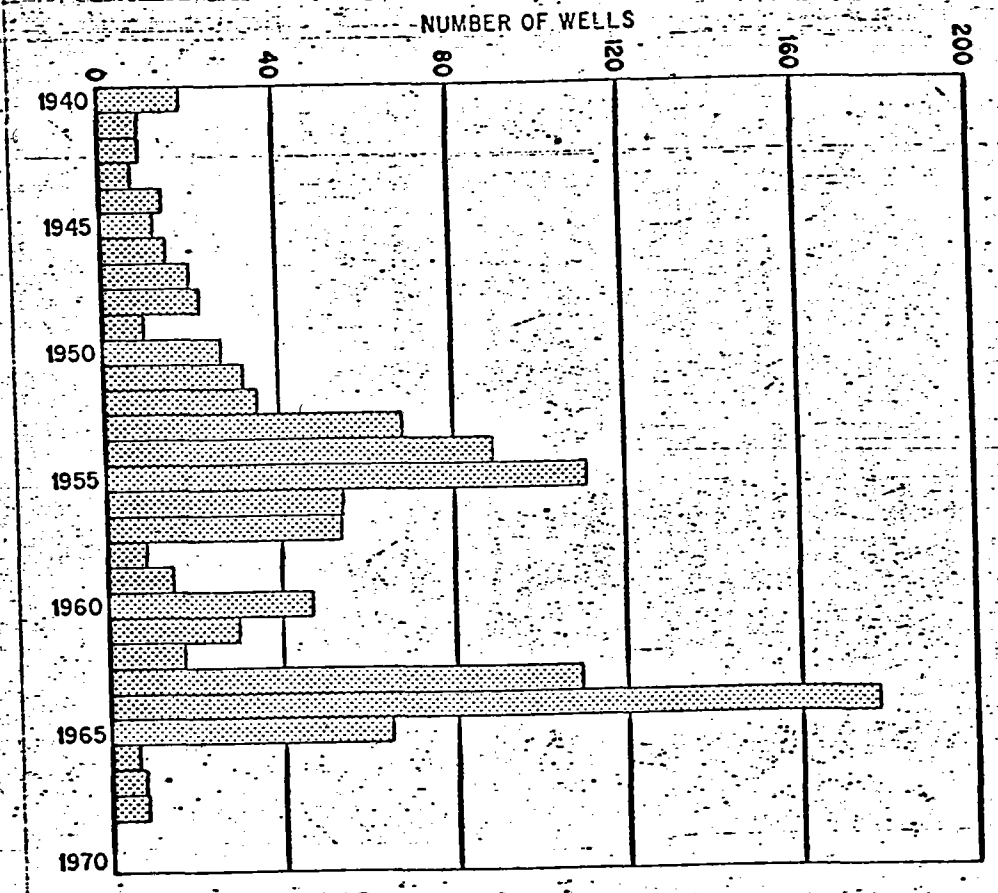
UNDERGROUND WATER
IRRIGATION DIVISION #2

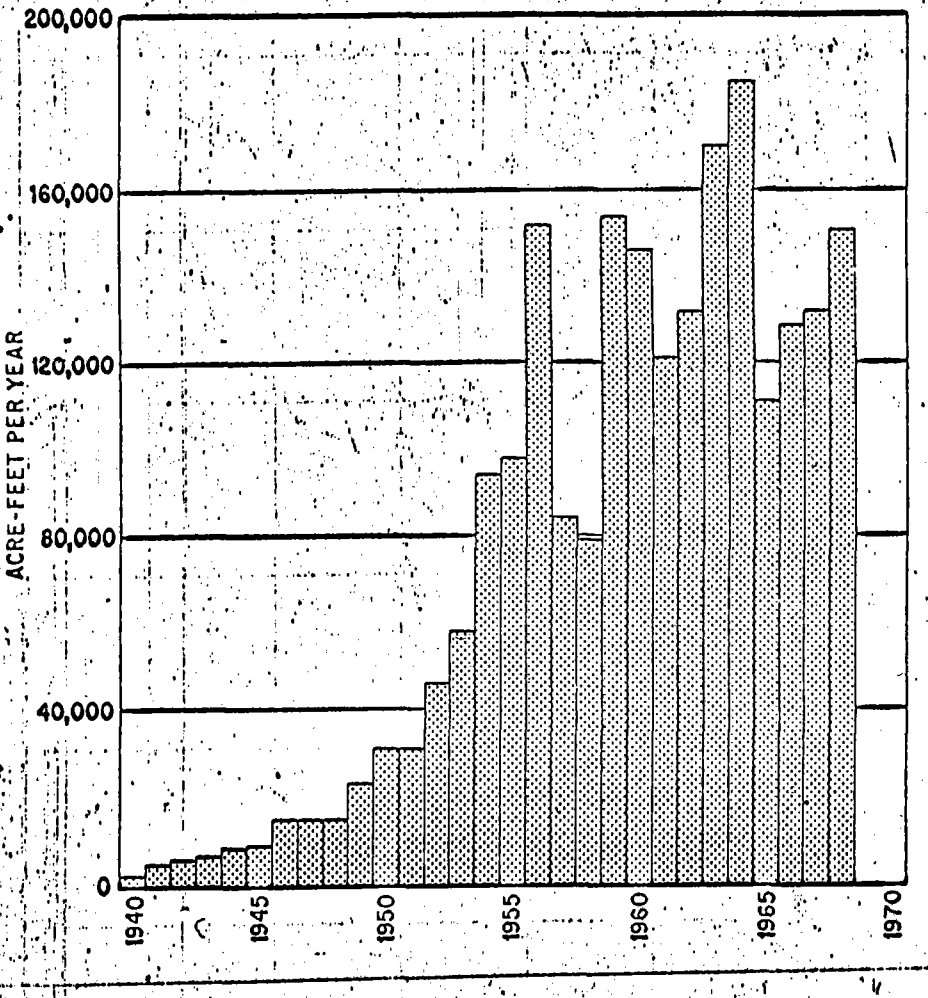
Irrigation Division #2 composed of Water Districts 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 66 and 67 has, of this date, 13,166 wells of all types in operation. Types of use are domestic, stock, domestic and stock, commercial, industrial, irrigation, irrigation and stock, and, lastly, municipal. Tabulation, showing the number of each type of well in each district is illustrated by a following table.

The principal aquifer area extends thru a 150 mile reach of the Arkansas River valley extending from Pueblo to the Kansas State line. This is a valley-fill aquifer which is adjacent to, underlies, and is in hydraulic connection with the Arkansas River. The aquifer consists of unconsolidated deposits of gravel, sand, silt and clay. It ranges from one to 14 miles in width and covers an area of about 500 square miles in parts of Pueblo, Otero, Crowley, Bent and Prowers Counties. The aquifer fills a "U-shaped" trough cut into the bedrock, which consists of shale, limestone, and sandstone of Cretaceous age. About two million acre feet of water is stored in the valley-fill deposits. Summary of the hydrologic character is shown below:

UNIT	THICKNESS	PHYSICAL CHARACTER	HYDROLOGIC CHARACTER
Dune sand	0 - 100'	Very fine to coarse, poorly sorted sand.	Commonly not saturated, but transmits water readily from the surface to underlying aquifers. Source of water for a few domestic and stock wells.
Valley-fill deposits	0 - 300'	Boulders, cobbles, gravel, sand, silt, and clay. Generally grades from fine sand near the surface to coarse sand and gravel at the base.	Principal source of water for irrigation, public supply, and industrial wells. Irrigation-well yields are as much as 3,150 gpm (gallons per minutes) and average 650 gpm. Aquifer furnishes water to 1,348 irrigation wells.
Pierre Shale	0 - 2,200'	Shale and sandy shale.	Low-permeability confining bed; acts as a barrier to vertical movement of ground water. Not known to yield water to wells.
Niobrara Formation	0 - 700'	Chalky and marly limestone and calcareous shale.	Low-permeability to confining bed; acts as a barrier to vertical movement of ground water. A few stock wells tapping fractured limestone yield less than 5 gpm.

UNIT	THICKNESS	PHYSICAL CHARACTER	HYDROLOGIC CHARACTER
Carlile Shale	0 - 200'	Calcareous shale, limestone, and sandstone.	Low-permeability confining bed; acts as a barrier to vertical movement of ground water. Not known to yield water to wells.
Greenhorn Limestone	0 - 150'	Limestone and chalky shale.	Low-permeability confining bed; acts as a barrier to vertical movement of ground water. A few stock wells tapping fractured limestone yield less than 5 gpm.
Graneros Shale	0 - 200'	Gypsiferous shale and sandstone.	Low-permeability confining bed; acts as a barrier to vertical movement of ground water. Not known to yield water to wells.
Dakota Sandstone	75 - 235'	Sandstone, sandy shale, siltstone, and shale.	Important source of water for domestic, stock, and public supply wells. Restricts vertical movement of water to and from the valley-fill deposits. Wells yield as much as 100 gpm and average 20 gpm.


NUMBER OF WELLS
0
40
80
120
160
200
1940
1945
1950
1955
1960
1965
1970


200,000
160,000
120,000
80,000
40,000
0
ACRE-FEET PER YEAR
1940
1945
1950
1955
1960
1965
1970

SUMMARY OF WELLS
IRRIGATION DIVISION #2

WATER DISTRICT NO.	TYPE OF USE								
	1	2	3	4	5	6	7	8	TOTAL
10	2000	79	54	51	11	197	7	83	2482
11	609	8	0	44	6	25	5	14	711
12	289	47	18	10	13	40	2	7	426
13	57	26	6	-	-	30	10	-	129
14	1070	290	82	46	35	804	61	37	2425
15	345	38	17	3	1	105	13	13	535
16	102	128	12	4	21	61	3	-	331
17	378	483	87	32	24	953	38	55	2050
18	13	37	2	-	-	10	12	7	81
19	40	144	12	-	12	16	7	3	234
66	64	207	24	7	11	451	7	12	783
67	108	1089	387	29	9	1257	8	92	2979
	5,075	2,576	701	226	143	3,949	173	323	13,166

TYPE OF USE

(1) DOMESTIC
(2) STOCK
(3) DOMESTIC & STOCK
(4) COMMERCIAL
(5) INDUSTRIAL
(6) IRRIGATION
(7) IRRIGATION & STOCK
(8) MUNICIPAL

Ground-water withdrawal from the valley-fill aquifer by irrigation wells

(acre-feet per year)

County	1964	1965	1966	1967	1968
Pueblo	25,000	16,000	23,000	19,000	21,000
Otero-Crowley	53,000	36,000	50,000	48,000	50,000
Bent	33,000	15,000	23,000	23,000	26,000
Prowers	74,000	45,000	34,000	42,000	55,000
Total	185,000	112,000	130,000	132,000	152,000

TRANSMOUNTAIN DIVERSION

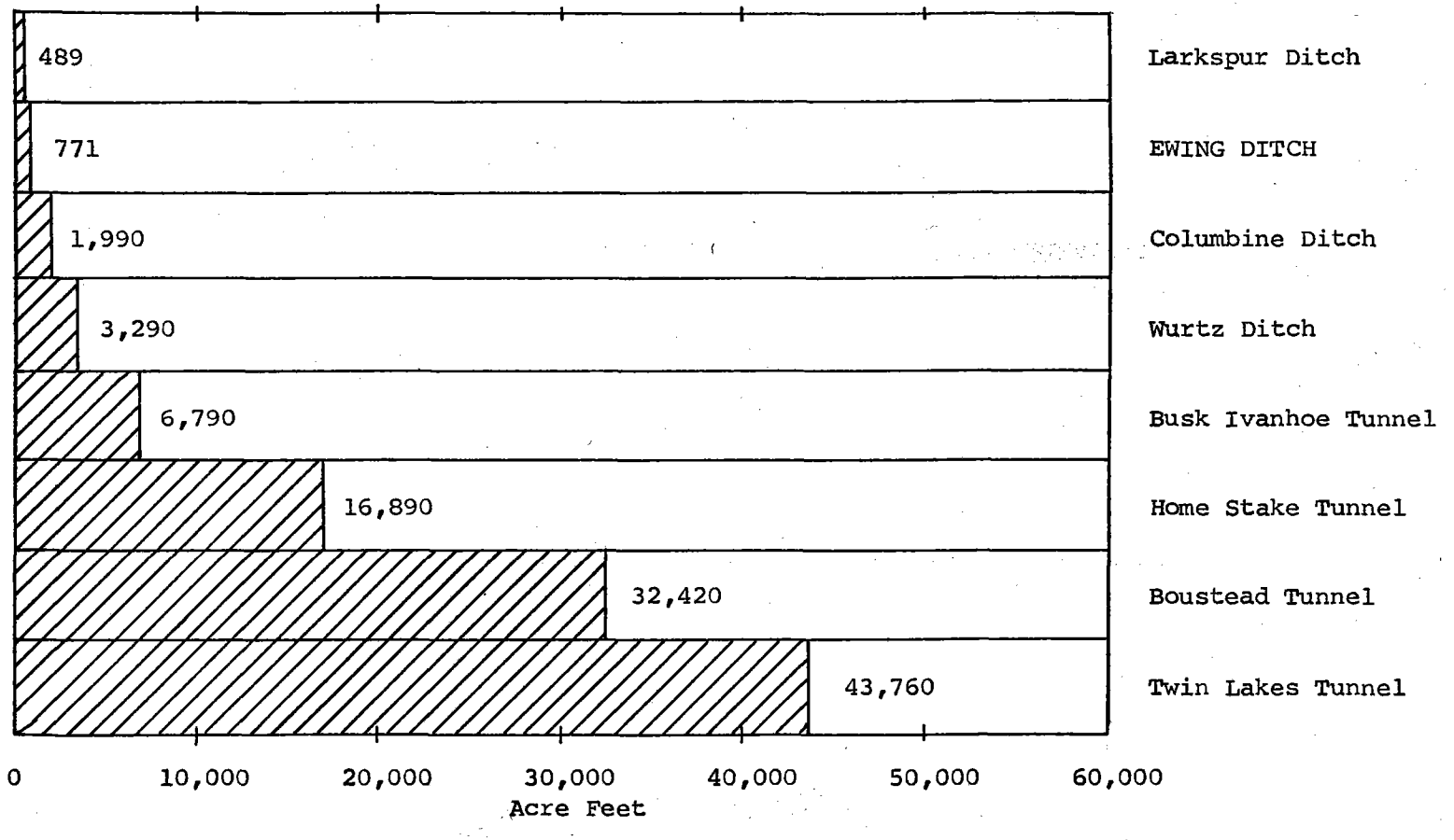
Division No. 2

Tabulation 1972

Name	Source	Recipient	Amount Diverted 10/1/71 to 9/30/72	
Homestake Tunnel	Middle Fork Homestake Creek Division #5	Cities of Colorado Springs and Aurora	16,890	A.F.
Wurtz Ditch	Eagle River Division #5	City of Pueblo	3,290	A.F.
Ewing Ditch	Piney Creek	City of Pueblo	771	A.F.
Columbine Ditch	Eagle River Division #5	City of Pueblo	1,990	A.F.
Twin Lakes Tunnel	Roaring Fork River Division No. 5	Twin Lakes Reservoir and Canal Company	43,760	A.F.
Busk Ivanhoe Tunnel	Ivanhoe Creek Division No. 5	Highline Canal Co.	6,790	A.F.
Larkspur Ditch	Tomici Creek Division No. 4	Catlin Canal Co.	489	A.F.
Boustead Tunnel	Frying Pan River Division #5	U.S.B.R.	32,420	A.F.
		TOTAL	106,400	A.F.

TRANSMOUNTAIN DIVERSION
DIVISION NO. 2

SUMMARY OF DIVERSIONS FOR
WATER YEAR 1972



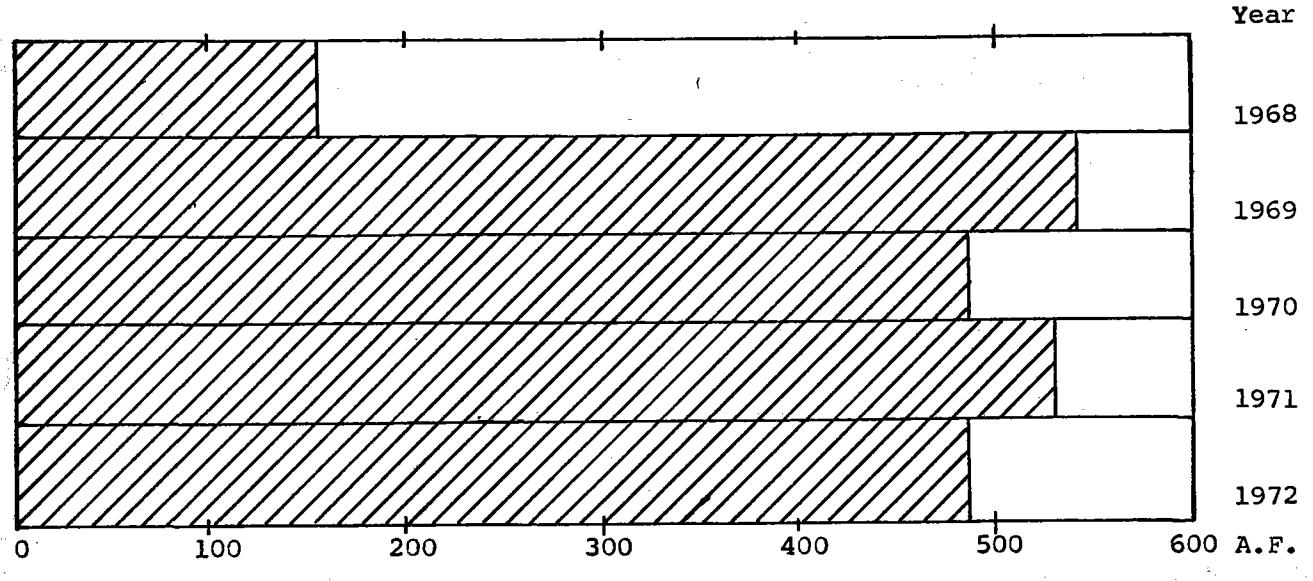
TRANSMOUNTAIN DIVERSION

Division No. 2

LARKSPUR DITCH 1972

SOURCE: Tomici Creek Division #4

RECIPIENT: Catlin Canal Company



ACRE FEET

5 YEAR COMPARISON

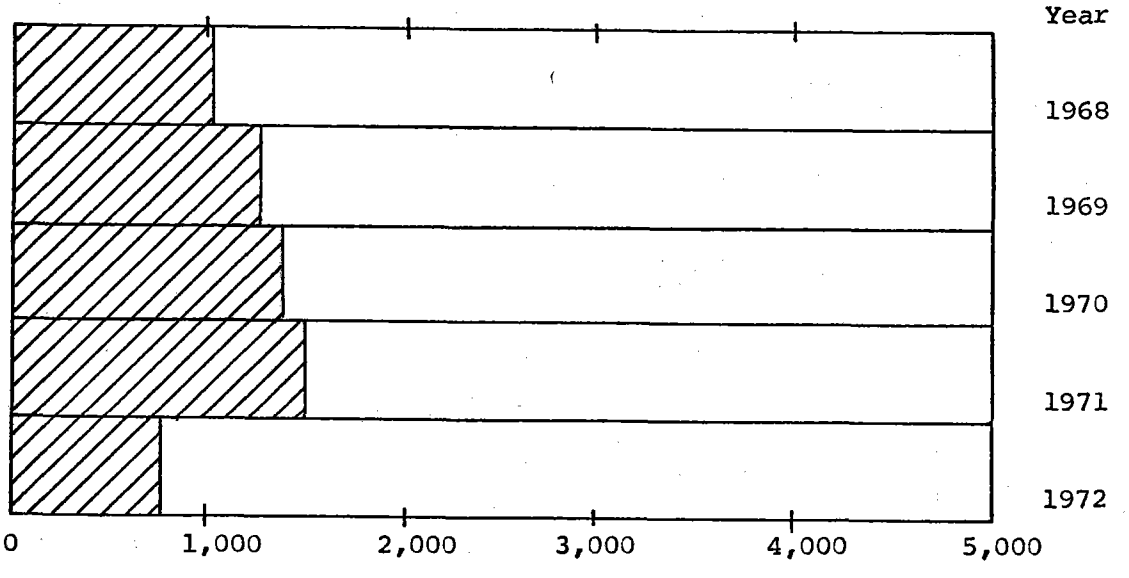
TRANSMOUNTAIN DIVERSION

Division No. 2

EWING DITCH 1972

SOURCE: Piney Creek Division #5

RECIPIENT: City of Pueblo



5 Year Comparison

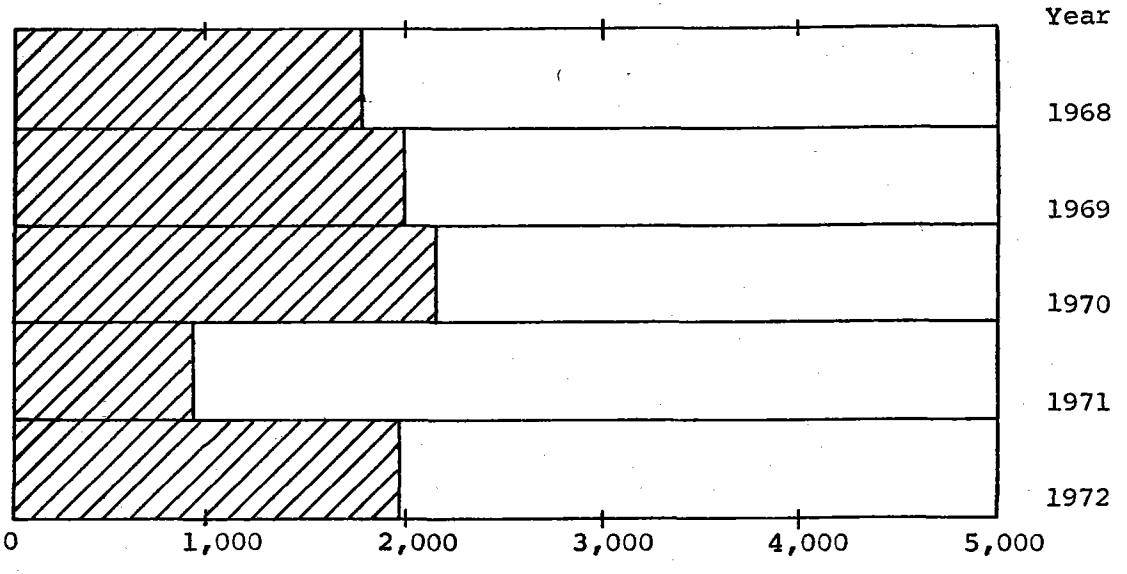
TRANSMOUNTAIN DIVERSION

Division No. 2

COLUMBINE DITCH 1972

SOURCE: Eagle River, Division #5

RECIPIENT: City of Pueblo



5 YEAR COMPARISON

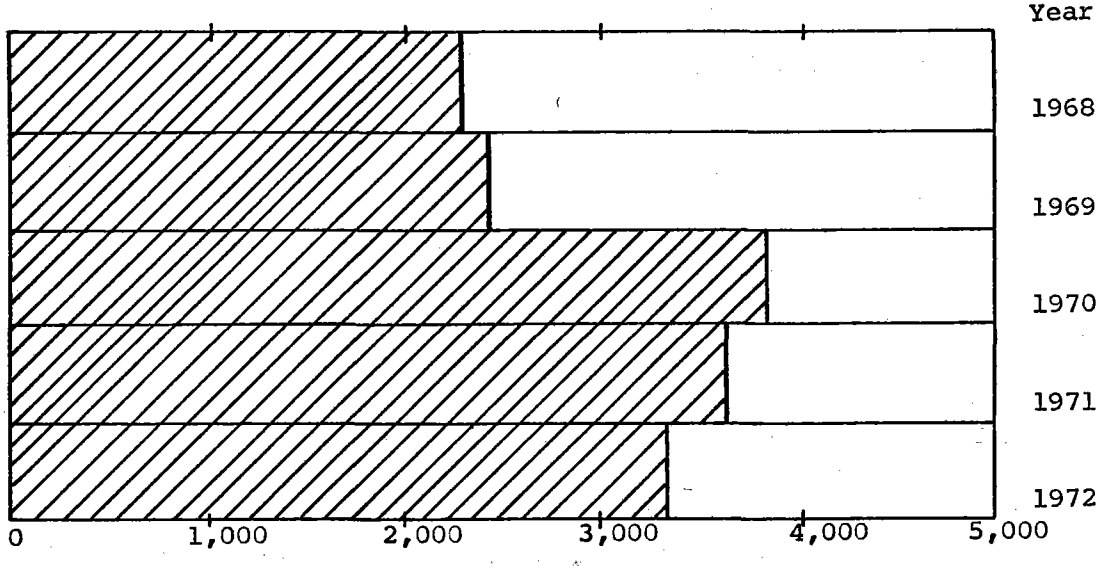
TRANSMOUNTAIN DIVERSION

Division No. 2

WURTZ DITCH 1972

SOURCE: Eagle River Division #5

Recipient: City of Pueblo



5 YEAR COMPARISON

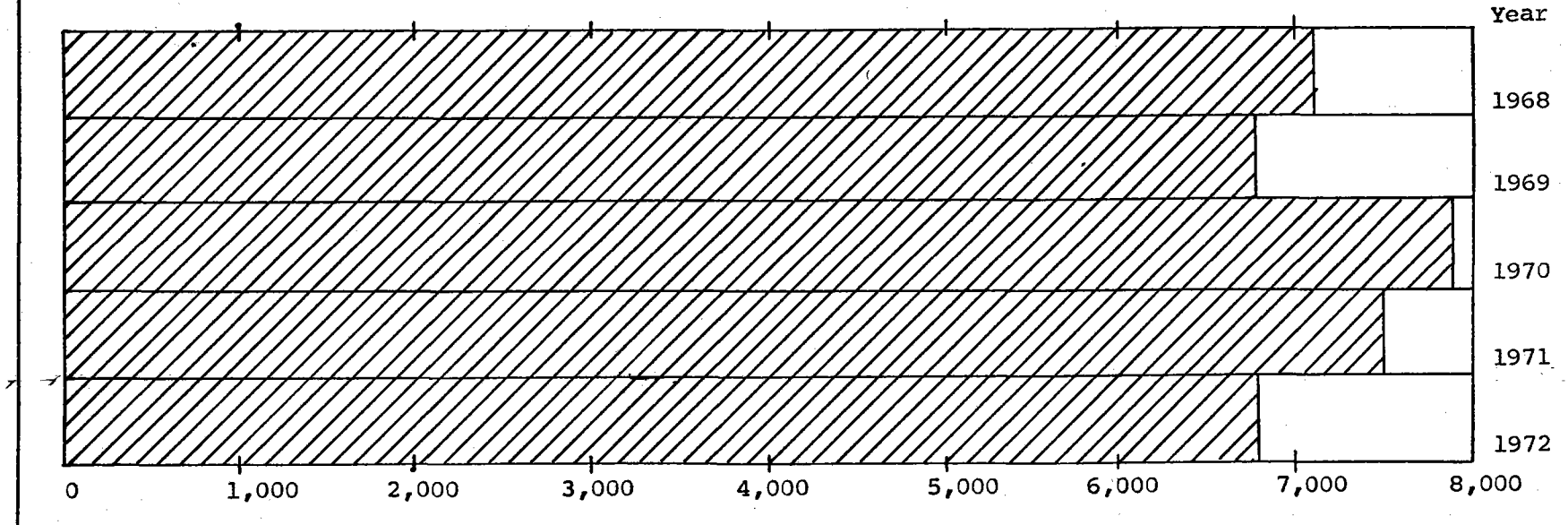
TRANSMOUNTAIN DIVERSION

Division No. 2

BUSK IVANHOE 1972

SOURCE: Ivanhoe Creek Division #5

RECIPIENT: Highline Canal Co.



5 YEAR COMPARISON

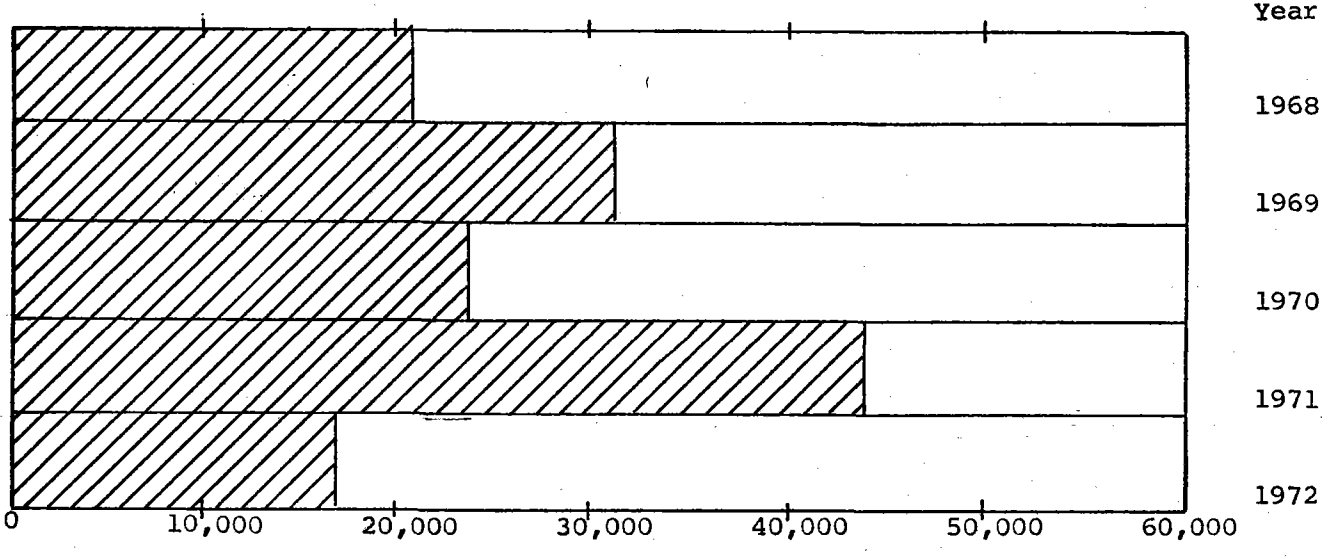
TRANSMOUNTAIN DIVERSION

Division No. 2

HOMESTAKE TUNNEL 1972

SOURCE: Middle Fork Homestake Creek Division #5

RECIPIENT: Cities of Colorado Springs and Aurora



5 YEAR COMPARISON

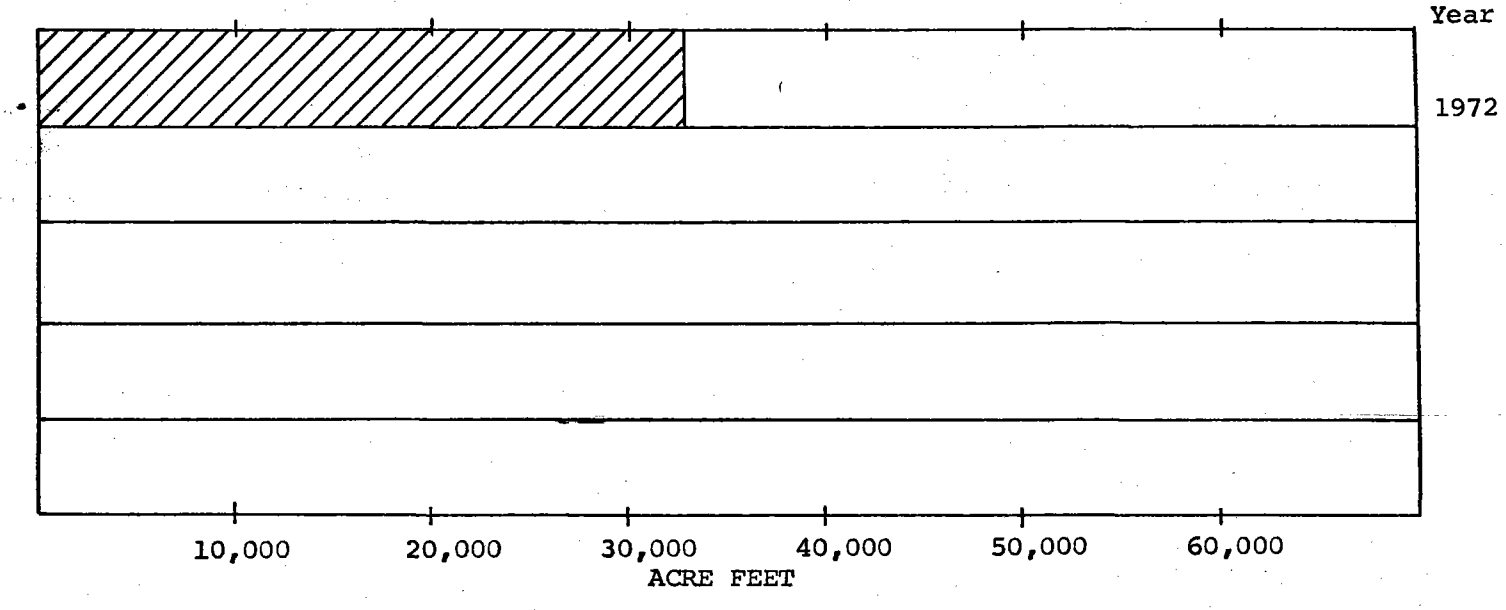
TRANSMOUNTAIN DIVERSION

Division No. 2

BOUSTEAD TUNNEL

SOURCE: Frying Pan River Diversion #5

Recipient: U.S.B.R. - Southeastern Conservancy District



Note: First year tunnel was in operation.

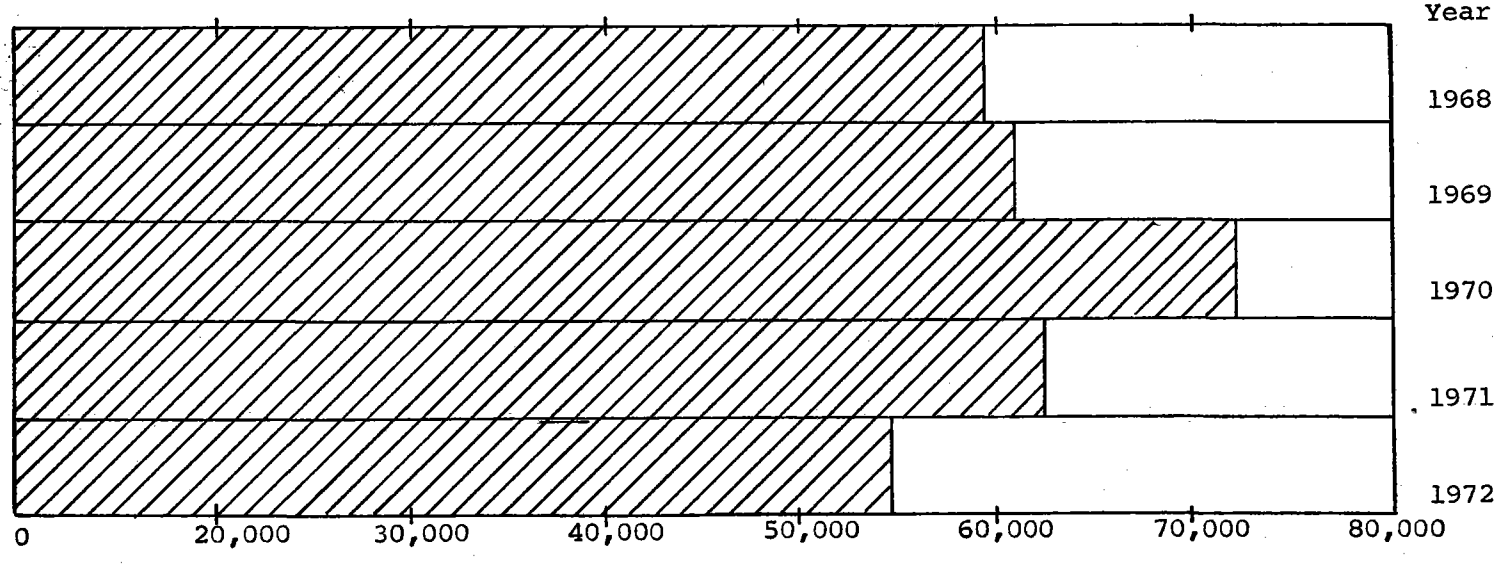
TRANSMOUNTAIN DIVERSION

Division No. 2

TWIN LAKES TUNNEL 1972

SOURCE: Roaring Fork River Division #5

RECIPIENT: Twin Lakes Reservoir and Canal Company



5 YEAR COMPARISON

RESERVOIR STORAGE
IRRIGATION DIVISION #2

NAME OF RESERVOIR	SOURCE	AMOUNT OF ACRE FEET NOVEMBER 1, 1972	AMOUNT OF ACRE FEET APRIL 1, 1972	AMOUNT OF ACRE FEET OCTOBER 21, 1971
Ambler Reservoir No. 2	Unnamed springs	-0-	-0-	-0-
Austin Bluff	West Monument Creek	226	233	242
Lake Moraine Storage	Ruxton Creek	611	374	506
Crystal Creek Reservoir	Crystal Creek	1,573	1,551	1,711
Manitou Reservoir	No. Br. French Creek	407	-0-	119
Mesa Reservoir	So. Fork Cheyenne	400	467.8	555
North Catamount	No. Fork Catamount	9,270	10,037	11,466
North Field No. 5				
South Catamount	So. Catamount	1,973	2,148	2,512
Upper South Ruxton	So. Ruxton Creek	401	334	514
Callahan Reservoir	Fountain	550	575	491
Fountain Valley No. 2	Fountain	2,467	5,146	1,875
Fountain Valley No. 3	Fountain	-0-	-0-	-0-
Spring Run 2	Spring Run	186	240	159
Monument State	Monument Creek	241	383	225
Sugar Loaf Reservoir	Lake Fork Creek	47,167	58,950	43,804
O'Haver	Grays Creek	No Diversion		
Twin Lakes Reservoir	Lake Creek	19,610	31,462	41,740
Clear Creek Reservoir	Clear Creek	3,117	5,407	1,126
Colorado Springs No. 2	Beaver Creek	541	541	541
Colorado Springs No. 4	Beaver Creek	1,761	1,820	1,779
Colorado Springs No. 5	Beaver Creek	1,738	1,900	1,950
Colorado Springs No. 7	Beaver Creek	19	164	164
Colorado Springs No. 8	Beaver Creek	41	533	533
Lake Moraine	Beaver Creek	689	667	667
Rosemont Penrose	Beaver Creek	1,691	2,173	2,355
Brush Hollow	Beaver Creek	825	2,074	861
Skaguay	Beaver Creek	1,593	1,593	1,593
Mt. Pisgah	Four Mile Creek	721	924	869

NAME OF RESERVOIR	SOURCE	AMOUNT OF ACRE FEET NOVEMBER 1, 1972	AMOUNT OF ACRE FEET APRIL 1, 1972	AMOUNT OF ACRE FEET OCTOBER 31, 1971
DeWeese Dye	Grape Creek	2,584	4,456	2,621
Curiton	Springs	6.80	6.80	6.80
H.O.P.	Springs	40.0	40.0	40.0
Greenview	Fountain	-0-	-0-	-0-
Lake Minnequa	St. Charles	908	1,093	1,011
Reservoir No. 2	St. Charles	2,413	2,314	7,510
Reservoir No. 3	St. Charles	7,074	7,682	2,463
Hayden (Beckwith)	Greenhorn	543	789	534
Arnold Flood Water	Santa Clara	30.00	30.00	50.00
Bressan No. 1	Unnamed Arroya	8.0	8.00	8.00
Bressan No. 2	Unnamed Arroya	6.00	6.00	6.00
Brunelli No. 1 & 2	Bear Creek	30.00	60.00	50.00
Butte	Cucharas	-0-	-0-	-0-
Chicosa No. 4 & 5	Huerfano	-0-	-0-	-0-
Coler (Martin Lake)	Cucharas	-0-	-0-	-0-
Cucharas Valley	Cucharas	-0-	-0-	-0-
Holita	Cucharas	-0-	-0-	-0-
Huerfano Valley	Huerfano	-0-	-0-	1,547
La Joy	Cucharas	50	175	175
Maria-Stevens	Cucharas	-0-	322	-0-
Mosco	Poison Canon	-0-	-0-	-0-
Sharps Orchard	Cucharas	-0-	-0-	-0-
Sierra Blanca	Decker Creek	184	184	184
Sunnyside	Santa Clara	70	70	70
Valdez	Santa Clara	1,500	1,800	1,500
Vories	Cucharas	12	12	12
Wilson	Sheep Creek	35	35	35
Zan	Apache Creek	150	-0-	-0-
Meredith	Arkansas River	-0-	7,563	-0-
Adobe Creek	Arkansas River	-0-	12,315	14,590
Dye	Arkansas River	-0-	-0-	-0-
Henry	Arkansas River	-0-	6,253	-0-
Holbrook	Arkansas River	-0-	4,782	-0-
Horse Creek	Arkansas River	-0-	-0-	-0-
Model	Purgatoire	-0-	-0-	94.7
North	Trinchera	3,709	3,709	3,798
Monument	Middle Fork Purgatoire	-0-	-0-	1,674

NAME OF RESERVOIR	SOURCE	AMOUNT OF ACRE FEET NOVEMBER 1, 1972	AMOUNT OF ACRE FEET APRIL 1, 1972	AMOUNT OF ACRE FEET OCTOBER 31, 1971
Russel	Chanley Arroya	-0-	-0-	60
Hermosa	San Francisco Creek	-0-	-0-	-0-
Nee Noshee	Arkansas River	3,403	36,980	22,736
Nee Skah	Arkansas River	-0-	8,819	9,170
Thurston	Arkansas River	1,560	2,150	2,592
John Martin	Arkansas River	972	25,695	-0-
Two Buttes	Two Butte Creek	14,416	10,226	11,179
Total		317,488	424,582	238,304

AGRICULTURE

IRRIGATION DIVISION #2

COUNTY	LAND AREA (1000 A)	NO. OF FARMS	LAND IN FARMS (1000 A) TOTAL	CROP LAND	LAND IRRIGATED FARMS	ACRES	WHEAT WINTER	SPRING	OATS	BARLEY
aca	1,642	750	1,430	847	171	56,910	42,000	250	-	600
ent	971	450	917	145	301	45,292	9,000	50	230	370
haffee	665	170	160	24	121	16,126	-	-	200	100
rowley	514	400	490	105	287	25,010	1,150	80	90	80
uster	472	180	280	28	85	15,930	160	50	650	210
l Paso	1,381	750	1,050	200	121	13,630	17,000	450	1,800	600
remont	1,000	550	493	30	421	14,920	550	30	80	270
uerfano	1,010	280	800	48	138	11,453	3,300	10	220	250
iowa	1,147	350	1,080	600	15	5,127	38,000	300	-	-
it Carson	1,389	840	1,340	776	213	56,576	165,000	300	900	1,400
ake	243	17	28	6	10	6,036	-	-	-	-
as Animas	3,068	600	2,781	130	227	19,463	3,940	70	290	140
tero	811	690	630	87	539	57,675	3,400	100	460	720
rowers	1,041	729	1,030	530	430	93,044	30,500	-	130	710
ueblo	1,537	800	1,362	151	469	35,749	11,000	160	350	1,250
eller	355	70	155	8	10	865	-	-	-	-

ARKANSAS RIVER COMPACT
Irrigation Division #2

A. The general principle of this Compact is the division of the benefits of the reservoir storage on the basis of the maximum rates of flow, 750 C.F.S. or 60% to Colorado and 500 C.F.S. or 40% to Kansas, out of available storage water in the reservoir. Colorado having an advantage of using all accretions and return flow at the State line to make up Kansas' 40% share at the State line (i.e., assuming Kansas called for 500 C.F.S. release of stored water and there was 250 C.F.S. of other water crossing the State line, then only a sufficient flow necessary to develop a flow of 500 C.F.S. need be released from storage. Consequently, if each State continued to call for maximum releases at the same time, Colorado would always have the advantage of such return flow and accretions at the State line, which would actually result in Colorado's share being larger than 60% and Kansas less than 40%.

B. Reservoir operation is divided into two general periods:
   (1) Winter storage from November 1 to March 31, period during which all water flowing into the reservoir shall be stored up to the conservation capacity limit. Exception is that Colorado may call up to 100 C.F.S. limited to the river flow entering the reservoir for stock pond and other winter uses.

   (2) Summer storage from April 1 to October 31, when all water entering the reservoir up to conservation capacity limit shall be stored, provided that if river volume flow is sufficent, Colorado can call the first 500 C.F.S. but Kansas is limited to what river flow may be available in excess of Colorado's maximum, but in no event more than 250 C.F.S. Again, Colorado has the advantage of using return flow and accretions at the State line to make up Kansas share of such river flow.

C. Releases of stored water are limited to the summer storage period of April 1 to October 31 and the following criteria is to be observed:
   (1) Releases may be made simultaneously upon the demands of either/or both States.

   (2) Water released upon concurrent/separate demands shall be applied promptly to beneficial use unless downstream storage is authorized.

   (3) There shall be no allowance or accumulation of credits or debits for or against either State.

   (4) Releases, excepting periods when all Colorado water users are operating under decreed priorities, shall not impose any call on Colorado water users that divert from the river above the Reservoir.

D. When storage water is available in the reservoir, Colorado shall not administer diversions on a decreed priority basis, but user above the reservoir may divert without regard to the decreed priorities in Colorado below the reservoir and at the same time users in Colorado below the reservoir may divert in accordance with any distribution agreement in effect at that time.

E. Whenever the reservoir becomes empty, the river administration will revert back to the decreed priority basis as though the reservoir had never been constructed. Kansas shall not be entitled to any portion of the river flow entering the reservoir.

F. If usable quantity and availability for use of the Arkansas River waters in Colorado Water District No. 67 and Kansas will be materially depleted or adversely affected then;

(1) Present decreed priority rights in Water District No. 67 shall not be transferred to other water districts or to any points of diversion above the reservoir.

(2) Present ditch diversions in Water District No. 67 and Kansas shall not be increased beyond the total present rights without administration findings of fact that no depletion or adverse effect will result from such proposed transfer or increase.

G. There are no particular problems in the operation of the Compact, however, it should be mentioned that the presence of the reservoir on the main Arkansas River provides for poor management on the river during periods that the reservoir is dry. Due to the necessity of passing large volumes of water from Water District No. 17 thru a large, sandy, dry reservoir bed to deliver a small amount of water into Water District No. 67 causes an enormous waste. There should, in some manner, be established in John Martin Reservoir some type of a permanent pool and, also, a debit-credit system for Water District No. 67 water users.

DAMS
IRRIGATION DIVISION #2

WATER DISTRICT	NAME OF RESERVOIR	STREAM	DAM HEIGHT	INSPECTION
10	Fountain Valley #2	Fountain	Over 35'	None
	Fountain Valley #3	Fountain	Over 35'	None
	Monument	Monument Crk.	Over 35'	None
	Manitou	French Crk.	Over 35'	None
	Mesa #1	North Cheyenne	Over 35'	None
	Mesa #2	North Cheyenne	Over 35'	None
11	Sugar Loaf	Lake Fork	Over 35'	None
	Twin Lakes	Lake Crk.	Over 35'	None
	Clear Creek	Clear Crk.	Over 35'	Yes
12	Mt. Pisgah	Four Mile	Over 35'	None
	Skaguay	Beaver Crk.	Over 35'	None
	Brush Hollow	Brush Hollow	Over 35'	None
13	DeWeese Dye	Grape Crk.	Over 35'	None
14	*See Water District No. 17			
15	Hayden	Greenhorn	Over 35'	None
	Beckwith	Greenhorn	Over 35'	None
16	Cucharas	Cucharas	Over 35'	None
	Coler	Cucharas	10' - 20'	None
	Holita	Cucharas	10' - 20'	None
	Horseshoe	Cucharas	20' - 35'	None
	Orlando	Huerfano	10' - 20'	None
	Huerfano Valley	Huerfano	10' - 20'	None
	Dotson	Huerfano	10' - 20'	None
17	Henry	Arkansas	10' - 20'	Yes
	Meridith	Arkansas	Over 35'	None
	Horse Creek	Arkansas	Over 35'	None
	Adobe	Arkansas	20' - 35'	None
	Dye	Arkansas	20' - 35'	None
	Holbrook	Arkansas	20' - 35'	None
18	*There are none.			
19	Model	Las Animas	20' - 35'	None
	North	North Fork	20' - 35'	None
67	John Martin	Arkansas	Over 35'	None
	Nee No She	Arkansas	Over 35'	None
	Nee Skah	Arkansas	Over 35'	None
	Thurston	Arkansas	10' - 20'	None
	Two Buttes	Two Buttes Crk.	Over 35'	None

DAMS

1. There were no dam failures in Irrigation Division II during the past year.

2. There is only one "stop order" presently in effect in Irrigation Division II;

    1. Orlando Reservoir
       Water District 16

3. There are presently four "requests for plans and specifications" in Irrigation Division II;

    1. Harvey Brothers Reservoir and Tallahassee Reservoir
       Water District 12

    2. Cache Creek Reservoir
       Water District 11

    3. Lee Lake
       Water District 10

    4. Spanish Peaks Ranch
       Water District 18

LIVESTOCK WATER TANKS

APPLICATIONS FILED AND APPROVED:

Water District 10	16
Water District 11	0
Water District 12	27
Water District 13	5
Water District 14	3
Water District 15	0
Water District 16	11
Water District 17	17
Water District 18	26
Water District 19	87
Water District 66	3
Water District 67	11
TOTAL	206

All stock pond permits or applications are forwarded to our district Water Commissioners for site investigation and then, approval.

Problems encountered in issuing stock tank permits are;

1. In many instances, stock ponds are being constucted under the "Stock Pond Act" and are really being utilized as fish ponds and in some cases are actually being adjudicated.

2. Last year (1971) 102 applications; this year (1972) 206 applications.

WATER RIGHTS
TABULATION

Tabulation of water rights in Irrigation Division II (Water Districts 10,11,12,13,14,15,161,17,18,19,66 and 67) have, for all practical purposes, been completed. The Division II office has received computer print out copies for all Water Districts and the number of corrections is insignificant since all required corrections can be completed within a very short time; specifically by 1 January 1973.

There are several items within the tabulation that will require special attention and in some cases, a decision of the Water Court. The items are as follows;

(1) In many instances, and in some water districts, water has been delivered, not only out of priority, but out of adjudication. These decrees have been tabulated strictly according to adjudication and within the adjudication, according to appropriation date. They have not been tabulated as to the method of present administration. I am of the opinion that we should select an ideal situation with a view towards a possible court test.

(2) With respect to the first adjudication for purposes other than irrigation, I am of the opinion that any such adjudication that did not occur specifically in 1903 then the position of that adjudication in the overall tabulation is determined strictly by its adjudication date with respect to all other adjudications.

REFEREE'S FINDINGS AND DECREES

1. The Division II Water Court is located at 308 Judicial Building, Pueblo, Colorado, and is staffed by Water Clerk Priscilla Lucero, Referees Wallace Doe and Robert Harrison and Judge William Gobin.

2. Total applications filed in the Division 2 Water Court in Pueblo, Colorado up to 28 November 1972 are as tabulated below,

1.	Underground Water Rights	1,985
2.	Change of Water Right	31
3.	Plan of Augmentation	1
4.	Water Right	1,649
5.	Diligence (Cond. Decrees)	27
6.	Water Storage Right	58
7.	Total Applications Received in Water Court	3,751
8.	Number of Referee Consultations	1,309

3. As of 28 November 1972, the Division Engineer's Office has received a total of 3,751 applications of all types (tabulated above). The Total of 3,751 applications does not reflect the true number of structures for which decrees are being sought. Generally, it may be stated, that all applications are for at least 3 structures and at the other extreme we have one application for 97 various structures and another application for 79 structures.

   Applications for Underground Water Rights and for Water Rights comprise 96.9% of the total applications. No distinction can be made between applications for Underground Rights and Surface Rights as the Water Court is now using one type of application for both type of rights. Furthermore, without adequate indexing, no distinction between irrigation wells and domestic wells applications can be made.

   Applications for Water Storage Rights are increasing; and again, without adequate indexing, our Reservoir Section and the Division Engineer's Office are going to be faced with an embarrasing situation of not enforcing the Statutes.

   Applications for Augmentation amount to one(1) and it was submitted by the Gates Development Company for a housing development south and adjacent to the City of Colorado Springs. This section of the law is so vague that I doubt if the author's understand its contents.

   Complaints have been filed in the Water Court by the Division Engineer's Office against illegal diversions, storage and construction; however, because of the injunctive route that we are required to follow it takes from 5 to 6 months for any action.

COMMENTS ON WATER COURT OPERATIONS

Money expended by the Division Engineer's Office and/or the State Engineer's Office in implementing Senate Bill 81 with regard to the operations of the Water Court should be charged to the Judicial Branch and not taken from the budget of either the Division Engineer's Office and/or the State Engineer's Office.

The position of Water Referee is classified as a Grade 39 while the job of the Division Engineer is a Grade 36; it is incomprehensible that such a spread between these grades exists since the Division Engineer performs exactly the same duties as the Water Referee with the exception of writing the rulings which in any event are performed by the Water Clerk. In addition, the Division Engineer is charged with his regular duties of administration of an entire Division. This matter should be brought to the attention of both the Civil Service Commission and the Legislature.

- -

SOUTHEASTERN COLORADO
WATER CONSERVANCY DISTRICT
905 Highway 50 West
P.O. Box 440
Pueblo, Colorado 81002

OFFICERS

J. Sid Nichols, President, P.O. Box 1103, Colorado Springs, Colorado 80901

Roy D. Cooper, Vice President, Rt. 2, Box 181, Las Animas, Colorado 81054

Thomas W. McCurdy, Secretary, Rt. 1, Box 165, Olney Springs, Colorado 81062

James G. Shoun, Treasurer, P.O. Box 1040, Canon City, Colorado 81212

Charles L. Thomson, General Manager, P.O. Box 440, Pueblo Colorado 81002

Charles J. Beise, Attorney for the District, 1536 First National Bank Building, Denver, Colorado 80201

DIRECTORS

Harold H. Christy, 511 Polk Street, Pueblo, Colorado 81005

Dave Ciruli, Rt. 4, Box 793, Pueblo, Colorado 81004

Frank Dilley, Garden Park, Canon City, Colorado 81212

George E. Everett, Jr., Box 344, Salida, Colorado 81201

Dr. Wendell Hutchinson, D.V.M., Rainbow Blvd., Salida, Colorado 81201

Frank Milenski, RR 1, La Junta, Colorado 81050

Joe W. Purvis, Rt. 1, Box 3H, Las Animas, Colorado 81054

Herbert Schroeder, Ordway, Colorado 81063

James E. Wagner, No. 1 Cedar Hills, Lamar, Colorado 81052

J. Selby Young, 2915 Marilyn Road, Colorado Springs, Colorado 80909

PURGATOIRE RIVER WATER
CONSERVANCY DISTRICT
901 Park
Trinidad, Colorado 81082

OFFICERS

Dr. James E. Donnelly, President, 901 Park, Trinidad, Colorado 81082

Max Torres, Secretary-Treasurer, Trinidad, Colorado 81082

Glen C. Saunders, Attorney for the District, 225 East 16th, Denver, Colorado 80203

Jack Ross, Attorney for the District, 225 East 16th, Denver, Colorado 80203

DIRECTORS

Charles Cappellucci, Trinidad, Colorado 81082

Clyde Dawn, Trinidad, Colorado 81082

John Monteleone, Jansen, Colorado 81048

John Myers, Hoehney, Colorado 81046

Arthur G. Winter, Trinidad, Colorado 81082

WATER RELATED ORGANIZATIONS

IRRIGATION DIVISION NO. 2
Pueblo, Colorado

A.J. Anderson Irrigation Company, Charles Haberman, Rt. 1, La Junta, Colorado 81050
Avondale Water & Sanitation District, Mrs. Gloria Vialpando, President, P.O. Box 77, Avondale, Colorado 81022
Beaver Park Water Company, Nick Goodell, Penrose, Colorado 81240
Beehive Water Association, John F. Watters, Cheraw, Colorado 81030
Bent's Fort Water Association, Walter V. Henning, President, 105 Ash, La Junta, Colorado 81050
Bessemer Irrigating Ditch Company, A.N. Dallimore, 711 Thatcher Building, Pueblo, Colorado 81003
Booth-Orchard Grove Ditch Company, Elbert L. Hawkind, Superintendent, 202 Neilson, Pueblo, Colorado 81004
Canon City Oil Creek Ditch Company, L. Peterson, President, Canon City, Colorado 81212
Canon Heights Irrigation Company, E.B. Woodford, Secretary, 609 River, Canon City, Colorado 81212
Canon City Hydraulic Irrigating Company, E. Carpenter, President, Harrison Building, Canon City, Colorado 81212
Catlin Canal Company, Wayne W. Whittaker, P.O. Box 352, Rocky Ford, Colorado 81067
Collier Ditch Company, John Stahl, Rt. 1, Box 26, Boone, Colorado 81025
Crowley County Water Association, Harley Ruscher, President, P.O. Box 487, Ordway, Colorado 81063
DeWeese Dye Ditch Company, William McDermott, 1675 Chesnut, Canon City, Colorado 81212
East End Water Company, Harry Froese, Secretary, Rt. 2, La Junta, Colorado 81050
Eureka Water Company, Ralph Read, P.O. Box 5, Rocky Ford, Colorado 81067
Excelsior Ditch Company, G.C. Van Galder, Superintendent, Rt. 2, Box 231, Pueblo, Colorado 81004
Fayette Water Association, John Schweizer, Jr., Secretary, Rt. 1, Box 311, Rocky Ford, Colorado 81067
Fort Lyons Canal Company, Perry Hill, Rt. 2, Las Animas, Colorado 81054
Fremont County Ditch Company, Lola McBeth, 106 S. Pikes Peak Avenue, Florence, Colorado 81226
Hasty Water Company, Earl Eckerett, Hasty, Colorado 81044
Highland Water & Supply Company, Frank Vance, President, Blende, Pueblo, Colorado 81004
Hilltop Water Company, Jerry Clevenger, Secretary, Rocky Ford, Colorado 81067
Holbrook Center Soft Water, J.B. Shenk, Secretary, Cheraw, Colorado 81030
Holbrook Mutual Irrigation Company, Neal Marlin, Rt. 2, La Junta, Colorado 81050
Las Animas Consolidated Ditch Company, Delbert Wallace, Rt. 1, Box 19, Las Animas, Colorado 81054
Lombard Village Water Association, Levi Martinez, Attorney at Law, Thatcher Building, Pueblo, Colorado 81003
May Valley & Pleasant Valley Water Association, Leonard Courkamp, Wiley, Colorado 81092
McClave Water Association, Harold Falconburg, McClave, Colorado 81057
Newdale-Grand Valley Company, Ernest P. Campbell, President, Rt. 2, Box 292, Rocky Ford, Colorado 81067
Otero Canal Company, Earl Beegles, Box 980, La Junta, Colorado 81050
Oxford-Farmers Ditch Company, George Henrie, Fowler, Colorado 81039

Park Center Water District, George Smith, P.O. Box 860, Canon City, Colorado 81212
Patterson Valley Water Company, David E. Smith, Treasurer, Rt. 1, Rocky Ford, Colorado 81067
Penrose Water District, Orlin Fields, Secretary-Treasurer, 1102 South S Street, Penrose, Colorado 81240
96 Pipeline Company, Warren B. Arbuthnot, President, Ordway, Colorado 81063
Pueblo Board of Water Works, Foster Burba, Executive Director, P.O. Box 400, Pueblo, Colorado 81002
Riverside Water Company, Edward T. Jung, Secretary, Rt. 1, Box 100, Rocky Ford, Colorado 81067
Rocky Ford Ditch Company, George A. Watson, Rt. 1, Manzanola, Colorado 81058
Salt Creek Water & Sanitary District, Endelecio Garcia, 1022 Palo Alto Street, Pueblo, Colorado 81004
Security Water District, Thomas K. Remple, 231 Security Blvd., Security, Colorado 80911
South Canon Ditch Company, John Griffin, President, P.O. Box 213, Canon City, Colorado 81212
Southside Water Association, John Evers, President, RR 2, La Junta, Colorado 81050
South Swink Water Company, Fred Trimble, Secretary, La Junta, Colorado 81050
St. Charles Mesa Water Association, Lee Simpson, Manager, Roselawn Road, Pueblo, Colorado 81004
Stratmoor Hills, J. Fred Abrahamson, 311 Catilima Drive, Stratmoor Hills, Colorado 80901
Sugar City Pipeline Company, Henry Herman, Jr., Secretary, Sugar City, Colorado 81076
Twin Lakes Reservoir & Canal Company, Thomas McCurdy, Rt. 1, Box 165, Olney Springs, Colorado 81062
Union Ditch Company, Erick A. Roberts, 106 E. Main, Florence, Colorado 81226
Valley Water Company, Albert Stover, Secretary, Manzanola, Colorado 81058
Vroman Water Company, Albert Stover, Secretary, Manzanola, Colorado 81058
West Grand Valley Water, Inc., Blaine Malott, Box 182, Rocky Ford, Colorado 81067
West Holbrook Pipeline Company, Roy Wadleigh, Secretary, Rt. 2, Box 302, La Junta, Colorado 81050
West Pueblo Ditch Company, Bob Prendengast, Superintendent, Hyde Park Dairy, P.O. Box 397, Pueblo, Colorado 81002
Widefield Homes Water & Sanitation, James C. Perry, Sr., 3 Widefield, Widefield, Colorado 80911

DIVISION SUMMARY - DIVISION NO. 2

Direct Flow Diversions 1972

NO. OF	AC.FT. PER	INDUSTRIAL USE DIVERSIONS AC. FT.	MUNICIPAL USE DIVERSIONS AC. FT.	RECREATION USE DIVERSIONS AC. FT.	TRANS MTN. DIVERSIONS AC. FT.	TOTAL DIVERSIONS AC. FT.	NO. OF DAILY DITCH REPTS.	DELIVERE TO COMPA CMTMT.AC
					106,400			
			6,664.54			56,585.87		
						115,057.10		
		820.00	10,280.0			234,108.0		
						22,538.20		
			23,360.40			270,002.34		
		631.60				13,688.40		
						8,724.74		
						404,965.0		
						2,299.40		
						31,576.47		
						1,800.0		
						182,220.0		
		451.60	40,304.94		106,400	1,382,329.52		

1,343,565.52
- 106,400.00
1,449,963.52

n Diversions: Designate either to or from Diversion.