

ANNUAL REPORT
DIVISION NO. 1
1980 IRRIGATION YEAR
NOV. 1, 1979 - OCT. 31, 1980

BY

JAMES R. CLARK, DIVISION ENGINEER
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Governor



Jeris Danielson
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DIVISION OF WATER RESOURCES

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February 4, 1981

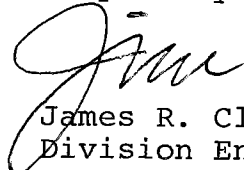
Mr. Jeris A. Danielson, State Engineer
Division of Water Resources
Room 818 - Centennial Building
1313 Sherman Street
Denver, Colorado 80203

Dear Dr. Danielson:

Please find submitted herewith the Annual Report of Irrigation Division No. 1 for the 1980 water year. Due to the fact that some of the information presented is based upon preliminary tabulations and calculations, there may be some subsequent modification of such information upon finalizing the basic data. Such modifications are expected to be minor in nature.

The encouragement, guidance, and assistance that we have received from you and your staff as well as the outstanding efforts of my own staff have been greatly appreciated.

Very truly yours,


James R. Clark
Division Engineer

JRC/psw

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1980 ANNUAL REPORT

INTRODUCTORY STATEMENT

Division 1 covers an area of some 28,068 square miles or approximately the northeast one-fourth of the State of Colorado. Of this, approximately 19,500 square miles is in the South Platte River Basin, 8,165 square miles in the Republican River Basin, and 403 square miles in the Laramie River Basin.

SOUTH PLATTE RIVER

The South Platte River starts at the Continental Divide, flows through South Park, down mountain canyons, out into the plains in the Denver area thence northeasterly and into Nebraska near the northeast corner of Colorado. The flow of the South Platte is augmented by a number of tributaries in the South Park area, the principal ones being the Middle and North Forks of the South Platte and Tarryall Creek. After leaving the mountains the South Platte is further augmented by several major tributaries arising at and east of the Continental Divide and flowing to the South Platte from the north and west. These major tributaries entering the South Platte in the Denver to Greeley area are Bear, Clear, Boulder and St. Vrain Creeks, and the Big Thompson and Cache la Poudre Rivers. Only normally minor and intermittent streams supplement the river flow from the South and East. However some of these, such as Plum, Cherry, Boxelder, Kiowa, Bijou, Badger, Beaver as well as Lone Tree, Coal, Wild Cat and Pawnee Creeks from the north and west are each capable of producing a major flood due to the extent and topography of their individual watersheds when subjected to intense precipitation.

In addition to the obvious tributary streams, the South Platte River is further supplemented very extensively, as are the tributaries themselves, by what is commonly referred to as return flow. This is water from springs, waste ditches, drains, seepage, etc., resulting generally from diversions for various uses, precipitation, and high water tables. Although the return flows resulting from the initial use of transmountain water have historically been considered a part of the natural stream subject to distribution under the priority system, the City of Denver continued the operation that they instituted in September 19, 1976 at which time they invoked the provisions of 37-82-106, CRS 1973, relating to the right of reuse of imported water. Through a detailed accounting system they are able to identify that portion of the effluent from Metro Sewer which is attributable to their current importation of Blue River water through the Roberts Tunnel. Denver then diverts by exchange at their intake as much of this calculated Blue River water return flow as the river flow at intake will support without injury to intervening water rights in that section of the stream between intake and sewer discharge. Denver also continues to study the treatment of wastewater for reuse as potable water through the operation of a pilot treatment plant. Denver requested permission to initiate re-use of water through Moffat Tunnel

beginning January 1, 1979. This practice has not been approved as of this date.

The City of Aurora also claimed the reuse of their Homestake imported water to the extent that it could be identified and exchanged back up to their intake. This exchange was quite limited due to the lack of available stream flows to support the exchange in addition to supplying intervening water rights and the Denver exchange previously discussed. During those periods when Aurora could not make its own exchange they did realize some monetary benefits from the sale of their trans-mountain effluent to the Central Colorado Water Conservancy District to be used as augmentation water in support of the Central member wells.

The elevations in the South Platte Basin vary from 14,000 feet at points along the Continental Divide to 3,400 feet at the Colorado-Nebraska line. The western one-third of the basin is mountainous in character and provides the principal source of water as the result of precipitation.

Of the 12,481,000 acres in the South Platte Basin, 9,469,470 acres are in farms and ranches. The balance of the area is owned by federal and state governments, public agencies, or included within municipalities. Within the farm areas are 1,239,655 irrigated acres and 1,936,745 acres of dry land according to the 1977 Agricultural Census.

The principal use of water in the mountain valleys is for meadow irrigation. Large volumes of water are released on meadows adjacent to the streams and, of this volume, a major proportion returns to the stream for reuse at lower elevations. The largest area of mountain valley irrigation is in South Park at elevations up to 11,000 feet. Other uses in the mountain areas include those of small municipalities, domestic, stock, power, mining, commercial and recreation needs.

The greatest use of water, by far, in the South Platte Basin is for agricultural purposes in the plains area at elevations between 3,500 and 5,000 feet. The water here supports a well developed, diversified agricultural economy that ranks high nationally in productivity. Much of the demand for water in areas downstream some 40-50 miles from the mountains is supplied from wells and by return flow from uses further upstream.

Some 5379 wells operating under augmentation plans and as alternate points of diversion for surface rights withdrew an estimated 575,000 acre feet of water for irrigation from underground sources. Wells operating in approved augmentation did so either by replacing water to the stream to at least partially offset the stream depletion they were causing or by operating under decreed priorities which were legally entitled to be used in that manner. The two major augmentation plans for irrigation wells were G.A.S.P. with a membership of 3007 wells and Central Colorado Conservancy District with a membership of 895 wells.

Although several thousand proposed small capacity domestic and in-house use wells have been included in decreed augmentation plans, the actual construction and use of such wells is, as yet, comparatively minimal.

As a result of the inability in the summer of 1976 to move replacement surface water down the South Platte River in the reach between Harmony No. 1 and South Reservation Ditches G.A.S.P. constructed three wells upstream from the South Reservation head-gate near Ovid with a combined capability to pump 16 cfs. In 1978 pump sizes on these three wells was increased to 40 horsepower from 25. This increased production to 22 cfs. G.A.S.P. reserved the first use of these wells to supply the replacement water for which they were responsible in that area. Any remaining capacity was then made available to those water users in that general area who could make use of the water either directly or by exchange. The right to use the additional capacity was on the basis of priority of ditch rights with the user paying the prorated operation and ownership costs.

A problem which has developed in recent years and which appears to be accelerating in magnitude is that of expanded use. The principal tool for expanding the use of water is the sprinkler system. Due to the greater efficiency of sprinkler application as compared to flood or row irrigation, only some 50 percent to 70 percent as much water per unit area is required by the sprinkler to satisfy crop requirements. Consequently with a given amount of water a farmer can increase his crop average 50 percent to 100 percent by converting to sprinklers. Although the individual farmer making this expanded use benefits from increased total yield, the whole river system supply is reduced by the amount of the consumption on the increased acreage. Crop water requirements remain substantially constant regardless of means of application so sprinkler irrigation over increased acreage reduces the net return flows to the stream system thereby depriving downstream users of water upon which they have historically depended for their needs.

A case filed in 1978 against the Weldon Valley and some irrigators under that system was completed in 1979. This case essentially provides that any expansion accomplished before the date of the order would be allowed. Further expansion would not be allowed. We have sent letters to the ditch companies in the South Platte Basin alerting them to our policy, however, we are still having trouble controlling expansion.

REPUBLICAN RIVER

The Republican River Basin in Eastern Colorado covers 5,226,000 acres. Of this area 4,350,770 acres are in farm and ranch land with 226,109 acres under irrigation and 4,124,661 acres of dry land as reported in the 1969 Agricultural Census.

This area is relatively dry and the surface streams, many of which are intermittent, provide only enough water for some lands adjacent thereto. The normal precipitation in this area is about 17.1 inches of which 13.6 inches or 80 percent falls during April through September period.

Supplies from surface streams continue to decline. This decline is generally attributed to the operation of wells in the designated ground water basins where the regulatory guidelines provide for 40 percent depletion of available supplies in the Ogallala formation within a 25-year period. Studies indicate that the Ogallala has historically provided a substantial portion of the surface flows and consequently as those aquifer levels drop the normal outflow from them is diminished.

LARAMIE RIVER

The Laramie River Basin in North Central Colorado contains 258,000 acres of which 4,800 acres are irrigated and 15,000 acres are nonirrigated ranch land according to the 1964 Agricultural Census.

This basin is a mountain valley with the principal water use being for meadow irrigation and livestock purposes. There are no municipalities or villages in this basin so the domestic uses are minimal.

The Laramie River and its tributaries did not produce enough water during the 1977 irrigation season to satisfy the allotments in Colorado under the Laramie River Agreement and the 1957 Federal Court Order. The said court order provides that 19,875 acre feet of Laramie River water or its tributaries in Colorado may be annually diverted for use outside of the Laramie River Basin and that in addition 29,500 acre feet may be annually diverted for irrigation use within the Laramie River drainage with no more than 1,800 acre feet of such amount to be used after July 31 of each year. The Laramie River Agreement between the users of water in Colorado, being the meadowland users and the transmountain diverters, further provides for volumetric allotments to designated lands within the basin. This amounts to 6,0887 acre feet per acre for the season of which only 0.3715 acre feet may be diverted after July 31.

The 1979 meadowland diversions totaled 22,469 acre feet and transbasin diversions to Water District No. 3 totaled 15,464 acre feet from those sources subject to the Federal Court Order.

The continuing high cost of agricultural production and reduced income have forced the sale of some ranches in the Laramie River Valley.

1980 AT A GLANCE

Water Year 1980 has been the coldest hot year and the driest wet year we have experienced in some time. New records for low temperatures and snowfall were established in portions of Division I during the winter of '79-'80. Record precipitation continued into the first part of June disrupting the normal planting schedule of the farmers. From June to present we have had essentially no precipitation, except scattered showers and hail storms, and unseasonably warm temperatures.

High flows on the South Platte and its' tributaries caused considerable damage to roads, bridges, farmland, and diversion structures. Damage to the diversion structures alone was estimated at \$800,000. These same high flows, while causing many problems during the early part of the season, recharged the aquifer so that higher than normal return flows allowed above average diversions by the ditches on the lower end of the river even with the minimal rainfall.

The failure of Prospect Reservoir on February 10, 1980 also caused considerable damage to roads, farmland and other property as approximately 3000 AF of water was released during a 24 hour period. The peak flow from the reservoir was estimated at 2100 cfs. Early estimates placed damage at \$2 million, however, I suspect that the final figure would be substantially less.

Repairs to Highway 34 through the Big Thompson Canyon, damaged during the Colorado Day Flood in 1976, were completed in early May at a cost of \$25 million. Awesome concrete walls and tons of rock and fill dirt have raised the elevation of the road above projected danger levels, hopefully they will never be tested.

The on going search for wells operating without benefit of an augmentation plan continued this summer. Our field crew investigated approximately 535 wells. A breakdown of the above total is as follows: 5% were found to have been decreed non-tributary, 17% were not in use, 37% have joined an augmentation plan, 21% were the subject of cease and desist orders, some of which are awaiting court action and others awaiting final acceptance into an augmentation plan, and 20% were never observed operating after the initial contact.

The fall harvest was completed well ahead of normal due to the warm, dry weather. The winter wheat crop is in fair condition but moisture is needed badly to prevent winter kill of much of the wheat.

The following tabulation reveals the percentage of the stream flows 1979 as compared with the previous 10 years, both for the entire water year and for the April through September irrigation season at several of the principal stream gaging stations. Stream flows for 1980 are from preliminary records.

COMPARATIVE STREAM FLOWS

	WATER YEAR		APRIL THRU SEPT.			
	1967 thru 79 AVERAGE AC.FT.	1980 AC.FT.	1980 AVG.	67 - 79 AVG.AC.FT.	1980 AC.FT.	1980 AVG.
South Platte @ Denver	245100	476000	194	196500	418600	213
South Platte @ Henderson	354900	661800	186	257800	542200	210
South Platte @ Ft. Lupton	198900	726600	365	139700	589300	422
South Platte @ Kersey	733700	1838000	251	478000	1432000	300
South Platte @ Weldona	490500	1400000	285	323900	1080000	333
South Platte @ Balzac	374100	1329000	355	277000	1062000	383
South Platte @ Julesburg	454740	1396000	307	247600	1024950	414
Clear Creek @ Golden	146200	202300	138	125200	177300	142
Clear Creek @ Derby	66300	131900	199	54740	117500	215
Boulder Creek @ Orodell	56050	70800	126	46500	59140	127
St.Vrain Creek @ Lyons	86390	144490	167	80070	135134	169
St.Vrain Creek Nr.Platteville	172000	356700	207	119100	272320	229
Big Thompson @ Canyon	58970	132270	224	49510	132270	267
Big Thompson Nr. La Salle	74900	315800	422	48540	265500	547
Cache La Poudre@ Canyon	226800	424800	187	214100	398300	186
Cache La Poudre Nr. Greeley	106700	376800	353	66030	301500	457

PERSONNEL

NAME	WATER DIST.	POSITION	CLASSIFICATION		DATE OF LAST STEP CHANGE	MONTHS WORKED	BUDGETED	PER. VEH.	STATE VEH.	MILEAGE
			OCT. 31, GRADE	STEP						
Anderson, Dale	7	WC-C	53	5	8-01-80	12	12	17,558		
Bentley, Morgan	6	WC-A	53	1	1-01-81	12	8	8,491		
Bell, Ted		WRE	62	7	7-01-80	12	12			12,750
Blank, Ed		SR.WRE	75	5	2-01-80	12	12			
Blewitt, Lloyd	4	SR.WC	57	7	12-01-73	12	12	5,474		
Brazelton, Don		ENG.TECH.II	61	6	9-01-80	12	12			9,556
Clark, Jim		SUPV.WRE	79	7	7-01-79	12	12			10,610
Clayton, Joe	8-80	SR.WC	57	7	11-01-71	12	12			9,664
Coffer, Harold		SR.WRE	75	6	7-01-78	12	12			10,805
Cooper, Bob		WRE	67	6	1-01-79	12	12			23,888
Curry Mark	23	WC-B	47	4	6-01-80	12	12	16,326		
Dalby, Les		WC-B	47	2	6-01-80	12	12	184		
Davison, Arlyn	65-79	SR.WC	57	7	1-01-75	12	12	4,202		
Delventhal, Keith	2	WC-A	41	5	5-01-80	6	6	9,960		
Durand, Carolyn	48	WC-A	41	3	6-01-80	2	3	2,132		
Gabriel, Don	1	WC-A	41	1		3	3	3,714		
Harman, Rachel		TYP.B	32	6	11-01-76	12	12			
Hodgson, Mel	5	WC-A	41	6	4-01-80	7	8	7,227		
Howard, Jonathan		WC-A	41	1		3	3	125		
Iverson, Amy	23	WC-A	41	1		4	3	5,806		
Lee, Wayne	4	WC-A	41	6	10-01-77	9	8	5,547		
Lochhead, John		WRE	57	3		12	12			12,879
McDanold, J.C.		WRE-C	67	4	7-01-80	12	12	14,269		12,046
Meehl, Paul	2	SR.WC	55	7	1-01-74	12	12			
*Morris, Sharon	23	WC-A	41	1		5	5	5,044		
Neutze, Jack	3	PRIN.WC	61	7	7-01-79	12	12	880		
Palmer, Stix	5	WC-C	53	7	12-01-74	12	12	13,291		
Rice, Don	3	WC-A	41	2	7-01-80	12	12	18,531		
Salser, Ken	8-80	WC-A	41	6	5-01-80	12	12	9,431		
Samples, Bob	1	SR.WC	57	7	4-01-77	12	12	1,928		
Sievers, George		WC-C	53	4	9-01-80	12	12			
Swedlund, Kent	64	WC-A	41	3	6-01-80	3	4	4,817		
VanGorden, Ralph	9	WC-B	47	7	7-01-70	12	12	11,098		
Vannorsdel, Carolyn	48	WC-B	47	5	6-01-80	7	5	5,485		
Wagner, Mae	1	WC-A	41	2	9-01-80	12	12	24,324		

PERSONNEL

NAME	WATER DIST.	POSITION	CLASSIFICATION		DATE OF LAST STEP CHANGE	MONTHS WORKED	BUDGETED	PER. VEH.	MILEAGE STATE VEH.
			OCT. 31,	GRADE					
*Ward, Ernie	6	WC-C	53	7	6-01-76	12	12	12,686	
Watson, Elton	64	SR.WC	57	7	7-01-80	12	12	19,074	
Wittler, Randy		WC-A	41	1		3	3	608	
Wittler, Rodney		ENG.AIDE A	37	1		3	3		
*Wyscaver, Pearl		SEC.IB	40	4	9-01-80	2	12		

*Iverson - Started employment 7-07-80
 *Morris - Started employment 7-01-80
 *Ward - Retired 11-10-80
 *Wyscaver - Reinstatement 9-01-80

WATER SUPPLY

A. SNOW PACK

Above normal snowfall in the higher mountains led forecasters to predict that the spring and summer runoff would be above average at all locations. Snowfall was above average for every month from December through April. This produced a snowpack that was well above average at the beginning of May. Precipitation during May coupled with the above average snowpack allowed the filling of most area reservoirs and led to an excellent water supply forecast. Tabulations of water supply outlook and snow measurement summaries as of May 1979 follows:

WATER SUPPLY OUTLOOK *

<u>STREAM</u>	<u>SPRING SEASON</u>	<u>LATE SEASON</u>
Coal Creek	Excellent	Average
N. Fork S. Platte	Excellent	Excellent
N. Fork Cache la Poudre	Excellent	Excellent
Ralston Creek	Excellent	Average
Rock Creek	Excellent	Average
South Platte - Greeley to Fort Morgan	Excellent	Excellent
South Platte - Fort Morgan to Sterling	Excellent	Excellent
South Platte below Sterling	Excellent	Excellent

*Expressed as POOR, FAIR, AVERAGE, EXCELLENT, with respect to Usual Supply

SUMMARY OF SNOW MEASUREMENTS

<u>RIVER BASIN AND/OR SUB-WATERSHED</u>	<u>NO. OF COURSES AVERAGED</u>	<u>THIS YEAR'S SNOW WATER AS PERCENT OF:</u>	
		<u>LAST YEAR</u>	<u>AVERAGE*</u>
Big Thompson	5	112	137
Boulder	3	158	156
Cache la Poudre	9	105	123
Clear Creek	5	148	144
Sain Vrain	3	130	177
South Platte	7	152	191

*1963-1977 Period

III

WATER SUPPLY

PRECIPITATION

1980

LOCATION	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		6 MO. %
	PRECIP.	% OF NORMAL	PRECIP.	% OF NORMAL	PRECIP.	% OF NORMAL	PRECIP.	% OF NORMAL	PRECIP.	% OF NORMAL	PRECIP.	% OF NORMAL	
BOULDER	2.17	94	2.48	77	0.32	14	0.92	55	1.18	90			
CHEESMAN	3.14	176	3.23	169	0.27	20	1.60	68	0.37	34			100
CHEYENNE WELLS	2.34	179	2.91	109	3.42	146	1.10	49	1.50	104			100
DENVER AP WSPD	2.54	132	2.73	103	0.09	5	1.65	128	0.63	56			99
ESTES PARK	2.14	124	3.66	170	0.15	7	0.96	50	1.11	92			82
FORT COLLINS	2.91	159	3.53	122	0.08	4	0.62	40	0.70	73			83
FORT MORGAN	0.83	65	3.05	119	0.53	25	1.96	135	1.01	94			88
GREELEY	2.26	153	2.49	103	0.85	47	0.65	62	0.55	57			82
KASSLER	2.06	86	3.65	124	0	0	1.57	108	1.23	102			91
LAKEWOOD	1.32	67	5.09	201	0.24	13	0.98	80	0.89	81			99
LONGMONT	2.04	132	4.25	168	0.04	2	0.93	90	0.52	53			93
PARKER	2.01	130	3.13	138	0	0	2.10	118	0.91	100			106
RED FEATHER LAKE	2.41		3.28		0.15		1.28		1.60				
STERLING	0.77	59	3.09	108	2.20	78	0.69	43	0.33	30			94
WRAY	2.28	121	2.70	85	1.91	61	2.95	121	2.36	161			102

FLOODS

The following tabulation shows the annual flows in acre feet at the major control gaging stations in the Division and the highest instantaneous peak flow during the period.

Most figures are preliminary reports and subject to revision.

STATION	WATER YEAR (A.F.) Oct. 1, 1979 to Sept.30, 1980	INSTANTANEOUS PEAK FLOWS	
		DATE	C.F.S.
South Platte below Cheesman	213300	6-17-80	1290
North Fork at South Platte	217700	6-12-80	1600
South Platte at South Platte	451500	6-12-80	2740
Bear Creek at Morrison	63830	5-07-80	750
Bear Creek at Sheridan	73490	5-05-80	1330
South Platte at Denver	476000	5-07-80	4890
Clear Creek at Golden (Lower Station)	202300	6-10-80	2120
Clear Creek at Derby	131900	6-13-80	1320
South Platte at Henderson	661800	5-16-80	7310
Middle Boulder Creek at Orodell	70800	7-02-80	599
South Boulder Creek at Eldorado	43580	6-16-80	411
Coal Creek at Plainview	8140	4-30-80	205
St.Vrain Creek at Lyons	144490	4-30-80	2480
St.Vrain at Platteville	356700	5-01-80	4860
Big Thompson at Canyon (1)	132270	4-30-80	6150
Big Thompson at LaSalle	315800	5-01-80	6220
Cache la Poudre at Canyon	424800	6-12-80	3860
Cache la Poudre at Greeley	376800	5-17-80	4030
South Platte at Kersey	1838000	5-02-80	18200
South Platte at Balzac	1329000	5-18-80	15600
South Platte at Julesburg	1375000	5-21-80	13120

(1) Does not include 22,910 A.F. which was diverted via Foothills Canal and Dille Tunnel and returned to the river below station.

WATER SUPPLY

UNDERGROUND WATER

The activity of the Groundwater Section of the State Engineer's Office continues to be hectic. The following tabulation is indicative of the magnitude of this activity:

	<u>APPLICATIONS RECEIVED</u>	<u>PERMITS ISSUED</u>	<u>DENIALS</u>	<u>TOTAL TRANSACTIONS</u>
EXEMPT	2521	2514		
NON-EXEMPT	410	258	135	5838

These figures are for the period January 1, 1980 to November 30, 1980.

HYDROGRAPHIC REPORT
DIVISION ONE
1980

GENERAL

The 1980 Water Year was characterized by high early, and somewhat prolonged runoff. Station damage was minimal except in the Big Thompson Canyon. The problems of high runoff were compounded here by the unstable bottom which resulted from the 1976 flood and subsequent repair operations. Considerable damage occurred at two of our stations in the Canyon.

Measurement activity was perhaps higher than normal during May and June because of higher than normal peak flows. As usual, however, hydrographic activity was generally directed toward measurement and record processing, rather than toward repair and maintenance.

HYDROGRAPHIC ACTIVITY

The following measurements were made by Division One Hydrographers during the Irrigation Water Year (November 1, 1979 to October 31, 1980).

<u>HYDROGRAPHER</u>	<u>NUMBER OF MONTHS</u>	<u>NUMBER OF MEASUREMENTS</u>
Appelgren, P.S.	3	0
Augustine, R.D.	5	78
Bell, T.S.	12	157
Brinton, S.D.	4	113
Coffer, H.R.	12	188
Cooper, R.E.	12	245
Hall, J.R.	2	35
Helvik, K.M.	7	106
Lochhead, J.W.	6	147
McDanold, J.C.	12	107
Mast, G.N.	3	60
Robinson, D.L.	6	88
Rubright, E.S.	3	0
Wittler, R.J.	4	0
	TOTAL	<u>1324</u>

Total hydrographic mileage was 92,879. Significant contribution to the total hydrographic effort was made by the three summer employees who made some of the above measurements. Measurements or mileage by Glen Brees or Bud Walcher in Division One are not included above.

SUPPLEMENTAL HYDROGRAPHIC REPORTS

ANNUAL REPORT
COLORADO-BIG THOMPSON PROJECT
1980

The Colorado-Big Thompson Project is a cooperative effort between the U.S. Bureau of Reclamation, the Northern Colorado Water Conservancy District and The Division of Water Resources. Water is diverted from the Western Slope through Alva B. Tunnel. Power is generated in a series of five power plants by the Bureau, then the water is distributed to East Slope users by the Conservancy District.

ACTIVE PROJECT STORAGE

<u>Western Slope</u>	<u>Nov. 1, 1979</u>	<u>Nov. 1, 1980</u>	<u>Difference</u>
Green Mountain	112,540	101,010	- 11,530
Willow Creek	7,620	8,250	+ 630
Granby	315,660	395,240	+ 79,580
Shadow Mountain- Grand Lake	980	16,930	+ 15,950
Total Acre Feet	<u>436,800</u>	<u>521,430</u>	<u>+ 84,630</u>
 <u>Eastern Slope</u>			
Marys, Estes, Pinewood and Flatiron	4,690	4,740	+ 50
Carter	60,010	54,570	- 5,440
Horsetooth	94,480	64,880	-29,600
Boulder	350	0	- 350
Total Acre Feet	<u>159,530</u>	<u>124,190</u>	<u>-35,340</u>

Total active storage (total reservoir storage less dead storage) was 645,620 acre feet on November 1, 1980. This compares with 596,330 acre feet on November 1, 1979 and with 909,431 acre feet total active project storage capacity.

DISTRIBUTION OF PROJECT WATER

<u>WATER DISTRICT</u>	<u>CARRIER</u>	<u>TOTAL ACRE FEET</u>
1	Hansen Feeder Canal via Big Thompson	6,370
3	Hansen Supply Canal via Cache la Poudre Direct Delivery	71,210 16,200
4	Hansen Feeder Canal via Big Thompson St. Vrain Supply via Little Thompson Direct Delivery	31,190 7,430 13,510
5	St. Vrain supply Canal via St. Vrain Direct Delivery	18,950 15,190
6	Boulder Cr. Supply Canal via Boulder Cr. Direct Delivery	12,100 <u>5,440</u>
	Total to all districts, including Replacement	197,590
	Quota water declared available - 70% or 216,950 ac.ft. Replacement water-6440 ac.ft.	

MATERIAL BALANCE-PROJECT WATER DISTRIBUTION

ESTES PARK AREA

<u>INFLOW</u>	<u>NOV.1, 1979-NOV.1, 1980</u>	<u>TOTAL ACRE FT.</u>
<u>WESTERN SLOPE WATER</u>		
Alva B. Adams Tunnel	160,030	
<u>EASTERN SLOPE WATER</u>		
Wind River	1,480	
Big Thompson River	120,180	
Fish Creek	4,490	
Storage November 1, 1979	2,850	289,030

<u>OUTFLOW</u>	<u>NOV.1, 1979-NOV.1, 1980</u>	<u>TOTAL ACRE FT.</u>
Estes Park Water District	400	
Town of Estes Park	460	
Estes-Foothills Canal	231,420	
Big Thompson River	54,590	
Storage Nov. 1, 1980	<u>2,690</u>	289,560

Apparent Gain 530 acre feet

CARTER LAKE AREA

INFLOW

Estes-Foothills Canal	231,420	
Storage Pinewood, Flatiron Nov.1, 1979	1,840	
Storage Carter Nov.1, 1979	60,010	
Dille Tunnel	<u>21,360</u>	314,630

OUTFLOW

Hansen Feeder Canal	65,810	
Big Thompson River	130,540	
St. Vrain Supply Canal	59,160	
Direct Diversion	4,970	
Storage Carter Nov.1, 1980	54,570	
Storage Pinewood, Flatiron Nov.1, 1980	<u>2,040</u>	317,090

Apparent Gain 2,460 acre feet

HORSETOOTH AREA

INFLOW

Hansen Feeder Canal	57,840	
Storage Nov.1, 1979	<u>94,980</u>	152,820

OUTFLOW

Hansen Supply Canal	72,340	
Direct Delivery	15,070	
Storage Nov.1, 1980	<u>64,880</u>	152,290

Apparent Loss 530 acre feet

BOULDER AREA

<u>INFLOW</u>	<u>NOV.1, 1979-NOV.1, 1980</u>	<u>TOTAL ACRE FT.</u>
Boulder Feeder Canal	17,420	
Storage Nov.1, 1979	<u>350</u>	17,770
 <u>OUTFLOW</u>		
Boulder Creek Supply Canal	17,540	
Dry Creek Replacement	1,090	
Storage Nov.1, 1979	<u>0</u>	18,630
 Apparent gain 860 acre feet		
 <u>SUMMATIONS</u>		
Estes Park Area	+ 530	
Carter Lake Area	+2,460	
Horsetooth Area	- 530	
Boulder Area	<u>+ 860</u>	
 Total Apparent Project Loss		 +3,320

OPERATION SKIM

In conjunction with the Colorado-Big Thompson Project, Operation Skim diverts Big Thompson River water for power generation purposes and returns it to the river. Upper Big Thompson River water is diverted through Estes Foothills Canal into Olympus Tunnel for power generation at Polehill and Flatiron Power Plants. Near the mouth of Big Thompson Canyon, river water is diverted through Dille Tunnel. River water from both diversions is then returned to the river through the Big Thompson Power Plant. Skim operations for the 1980 irrigation water year were as follows:

<u>MONTH</u>	<u>WATER DIVERTED ACRE-FEET</u>
November	2,250
December	1,930
January	1,720
February	1,960
March	2,450
April	5,170
May	19,990
June	32,220
July	18,650
August	4,580
September	1,380
October	620
	<u>92,920</u>

Harold R. Coffey
Water Resource Engineer

III. WATER SUPPLY

TRANSMOUNTAIN

OCTOBER 1, - S

DIVERTING STRUCTURE	SOURCE	SOURCE DISTRICT	RECEIVING DISTRICT	CON
Wilson Supply Ditch	Sand & Deadman Creek	48	3	Div
*Deadman Ditch (Incl. in Wilson supply)	Deadman Creek	48	3	Div
Bob Creek Ditch	Nunn Creek	48	3	Cit
Columbine Ditch	Deadman Creek	48	3	Cit
Laramie Poudre Tunnel	Laramie River	48	3	Wat
Skyline Ditch	West Fork Laramie River	48	3	Wat
Cameron Pass Ditch	Michigan River	47	3	Wat
Michigan Ditch	Michigan River	47	3	Nor
Grand River Ditch	Colorado River	51	3	Cit
Eureka	Colorado River	51	4	Cit
Alva B. Adams Tunnel	Colorado River	51	4	U.S.
Moffat Tunnel	Fraser River	51	6	Cit
Jones Pass Tunnel	Williams Fork	51	6	Cit
AKA August P. Gumlich or Williams Fork Tunnel	(Inc. in Moffat Tunnel)			
Berthoud Pass Ditch	Fraser River	51	7	Fan
Vidler Tunnel	Montezuma Creek	36	7	Her
Roberts Tunnel	Blue River	36	23-8	Cit
Boreas Pass Ditch	Indiana Creek	36	23	Cit
Hoosier Pass Ditch	Blue River	36	23	Cit
Aurora Homestake	Homestake Creek	37	23	Cit

* INCLUDED IN WILSON SUPPLY DITCH

RESERVOIR STORAGE DISTRICT NO. 1

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Empire	South Platte	8825	29638	8205
Riverside	South Platte	24781	52532	35337
Jackson	South Platte	19577	31708	14600
Bijou No. 2	South Platte	3220	675	1850
North Sterling	South Platte	44177	69757	23380
Prewitt	South Platte	16264	28310	14680
Klug	Boxelder Creek	0	633	0
Bootleg	Boxelder Creek	0	0	0
Heart	Little Crow Creek	0	375	0
Giffin No. 1	Lone Tree Creek	0	49	10
Giffin No. 2	Lone Tree Creek	2	91	1
Adams & Bunker No.1	Little Crow Creek	0	241	0
Adams & Bunker No.2	Little Crow Creek	0	84	0
TOTAL		116846	214093	98063

RESERVOIR STORAGE DISTRICT NO. 2

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Barr	South Platte	10842	29932	15243
Horsecreek	South Platte	5630	15200	3295
Prospect	South Platte	3458	2600	1195
Lord	South Platte	0	485	0
Milton	South Platte	15486	17417	12479
Lower Latham	South Platte	5193	5674	4372
Standley	Clear Creek	33867	41176	29969
Behrns	South Platte	17		25
Beulah	South Platte	70		54
Bowles No. 1	South Platte	5		5
Bowles No. 2	South Platte	50		50
Brantner No. 2	Brantner Gulch	11		11
Carlin	South Platte	0		20
Church Lower Lake	Dry Creek	90		108
Coal Ridge	Little Dry Creek	474	383	426
Fulton Waste	South Platte	350		125
German No. 2	Big Dry Creek	60		36
German No. 3	Big Dry Creek	4		2
German No. 4	Big Dry Creek	30		36
German No. 6	Big Dry Creek	10		8
German No. 8	Big Dry Creek	54		40
German No. 9	Big Dry Creek	18		9
German No. 12	Big Dry Creek	92		92
H.A. Smith	South Platte	20		30
Great Western	Clear Creek	2645	3003	2845
Henry	South Platte	3		15
J.B. Smith	Todd Creek	150		120
Irland No. 1	South Platte	25		4
Irland No. 5	South Platte	4		30
La Dore	Seepage	319		367
Loloff	South Platte	72		145
Marshall	Brantner Gulch	25		30
Maul	First Creek	20		1
Meek No. 1	South Platte	20		35
Meek No. 2	South Platte	3		12
Mose Davis No. 2	South Platte	125		2
North Star	Big Dry Creek	129		125
Olds	South Platte	0		0
Parson-Holms	Second Creek	0		0
Thompson	Big Dry Creek	180		205

RESERVOIR STORAGE DISTRICT NO. 2 (Continued)

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Matson	Big Dry Creek	6		10
Karsh	Big Dry Creek	4		0
Hamilton	Seepage	1		1
Francis	Gulch	5		5
Brunner	Seepage	53		26
Burnett-Deisher	Seepage	25		17
	TOTAL	79645	115870	71625

RESERVOIR STORAGE DISTRICT NO. 3

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Fossil Creek	Cache La Poudre	2165	5837	1905
Halligan	N FK Cache La Poudre	100	6428	6428
Clarks Lake	N FK Cache La Poudre	548	0	726
Indian Creek	N FK Cache La Poudre	1906	1673	1354
N. Poudre No.2	N FK Cache La Poudre	1408	1940	1736
N. Poudre No.3	N FK Cache La Poudre	0	2593	1597
N. Poudre No.4	N FK Cache La Poudre	955	925	819
N. Poudre No.5	Cache La Poudre	2828	0	0
N. Poudre No.6	Cache La Poudre	29	3581	3189
N. Poudre No.15	N FK Cache La Poudre	4248	3732	3894
Park Creek	N FK Cache La Poudre	6169	6145	0
N. Poudre Minor	N FK Cache La Poudre		1001	936
Cobb	Cache La Poudre	19950	20700	11700
Douglas	Cache La Poudre	6300	8170	8120
Res. No.8	Cache La Poudre	7764	7949	7510
Res. No.8 Annex	Cache La Poudre	2735	2815	2627
Windsor Res.	Cache La Poudre	10077	15159	3970
Chambers	Wright, Trap & Fall	4351	5632	1278
Long Draw	Long Draw	7923	8951	6271
Black Hollow	Cache La Poudre	4459	5493	3337
Curtis	Cache La Poudre	874	736	695
Kluser	Cache La Poudre	802	810	735
Lindenmeier	Cache La Poudre	504	523	306
Long Pond	Cache La Poudre	2738	2852	2575
Richards	Cache La Poudre	670	785	466
Rocky Ridge	Cache La Poudre	3283	3223	3323
W S & S No.3	Cache La Poudre	3840	4000	3802
W S & S No.4	Cache La Poudre	835	889	479
Terry Lake	Cache La Poudre	2710	5770	3733
Worster Res.	Sheep Creek	12	813	149
Tinmath Res.	Cache La Poudre	8642	10070	4568
Windsor Lake	Cache La Poudre	1018	1077	844
Barnes Meadow	Barnes Meadow	2469	2463	2458
Big Beaver	Big Beaver Creek	0	0	0
Comanche	Big Beaver Creek	0	0	0
Peterson	Unnamed Creek	0	0	0
Seaman	N FK Cache La Poudre	2052	1536	2374
Twin Lake	Trib. of Pennock	0	0	0
Claymore	Cache La Poudre	550	813	514
Dowdy	Pine Creek	907	889	889
Joe Wright	Joe Wright Creek	0	293	5606
Eaton Law Res.	Cache La Poudre	228	196	0

RESERVOIR STORAGE DISTRICT NO. 3 (Continued)

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Gray Lakes	Boxelder Creek	661	1098	306
Panhandle Creek	Panhandle Creek	841	841	1011
Portner	Fossil Creek	405	679	430
Seeley	Cache La Poudre	1101	1155	1064
Warren Lake	Cache La Poudre	606	1247	859
Woods Lake	Cache La Poudre	1724	255	1304
Horsetooth	Colo. Big Thompson	<u>103084</u>	<u>144275</u>	<u>69105</u>
	TOTAL	224543	296012	171022

RESERVOIR STORAGE DISTRICT NO. 4

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Boulder & Larimer	Little Thompson	3732	6914	2588
Boyd Lake	Big Thompson	37236	48871	29629
Carter	Colo. Big Thompson	63240	110155	57729
Cemetery Lake	Big Thompson	340	355	340
Donath	Big Thompson	341	1013	512
Fairport	Big Thompson	227	257	171
Geo. Rist (Buckingham)	Big Thompson	196	329	300
Hertha Res.	Dry Creek	712	1352	753
Horseshoe Res.	Big Thompson	6686	7604	0
Lake Loveland	Big Thompson	12736	11308	12736
Lawn Lake	Roaring Fork	817	817	0
Lon Hagler	Big Thompson	4951	5069	4912
Lone Tree Res.	Big Thompson	8091	8282	2067
Loveland Lake	Big Thompson	781	1444	530
Mariano	Big Thompson	4657	5182	4917
Oklahoma	Big Thompson	320	392	312
Rist Benson Res.	Big Thompson	0	320	335
Ryan Gulch Res.	Ryan Gulch	623	0	486
South Side Res.	Big Thompson	328	514	359
Welch	Big Thompson	5879	6796	5749
	TOTAL	151893	216974	124425

RESERVOIR STORAGE DISTRICT NO. 5

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Beaver Lake	Beaver Creek	1167	1265	1211
Foothills	St. Vrain	2308	2435	859
Highland No.1	St. Vrain	884	1020	824
Highland No.2	St. Vrain	2394	2394	3024
Highland No.3	St. Vrain	1169	1367	1098
McIntosh	St. Vrain	1981	2153	2080
Pleasant Valley	St. Vrain	2492	3043	2062
Oligarchy No.1	St. Vrain	1640	1640	1621
Union	St. Vrain	12715	12641	7357
Left Hand Park	Left Hand	1548	1548	1013
Left Hand Valley	Left Hand	2959	3366	2773
Button Rock	N.St. Vrain	<u>14201</u>	<u>13124</u>	<u>13045</u>
	TOTAL	45458	45996	36967

RESERVOIR STORAGE DISTRICT NO. 6

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Marshall	South Boulder Creek	4623	9655	4221
Great Western	Clear & Coal Creeks	2635	2584	2661
Baseline	S. & M. Boulder Creek	3455	5380	2930
McKay	South Boulder Creek	633	726	456
Albion	Albion Creek	1111	1111	1111
Barker	M. Boulder Creek	9160	2277	6985
Boulder	Big Thompson Pro.	1650	5325	3400
Goose Lake	N. Boulder Creek	1036	1036	1036
Gross	S. & M. Boulder Creek	29010	18841	25540
Hillcrest	S. & M. Boulder Creek	1939	1730	1684
Leggett	S. & M. Boulder Creek	1400	1246	1212
Valmont	S. & M. Boulder Creek	6813	6321	6210
Six Mile	Middle Boulder Crk.	1022	1331	552
Silver	N. Boulder Creek	3627	299	3628
Panama No.1	Middle Boulder Crk.	3693	4345	3944
	TOTAL	71807	62207	65570

RESERVOIR STORAGE DISTRICT NO. 7

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Maple Grove	South Clear Crk.	664	538	583
Ralston	Moffat via Gross	7188	9966	6713
Tucker	Ralston	273	678	218
Long Lake	Ralston Creek	1365	1396	1273
Standley	Clear Creek	<u>33544</u>	<u>41562</u>	<u>29654</u>
	TOTAL	43034	54140	38441

RESERVOIR STORAGE DISTRICT NO. 8

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Aurora Rampart	South Platte	1118	726	10375
Chatfield	South Platte	26097	26860	26039
Cherry Creek	Cherry Creek	10380	11742	12283
Marston	South Platte	12123	15821	12567
McLellen	South Platte	5210	5128	4636
Platte Canyon	South Platte	<u>919</u>	<u>934</u>	<u>428</u>
	TOTAL	55847	61211	66328

RESERVOIR STORAGE DISTRICT NO. 9

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Soda No. 1 (West)	Bear Creek	72	230	0
Soda No. 2 (East)	Bear Creek	1134	1507	993
Kendrick	Bear Creek	275	300	220
Patrick	Bear Creek	1019	1113	694
Deane	Turkey Creek	282	518	150
Bergen No. 1 (East)	Turkey Creek	415	446	354
Bergen No. 2 (West)	Turkey Creek	423	605	415
Ward	Bear Creek	710	800	600
Henry Lake	Bear Creek	134	200	160
Harriman	Bear Creek	620	685	385
Bowles	Bear Creek	1910	2113	1080
Johnston	Bear Creek	621	783	222
Tule No.1 (Upper)	South Platte	84	84	30
Tule No.2 (Lower)	South Platte	90	90	90
Grant A (West)	Bear Creek	0	0	0
Grant B (South)	Bear Creek	237	237	155
Grant C (East)	Bear Creek	92	92	60
Kingfisher Lake	Turkey Creek	55	125	20
Willow Sp.No.1	Turkey Creek	45	105	40
	TOTAL	8218	10033	5668

RESERVOIR STORAGE DISTRICT NO. 23

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Antero	So.Fk. South Platte	15957	15544	15937
Eleven Mile	So.Fk. South Platte	97954	97086	96588
Jefferson	Jefferson Lake	617		321
Montgomery	Md.Fk.South Platte and Hoosier Tunnel	<u>4433</u>	<u>626</u>	<u>3204</u>
	TOTAL	118961	113256	116050

RESERVOIR STORAGE DISTRICT NO. 64

NAME	SOURCE	AMOUNT - A.F.		
		10-31-79	4-30-80	10-31-80
Julesburg Res.	South Platte	20078	22521	18547
North Sterling	South Platte	42903	69473	23380
Prewitt	South Platte	<u>16512</u>	<u>27904</u>	<u>14680</u>
	TOTAL	79493	119898	56607

RESERVOIR STORAGE DISTRICT NO. 80

NAME	SOURCE	AMOUNT - A.F.		10-31-80
		10-31-79	4-30-80	
Altura	South Platte			47
Cheeseman	South Platte			69000
Lininger	South Platte			673
Wellington	South Platte			<u>2786</u>
	TOTAL			72506

1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION 1	POTATOES			CORN FOR SILAGE			HAY		
		ACRES	YIELD cwt./acres	PRODUCTION CWT X 1000	ACRES	YIELD TONS/ACRE	PRODUCTION TONS X 1000	ACRES	YIELD TONS/ACRE	PRODUCTION TONS X 1000
ADAMS					3000	17	51	17500	3.45	60.6
ARAPAHOE					900	16	14.4	6200	1.95	12.1
BOULDER					4700	16	75	19400	2.8	54.6
CHEYENNE	39				700	13.5	9.5	5300	1.3	18
CLEAR CREEK										
DENVER										
DOUGLAS					200	17.5	3.5	9600	1.2	11.5
ELBERT	69				600	17.5	10.5	16100	1.25	20.1
GILPIN										
JEFFERSON					200	20	4	9200	1.75	16.2
KIT CARSON					17100	17	291	24700	1.9	47.4
LARIMER					24400	19.5	477	33500	2.3	76.6
LINCOLN	26.5				500	16.5	8.3	3700	1.65	6.1
LOGAN					15900	19.5	313	46500	2.7	124.8
MORGAN		2500	280	700	10900	20	218	23000	3.5	80.4
PARK	87.4							15300	1	15.3
PHILLIPS					3200	20	64	17500	3.1	54.6
SEDGWICK					5000	20	101	9400	2.7	25.4
TELLER	47.5							1500	1.05	1.6
WASHINGTON					2000	18	35.9	48000	1.65	78.5
WELD		3600	245	887	82900	20.5	1708	114000	2.75	312
YUMA					8000	19.5	156	39000	2.75	106.5
TOTALS		6100	260	1587	180200	19.6	3540.1	459400	2.44	11223

SPRING WHEAT
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000		
ADAMS		1000	100	30	3	600	20.5	12.4		
ARAPAHOE		200				100	20	2		
BOULDER		500	100	32	3.2	300	17	5.1		
CHEYENNE	39									
CLEAR CREEK										
DENVER										
DOUGLAS		200	100	30	3					
ELBERT	69									
GILPIN										
JEFFERSON										
KIT CARSON		300	200	25	5					
LARIMER		500	300	31.5	9.4	100	18	1.8		
LINCOLN	26.5									
LOGAN		100				100	15	1.5		
MORGAN		700	500	31	15.6	100	16	1.6		
PARK	87.4									
PHILLIPS										
SEDGWICK										
TELLER	47.5									
WASHINGTON		500	100	30	3	100	18	1.8		
WELD		1700	600	39.5	23.8	900	14.5	13		
YUMA										
TOTALS		5700	2000	33	66	2300	17	39.2		

OATS
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000		
ADAMS		2800	100	60	6	500	20	10		
ARAPAHOE		900				300	11.5	3.5		
BOULDER		2100	900	55.5	50	600	41.5	25		
CHEYENNE	39	100								
CLEAR CREEK										
DENVER										
DOUGLAS		1100	100	50	5	400	10	4		
ELBERT	69	3700				600	18	10.8		
GILPIN										
JEFFERSON		100				100	27	2.7		
KIT CARSON		700				100	12	1.2		
LARIMER		1700	600	40	24	300	20	6		
LINCOLN	26.5	100								
LOGAN		7900	700	53.5	37.5	700	25	17.5		
MORGAN		2700	400	65	26	300	28	8.4		
PARK	87.4	200	100	30	3					
PHILLIPS		1200	100	50	5	500	10	5		
SEDGWICK		1000	100	65	6.5	300	28	8.4		
TELLER	47.5									
WASHINGTON		1200				300	13	3.9		
WELD		17500	1800	53	95	1200	25	30		
YUMA		1500	100	50	5	200	12	2.4		
TOTALS		46500	5000	52.6	263	6400	21.7	138.8		

SUGAR BEETS

1978 FINAL

1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I PERCENT	ACRES	YIELD TONS/ACRE	PRODUCTION X 1000	ACRES	YIELD TONS/ACRE	PRODUCTION X 1000
ADAMS		1110	18.7	20.8	950	18	17.1
ARAPAHOE							
BOULDER		1350	16.8	22.7	1380	17.1	23.6
CHEYENNE	39	180	14.7	2.6	190	18.9	3.6
CLEAR CREEK							
DENVER							
DOUGLAS							
ELBERT	69						
GILPIN							
JEFFERSON							
KIT CARSON		6870	15.7	107.6	5040	17.4	87.6
LARIMER		5660	16.8	94.9	5230	18.3	95.7
LINCOLN	26.5						
LOGAN		6150	18.4	113.4	5840	17.1	99.8
MORGAN		8910	19	168.9	6610	18.3	121
PARK	87.4						
PHILLIPS		5340	19.9	106	5350	19.6	104.6
SEDGWICK		2600	19.8	51.6	2690	19.2	51.6
TELLER	47.5						
WASHINGTON		2490	14.9	37.1	2580	17.2	44.4
WELD		33230	19.7	653.5	33150	19.2	637.9
YUMA		5440	16.5	89.9	3710	17.7	65.8
TOTALS		79330	18.5	1469	72720	18.6	1352.7

DRY BEANS
1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		300	300	1400	4200					
ARAPAHOE										
BOULDER		900	900	1610	14500					
CHEYENNE	39	100	100	1500	1500					
CLEAR CREEK										
DENVER										
DOUGLAS		200	200	1550	3100					
ELBERT	69	400	200	1570	3140	100	300	300	300	300
GILPIN										
JEFFERSON										
KIT CARSON		6600	5900	1300	76500	200	300	300	600	600
LARIMER		4200	4100	1670	68500					
LINCOLN	26.5	100	200	200						
LOGAN		4000	3700	1760	65000	100	200	200	200	200
MORGAN		8300	8000	1620	130000	200	200	200	400	400
PARK	87.4									
PHILLIPS		8700	8000	1650	132000	300	300	300	900	900
SEDGWICK		5600	5400	1730	93500	100	200	200	200	200
TELLER	47.5	3000	2700	1700	46000					
WASHINGTON										
WELD		23000	22400	1730	387000	100	200	200	200	200
YUMA		8300	7800	1630	127500					
TOTALS		73700	69900	1649	1152440	1100	245	245	2700	2700

DRY BEANS
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	IRRIGATED					NON IRRIGATED			
		ACRES PLANTED	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		500	400	1500	6000					
ARAPAHOE										
BOULDER		1100	1100	1590	17500					
CHEYENNE	39	150	100	1400	1400					
CLEAR CREEK										
DENVER										
DOUGLAS		300	100	1400	1400	100	200	200		
ELBERT	69	600	100	1400	1400	400	200	800		
GILPIN										
JEFFERSON										
KIT CARSON		6600	6300	1380	87000	100	200	200		
LARIMER		3900	3800	1700	64500					
LINCOLN	26.5	200	100	1400	1400	100	250	250		
LOGAN		4700	4500	1510	68000	100	200	200		
MORGAN		8300	8000	1610	128500	200	200	400		
PARK	87.4									
PHILLIPS		7700	7500	1500	112500	100	200	200		
SEDGWICK		7000	6700	1400	94000	100	200	200		
TELLER	47.5									
WASHINGTON		4000	3400	1500	51000	100	200	200		
WELD		21000	20400	1730	353500	100	200	200		
YUMA		8900	8400	1600	134500					
TOTALS		74950	70900	1583	1122600	1400	204	2850		

SORGHAM FOR GRAIN
1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		1200	200	54	10.8	300	23	6.9		
ARAPAHOE		2700								
BOULDER										
CHEYENNE	39	6600	200	52	10.4	2100	30	63		
CLEAR CREEK										
DENVER										
DOUGLAS										
ELBERT	69	2600								
GILPIN										
JEFFERSON		100								
KIT CARSON		11000	1300	60	7.8	2900	22	63.8		
LARIMER		200								
LINCOLN	26.5	6100	200	51	10.2	1000	19	19		
LOGAN		4100	600	52.5	31.5	800	23	18.4		
MORGAN		3000	500	52	26	600	25	15		
PARK	87.4									
PHILLIPS		6600	200	57	11.4	2700	31	83.7		
SEDGWICK		1300	200	52.5	10.5	100	26	2.6		
TELLER	47.5									
WASHINGTON		8400	200	52	10.4	1400	20	28		
WELD		5800	400	50	20	500	28	14		
YUMA		20500	3000	50	150	9000	24	216		
TOTALS		77000	7000	42.7	299	21400	24.8	530.4		

BARLEY
1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		11300	3600	72	259	7400	35	259		
ARAPAHOE		3500	200	66.5	13.3	3000	23	69		
BOULDER		7200	6000	75	450	1000	32	32.1		
CHEYENNE	39	500	100	64.5	6.5	300	26	7.8		
CLEAR CREEK										
DENVER										
DOUGLAS		900	200	73	14.6	600	31.5	19		
ELBERT	69	1800	100	58.5	5.9	1600	28.5	45.6		
GILPIN										
JEFFERSON		700	300	65	19.5	200	24	4.8		
KIT CARSON		7300	2500	81.5	204	3700	26.5	98		
LARIMER		10800	9000	79	709	1500	20	30		
LINCOLN	26.5	400	100	64	6.4	300	29	8.7		
LOGAN		4700	700	73.5	51.5	2800	18.5	52		
MORGAN		14000	9600	80.5	774	2400	19	45.1		
PARK	87.4									
PHILLIPS		1800	200	71.5	14.3	1500	40	60		
SEDGWICK		2600	1400	75.5	106	600	21.5	13		
TELLER	47.5									
WASHINGTON		11000	3100	84	261	6100	20.5	125		
WELD		60000	38000	81.5	3090	18500	31.5	579		
YUMA		2200	1300	77.5	101	600	33	19.7		
TOTALS		140.7	76400	79.7	6086	52100	28.2	1467.8		

CORN FOR GRAIN
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	IRRIGATED					NON IRRIGATED				
		ACRES PLANTED	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000			
ADAMS		9200	5700	95.5	544	200	20	4			
ARAPAHOE		1300	200	95	19						
BOULDER		11700	6400	94	601						
CHEYENNE	39	6200	5000	97.5	487.5	200	17	3.4			
CLEAR CREEK											
DENVER											
DOUGLAS		300	100	90	9						
ELBERT	69	1500	100	95	9.5	300	20	6			
GILPIN											
JEFFERSON		300	100	90	9						
KIT CARSON		88000	67200	108.5	7295	300	15	4.5			
LARIMER		41000	15000	100	1498	500	10	5			
LINCOLN	26.5	700	200	88.5	17.7						
LOGAN		62500	44000	119	5230	1500	13.5	20			
MORGAN		71500	58000	112	6489	1000	11	11			
PARK	87.4										
PHILLIPS		70000	59000	122.5	7236	5000	20	100			
SEDGWICK		34000	26000	120	3117	2000	20	40			
TELLER	47.5										
WASHINGTON		30000	26800	109.5	2930	200	10	2			
WELD		181000	94500	110	10384	1000	11	11			
YUMA		179000	159000	120.5	19180	4000	24.5	98			
TOTALS		788200	567300	114.7	65055.7	16200	18.8	304.9			

WINTER WHEAT
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	IRRIGATED					NON IRRIGATED				
		ACRES PLANTED	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000			
ADAMS		230000	3000	41	123	187000	23.5	4348			
ARAPAHOE		75000	1000	36	36.1	69000	18.5	1289			
BOULDER		7400	800	39.5	31.5	5200	18	93			
CHEYENNE	39	75000	1200	39	46.8	57000	21	1197			
CLEAR CREEK											
DENVER											
DOUGLAS		6500	200	34	6.8	5800	18.5	107			
ELBERT	69	42000	500	33	16.5	34000	18	612			
GILPIN											
JEFFERSON		3100	200	38.5	7.7	2800	16.5	46			
KIT CARSON		205000	13000	36.5	476	162000	20	3276			
LARIMER		16000	300	41.5	12.5	12700	19	241			
LINCOLN	26.5	39000	800	32	25.6	34000	19.5	663			
LOGAN		170000	2000	40.5	81	152000	28.5	4325			
MORGAN		68500	5700	41	233	54300	22	1193			
PARK	87.4	900				800	15.5	12.4			
PHILLIPS		129000	2000	39	78.1	113000	32	3635			
SEDGWICK		80000	1000	43	43	67000	32.5	68			
TELLER	47.5										
WASHINGTON		320000	4500	40	180	275500	24.5	6800			
WELD		220000	2000	47.5	95.3	179000	21	3753			
YUMA		150000	4500	40	179	125500	27	3360			
TOTALS		1837400	42700	39.2	1671.9	1536.6	22.8	35018.4			

WINTER WHEAT
1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		220000	5000	47	235	16500	29	4752		
ARAPAHOE		88000	800	48.5	38.7	78700	23	1794		
BOULDER		5100	100	48	4.8	4700	23	108		
CHEYENNE	39	67500	1200	59	70.8	51100	18	919.8		
CLEAR CREEK										
DENVER										
DOUGLAS		6000	300	45.5	13.6	4200	25.5	108		
ELBERT	69	45500	500	54.5	27.3	38100	30.5	1162		
GILPIN										
JEFFERSON		2400	100	45	4.5	2100	26	55		
KIT CARSON		266000	16000	52	834	209000	25.5	5284		
LARIMER		12500	300	44	13.2	9700	26.5	257		
LINCOLN	26.5	42400	500	41.5	20.8	31300	23.5	735.6		
LOGAN		179000	1000	55	55	130000	29	3770		
MORGAN		66000	3000	47	141	57000	34	1924		
PARK	87.4	500				400	13	5.2		
PHILLIPS		134000	900	54	48.5	93100	31	2868		
SEDGWICK		80000	1700	43	73.5	68300	33	2259		
TELLER	47.5									
WASHINGTON		344000	1300	50.5	65.5	263700	30	7877		
WELD		220000	4800	51.5	247	177200	31.5	5546		
YUMA		175000	2300	53.5	123	140700	30.5	4260		
TOTALS		1953900	39800	50.7	2016.2	1375800	31.8	43684.6		

CORN FOR GRAIN
1979 PRELIMINARY

COUNTY	PORTION OF COUNTY IN DIVISION I	IRRIGATED				NON IRRIGATED			
		ACRES PLANTED	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHEL X 1000	
ADAMS		10600	6700	136	911	100	55	5.5	
ARAPAHOE		1300	300	120	36				
BOULDER		11100	6500	116	755	100	40	4	
CHEYENNE	39	6500	5500	114	627	150	42.5	6.4	
CLEAR CREEK									
DENVER									
DOUGLAS		300	100	100	10				
ELBERT	69	1400				300	55	16.5	
GILPIN									
JEFFERSON		500	200	115	23				
KIT CARSON		81500	68000	132	8976	1000	55	55	
LARIMER		35100	10700	118.5	1267	200	45	9	
LINCOLN	26.5	700	200	95	19				
LOGAN		60000	39300	118	4640	1200	50	60	
MORGAN		70700	59000	129	7603	500	50	25	
PARK	87.4								
PHILLIPS		73500	65900	145	9556	5500	60	330	
SEDGWICK		33600	27300	141	3848	2000	48	96	
TELLER	47.5								
WASHINGTON		31000	28500	124	3538	800	55	44	
WELD		192000	115000	125	14400	1000	48	48	
YUMA		180000	167000	130.5	21758	3000	40	120	
TOTALS		789800	600200	129.9	77967	15850	51.7	819.4	

BARLEY
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		12000	3500	74	259	4300	40.5	174		
ARAPAHOE		4300	700	68.5	48	3000	38	114		
BOULDER		6300	3500	70	245	2000	34	68.5		
CHEYENNE	39	700	300	65.5	19.7	200	29	5.8		
CLEAR CREEK										
DENVER										
DOUGLAS		1000				900	25	22.5		
ELBERT	69	1000	100	60	6	800	26	20.8		
GILPIN										
JEFFERSON		700	400	62.5	25	100	28	2.8		
KIT CARSON		9600	5200	63.5	331	1600	30	48.2		
LARIMER		9600	7800	60	468	1000	26	26.2		
LINCOLN	26.5	400	100	66	6.6	300	24	7.2		
LOGAN		2000	800	60	48	800	25.5	20.5		
MORGAN		9600	7200	63	454	1000	29	29.2		
PARK	87.4									
PHILLIPS		400	200	60.5	12.1	100	30	3		
SEDGWICK		1800	800	63.5	51	600	31.5	18.8		
TELLER	47.5									
WASHINGTON		6400	2600	60	156	2900	21.5	62		
WELD		40000	22500	64	1443	12500	25.5	320		
YUMA		2800	1600	57	91.5	300	25	7.5		
TOTALS		108600	57300	63.9	3663.9	32400	29.4	951		

SORGHAM FOR GRAIN
1978 FINAL

COUNTY	PORTION OF COUNTY IN DIVISION I	ACRES PLANTED	IRRIGATED				NON IRRIGATED			
			ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000	ACRES HARVESTED	YIELD bu/acre	PRODUCTION BUSHELS X 1000		
ADAMS		1700	300	63	18.9	400	19.5	7.8		
ARAPAHOE		3000								
BOULDER		100								
CHEYENNE	39	6000	100	67	6.7	2100	23	48.3		
CLEAR CREEK										
DENVER										
DOUGLAS		400								
ELBERT	69	2200	100	64	6.4	100	19	1.9		
GILPIN										
JEFFERSON										
KIT CARSON		20500	3800	68	258.5	3700	18	66.5		
LARIMER		300	100	62	6.2	100	17	1.7		
LINCOLN	26.5	5600	100	65	6.5	1600	15	24		
LOGAN		2500	200	62.5	12.5	500	17	8.5		
MORGAN		2100	600	60	36	600	17	10.2		
PARK	87.4	200								
PHILLIPS		5200	900	66	59.5	1500	16	24		
SEDGWICK		1300	200	64	12.8	500	17	8.5		
TELLER	47.5	100								
WASHINGTON		11500	200	62	12.4	1400	17	23.8		
WELD		4700	400	63.5	25.5	300	17	5.1		
YUKA		28000	2000	64.5	129	13500	18	243		
TOTALS		95400	9000	65.7	590.9	26300	18	473.3		

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 diversions 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 197 day period from April 1 to October 15, 1980 the mean daily flow dropped below 120 cfs on 64 days. The daily flow for the 197 days averaged 2620 cfs.

The following tabulation summarized the monthly South Platte River flows at the Julesburg Gage:

PERIOD	TOTAL FLOW FOR PERIOD AC. FT.	DAILY MAX. FLOW CFS	DAILY MIN. FLOW CFS	AVERAGE DAILY FLOW CFS	DAYS LESS THAN 120 CFS
(1)	(2)	(3)	(4)	(5)	(6)
April	129500	5580	1310	2177	0
May	615200	13000	5210	10010	0
June	255000	8220	747	4290	0
July	8340	624	51	136	23
August	2220	48	30	36.0	31
September	10350	241	37	174	4
October 1-14 incl.	3270	129	98	117	6

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 1979 water year, the last year for which official figures are available, was as follows:

<u>STREAM</u>	<u>CONSUMPTION</u>	<u>% OF ALLOCATION</u>
North Fork of Republican River	6570	65.7
South Fork of Republican River	9240	36.4
Arikaree River	4060	26.4
Beaver Creek	630	19.1
	<u>20,500 AF</u>	<u>37.9%</u>

LARAMIE RIVER COMPACT

The 1957 decree of the United State 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 1800 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 so 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 1980 the transmountain diversions under the Laramie River Compact totaled 19,808 acre feet of the 19,875 acre feet Compact allowance. The meadowland diversions totaled 26,900 acre feet or some 91% of the allotment. Total Colorado diversions were 48,019 acre feet or 97.3% of the total allotment of 49,375 acre feet.

COURT STIPULATIONS AND LITIGATION

Judge Behrman has issued a Memorandum of Decision in several of the cases before him.

1) Thirteen Arapahoe well permits requested by Mission Viejo were denied because of rapidly declining water levels. The Court determined that the Arapahoe Sands Formation was not tributary in that pumping the proposed wells would not affect the South Platte River or any tributaries within 100 years. Pumping water from the Arapahoe Sands Formation was described as a mining operation and the decline in water levels would continue whether the requested wells were pumped or not. The Court determined that material injury to vested water rights was applied only to water rights, not economic or other rights, thus made a finding that there was no material injury to the vested rights of others. For these reasons the Court found the State Engineer was not justified in denying the Arapahoe Sands well permits.

2) Denied approval of a plan for augmenting the Conifer Village wells. The plan called for making storage releases downstream a considerable distance to replace depletions caused by out of priority pumping. Area home owners alleged that the replacement was not at a location to protect their wells which they claimed had already been injured by the Conifer Village wells. The Judge agreed with them and stated that conditions or terms would have to be proposed to prevent injury before the plan for augmentation could be approved.

3) The Pastore and Price water right was located in a highly urbanized area and the Court determined that the generally accepted legal description for structures was not specific enough in this case to put petitioner Stevenson on notice and afford him the opportunity to present his objections. The Ruling, Decree, and Corrected Decree were declared void and were vacated and the application was denied, without prejudice. Rules of the District Court in and for Water Division No. 1 which went into effect August 10, 1980 state in part: Paragraph I(f)-In urban areas having generally recognized street addresses, the street address, as well as the complete legal description of the point of diversion or structure shall be set forth in the application, and published before a Decree will be issued.

4) Allenspark Water and Sanitation District vs. Triple Creek Ranch Co. Allenspark gained title in 1976 to a water right decreed in 1951 that was used to supply approximately 19 summer cottages in the mountains. The above ground pipeline was subject to freezing therefor unusable during the winter months. The contractual agreement allowed the seller continued reasonable use of this water. Allenspark built another diversion structure and an underground pipeline close by the original structures so that approximately 110 customers could be served year round.

COURT STIPULATIONS AND LITIGATION (Continued)

Between 1951 and 1976, Triple Creek developed a water system upstream from Allenspark to serve a residential development on its property. This system as built has to divert large quantities of water during the winter months to prevent freezing and the excess water is discharged into an adjacent basin such that the Allenspark water right is often shorted during the winter months. The evidence indicates that with a properly constructed Triple Creek system there would probably be sufficient water to fill both rights but the parties chose litigation rather than cooperation, thus the lawsuit.

The Court denied the injunctive relief requested by Allenspark since the present use by Allenspark involves one or more changes to their water right which have not been Decreed: 1) The upgraded pipeline which allows year round use in addition to the original structure. 2) Change from domestic use of municipal use. The Court relied in part on language from Farmers Highline Canal and Reservoir Company V. Golden 129 Colo 575... that the appropriation is limited to, the extent of use contemplated at the time of appropriation, and a change in use is strictly limited to the extent of former actual usage.

The Court also questioned whether Triple Creek had established a reasonable means of effectuating its diversion as required by CRS, 1973 but this was not within the scope of the issues framed by the pleadings and was not litigated at trial.

Judgement: That plaintiff take nothing by its complaint, and that defendants have their costs.

DAMS

RESERVOIRS-PLANS & SPECIFICATIONS

The following list includes the dams for which plans and specifications have been approved this year. The list is arranged by water district and in order of approval within districts.

PLANS AND SPECIFICATIONS APPROVED

<u>NAME</u>	<u>WD</u>	<u>OWNER</u>	<u>TYPE</u>	<u>DATE APPROVED</u>
Prospect Reservoir	1	Henrylyn District	Repair	4/25/80
Chambers Lake Dam	3	Water Supply & Storage Co.	Repair	7/24/80
Terry Lake Dam	3		Repair	3/27/80
Floodwater Retard- ing Dam B-2	3	Service Soil Cons.		1/30/80
Loveland Lake Dam	4		Repair	3/27/80
Lower Hoffman Dam	4		Repair	3/05/80
Pleasant Valley Res.	5		New Spec.	4/16/80
Blunn Res.	7	City of Arvada	Changes	8/22/80
Barnum Lake Dam	8		Repair	6/03/80
Evergreen Dam	9		Repair	9/26/80
Spinney Mt. Dam	23	Denver	New Spec	3/25/80
Wildwood Dam	23		Changes	12/18/80
Floodwater Retard- ing Dam SS-1	64		Spec Changes	11/29/80

DAMS

RESERVOIRS - INSPECTIONS

Several inspections were made this past year. The following partial list includes the final inspections for new construction and repair, inspections where problems were encountered, and routine inspections. In addition to state inspections several high-hazard dams were inspected by the Corps of Engineers and by private Engineering Consultants as a part of the National Dam Safety Program.

<u>NAME</u>	<u>DATE</u>
<u>District No. 1</u>	
Owl Creek Reservoir	04/08/80
Empire Reservoir	04/16/80
Klug No. 3	04/19/80
Prospect Reservoir	06/06/80
Pawnee Evaporation Pond 2	08/21/80
Pawnee Evaporation Pond 3	08/21/80
Pawnee High Quality Pond	08/21/80
Pawnee Intermediate Quality Pond	08/21/80
<u>District No. 2</u>	
Qunicy Dam	03/27/80
Standley Dam	04/17/80
Lower Latham Reservoir	06/10/80
<u>District No. 3</u>	
WS and Storage No. 4	04/10/80
Rocky Ridge	04/10/80
WS and S No. 3	04/10/80
North Poudre No. 3 Reservoir	04/11/80
Boxelder No. 3	04/16/80
North Poudre No. 3	04/16/80
North Poudre No. 4	04/16/80
North Poudre No. 2	04/16/80
Mountain Supply No. 8	04/16/80
Mountain Supply No. 9	04/16/80
Mountain Supply No. 10	04/16/80
Clarks (North Poudre No. 13)	04/17/80
Cobb	04/17/80
Indian Creek (Mtn. Supply No. 16)	04/17/80
Bee Lake (North Poudre No. 5)	04/22/80
Douglas	04/22/80
North Poudre No. 6	04/22/80
Black Hollow	04/22/80
Loup	04/22/80
Angel Lake	04/23/80

RESERVOIR - INSPECTIONS (Continued)

District No. 3 (Continued)

Eaton Law	04/23/80
Windsor Reservoir	04/23/80
Timnath Reservoir	04/23/80
John Law	04/23/80
Woods Lake	04/23/80
Boxelder No. 1	04/29/80
Boxelder No. 2	04/29/80
Bubbles	04/29/80
North Poudre No. 15	04/29/80
Park Creek Reservoir	04/29/80
Milton Seaman Reservoir	07/10/80
North Poudre No. 17 Reservoir	07/14/80
Hourglass	07/15/80
Lord No. 4 Dam	08/19/80
Joe Wright Reservoir	08/29/80
Chambers Lake Dam	09/17/80
Reservoir No. 10	09/29/80
Rock Ridge	09/29/80
Warren	09/30/80
Portner	09/30/80
Eaton Law	09/30/80
Timnath	09/30/80
Gray No. 3	09/30/80
North Gray	09/30/80
South Gray	09/30/80
Seaman	10/01/80
Dowdy	10/01/80
Bellaire	10/01/80
Pan Handle	10/01/80
Peterson	10/02/80
Long Draw	10/02/80
Chambers	10/02/80
Barns Meadow	10/02/80
Halligan	10/06/80
Big Beaver	10/08/80
Comanche	10/08/80
Twin	10/08/80
Kluver	10/09/80
Water Supply and Storage No. 3	10/09/80
Water Supply and Storage No. 4	10/09/80
Worster	10/12/80
Mariano Reservoir	11/13/80
Warren Lake Reservoir	11/15/80

RESERVOIR - INSPECTIONS (Continued)

District No. 6

Marshall Lake	11/05/79
Rocky Flate Surface Water Control Dams A4	11/06/79
Rocky Flats Surface Water Control Dams B5	11/06/79
Rocky Flats Surface Water Control Dams C2	11/06/79

District No. 7

Kalsevic Dam	11/05/79
Croke No. 12	11/05/79

District No. 8

Smith Reservoir	05/05/80
West Creek Dam	05/09/80

District No. 23

Wildwood Reservoir	02/25/80
Terryall Reservoir 1 & 2	07/03/80
Wildwood	07/03/80
Eleven Mile Reservoir	07/19/80
Jefferson Lake	07/19/80
Montgomery Reservoir	07/19/80
Antero	07/19/80

District No. 49

Flagler Reservoir	06/04/80
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LIVESTOCK WATER TANKS - EROSION CONTROL DAMS

The total number of livestock water tanks and erosion control dams approved between November 1, 1979 and October 31, 1980 are presented below in tabular form:

DISTRICT	NO. OF LIVESTOCK TANKS	TOTAL CAPACITY (AF)	NO. OF EROSION CONTROL DAMS	TOTAL CAPACITY (AF)
1	5	22.7	3	11.4
2				
3	1	3.3		
4	1	3.0		
5				
6				
7	3	30.0		
8				
9				
23				
48				
64				
65			4	4.5
79	1	1.5		
80				
TOTAL	11	60.5	7	15.9

WATER RIGHTS

TABULATION AND ABANDONMENT

This office has received a number of inquiries and protests to the tabulation during the past year. Most of these inquiries and protests involved clerical type errors that were found by owners. These errors have been corrected as the information comes in and the computer file has been updated on a periodic basis.

There were 49 objections to the abandonment list as of 7-1-1980.

The tabulations and abandonment list is covered by CRS 37-92-402.

WATER RIGHTS

WATER DIVISION NO. ONE - CASES FILED

<u>MONTH</u>	<u>NEW APPLICATIONS</u>	<u>STRUCTURES</u>
January	20	42
February	36	324
March	28	68
April	22	71
May	21	37
June	30	53
July	36	222
August	43	148
September	28	35
October	50	88
November	28	44
December	<u>124</u>	<u>486</u>
Yearly Totals	466	1,618

Note:

Quadrennial applications are included with all other applications under the new numbering system. Statistics are no longer kept for the various types of application.

WATER RIGHTS

WATER DIVISION NO. ONE - CASES DECREED

<u>MONTH</u>	<u>JUDGEMENTS</u>	<u>NO. OF STRUCTURES</u>	<u>DISMISSALS</u>	<u>NO. OF STRUCTURES</u>
January	27	54	3	10
February	5	14	3	7
March	138	425	1	1
April	92	128	13	55
May	49	71	0	0
June	6	10	7	11
July	7	38	1	2
August	0	0	2	2
September	19	37	4	8
October	61	266	7	11
November	6	11	2	5
December	<u>7</u>	<u>67</u>	<u>0</u>	<u>0</u>
Yearly Totals	417	1,121	43	112

WATER USER ORGANIZATIONS

District

1	Irrigationists	John Samples Secretary	104 W. Beaver Ft. Morgan 80701
2	Consolidated Ditches	W. W. Gaunt Secretary	25 S. 4th Avenue Brighton, 80601
3	Cache La Poudre Water Users	Harlan Seaworth President	11801 N.Co. Rd. 9 Wellington 80549
4	Big Thompson Water Users	Elmer Stroh Secretary	23344 WCR 21 3/4 Milliken 80453
6	District & Water Users	Milt Nelson President	2040 Longs Peak Ave Longmont 80501
64	District 64 Protection	Alex Michels Secretary	205 1/2 Main St. Sterling 80751

OTHER MANAGEMENT DISTRICTS

Lost Creek Ground Water Mgmt. Dist.

c/o George Bush
P.O. Box 131
Keenesburg, CO 80643
732-4541

North Kiowa-Bijou Ground Water Mgmt. Dist.

Loyd Musgrave
Hoyt, CO 80641

Big Sandy Ground Water Mgmt. Dist.

c/o Don E. Smith
Ramah, CO 80832

MANAGEMENT DISTRICTS

NORTHERN HIGH PLAINS

Arikaree Ground Water Mgmt. Dist.
c/o Roger Brenner
Box 52, Kirk, CO 80824
(h) 362-4370 (school) 358-4288
(Thomas J. Callahan Atty.
(P.O. Box 191
Wray, 80758

Central Yuma Ground Water Mgmt. Dist.
c/o Ben Saunders, Mgr.
P.O. Box 311
Wray, CO 80758
(854-3294(h) Wray-Tues.
(332-4155(o) Wed. & Fri.

East Cheyenne Ground Water Mgmt. Dist.
c/o Norman Arends, Mgr.
P.O. Box 606
Cheyenne Wells, CO 80810
(767-5318

Frenchman Ground Water Mgmt. Dist.
c/o Ben Saunders, Mgr.
Holyoke, CO 80734
(854-3484(h) Holyoke -
Mon. & Thurs.

Plains Ground Water Mgmt. Dist.
c/o Clifford Hawthorne, Mgr.
1453 Martin Avenue
Burlington, CO 80807
(346-8487

Sand Hills Ground Water Mgmt. Dist.
c/o Ben Saunders, Mgr.
P.O. Box 311
Wray, CO 80758

W - Y Ground Water Mgmt. Dist.
c/o Fred Wurtsmith, Mgr.
220 South Main
Yuma, CO 80759
(848-5333

Marks Butte Ground Water Mgmt. Dist.
c/o Ben Saunders, Mgr.
P.O. Box 113
Holyoke, CO 80734

Upper Black Squirrel Creek Mgmt. Dist.
c/o Wayne Cunningham, Secretary
3580 North Curtis Road
Peyton, CO 80831

CONSERVANCY DISTRICTS

Central Colorado Water Conservancy District	Greg Llafet Manager	2308-29th St.Suite 2 Greeley 80631 330-4540
Lower South Platte Water Conservancy District	Gary R. Freihauf Secretary-Treas.	P.O. Box 1725 Sterling 80751 522-1378
Northern Colorado Water Conservancy District	Earl F. Phipps Manager	P.O. Box 679 Loveland 80537 667-2437
St. Vrain & Left Hand Water Conservancy Dist.	Verna Sigg Secretary	1735 North Main Longmont 80501 772-4060
Upper South Platte Water Conservancy District	Albert Wahl President	Jefferson 80456

WATER DISTRICT NO.1DITCH AND RESERVOIR COMPANIES

A.A. Smith Irrigating Canal Reservoir, Milling and Pipeline Company	Gene Peterson President	Snyder 80750 847-3452
Associated Ditches	Jake Kosman Chairman	Ft.Morgan 80701 867-7066
Beaver Ditch Company	Charles Henry President	Brush 80723 842-4714
Bijou Irrigation Company	John Samples Secretary	104 West Beaver Ft. Morgan 80701 867-2222
Bijou Irrigation District	John Samples Secretary	104 West Beaver Ft. Morgan 80701 867-2222
Corona Ditch Company	Jack Orr Owner	Masters 80547 645-2207
Duel and Snyder	E. L. Caneva President	Route 1 Ft. Morgan 80701 867-7947
Ft. Morgan Canal Company	Lindy Crumley Superintendent	111 E. Railroad Av Ft. Morgan 80701 867-8166
Gill & Stevens Ditch Company	Harold Hansen President	Route 1 Brush 80723 842-2918
Hillrose Irrigation District	Roy Boyles Secretary	Hillrose 80733 847-3431
Hoover Ditch Company	Mrs. Pat Peterson Secretary	Kersey 80644
Illinois Ditch Company	William Farr President	Kersey 80644 356-3277
Jackson Lake Reservoir Co.	Lindy Crumley Superintendent	111 E. Railroad Av Ft. Morgan 80701 867-8166
Johnson & Edwards Company	William Tramp President	Hillrose 80733 847-3492
Kiowa-Bijou Groundwater Basin	Donald F. McClary Attorney	231 Main Street Ft. Morgan 80701 867-5621
Lower Platte & Beaver Irr.Co.	Roy Boyles Secretary	Hillrose 80733 847-3431
Morgan, Prewitt Reservoir Co.	John Samples Secretary	104 West Beaver Ft. Morgan 80701 867-2222
North Sterling Irrigation	Alex Michel Superintendent	Foote Building Sterling 80751 522-2025
Putman Ditch Company	Paul Ansley President	Masters 80547 645-2235

WATER DISTRICT NO. 1 (Continued)

DITCH AND RESERVOIR COMPANIES

Riverside Irrigation Company	Cecil Osborne Superintendent	Box 455 Ft. Morgan 80701 867-6586
Riverside Irrigation District	Cecil Osborne Superintendent	Box 455 Ft. Morgan 80701 867-6586
Snyder Ditch & Reservoir Co.	Bart Woodward President	Snyder 80750 842-2935
Tetsel Ditch Company	William Warner Superintendent	Merino 80741 522-7507
Tremont Ditch Company	Leon Lake Secretary	Snyder 80750 842-2184
Trowell Ditch Company	Willis Elson President	Hillrose 80733 847-3373
Upper Platte & Beaver Canal Co.	Phil Mortensen President	Brush 80723 842-2016
Union Ditch Company	B.B. Peterson President	Snyder 80750 847-3752
Weldon Valley Ditch Company	Maurice Jones President	Weldona 80653 645-2367

WATER DISTRICT NO. 2DITCH AND RESERVOIR COMPANIES

<u>Big Dry Creek Ditch & Reservoir Decree</u>	Barry Marrs Secretary	2528 WCR 19 Ft. Lupton 80621
<u>Burlington Ditch & Reservoir Land Company</u>	Adolph Bohlender President	80 So. 27th Ave. Brighton 80601 659-7373
<u>Brighton Ditch Company</u>	George Sieber President	11553 WCR 6 Ft. Lupton 80621 659-2143
<u>Coal Ridge Ditch Company</u>	George Gerhardt President	8822 WCR 23 Ft. Lupton 80621 857-2040
<u>Delta Ditch Company</u>	Norman Carlson President	Centennial Center 915 - 10th, Greeley 356-4000
<u>Denver Water Board</u>	William H. Miller Secretary	1600 W. 12th Ave Denver 80254
<u>Farmers Independent Ditch Co.</u>	John Briggs Secretary	17787 WCR 25 Platteville 80651 737-2186
<u>Farmers Reservoir & Irrigation Company</u>	Adolph Bohlender President	80 So. 27th Ave. Brighton 80601 659-7373 Office 284-5431 Home
<u>Fulton Ditch Company</u>	W.W. Gaunt Secretary	25 So. 4th Ave. Brighton 80601 659-3171
<u>Gardeners Ditch Company</u>	Sylvester DiGacomo President	6820 York St. Denver 80221 288-3369
<u>German Ditch Company</u>	Casper Sack President	Rt. 2 Box 183 Brighton 80601 452-8122
<u>Godfrey Ditch Company</u>	Jerome Loeffler President	Rt. 2 Box 82 LaSalle 80645 284-6430
<u>Henrylyn Irrigation District</u>	Lawrence Gerkin Manager	Box 141 Hudson 80642 536-4702
<u>Highland Ditch Company</u>	Mrs. George Jurgens President	25387 WCR 58 Greeley 80631 352-9343
<u>Lower Latham Ditch Company</u>	Victor R. Klein President	405 - 1st Kersey 80644 352-5727
<u>Lupton Bottom Ditch Company</u>	Roy Miller President	9000 WCR 24 Platteville 80651 785-2315
<u>McCanne Ditch & Reservoir Co.</u>	Everett Kissler President	2308-29th Suite 2 Greeley 80631 330-4540

DITCH AND RESERVOIR COMPANIES

Meadow Island No. 1 Irrigation Company	William Mayer Secretary	14922 WCR 19 Platteville 80651 785-2356
Meadow Island Irrigation Co.	Ruben Gustafson President	10910 WCR 28 Ft. Lupton 80621 785-2397
New Brantner Ditch Company	W.W. Gaunt Secretary	25 So. 4th Ave. Brighton 80601 659-3171
North Star Reservoir Company	G.R. Norden President	4062 WCR 27 Ft. Lupton 80621 857-4276
Platte Valley Irrigation Co.	Delbert Shable President	19000 WCR 44 Platteville 80651 284-5486
Platteville Irrigation & Milling Company	John Kunzman Secretary	10952 U.S. 85 Ft. Lupton 80621 857-2135
Slate Ditch Company	George Gerhardt President	8822 WCR 23 Ft. Lupton 80621 857-2040
Union Ditch Company	Mrs. Frances Hill Secretary	P.O. Box 276 LaSalle 80645 284-5522
Walter & Roberts Ditch Co.	Roy Lunvall President	1008 - 9th Greeley 80631 352-8730
Western Mutual Ditch Co.	Edward Fritzler President	20730 WCR 31 LaSalle 80645 737-2256
Wellington Reservoir Co.	Ron Heitman President	18860 WCR 31 Platteville 80651 737-2254
Yoxall Ditch Company	Richard Lundahl Dir. of Nat. Res.	10701 Melody Drive Suite 313 Northglenn 80234 451-8326

DITCH AND RESERVOIR COMPANIES

Arthur Irrigation Company	William Stover Secretary	P.O. Box 523 Ft. Collins 80522 482-3664
B. H. Eaton Ditch Company	Wayne Miller-Pres. Louise Kane-Secy.	Kodak-P.O. Box 98 Windsor 80550 686-7611
Boxelder Ditch Company	William Stover Secretary	P.O. Box 523 Ft. Collins 80522 482-3664
Boyd Irrigation Company	Rodger Houtchens Secretary	1007 9th Avenue Greeley, 80631 353-9195
Cache La Poudre Irrigation Co.	Greg Jesson Secretary	Rt.3 - Box 772 Ft. Collins 80521 482-7635
Crystal Lakes	Don Weixelman	P.O. Box 2167 3200 E. Mulberry Ft. Collins 80521 482-1847
Divide Canal & Reservoir Co.	Don E. Engel Secretary	106 Elm, Box 206 Eaton 80615 454-3377
Dixon Canyon Ditch & Reservoir Company	William Stover Secretary	P.O. Box 523 Ft. Collins 80521 482-3664
Greeley, City of	Bill Hargett	Civic Center Complex Greeley 80631 353-6123 Ex.307
Greeley Irrigation Company	Edgar Bartels Secretary	1301 9th Street Greeley 80631 356-1133
Jackson Ditch Company	Vivienne Woodward Secretary	P.O. Box 1584 2319 E. Mulberry Ft. Collins 80521 482-3433
Kern Reservoir & Ditch Co.	C. W. Kirby President	P.O. Box 220 Windsor 80550 686-2363
Kitchell Reservoir Company	Alice Fisher Secretary	Rt. 4 Ft. Collins 80521 493-4726
Lake Canal Company and Lake Canal Reservoir Company	Mrs.Wm.McMurry Secretary	P.O. Box 204 Ft. Collins, 80521 686-2971 482-1632
Larimer County Canal No. 2 Irrigation Company	William Stover Secretary	P.O. Box 523 Ft. Collins 80522 482-3664
Larimer & Weld Irrigation Co.	Don E. Engel Secretary	106 Elm, Box 206 Eaton 80615 454-3377

WATER DISTRICT NO. 3 (Continued)DITCH AND RESERVOIR COMPANIES

<u>Larimer & Weld Reservoir Co.</u>	Don E. Engel Secretary	106 Elm, Box 206 Eaton 80615 454-3377
<u>Mail Creek Ditch Company</u>	William Stover Secretary	P.O. Box 523 Ft. Collins 80521 482-3664
<u>New Cache La Poudre Irr. Co.</u>	Jim Muroya Secretary	708 8th St., Box 31 Greeley 80631 352-0222
<u>New Mercer Ditch Company</u>	William Stover Secretary	P.O. Box 523 Ft. Collins 80522 482-3664
<u>North Poudre Irrigation Co.</u>	Ben Dumler Supt.	North Poudre Irr. Office, Box 4 Wellington 80549 568-3612
<u>No. 10 Ditch Company</u>	Alden Hill Secretary	160 W. Mountain Av. Ft. Collins 80521 482-3683
<u>Oglivy Land & Irrigation Co.</u>	Shirley Waymen Secretary	1007 9th Avenue Greeley 80631 353-9195
<u>Pleasant Valley & Lake Canal</u>	Ward Fischer Secretary	1st Nat'l Bank Bld. Ft. Collins 80521 482-1056
<u>Taylor & Gill Canal Co.</u>	Mrs. Ronald Uthmann Secretary	484-8942
<u>Tunnel Water Company</u>	Vivienne Woodward Secretary	2319 E. Mulberry P.O. Box 1584 Ft. Collins 80521 482-3433
<u>Warren Lake Reservoir Company</u>	William Stover Secretary	P.O. Box 523 Ft. Collins 80522 482-3664
<u>Water Supply & Storage Company</u>	Vivienne Woodward Secretary	2319 E. Mulberry P.O. Box 1584 Ft. Collins 80521 482-3433
<u>Whitney Irrigation Company</u>	Robert Tigges-Pres. Katherine Tigges Secretary	Box 1146 Windsor 80550 686-2836
<u>Wm. Jones Irrigation Company</u>	Charles W. Owen President	11820 WCR 64½ Greeley 80631 686-2378
<u>Windsor Reservoir & Canal</u>	Don Engel Secretary	106 Elm, Box 206 Eaton 80615 454-3377

DISTRICT 3 SUPERINTENDENTS

Arthur Irrigation Company	John Meyers	482-3175
B.H. Eaton Ditch Company	Bill Haas	686-2366
Boxelder Ditch Company	Wilbert Trippel	493-4256
Cache la Poudre Irrigation Company (Little Cache)	Greg Jesson	482-7635
Cache la Poudre Irrigation Company (New Cache)	John Lindenberg (Supt.)	352-0222 352-4025
	Dick Rayburn (Windsor Lake)	686-2807
	Phillip Smith (Timnath Res.)	482-0732
Canal Number 3 Ditch Company	A. G. Brenkle	353-6014
Canon Canal	G. D. McGarvey	484-0541
Chaffee Ditch Company	John Meyers	482-3175
Coy Ditch Company	James Hoffman	482-4356
Fort Collins Filters	Ben Alexander (Supt.)	482-2231
	Vern Mobley (Operator)	
	Terry VanCleave (Operator)	
	Fred Jones (Operator)	
Gray Lakes	Darl Brunner	493-7337
Greeley Filters	Verlyn Richardson (Supt.)	482-2446 484-1592
Jackson Ditch Company	Jeff Harbert	221-2661
Wm. Jones Irrigation Company	Reynold Herbst	352-2293
Lake Canal	Darl Brunner	493-7337
Larimer County Number 2 Ditch Company	Shawn Hoff	484-5828
Larimer and Weld Irrigation Company	John A. Johnson (Supt. Eaton)	454-3377 482-7671
	Clarence Hutchinson (Hdgt.)	482-7701
	Dale Simpson	686-2952
	Lake Lee	

DISTRICT 3 SUPERINTENDENTS (Continued)

Larimer and Weld Reservoir Company	Greg Jesson	482-7635
New Mercer Ditch Company	Shawn Hoff	484-5828
North Poudre Irrigation Company	Ben Dumler (Supt.)	568-3612 482-8398
	Jim Greenacre (Hdgt.)	493-6108
Ogilvy Ditch Company	Richard Swinney	352-4468
Pleasant Valley and Lake	Don Brewster (Supt.)	482-8645
	Art Wendel (Ditch Rider)	221-0335
Taylor and Gill Ditch Company	Greg Jesson	482-7635
Water Supply and Storage	Jim McFall (Supt.)	482-3433 482-7083
	Jimmy McFall (Hdgt.)	482-3699
	George Yost (Black Hollow Res.)	
Whitney Ditch Company	Bill Haas	686-2366
Windsor Reservoir and Canal	John A. Johnson (Supt.) Eaton	482-7671 454-3377
	Jim Johnson (Hdgt.)	482-3290
	Victor Reynolds (Windsor Res.)	686-2636

WATER DISTRICT NO. 4

DITCH AND RESERVOIR COMPANIES

Arkins Water Association	Mrs. Joy Cross Secretary	P.O. Box 6 Masonville 80541
Bald Mountain Water Association	Charles McAfee Secretary	Rt.2, Box 319N Loveland 80537 22505 Hiway 60
Beeline Ditch Company	Geo. Kammerzell Jr. Secretary	Milliken 80543 587-2038
Big Thompson Manufacturing Ditch Company	Robert Christensen Secretary	P.O. Box 642 Loveland 80537 667-1029
Big Thompson & Platte River Ditch Company	Geo. Kammerzell Jr. Secretary	22505 Colo. Hwy 60 Milliken 80543 587-2038
Blower Ditch Company	Leroy Young Superintendent	Rt. 1, Box 138 Longmont 80501 772-1664
Boulder & Larimer County Irrigation & Manufacturing (Ish)	L.V. French Secretary	Rt. 2, Box 23 Berthoud 80513 532-2374
Buckhorn Highline Ditch Company	David Lewis Secretary	Star Route, Box 320 Loveland 80537 667-1544
Buckhorn Water Users Assoc.	Mrs. Orlene Smith Secretary	P.O. Box 98 Masonville 80541 667-5359
Central Weld County Water Dist.	Dale D. Olhausen Secretary	115-18th Street Greeley 80631 352-1284
Consolidated Hillsborough Ditch	Don Davis Secretary	1st Nat'l Bank 2 S. Parish Johnstown 80534 587-4661
Consolidated Home Supply Ditch and Reservoir Company	W. R. Keirnes Secretary	Star Rt. Box 450 Loveland 80537 667-1963
Culver Irrigation Company	Mrs. Loyd Stickelmeyer Secretary	P.O. Box 209 Longmont 80501
Diagonal Water & Sanitation District	Jim Hudson Secretary	1200 -28th Street Boulder
Eagle Ditch Company	Mrs. Donald H. Lemon Secretary	Rt. 2, Box 120 Berthoud 80513 776-1319
Eglin Ditch Company	Wayne Hicks Secretary	Rt.2, Box 127 Berthoud 80513 532-2475
Evans Ditch Company	Town Clerk Secretary	3700 Golden Evans 80620 356-5508

WATER DISTRICT NO. 4 (Continued)DITCH AND RESERVOIR COMPANIES

<u>Fairport Reservoir Company</u>	Nellie Verstraten Secretary	Rt. 1 Ft. Collins
<u>Farmers Irrigation Ditch and Reservoir Company</u>	F. Ray DeGood Secretary	P.O. Box 657 Loveland 80537 667-2131
<u>Greeley-Loveland Irrigation Co.</u>	Ron Brinkman Secretary	803-23rd Ave. Greeley
<u>George Rist Ditch Company</u>	W. R. Keirnes Secretary	Star Rt., Box 450 Loveland 80537 667-1963
<u>Handy Ditch Company</u>	Louis Bein Secretary	Box 460 Berthoud 80513 532-2676
<u>Hill & Brush Ditch Company</u>	Jim Nelson Secretary	Rt. 1 Milliken 80543
<u>Kershner Ditch Company</u>	David L. Lewis Secretary	Star Rt., Box 320 Loveland 80537 667-1544
<u>Little Thompson Valley Water District</u>	Lovilo Fagan Manager	307 Welch Avenue Berthoud 80513 532-2096
<u>Longs Peak Water Users Assn.</u>	Mrs. Joanne Macy Secretary	P.O. Box 714 Longmont 80501
<u>Louden Irrigation Reservoir and Canal Company</u>	Ralph Benson	925 West 29th Loveland 80537 667-2027
<u>Loveland & Greeley Reservoir Company</u>	Ron Brinkman Secretary	808 23rd Avenue Greeley 80631 356-0334
<u>Lykins Ditch</u>	Mrs. Tessie DeBuse Secretary	Rt. 3, Box 211A Longmont 80501
<u>Mariana Water District</u>	Lovilo Fagan Secretary	307 Welch Avenue Berthoud 80513 532-2096
<u>Minor Longdon Ditch Company</u>	Mrs. Elmer Rutt	Rt. 1, Box 3 Berthoud 80513 587-2238
<u>New Ish Ditch & Reservoir Co.</u>	Horace G. McCarty Secretary	P.O. Box 658 Longmont 80501
<u>North Carter Lake Water Dist.</u>	Lovilo Fagan Secretary	307 Welch Avenue Berthoud 80513 532-2096
<u>Osborn & Caywood Ditch Co.</u>	Donald J. Befus Secretary	716 S. County Rd. 1 Berthoud 80513 532-2340
<u>Perkins Ditch Co.</u>	Arnold Friend Owner	Star Route Loveland 80537 667-5662

WATER DISTRICT NO. 4 (Continued)

DITCH AND RESERVOIR COMPANIES

<u>Rist & Benson Reservoir Co.</u>	Ralph Benson Supt.	925 West 29th Loveland 80537 667-2027
<u>Rockwell Ditch Company</u>	Max H. Schaal Secretary	Rt. 1, Box 50 Berthoud 80513 532-2004
<u>Ryan Gulch Reservoir Co.</u>	Lavilo Fagan Secretary	307 Welch Ave. Berthoud 80513 532-2096
<u>Seven Lakes Reservoir Co.</u>	Ron Brinkman Secretary	808 23rd Avenue Greeley 80631 356-0334
<u>South Side Irrigation and Reservoir Company</u>	Robert Ausenus Secretary	203 E. 5th St. Loveland 80537 667-6668
<u>Union Ditch</u>	Bill Smith Secretary	P.O. Box 98 Masonville 667-5359
<u>Victory Irrigating Canal Co.</u>	Frank Bacon Secretary	Star Route Loveland 80537 667-4438
<u>Wind Cliff Water Assoc. Inc.</u>	Mrs. Vivien Wylene Buser - Secretary	62 Elmhurst Lane Riverdale Bettendorf, Iowa

WATER DISTRICT NO.5DITCH AND RESERVOIR COMPANIES

Allen Lake Reservoir Co.	Jesse Parrish Supt.	2515 Parrish Rd. Berthoud 80513 772-7678
Baker & Weese	Charles Atkins Supt.	5623 Hygiene Rd. Longmont 80501 772-7864
Weese Private	Charles Atkins Supt.	5623 Hygiene Rd. Longmont 80501 772-7864
Beckwith	Sam Tanaka Owner	5448 N. 115th Longmont 80501 776-3495
Bonus Ditch Company	Sam Tanaka Owner	5448 N. 115th Longmont 80501 776-3495
Chapman and McCaslin	William Lynch Secretary	12281 N. 63rd Longmont 80501 776-6689
Clough Private	Friz Bartley Owner	Route 3 Longmont 80501 776-1437
Clough & True	Charles Ramey Owner	Route 3 Longmont 80501 776-1945
Clover Basin Ditch & Res.	Wayne Jurgens Secretary	512 - 4th Ave. Longmont 80501 776-5122
Cushman	Vernon Golden Secretary	12911 Hillcrest Dr. Longmont 80501 776-5880
Davis & Downing	Gordon Kennedy Secretary	10102 N. 75th Longmont 80501 776-1161
Denio & Taylor	Harold Dawson Secretary	512 Torryst Longmont 80501 776-3128
Dickens Private	Lloyd Dickens Owner	136 South Main Longmont 80501 776-0325
Dixon Mill	Great Western Sugar Owner	Rt. 2 Longmont 80501 776-5070
Goss Pvt. 1 & 2	Charles Atkins Supt.	5623 Hygiene Rd. Longmont 80501 772-7864
Hager Meadow	Russell Zweck Owner	11007 N. 85th Longmont 80501 776-5198
Hayseed	Louis Rademacher Owner	13184 WCR 13 Longmont 80501 535-4345

WATER DISTRICT NO.5 (Continued)

DITCH AND RESERVOIR COMPANIES

Highland	Larry Sieckmann Secretary	1st Nat'l Bank 401 Main Street Longmont 80501 776-5800
Ide & Starbird Res. Co.	George Sittner Supt.	1148 Aspen St. Longmont 80501 772-4386
Independent Res. Co.	George Reynallds Owner	2835 Mt.View Ave. Longmont 80501 776-1302
James Ditch Company	Leroy Schlagel Supt.	9308 N. 87th Longmont 80501 776-5339
John Rice	Robert Seewald Supt.	11306 Quail Rd. Longmont 80501 776-0744
Last Chance Ditch Co.	Harold Nelson Secretary	11955 WCR 15 Longmont 80501 776-2336
Left Hand Ditch Co.	Jesse Parrish Supt.	2515 Parrish Rd. Berthoud 80513 772-7678
Lyons, Town of	Carrol Moores Clerk	Lyons Town Hall Lyons 80540 823-6422
Longmont City of	James Cinea Eng.	City Service Center 100 S. Sherman St. Longmont 80501 776-6050
Longmont Supply Ditch Co.	Dan Grant Secretary	1st Nat'l Bank 401 Main Street Longmont 80501 776-5800
Lower Baldwin Ditch Co.	Dean Prieskorn Secretary	10115 Plateau Rd. Longmont 80501 776-2916
Mason Meadow	Vernon Golden Owner	12911 Hillcrest Dr. Longmont 80501 776-2135
Mead, Town of	Robert Clark Mayor	Mead 80542 535-4557
Montgomery Pvt.	Public Service Co. Owner	P.O. Box 840 Denver 80201
Nelson	Wayne McGill Secretary	10075 N. 75th Longmont 80501 776-9327
Niwot	Robert Seewald Secretary	11306 Quail Rd. Longmont 80501 776-0744
Northwest Mutual Life Ins.Co.	Robert Haselbush Owner	8197 St.Vrain Rd. Longmont 80501 776-2832

WATER DISTRICT NO.5 (Continued)

DITCH AND RESERVOIR COMPANIES

<u>Oligarchy Ditch Compnay</u>	Dan Grant Secretary	1st Nat'l. Bank 401 Main Street Longmont 80501 776-5800
<u>Peck Ditch Company</u>	George Wagner Secretary	8310 Nelson Rd. Longmont 80501 776-5628
<u>Pella Ditch Company</u>	Sidney Fredstrom Owner	Rt. #3 Longmont 80501 776-3057
<u>Pleasant Valley Res. Co.</u>	Dan Grant Secretary	1st Nat'l Bank 401 Main Street Longmont 80501 776-5800
<u>Rice Ditch Company</u>	Robert Seewald Secretary	11306 Quail Rd. Longmont 80501 776-0744
<u>Rough & Ready Ditch Company</u>	Dan Grant Secretary	1st Nat'l Bank 401 Main Street Longmont 80501 776-5800
<u>Runyon Ditch Company</u>	Willis Marlatt Owner	11229 N. 75th St. Longmont 80501 776-0791
<u>Smead Ditch Compnay</u>	Warren Bashor Secretary	5475 Hygiene Rd. Longmont 80501 823-6474
<u>South Flat Ditch Co.</u>	David Wagner Secretary	9925 N. 95th St. Longmont 80501
<u>South Ledge Ditch Company</u>	Leonard Loukonen Secretary	Rt. 3 Longmont 80501 823-6268
<u>Palmerton Ditch Company</u>	William Schell Supt.	802 Bowen Street Longmont 80501 776-3475
<u>Supply Ditch Co.</u>	Dan Grant Secretary	1st Nat'l Bank 401 Main Street Longmont 80501 776-5800
<u>Swede Ditch Company</u>	Charles Bliss President	5725 St. Vrain Rd. Longmont 80501 776-4865
<u>True & Webster Ditch Company</u>	Edward Darby Secretary	6354 Hygiene Rd. Longmont 80501 776-2722
<u>Upper Baldwin Ditch Co.</u>	Dean Prieskorn Secretary	10115 Plateau Rd. Longmont 80501 776-2916
<u>Union Ditch & Res. Co.</u>	John Sitzman President	25462 Road 43 Greeley 80631 353-0307

WATER DISTRICT NO. 5 (Continued)

DITCH AND RESERVOIR COMPANIES

<u>Webster & McCaslin Ditch Co.</u>	Rodney Sadar President	P.O. Box 34 Hygiene 80533 776-1435
<u>Weese Private Ditch Co.</u>	Charles Atkins Supt.	5623 Hygiene Rd. Longmont 80501 772-7864
<u>Zweck & Turner Ditch Co.</u>	Russell Zweck Secretary	11007 N. 85th Longmont 80501 776-5198

WATER DISTRICT NO. 6DITCH AND RESERVOIR COMPANIES

Andrews & Farewell Ditch Co.	Wm. Trimmershausen Secretary	8328 Valmont Dr. Boulder 665-3959
Autrey Eggleston	Stanley Madsker Attorney	5050 S. Emporia Denver 771-5689
Baseline Land & Reservoir	Carol Nelson Secretary	4465 E. Cty. Line Rd. Erie 80516 828-3715
Boulder Ditch (Town of)	City of Boulder Owner	City Hall Building Boulder 441-3240
Boulder & Left Hand Irr. Co.	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Boulder & Weld County Ditch Co.	Ethel Ziegler Secretary	831-17th Longmont 80501 776-2390
Boulder & White Rock Ditch & Reservoir Company	Charles Haley Secretary	401 Main Street Longmont 80501 776-5800
Butte Irrigation & Milling Co.	Gene Sawhill Secretary	6967 Valmont Dr. Boulder 443-1858
Carr & Tyler Ditch Company	Art Stromquist Owner	12189 Oxford Rd. Longmont 80501 776-5832
Church Ditch Company	Marcus Church, Pres.	Broomfield Lafayette 80026
City of Lafayette	City Manager	665-9271
City of Louisville	City Manager	Louisville 80027 666-6565
Coal Ridge Ditch	Betty VanBanasterberg Secretary	Rt. 2, Box 162 Ft. Lupton 80621 785-2850
Community Ditch	M.L. Sarchet President	80-South 27th Ave. Brighton 80601 659-7373
Consolidated Lower Boulder Reservoir & Ditch Company	Carol Nelson Secretary	4465 E. County Line Erie 80516 828-3715
Davidson Ditch & Res. Co.	Helen Domenico Secretary	10315 Baseline Lafayette 80026 665-5691
Dry Creek Davidson	Ralph Bixler President	9849 Isablee Road Lafayette 80026 665-9071
Dry Creek No. 2 Ditch Co.	C. D. Beitelshoes Secretary	3395 N. 95th Boulder 665-9042

WATER DISTRICT NO.6 (Continued)

DITCH AND RESERVOIR COMPANIES

East Boulder Ditch Company	Van Valkenburg President	Public Service Co. Denver 571-8203
Eggleston No.1	Stanley Medsker Attorney	5050 S. Emporia Denver 771-5689
Eggleston No.2	Stanley Medsker Attorney	5050 S. Emporia Denver 771-5689
Enterprise Irrigation Ditch Co.	Van Valkenburg President	Public Service Co. Denver 571-8203
Erie Coal Creek Ditch and Reservoir Company	Dave Oscarson President	Route 1 Erie 80516
Farmers Ditch Company	Boyd Sheets Secretary	3016 Kalmia Boulder 442-4448
Goodhue Ditch & Reservoir Co.	Lois J. Waneka Secretary	11761 E. Baseline Lafayette 80026 665-5157
Godding Daily & Plumb Ditch	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Godding Ditch Company Highland South Side	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Green Ditch Company	Roger Fell Secretary	7861 Valmont Boulder 665-9866
Harden	City of Boulder Owner	Boulder 441-3240
Harris	K. Warenburg Owner	Louisville 80027 666-6768
Houck No.2 Ditch	Milton Nelson Owner	2040 W. Longs Peak Longmont 80501 776-1258
Howard Ditch Company	Bill Suittes Secretary	65 Manhattan Drive Boulder 499-5400
Jones & Donnelly Ditch Co.	Gene Sawhill Secretary	6967 Valmont Boulder 443-1858
Kerr No. 1 & 2	Mrs.J.D. Mayhoffer Owner	Louisville 80027 666-6180
Kinnear Ditch & Reservoir	M.L. Sarchet President	80 S. 27th Ave. Brighton 80601 659-7373
Last Chance Ditch Company	City of Westminster P. Owner	Westminister 80030 429-1546

WATER DISTRICT NO. 6 (Continued)

DITCH AND RESERVOIR COMPANIES

Leggett Ditch & Reservoir Co.	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Lyner-Cottonwood Consolidated	Walter Wise Secretary	838-S. Gay Longmont 80501 776-3201
Lower Boulder Ditch Company	Mrs. Carol Nelson Secretary	4465 E. Cty. Line Rd. Erie 80516 828-3715
Martha M. Mathews	A. F. Bailey P. Owner	11975 Konosha Rd. Erie 80516 466-1789
Marshall Reservoir	M. L. Sarchet President	80 S. 27th Ave. Brighton 80601 659-7373
Marshallville Ditch Company	Gertrude Anderson Secretary	7912 Arapahoe Rd. Boulder 80303 665-4178
McGinn Ditch Company	Alice Clyncke Secretary	7124 Baseline Rd. Boulder 80303 494-7198
McKay Reservoir	M. L. Sarchet President	80 S. 27th Ave. Brighton 80601 659-7373
N.K. Smith & Tyler Ditch	Max Serafina Owner	1998 WCR 20½ Longmont 80501 776-9222
New Anderson Ditch Company	William Light President	City Hall Boulder 441-3240
No. Boulder Farmers Ditch Co.	John Reich Secretary	P.O. box 227 Boulder 442-2413
Original Cottonwood No. 2 Ditch	Albert Kolb Secretary	7715 Arapahoe Rd. Boulder 665-4854
Rural Ditch Company	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Silver Lake Ditch Company	Everette Long Secretary	3240 Broadway Boulder 442-2353
Schearer Ditch Company	L.W. Van Fleet Owner	3 S. Cherryvale Rd. Boulder 80303 494-7592
Smith & Emmons Ditch Company	Richard Frisk Secretary	735 Bowen Longmont 80501 776-5231
Smith & Goss Ditch Company	City of Boulder P. Owner	Boulder 441-3240
South Boulder Canon Ditch	Joe Beauprez President	1042 No. 95th Lafayette 80026 665-4141

WATER DISTRICT NO.6 (Continued)

DITCH AND RESERVOIR COMPANIES

<u>South Boulder & Bear Creek</u>	City Clerk Secretary	201 E. Simpson Lafayette 80026 665-9271
<u>South Boulder & Coal Creek Irrigation Ditch Company</u>	Ruth Bowes Secretary	9182 Dillon Road Louisville 80027 666-6698
<u>Tom Delehant Ditch</u>	Milton Nelson President	2040 W. Longs Peak Longmont 80501 776-1258
<u>William C. Hake</u>	Mrs. J.D. Mayhoffer Owner	Louisville 80027 666-6180

WATER DISTRICT NO. 7DITCH AND RESERVOIR COMPANIES

Bayou Association of Ditches	Robert Rock President	4360 Tabor St. Wheatridge 80033 422-1316
Boyles	A. T. DeBell	3951 W. 56 Way Denver 80002 429-0210
Church (Golden City & Ralston Creek)	City of Northglenn Owner	10701 Melody Dr. Room 313 Northglenn 80234 451-3826
Croke Canal	Barbara Fulton Secretary	Farmers Reservoir Irrigation Company 80 S. 27th Brighton 659-7373
Colorado Agricultural	Louis Rullo Secretary	11621 Riverdale Rd. Denver 80233 452-8260
Cort Graves and Hughes	Sam Spano	6640 W. 52nd Ave. Arvada 80002 424-3557
Denver View Water Company	Wayne Harkness Secretary	Rt. 1, Box 590 Golden 80401 424-2190
Farmers Highline	Mrs. Duran Secretary	Farmers Highline Canal & Reservoir Co. 8889 Washington Ave. Denver 80229
Fisher	Henry Johnson Secretary	Box 840 Denver 80202 571-8203
Kershaw	Allan Jones Secretary	7145 Mariposa Denver 80221 429-1881
Lee Stewart & Eskins	J.O. Greenfield President	16173 W. 32nd Golden 80401
Lower Clear Creek Company (Clear Creek and Platte River Ditch)	Jim Fukaye Secretary	Rt. 1, Box 027 10680 Riverdale Rd. Denver 80233 452-8208
Manhart	George Ditolla	6030 Wolff Arvada 80003 429-0139
Ouelette	Joe Romero President	4290 Garrison Wheatridge 80033

WATER DISTRICT NO. 7 (Continued)

DITCH AND RESERVOIR COMPANIES

Reno Juchem & Swadley Longan	Mrs. Edna Delva Robt. Dextra Secretary	Consolidated Juchem Ditch & Reservoir Co. 6501 W. 60th Ave. Arvada 80003 424-4563
Rocky Mountain, Miles and Eskins and South Side	Lyle Bush Secretary	15401 W. 44th Ave. Golden 80401 277-5596
United Water Company	Henry J. Johnson Secretary	Box 840 Denver 80202 571-8203
Wannemaker	Lyle Bush Secretary	15401 W. 44th Ave. Golden 80401 277-5596
Welch and Agricultural	Dwight Neill Manager	Agricultural Ditch & Reservoir Company 10080 W. 27th Ave. Denver 80125 238-3606

CLEAR CREEK DITCHES AND SUPERINTENDENTS

Welch	Eugene Cress Office	922-2815 238-3606
	Jack DeBell Supt.	451-3826
Church	Nick Vukalich Ditch Rider	279-1211
Agricultural	Eugene Cress	922-2815
Coors Industrial	Coors	277-5596
Farmers Highline	Bill Baker	422-4658
Wannemaker	Coors	277-5596
Lee Stewart Eskins	J.O. Greenfield	279-2974
		424-6636
Croke	Jim Zeigler	278-0755
Rocky Mountain	Coors	277-5596
Reno Juchem	Robert Dextra	424-4563
Slough	Bob Rock	424-4563
South Side	Coors	277-5596
Ouelette	Robert Claxton	455-1231
Boyles	Vincent DeBell	429-0210
Kershaw	Allan Jones	429-1881
	Larry Firos Ditch Rider	429-8893
Fisher	Van Valkenburg Public Service	571-8203
	F. Wooley	452-8238
Clear Creek & Platte	J. Fukaye	452-8208
	Roy McIntosh	452-8275
	Louis Ruzzo	452-8260
		or
Colorado Agricultural		629-6958
		429-0239
		or
*Manhart	George Ditolla	429-1839
Standley Reservoir	Jim Zeigler	424-6636
Ralston Reservoir	Wally Wilcox	279-4222
Consolidated Reservoir		233-5945

DITCH RIDERS

Lyle Bush	Coors	986-5426
Ken Vaught	Coors	986-0516
Neil Jaquet	Coors	278-8507
Bob Adams	Farmers Highline	279-3747
Wade Isham	Rocky Mountain	422-7039
Joe Griggs	Rocky Mountain	278-3870
M/M Ray Leister	Reno Juchem	237-8581
*Ralston Creek		

DITCH AND RESERVOIR COMPANIES

<u>City of Aurora</u>	Tom Griswold Ext. 321	City of Aurora 1470 E. Havana Aurora 750-5000
<u>City and County of Denver</u>	Gary Bishop Ext. 273	Board of Water Commissioners 144 W. Colfax 623-2500
<u>City of Englewood</u>	Vince Wertin Ext. 519	City of Englewood 3400 S. Elati Englewood 761-1140
<u>Last Chance Ditch Co. No.2</u>	Paul Johnson Secretary	Board of Water Commissioners 144 W. Colfax Denver 623-2500
<u>Nevada Ditch Holding Company</u>	Paul Johnson Secretary	Board of Water Commissioners 144 W. Colfax Denver 623-2500
<u>Northern Colorado Irr. Co.</u>	Robert Rosendale Supt.	Board of Water Commissioners 144 W. Colfax Denver 733-4292
<u>Platte Water Company</u>	Paul Johnson Secretary	Board of Water Commissioners 144 W. Colfax Denver 623-2500
<u>Tri City Trust</u>	Paul Johnson Secretary	Board of Water Commissioners 144 W. Colfax Denver 623-2500

DITCH AND RESERVOIR COMPANIES

Bergen Ditch Company, Grant Properties	William Grant Owner	333 Logan Street Denver 80203 777-0428
Bowles Ditch Company, Grant Properties	William Grant Owner	333 Logan Street Denver 80203 777-0428
Evergreen Metro. District	Daniel O. Hydrick Manager	Water & Sewer P.O. Box 545 Evergreen 80439 674-4112
Harriman Ditch Company (AKA Arnett Ditch)	Gary Bishop Secretary	Board of Water Comm. 1600 W. 12th Ave. Denver 80254 623-2500
Hodgson Ditch Company	John E. Popham Secretary	2995 S. Estes St. Denver 80227 989-4223
Independent Highline Ditch Co.	Stan Harwood Owner	Morrison 80465 697-8008
Pioneer Union Ditch Company	Jack McCoy President	9800 Morrison Rd. Denver 80227 985-1504
Ward Ditch Company	Wm. V. Hodges Jr. Secretary	1818-17th Street Denver 80202 892-9400
Warrior Ditch Company	Gary Bishop Secretary	Board of Water Comm. 1600 W. 12th Ave. Denver 80254 623-2500

WATER DISTRICT NO. 23

<u>Jefferson Lake Ditch Company</u>	Ralph Johnson President	Jefferson 80456 836-2276
<u>Tunnel Water Company Inactive</u>	Viviene Woodward Secretary	P.O. Box 1584 2319 E. Mulberry Ft. Collins
<u>Water Supply & Storage Inactive</u>	Viviene Woodward Secretary	P.O. Box 1584 2319 E. Mulberry Ft. Collins

DITCH AND RESERVOIR COMPANIES

Comet Ditch	Ron Hunt Manager	McIntyre Creek Ranch Inc. Glendevey Route Jelm, WY 82063 435-9537
Hills Ditch	Ron Hunt Manager	McIntyre Creek Ranch Inc. Glendevey Route Jelm, WY 82063 435-9537
Homestead	Ron Hunt Manager	McIntyre Creek Ranch Inc. Glendevey Route Jelm, WY 82063 435-9537

WATER DISTRICT NO. 49

DITCH AND RESERVOIR COMPANIES

Austin Ditch	Ernest MacArthur Owner	Stratton 80836 348-5400
Hale Ditch	Harold W. Madsen	Hale 80730 354-7252
Newton Ditch	Galen Lingel Owner	Burlington 80807 354-7249
Ragan Ditch	Howard Homm Owner	Burlington 80807 346-5250
Republican Ditch	Howard Homm Owner	Burlington 80807 346-5250
Tuttle Ditch	Ernest MacArthur Owner	Stratton 80836 348-5400

WATER DISTRICT NO. 65

Bar Eleven No.2	Miller & Goodman Owners	Wray 80758 332-5668
Chief Creek Ditch	Wiltfang & Goodman Owners	Wray 80758 332-5668
Hays Creek Ditch	Frank Miller Est. Owner	Wray 80758 332-4358
Hays Creek Ditch #3	Lee Archer Owner	Wray 80758 332-5480
Laird Ditch	Warren Noffsinger Secretary	Laird 80739 332-5373
O'Donnell Ditch	Lee Archer Owner	Wray 80758 332-5480
Pioneer Ditch (Head)	Jim Jay Secretary	Laird 80739 332-5124
Pioneer Ditch (St. Line)	Jim Jay Secretary	Laird 80739 332-5124
Wray Ditch	Marion Barnett Secretary	Wray 80758 332-5825
Pyle & Cunningham	Miller & Goodman Owners	Wray 80758 332-5668
Wilson No. 1	Ash Wilson Owner	Wray 80758 332-5581
Rush Creek	Warren Noffsinger Owner	Wray 80758 332-5373

WATER DISTRICT NO. 79

Rosenkrans Ditch	Robert Jones Sr. Owner	Wray 80758 332-5634
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DITCH AND RESERVOIR COMPANIES

Bravo Ditch	Ivan Barden Secretary	Iliff 80736 522-8002
Carlson Ditch Company	Hulbert Reichelt Secretary	Julesburg 80737 474-3400
Chambers Ditch	William Condon Owner	916 Fairhurst St. Sterling 80751 522-2460
Davis Brothers Ditch Company	Paris Accomasso Secretary	Atwood 80722 522-0629
Farmers Pawnee Ditch Company	Robert Roberts Secretary	P.O. Box 70 Sterling 80751 522-0571
Harmony Ditch Company No. 1	Mrs. Howard Hamilton Secretary	P.O. Box 205 Crook 80726 886-2833
Henderson & Smith Ditch Co.	Scalva Brothers Owner	Rural Route Sterling 80751 522-2539
Iliff & Platte Valley Ditch Co.	Allen R. Pyle Secretary	228 S. 3rd St. Sterling 80751 522-5762
J. B. Ditch Company	Frank Manuello Owner	Iliff 80736 522-8096
Julesburg Irrigation District	Herbert Bonesteel Secretary	Julesburg 89737 474-3737, 474-2189
Liddle Ditch Company	Don Liddle President	Ovid 80744 474-2300
Lone Tree Ditch Company	Maynard Sonnenberg Secretary	Box 1271 Sterling 80751 522-2404
Long Island Ditch	St. Game, Fish, & Parks Part Owner	Crook 80726 886-2992
Low Line Ditch Company	William Hoel Secretary	22811 Co. Rd. 36 Sterling 80751 522-7312
North Sterling Irr. District	Alex Michel Secretary	205½ Main Street Sterling 80751 522-2025
Peoples Ditch Company	Sam Karg Secretary	Route 2 Sterling 80751 522-1469
Peterson Canal & Reservoir Co.	Elmer Meier President	Ovid 80744
Powell & Blair Ditch A.K.A. Proctor Water Co.	Allen R. Pyle Secretary	228 S. 3rd Street Sterling 80751 522-5762
Prewitt Reservoir Company	Alex Michel Secretary	205½ Main Street Sterling 80751 522-2025

DITCH AND RESERVOIR COMPANIES

<u>Ramsey Ditch Company</u>	<u>Don DeMers</u> <u>Secretary</u>	<u>Crook 80726</u> <u>886-3662</u>
		<u>P.O. Box 1271</u>
<u>Red Lion Ditch Company</u>	<u>Maynard Sonnenberg</u> <u>Secretary</u>	<u>Sterling 80751</u> <u>522-2404</u>
<u>Schneider Ditch Company</u>	<u>James Williamson</u> <u>Secretary</u>	<u>Atwood 80722</u> <u>522-1910</u>
<u>Settlers Ditch Company</u>	<u>Charles Atkinson</u> <u>Secretary</u>	<u>Crook 80726</u>
<u>South Platte Ditch Company</u>	<u>Charles Bartlett</u> <u>Secretary</u>	<u>Merino 80741</u> <u>522-7586</u>
<u>South Reservation Ditch Co.</u>	<u>James Parker Jr.</u> <u>Secretary</u>	<u>Ovid 80744</u> <u>463-5382</u>
		<u>P.O. Box 70</u>
<u>Springdale Ditch Company</u>	<u>Robert Roberts</u> <u>Secretary</u>	<u>Sterling 80751</u> <u>522-0571</u>
		<u>P.O. Box 1013</u>
<u>Sterling Irrigation Company</u>	<u>Lawrence Giacomini</u> <u>Secretary</u>	<u>Sterling 80751</u> <u>522-0751</u>
		<u>P.O. Box 1271</u>
<u>Sterling No.2 Ditch Company</u>	<u>Maynard Sonnenberg</u> <u>Secretary</u>	<u>Sterling 80751</u> <u>522-2404</u>
<u>Tamerack Ditch</u>	<u>St.Game, Fish, Parks</u> <u>Owner</u>	<u>Crook 80726</u> <u>886-2992</u>
<u>Upper Harmony Ditch Company</u>	<u>Garold Marick</u> <u>Secretary</u>	<u>Crook 80726</u> <u>886-3641</u>

DISTRICT NO. 64 OFFICIALS

BRAVO

Pres.	Victor Ramey	17340 Co.Rd.370	Sterling	522-0477
Secy.	Ivan Barden	19679 Co.Rd.55	Iliff	522-8002
Rider	John Held	17915 Co.Rd.370	Sterling	522-2416

CARLSON

Owner	Hub Reichelt		Julesburg	474-4300
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DAVIS BROS. DITCH

Pres.	Harold Schott	4237 Co.Rd.31	Atwood	522-6551
Secy.	Paris Accomasso	15465 Co.Rd.12	Atwood	522-6429
Rider	Reb Accomasso	15465 Co.Rd.12	Atwood	522-1771

FARMERS PAWNEE CANAL

Pres.	Herb Vandemoer	225 Country Club	Sterling	522-3372
Secy.	Robert Roberts	717 S. 7th Ave.	Sterling	522-4343
Rider	David Littler	13698 Corrine Rd.	Sterling	522-3101

HARMONY NO.1

Pres.	James Roberts		Crook	886-3462
Secy.	Mrs. Howard Hamilton		Crook	886-2833
Rider	Lorin Lowery		Crook	886-3665

HARMONY NO.2

Pres.	Alvin Brunkhardt		Crook	886-2682
Secy.	Garold Marick		Crook	886-3641

HENDERSON SMITH

Scalva Brothers	13407 Co.Rd.370	Sterling	522-2539
			522-4577

ILIFF AND PLATTE VALLEY

Pres.	Allen Freeman	26774 Co.Rd. 385	Iliff	522-8038
Secy.	Allen Pyle	228 S. 3rd	Sterling	522-5762
Rider	William Huey	24081 Highway	Iliff	522-2151

JULESBURG IRRIGATION DISTRICT AND PETERSON DITCH

Julesburg Irrigation Office		Julesburg	474-3737
Pres.	Clarence Jenik	Ovid	463-5732
Supt.	Tom Frame	Julesburg	474-3735
Coord.	Bud Bonesteel	Julesburg	474-2189

LIDDLE

Pres.	Don Liddle	Ovid	474-2300
Secy.	Hub Reichelt	Ovid	474-3400

LONE TREE

Pres.	Maynard Sonnenberg	406 Highland Drive	Sterling	522-1390
Secy.	" "	" " "	"	"
Rider	Ralph Freeman	101 East 1st Ave.	Iliff	522-8088

DISTRICT NO. 64 OFFICIALS (Continued)

LOWLINE

Pres.	Robert E. Fritzler	21575 Co.Rd. 74	Sterling	522-1376
Secy.	William Hoel	Rt. 2	Sterling	522-7312
Rider	Albert Workman	13524 Co.Rd. 37	Sterling	522-7198

PEOPLES

Pres.	Tom DeSoto	24355 Co.Rd. 40	Sterling	522-2609
Secy.	Sam Karg	23690 Co.Rd. 40	Sterling	522-1469
Rider	Tom DeSoto	24355 Co.Rd. 40	Sterling	522-2609

POWELL

Pres.	Maynard Sonnenberg	406 Highland Dr.	Sterling	522-1890
Secy.	Allen Pyle	228 S. 3rd	Sterling	522-5762
Rider	William Huey	24081 Highway 138	Iliff	522-2151

SCHNEIDER

Pres.	Elmer Rasmussen	8917 Co.Rd. 370	Sterling	522-2322
Secy.	James Williamson	17880 Co.Rd. 16	Atwood	522-1910
Rider	David Littler	13698 Corrine Rd.	Sterling	522-3101

SOUTH PLATTE DITCH

Pres.	Keith Propst	2464 Co.Rd. 25	Merino	522-0090
Secy.	Charles Bartlett	13244 Co.Rd. 6	Merino	522-7586
Rider	Elmer Higgason	419 Park Street	Merino	522-3314

SOUTH RESERVATION

Pres.	Jim Parker III		Ovid	463-5382
Rider	Jim Parker III		Ovid	463-5382

SPRINGDALE

Pres.	Gilbert Schuman	Rt. 1	Sterling	522-1943
Secy.	Robert Roberts	717 South 7 Ave.	Sterling	522-4343
Rider	Alfred Leckler	13614 Co.Rd. 37	Sterling	522-1460

STERLING IRRIGATION COMPANY 1

Pres.	Richard Ramey	1005 Co.Rd. 39	Sterling	522-5705
Secy.	Lawrence Giacomini	131 Hamilton St.	Sterling	522-0751
Rider	Glen Mayerholz	13572 Rd. 37	Sterling	522-5719

DITCH AND RESERVOIR COMPANIES

<u>Sand Creek Ditch</u>	Frank Lilley Ranch Manager	Chimney Rock Grazing Assoc. S.W. of Laramie, WY 745-9575
<u>Spring Creek Ditch</u>	Frank Lilley Ranch Manager	Chimney Rock Grazing Assoc. S.W. of Laramie, WY 745-9575

DITCH AND RESERVOIR COMPANIES

Altura (Duck)	Ron Heitman President	838-5496 737-2254
Denver Water Board		
Cheesman Reservoir	Carl Kershmeier	647-2213
District Foreman	Hank Bode	838-5314
Asst. District Foreman	Gene Bode	838-4185
Roberts Tunnel East Portal	Bob Woods	838-5921
Lininger Reservoir	Kenosha Trout Club	838-5684
		Rt. 2, Box 154
J. O. Hill Reservoir	West Creek W & S District	Sedalia 80135 687-9067
	Ron Heitman	838-5496
Wellington Reservoir	President	737-2254
		Rt. 2, Box 154
Westcreek Reservoir	West Creek W & S District	Sedalia 80135 687-9067

WATER COMMISSIONER'S SUMMARY

Div 1

WATER TABULATION FOR 1980 BY SOURCE AND USE

ALL FIGURES IN ACRE FEET

A. DIRECT FLOW DIVERSIONS

B. STORAGE REPORT

WATER DISTRICT	1 - 0	1 - 1	1 - 2	1 - 3	1 - 4	1 - 5	1 - 6	1 - 10	1 - 13	2 - 0	2 - 1	2 - 2	2 - 4	2 - 10	3 - 1	3 - 2
1	135986	133948			8303			5307	2229	715	10357			14893		
2	34539	174994		6420				3059		2798	5396	465	85	299089	25250	
3	126369	43214	10554					80326		871	11851			549		
4	11832	52076	2130							417	6213			3792		
5	6925	41092									7924	21891		46		
6	17525	44009	8565					7		3	1651	871		3203		
7	14061	50202	4029		21439			20756		865	1203	9790		415		2338
8	29559	22241	56168		23651			121876			1706	197				
9	865	4274	3735								354	931		10		
23	78	74794	7056		3419		572									
48		12282														
49		3543														
64	10001	99285		968				2281	1115		53273			3852	2538	
65		14514														
80	8902	4932									52			11640		
TOTAL	396642	775400	92237	7406	56812	49	572	233612	3344	5669	99980	34145	85	337489	27788	2338

SOURCE

	USE	
1. River	0. Storage	10. Other
2. Reservoir	1. Irr.	13. Recharge
3. GW	2. Mun.	
4. TB	3. Comm.	
5. NS	4. Ind.	
6. Collective	6. Fish	
7. Trans Dist. Basin		

	3 - 3	3 - 4	3 - 5	3 - 10	4 - 0	4 - 1	4 - 2	4 - 3	4 - 10	5 - 0	5 - 1	5 - 10	6 - 0	6 - 1	7 - 1	7 - 2
466			1205		801 4864 1939 3420	11674 9322	1298 306		14370 2131 28	1054	3022	209 135	93608	154982		
				547			15660 85	30818	1447	24		1561			249	238
414		1178		110			4310		19			679				
880		1178	1205	1392	11024	21028	21659	30818	49806	1078	3022	2584	93608	154982	249	238
									31811							

1980

ANNUAL SUMMARY - DIVISIONS
ACRE FEET (11-1-79 thru 10-31-80)

Divisions	Non-Exempt Wells #	Ditch Structures Reported #	IRRIGATION		CURRENT YEAR Acres Irrigated	TRANS-MOUNTAIN	
			Direct Diversions To Irrigation	Diversions To Storage		Storage To Irrigation	Div. to Div. Export
1	*9745	1319	775400	396642	1239655	-	298000
2							
3							
4							
5							
6							
7							
TOTAL							

*An additional 4,683 non-exempt wells are in Designated Basins.

Divisions	MUNICIPAL			INDUSTRIAL		RECREATION		ACTUAL STORAGE		# Decreed Applications	# Water Court Applications
	Direct Diversions	Diversions To Storage	Storage Releases	Direct Diversions	Diversions To Storage	Trans. Mtn. Hydro-Power	Storage - Wildlife Parks	For Year All Reservoirs	508021		
1	92237	-	34145	56812	11024	157400	621	508021	460	466	
2											
3											
4											
5											
6											
7											
TOTAL											

SUGGESTIONS AND RECOMMENDATIONS

PERSONNEL-OFFICE EXPENSES

The administrative field personnel, namely the water commissioners and their deputies, maintain some type of an office in their own homes since they are on call at all times due to the nature of their work. The size, equipment, and use of that office are, of course, not only related to their administrative responsibilities and functions but also to the availability and convenience of space. Nevertheless the need for office space in the home does exist and is provided by the individual at the expense of a reduction of space for the family. Further, most of those employees rely upon their telephones, a business necessity, for communication with the various water users and other staff members. Since these field people are out checking diversions, streamflow, and water use much of the time, their wives or other members of the family must take and relay calls as necessary. Secretarial help is additionally provided by family members, generally the wife, in the generation of diversion reports and other correspondence.

It is again proposed, as it has been in the past, that the budget include, and approval be granted for the payment of a minimum of \$100 per month in addition to the regular salary to each such person maintaining a field office in his own home. To provide some equity, the allowance suggested could be scaled according to the circumstances in each case with the maximum being \$150 per month.

Although such allowance would at least be token payment for a long unrecognized responsibility of field personnel, in most cases it would scarcely cover the capital cost to the individual for space and utilities nor even approximate scale wages for the secretarial help he receives.

WATER COURT

Since the recodification of Water Law in 1969, many thousands of water rights have been filed and adjudicated through the Division Water Court. Approximately 1100 cases are awaiting determination at this time including 35 of the "John Huston filings" which are being considered by Judge Shivers and 384 USA filings which are awaiting a decision by the Supreme Court before further action can be taken. There were 466 new applications filed in 1980 involving 1,618 structures.

Judge Behrman has worked very diligently in doing whatever he felt necessary to reduce the case back log. However, the Clerks' office has been short handed and new people have required training. Therefore the paper mill efficiency has not been as high as was anticipated. Final judgements were issued in 417 cases involving 1,121 structures and 43 cases were dismissed involving 112 structures during 1980.

To further streamline Water Court activities Judge Behrman formulated some rules for the District Court in and for Water Division One. These rules received no objection from the Supreme Court and went into effect on August 10, 1980. Of special note is the requirement for republication when there is:

- (1) A change of over 200 feet in structure location.
- (2) A change causing a well to come within 600 feet of an existing well.
- (3) A change or moving of a structure to a different quarter section.
- (4) A change or increase of structure use.
- (5) A request for an earlier date of appropriation.
- (6) A change in the source of water.

In urban areas having generally recognized street addresses, the street address as well as the legal description of the point of diversion or structure is to be set forth in the application and published in the Resume. Many administrative procedures are listed and expanded in an attempt to clear up confusions that have occurred in the past.

Richard D. Lamm
Governor



Jeris Danielson
State Engineer


DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
JAMES R. CLARK
IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

November 7, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: James R. Clark, Division Engineer 

SUBJECT: Water News - October

There were indications early in October that winter was upon Division One but the storms lost strength or went to the north of us. Beautiful Indian summer weather was with us for the remainder of the month giving us another chance to complete some of the projects that had been planned but deferred for various reasons. The UNC weather station recorded 0.36 inches of precipitation during October which is 35% of average. This brings our water year total to 14.71 inches which is 121% of average.

River flow at Kersey for October was 37,000 AF and at Julesburg was 7,100 AF. Reservoir storage on October 1 was 756,000 AF (with Horsetooth and Carter) which is 105% of average. River flows remained high enough to allow some diversions to storage in October. The month began with no River Call and went to 11/21/1910 (Prospect Reservoir) on October 22.

The water year is over and year end records are being completed. It has been a fairly good year with a record runoff in May and June and sufficient storage to carry us through the late summer months. We have an above average start on carry over storage and with some help from the weather, there will be good storage for next year. The major problem this year was the high runoff and the resulting damages sustained by many of the irrigation structures along the river.

Judge Behrman has issued a Memorandum of Decision in the water rights of Pastore and Price. Basically the water right was located in an highly urbanized area and the Court determined that the generally accepted legal description for structures was not specific enough in this case to put petitioner Stevenson

on notice and afford him the opportunity to present his objections. The Ruling, Decree, and Corrected Decree were declared void and were vacated and the application was denied, without prejudice. Rules of the District Court in and for Water Division No. 1 which went into effect August 10, 1980 state in part: Paragraph I(f)-In urban areas having generally recognized street addresses, the street address, as well as the complete legal description of the point of diversion or structure shall be set forth in the application, and published before a Decree will be issued.

The September Referee Term Day is reportedly a success as many cases were set for conferences or hearings and several have reached settlement prior to the hearing. Applicants are reminded that it is not necessary to wait for Term Day to obtain a setting but can contact the Water Court Clerk during normal working hours for settings.

JRC/EWB/slw

FILE

Richard D. Lamm
Governor

Jeris Danielson
State Engineer



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
JAMES R. CLARK
IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

October 7, 1980

MEMORANDUM

TO: Margaret McCollum
FROM: James R. Clark *JRC*
SUBJECT: Water News - September

September weather was hot and dry. There was 0.55 inches of precipitation recorded at UNC which is 57% of average and brings the water year total to 14.35" which is 128% of average. The average temperature was 64.8° which is 3.3° warmer than normal. Although there was little precipitation, the river flows remained fairly good and with the reservoir storage there was sufficient water for the crops. The production forecast looks good for most of the area.

Total river flow for September at Kersey was 46,200 AF and at Julesburg was 6,900 AF. Reservoir storage on September 1 was 817,000 AF (with Horsetooth and Carter) which is 106% average.

Another eight well owners have been cited into Court for violating the Cease and Desist Orders issued to them. There are 6 others being processed at this time.

Judge Behrman has issued a Memorandum of Decision denying approval of a plan for augmenting the Conifer Village wells. The plan called for making storage releases downstream a short distance to replace depletions caused by out of priority pumping. Area home owners alleged that the replacement was not at a location to protect their wells which they claimed had already been injured by the Conifer Village wells. The Judge agreed with them and in his Memorandum of Decision stated that conditions or terms would have to be proposed to prevent injury before the plan for augmentation could be approved.

file Copy

Richard D. Lamm
Governor

Jeris Danielson
State Engineer



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
JAMES R. CLARK
IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

September 5, 1980

MEMORANDUM

TO: Margaret McCollum
FROM: Jim Clark, Division Engineer *ed for Jim*
SUBJECT: Water News - August

The weather continued to be hot and fairly dry during August. Precipitation was mostly light and scattered although there were some locally heavy showers with hail. There was 0.65 inches of precipitation (62% of average) recorded at UNC and the average temperature was 1 degree above average. The water year precipitation total is now 13.8 inches which is 135% of average. Most crops are looking good.

The river flow at Kersey was 33,500 AF during August. Demand on the river August 1 was 11/20/1876, to 11/01/1871 on the 13th, to 11/20/1876 on the 15th and to 2/21/1893 the 16th for the remainder of the month. Reservoir storage on August 1 was 1.08 MAF (with Horsetooth and Carter) which is 105% of average.

Six irrigation well owners have been cited into court for violating the Cease and Desist Orders issued to them for operating wells not in an approved plan for augmentation. A preliminary hearing was held August 27 at which dates were set for the injunction hearings. There are 14 others being processed at this time.

Several people in the town of Kersey were issued Cease and Desist orders for irrigating lawns with illegal wells. It appears the people in Kersey who have wells are now trying to get a plan started which would allow them to use their wells legally for yard irrigation. Kersey may be unique in many respects, however; other areas should also investigate all possibilities in an effort to make the wells alternate points or augment them 100%. Our staff will continue to be alert for indications of illegal use of wells.

The Supreme Court issued a decision August 5, 1980 on the appeal of the case of the State Engineer and Emanuel Weibert vs Rothe Brothers, Inc. A well which had been adjudicated August 19, 1974 for irrigation purposes was purchased by Rother Brothers, Inc. They filed an application for a new irrigation well, change of point of diversion for the existing well, and approval of a plan for augmentation on February 10, 1977. The Water Judge did not allow testimony on the historical use of the existing well prior to August 19, 1974, nor any testimony on the historical use of the source of augmentation water as a basis for determining whether there would be injury to vested rights with the proposed changes. The Supreme Court stated the applicant had the burden of proof to show non-injury and the Water Judge erred in not allowing testimony on historic use. In addition, the Water Judge erred in failing to include a provision required by Section 37-92-304(6), CRS 1973, retaining jurisdiction on the question of injury to the vested rights of others. The Judgement and Decree was reversed and remanded for further proceedings.

Judge Behrman issued a memorandum of Decision on 13 Arapahoe Formation wells requested by Mission Viejo following many days of hearing. The Arapahoe Sands Formation was determined to not be tributary in that pumping the proposed wells would not affect the South Platte River or any tributaries within 100 years. Pumping water from the Arapahoe Sands Formation was described as a mining operation and the decline in water levels would continue whether the requested wells were pumped or not. The Court determined that material injury to vested water rights was applied only to water rights, not economic or other rights, thus made a finding that there was no material injury to the vested rights of others. For these reasons the Court found the State Engineer was not justified in denying the Arapahoe Sands well permits. There is to be a conference September 10, 1980 on the exact form and terms of the conditional decree to be entered and other pertinent unsettled issues.

We welcome Susi Wycaver back to Division One. Susi stepped into her old position as secretary.

Office Copy

RICHARD D. LAMM
Governor



J. A. DANIELSON
State Engineer

DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
JAMES R. CLARK
IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

August 6, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: Jim Clark, Division Engineer *JRC*

SUBJECT: Water News - July

July has gone into the books as being one of the hottest on record. July was also fairly dry as most precipitation was of the widely scattered variety which provided little relief for crops. There were also a couple of toad stranglers, complete with hail, at the Akron and Brighton - Fort Lupton areas which produced some heavy localized crop damage. There was 0.61 inches of precipitation (46% of Average) recorded at UNC and the average temperature was 2.7 degrees above average. The water year precipitation total is now 13.18 inches which is 144% of average.

The river flow at Kersey was 45,000 A.F. during July. Demands on the river ranged from June 9, 1909 (Milton) on July 1 to November 20, 1876 (Farmers Ind.) on July 31. Reservoir storage on July 1 was 1.29 MAF which is 105% of average (with Horsetooth and Carter).

Well usage has increased significantly during the hot, dry weather. This has provided our office staff the opportunity to determine which wells are operating without an approved plan for augmentation. Notice has been given to owners of approximately 400 wells indicating that the wells appear to not be in an approved plan for augmentation. Approximately 40 Cease and Desist orders have been delivered or are being prepared for delivery to owners of wells that have continued to pump after notice has been given or where irrigation expansion has been observed.

Since Judge Behrman was appointed Judge for Water Division No. 1, he has been trying to set policies within the guidelines of the 1973 CRS and the C.R.C.P. which he feels will help make the Water Court function more smoothly. These policies were incorporated into a document entitled RULES OF THE DISTRICT COURT IN AND FOR WATER DIVISION NO. 1. for submission to the Supreme Court. These rules have now been approved by the Supreme Court for use within Water Division No. 1 and will officially go into effect August 11, 1980. Copies of these rules can be obtained from the Water Court at P.O. Box C, Greeley, Colorado 80632. It is requested that a self addressed envelope be enclosed with each request.



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES
JAMES R. CLARK
IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

July 7, 1980

MEMORANDUM

TO: MARGARET MC COLLUM

FROM: JIM CLARK, DIVISION ENGINEER *JRC*

SUBJECT: WATER NEWS - JUNE

June weather was warm and dry. The average temperature was almost 4 degrees above normal and only 0.85 inches of precipitation was recorded in Greeley. This is 47% of average and brings the irrigation year total to 12.57 inches which is still 160% of average. Precipitation was spotty throughout the Division with some areas receiving more than Greeley and other areas receiving less.

Milton put a 1909 call on the river on June 30, but a heavy shower the evening of July 1, relieved the pressure and the call was cancelled July 2. River flows have dropped drastically and if the warm, dry weather holds, a call on the river will be a reality again soon.

River flow at Kersey was 310,000 A.F. during June. River flow at Julesburg was 610,000 A.F. during May and 260,000 A.F. during June.

Preliminary estimates made by this office indicate the flood damage in Districts 1, 2, 4, and 64 was approximately \$800,000. This figure covers only the emergency repairs necessary to get the diversion structures in operation without any upgrades.

Congratulations go to Les and Jenny Dalby on the birth of Andrew Benjamin May 17. Mother and son appear to be doing well.



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES

IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

May 30, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: Jim Clark, Division Engineer *EWB for*

SUBJECT: Water News - May

The first half of May was cool and wet enough to keep the farmers out of the fields. Many farmers are late getting corn and sugar beets planted and it will take a nice hot summer and a late frost to allow the crops to mature. The last half of May was warmer and dryer which has allowed most farmers to finish planting. The UNC weather station recorded 2.49 inches of precipitation for the month which is 103% of average. This brings the irrigation year total to 11.72 inches which is 195% of average. The reservoirs are generally full and most river flows have remained high all month. The flow at Kersey for May was 750,000 AF.

Assessing flood damage and keeping the news media informed of river conditions has kept the Division staff busy. The total flood damage will not be known until the rivers go down but there is plenty of damage evident even with the high water. We still have the main snow melt to look forward to and there is plenty of snow left in the high country. There still is no call on the river.

The City of Westminster obtained Court approval of their change of water right, exchange and plan for augmentation after many hours of serious negotiation with the objectors in the case. Several of these objectors have applications in the court for similar plans and the Westminster Plan may set some guide lines for plans of this nature that come to court in the future.

Our secretary, Rachel Harmon had surgery early this month and we have missed her. The rule around the office has been: If you write it, you type it. So please get well soon, Rachel.

Division I WATER NEWS - Ed Blank

April started and ended with storms but reasonably nice weather was enjoyed in between. A low of 16 was recorded on the 3rd and a high of 85 was recorded on the 21st. The average monthly temperature was only slightly above the ten year average. A total of 2.26 inches of precipitation was recorded at the UNC Weather Station. This is 153% of average for April. The total for the water year is 9.23 inches which is 256% of average. Greeley recorded 6.1 inches of snow during April bringing the season total to 78.6 inches compared with the average of 32 inches.

The above normal temperatures with widespread general precipitation in Northeast Colorado, especially the front range increased river flows dramatically at the end of the month. The following peaks were recorded:

<u>Station</u>	<u>Day</u>	<u>Peak Discharge</u>
St. Vrain - Mouth	5/1	4,860 cfs
Big Thompson - Mouth	5/1	6,050
Cache La Poudre - Mouth	5/3	3,500
South Platte - Kersey	5/2	18,200
South Platte - Weldona	5/3	14,700
South Platte - Balzac	5/4	13,820
South Platte - Julesburg	5/7	13,160

Nearly everyone in the Greeley ^{of the} was involved in trying to measure the peaks as they came through. The precipitation continues so ~~the~~ river flows have remained high even though temperatures have been cool. The high mountain snow melt has not really started yet. Most of the reservoirs are filled to capacity and several have had to release water to stay out of the flood pool thus adding to the high river flows.

Larimer County made a declaration of disaster due to flood damage. The Big Thompson decided to rechannel itself in Southwest Loveland and converted 10-15 acres of pasture into a gravel pit. In doing so the City of Loveland lost approximately 1500 feet of sewer

interceptor lines and several manhole structures and alternate routes had to be utilized to transport sewage to the treatment plant. In addition, the Big T. Manufacturing Ditch lost their headgate structure and about 300 feet of canal to the river. The diversion dam was also heavily damaged as the river cut around and under the concrete structure. The Farmers Ditch headgate structure is still in place but there will have to be a lot of material hauled in to rebuild the ditch ^{banks} walls. There were numerous roads and bridges in western Larimer County that were rendered useless except to 4 wheel drive vehicles and some communities were isolated for short periods. Rock slides were also a problem.

Inspection of Empire Reservoir revealed that seepage was much higher than normal and water was released to lower the guage height approximately two feet. The winter and spring precipitation has caused the embankments to be saturated.

River flow at Kersey for April was 178,000 AF and there is still no call on the river. Reservoir storage was 1,211,300 AF (including Horsetooth and Carter) on May 1 which is 107 % of average.

Congratulations go to Valerie Bollheimer on passing the BAR Examination and being accepted as a member. *Valerie is Judge Behrman's Bailiff.*



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES

IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

April 14, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: Jim Clark, Division Engineer *ed for Jim*

SUBJECT: Water News - March

The Greeley area continues to be blessed with above average precipitation as 1.87 inches was recorded at the UNC weather station. This is 249% of average and brings the irrigation year total to 6.97 inches or 329% of average. The April 1st snow survey results indicates the high elevation snow pack remained near 130 % during March while the lower elevations received substantially more precipitation. Greeley temperatures remained slightly below average with a high of 67° on the 15th and a low of -1° on March 1st.

River flows remain above average for this time of year. The March flow at Kersey was 89,000 AF and at Julesburg was 97,000 AF. There is still no call on the river. Reservoir storage is 107% of average (with Horsetooth and Carter).

The Division One Water Commissioner Meeting was held April 8th. Those in attendance included Jeris Danielson, Reiner Haubold, and Eric Wilkinson from the Denver Office, Bob Wilson from Personnel, Jim McDanold and Rick Augustine from the Ft. Logan office, Earl Phipps of the Northern Colorado Water Conservancy District, and Ray Liesman, Marcie Spelts and Valerie Bollheimer from Water Court. There was a good exchange of ideas and information and very beneficial to all who attended. We extend special thanks to the State Engineer and Earl Phipps for taking time out of their busy schedules to attend our meeting.

We welcome Mrs. Mary Osaki to Water Court. Mary is the newest member of the Water Clerk's staff.



DIVISION OF WATER RESOURCES

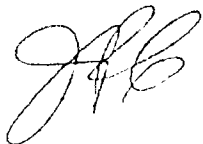
DEPARTMENT OF NATURAL RESOURCES

IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

March 11, 1980

MEMORANDUM

TO: MARGARET MC COLLUM

FROM: JIM CLARK, DIVISION ENGINEER 

SUBJECT: WATER NEWS - FEBRUARY

The amount of precipitation that fell on Greeley was less in February than any of the three previous months but was still 220% of average as 0.66 inches was recorded at the UNC station. This brought the irrigation year total to 5.10 inches which is 372% of average. Temperatures were more than 2 degrees cooler than normal at Greeley with a high of 58° on the 27th and 28th and a low of -12° on the 9th. These temperatures have helped to keep the snow from melting and the ground is still covered in many areas. Temperatures did moderate some at the end of February and most of the lower South Platte River is now free of ice.

The South Platte River basin snow pack ranges from 120% to 140% of average. Reservoir storage is 116% of average (with Horsetooth & Carter) and there continues to be plenty of water in the river. The flow past Kersey for the month was 80,000 AF and there is still no call on the river.

A hearing was held in Division One Water Court February 7th concerning several cases that had conditional decrees in which the applicants had failed to file applications for continued diligence or to make absolute within the prescribed time period. The conditional decree was abandoned in 31 cases. The remainder were required within 60 days to show cause why the conditional decree should not be abandoned.

The taking of testimony in the Mission Viejo Trial was completed February 29th (eight full days of trial). The filing of briefs and reply briefs are scheduled to be completed within the next four months. A decision is expected after that time. This hearing covered the thirteen wells from which the applicant intends to pump from beneath the Highland Ranch all economically recoverable water within the Arapahoe formation.

A letter from Chief Justice Hodges dated March 1, 1980 has been received confirming changes in the case numbering system. All Division Water Courts are to follow the system which became effective January 1, 1980. Questions or suggestions are to be directed to Ed Zimny, State Court Administrator's Office, Two East 14th Avenue, Denver, Co 80203 (861-1111, ext. 138) or to your local water court clerk. This letter also indicates there are other changes in the planning stages which are designed to ensure uniformity among all seven water divisions. These changes are to be implemented throughout the coming year.

We welcome Brock Edward to Division One! Brock made his appearance March 6th and weighed 6 pounds 3 ounces. Mother and son are doing well and father is beaming. Congratulations to George and Tina Sievers.



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES

IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

February 13, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: Jim Clark, Division Engineer

Ed Blank for Jim

SUBJECT: Water News - January

The Greeley area continues to receive above average precipitation as 1.44 inches was recorded at the U.N.C. station during January. This is 411% of average for January and boosts the irrigation year total to 4.44 inches which is 415% of average. Precipitation amounts have varied some throughout the Division but reports coming in from the outlying areas indicate all are receiving some moisture. The average daily temperature during January for Greeley was approximately 1 1/2 degrees colder than normal with a high of 61° recorded on the 13th and a low of -12° recorded on the 31st.

The snow pack in the South Platte River Basin improved greatly during January. Measurements made February 1 indicated the snow pack was 146% of average which is 10% above the amount measured a year ago and substantially above the January 1 reading. Reservoir storage on January 1 was 1,030,000 A.F. (including Horsetooth & Carter) which is 111% of average. There is still no call on the river.

Cold temperatures at the end of January have caused rivers and streams to freeze up in many areas. This has increased the work load of the hydrographers as they try to keep the stations from icing up completely and try to determine the amount of water flowing beneath the ice. In addition, the deadline for getting last years stream flow records in for publishing is fast approaching. It seems this deadline gets earlier each year.

There was great activity around Prospect Reservoir Sunday morning, February 10, as the dam failed on the east side allowing some 3,000 A.F. of stored water to be released downstream. There was concern that Lord Reservoir, downstream, might not be able to withstand the water from Prospect Reservoir but with the outlet gate open and the spillway operating the Lord Reservoir Dam held. There was some flood damage in the low areas below Prospect Reservoir and some roads were washed out. The investigation is continuing.

Judge Behrman will be holding Term day March 4. At the present time there appears to be approximately 80 cases scheduled to be called this Term day.



DIVISION OF WATER RESOURCES

DEPARTMENT OF NATURAL RESOURCES

IRRIGATION DIVISION ENGINEER
ROOM 208 8th AND 8th OFFICE BLDG.
GREELEY, COLORADO 80631
OFFICE: 352-8712

January 14, 1980

MEMORANDUM

TO: Margaret McCollum

FROM: Jim Clark, Division Engineer *JAC*

Subject: Water News - December

The weather continues to set records for precipitation. The UNC weather station recorded 1.11 inches during December with 1.00 inch recorded from 11 inches of snow during the post Christmas storm. There was not much wind with this storm as compared to the Thanksgiving storm. Still, travel was hampered because of the quantity of snow. Temperatures ranged from a low of -6° on the 31st to a high of 59° on the 18th with the average temperature near normal. Precipitation for the calendar year was 22.56 inches which is a record for Greeley. This is 185% of average.

The Highland Ventures (Mission Viejo) water case filled three full days of hearing during December (including the 26th and 27th) with Bill Smith, Reiner Haubold and John Romero spending time in the witness chair. A nice way to spend the Christmas Holiday's isn't it Bill and John? February 28 and 29 have been reserved for days 8 and 9 of these hearings which only covers the Arapahoe Wells.

The new case numbering system will be expanded in Division One to include the quadrennial applications beginning January 1980. These cases will refer to the original conditional filing for continuity and case of identification. The new system is designed to facilitate easier processing of water court statistical data.

Astipulation was finally reached in the Weldon Valley Ditch Company case (W-9427) in which a complaint was filed by the State claiming expanded use of water under the ditch system. The stipulation for Entry of Judgement was approved December 19, 1979 by Judge Behrman. It stated that all expansion done before the complaint was filed on November 18, 1978 would be allowed and all subsequent expansion along the Weldon Valley Ditch would not be allowed. Our task now is to put all other ditch companies and water users on notice concerning expansion, using the Weldon Valley Ditch Stipulation as a guide.

A verbal policy statement was made by the Judge in December indicating that movement of a well over 200 feet from the decreed location or changing quarter section would require the filing of a change of water right.

The Water Court has a new mailing address. Correspondance should be addressed: P.O. Box C, Greeley, Colorado, 80632. The telephone number is 356-4000, ext. 550 for the clerks office.

The Water Court has had some problems with persons filing diligence applications or applications to make absolute combined with change applications. Since the issues which can be raised on a diligence or application to make absolute are of a much narrower nature than on a change application the Water Court has been insisting that no other action be combined with a diligence or application to make absolute.

Lamm, Anderson say water heads Legislature's agenda

By DON LYLE
News Staff

Water legislation will be at the top of the list among agricultural topics before the Colorado Legislature next year, two of the state's top politicians told farmers Monday in Colorado Springs.

Gov. Richard Lamm and state Senate majority leader Fred Anderson, R-Loveland, both placed water among Colorado's major problems.

"We've got to spend a lot more money on water development," Lamm told delegates to

the annual meeting of the Colorado Farm Bureau at the Four Seasons Motor Inn. "We can't depend on Washington anymore."

California, he said, has more congressional delegates than all of the Rocky Mountain states put together, and the lower-basin states will gang up on Colorado soon to get more water rights.

Anderson said it looked to him as if there will be more than 20 bills pertaining to water before the state Legislature in the coming session.

One of the state's first priorities, he added, should be to get the Colorado Power and Water Authority moving.

Colorado adopted a small water project bill in 1972, he explained, but it wasn't funded until two years ago when \$8 million was set aside for the fund.

Last year, \$40 million was added, but there were no projects on line and ready to go.

Now, he said, there is \$55 million or \$56 million in the fund and no active projects.

The Colorado Power and Water Authority was established last year with the ability to float bonds to raise money for water projects.

Using state seed money, it could leverage its cash 10 to 12 times, he said. "If we used \$50 million, we could get \$250 million to \$750 million for new water projects."

Arizona water engineers were happy last year, Anderson continued, because Lake Powell had excess water for the first time. That was Colorado water going out of the state with no compensation for state residents.

And, he added, 300,000 acre-feet of water goes out the South Platte River every year.

"That's why we want to see Colorado get involved in water projects," he said.

Agriculture will be the big loser if the state doesn't get involved in water projects, he added, because agriculture is at the bottom of the totem pole — water flows to money.

The Power and Water Authority, he continued, must have the right of eminent domain. Otherwise, one person could block any water project forever.

The state also should take over the Environmental Protection Agency task of issuing permits for work on streams, ponds, rivers and lakes through dredge and fill permits, Anderson said.

Under the EPA system, he said, it took the town of Snowmass nine months to get a permit to do a job that took two men three days to complete.

The state's minimum-stream-flow legislation has to be amended, Anderson continued. The commission that controls that legislation has gone beyond the intent of the Legislature.

It now control 4,000 miles of streams and 466 lakes, he said, and has taken control of downstream diversions and water exchanges. The original intent was to protect high mountain stream-water levels.

Anderson also said he wanted to do away with the water referee system, which, he said, has become cumbersome and legalistic.

Record precipitation filling aquifers

By BILL JACKSON
Tribune Staff Writer

The record precipitation in 1979 and the beginning of 1980 has replenished the alluvial aquifers of area rivers and resulted in a bright outlook for water supplies during the 1980 irrigation season.

But the water level for the northern High Plains of Colorado continues to show a drop and unless something is done soon, the Ogallala aquifer will be dry in the next 30 to 40 years.

That's the opinion of Jim Clark, engineer at the Greeley office of the Water Resources Division and the results of a five-year study by Ronald G. Borman, compiled for the U.S. Department of the Interior.

"We're pretty back up to where we should be after last year and the year before. The alluvial aquifers have been replenished and all in all, we're in good shape," Clark said.

He explained that alluvial aquifers are those sand and

gravel aquifers on river bottoms.

According to Dr. Glen Cobb, meteorologist at the University of Northern Colorado, since the beginning of the water year Oct. 1, the area has received 5.38 inches of precipitation. Average, he said, is 2.09 inches, meaning that the area has already received 255 percent of normal precipitation.

And, Cobb noted, 51 inches of snow has fallen in the area during the winter season, 155 percent of the normal 32 inches the region gets in a full winter season. The most the area has ever received came in 1972-73 with 70 inches, followed by 1898-99 with 60½ inches and 1973-74 with 60 inches.

Clark said that, combined with the good return flow to the river from last year's irrigation, has contributed to replenishing the river bottom aquifers. And area reservoirs are full, he said.

"We've got an average

mountain snowpack to date and if that continues, we're looking at another excellent water supply for the upcoming irrigation season," Clark said.

But, Clark said, precipitation in the mountains and the return flow to rivers, such as the South Platte, doesn't help the replenishment of the Ogallala aquifer one bit.

"That water just runs down the river and on out of the state," Clark said.

The report by Borman, prepared in cooperation with the Colorado Department of Natural Resources, Division of Water Resources, and the Office of the State Engineer, measured 665 wells, most of which were irrigation wells. Several stock and government-owned observa-

tion wells were also measured, especially in area where there is little irrigation. The area covers about 9,500 square miles of eastern Colorado.

Borman said in his report that water levels in much of the Ogallala Formation have been declining because ground-water pumping for irrigation is removing ground water from storage.

Clark said that area is scheduled for complete depletion within the next 30 to 40 years.

The Tribune randomly picked wells in each of the counties mentioned in the report, to get an average water level drop for each of those counties.

That survey revealed that Phillips County has the

highest rate — a 15-foot drop during the five years using an average of 20 wells.

Others included Cheyenne County, 6.8 feet on 20 wells, Yuma 6.8 feet on 20 wells, Kit Carson 6.4 on 20 wells, Sedgwick 5.4 feet on nine wells, Prowers 5 feet on 10 wells, Washington 1.7 feet on 20 wells, and Kiowa, less than 1 foot on 15 wells.

"Phillips County used to be a replenishment aquifer, but in the past 10 to 15 years a lot of wells have been sunk in the area and that's why it shows such a drop," Clark said.

Clark said that several public meetings were conducted across eastern Colorado during the 1960s and "the people in that area decided that's what they wanted;

they wanted their share of the water no matter what it meant.

"We issued well permits up to what the area could handle," Clark said.

But, he said, in 1975 a plan was developed which would replenish the Ogallala Formation — a plan which would call for a series of canals to be used to pump water from the South Platte River to what Clark called "leaky reservoirs" which would then recharge the aquifer.

He said an attempt is currently being made to form a conservancy district in the area to finance the various concepts of the project and add that several reservoirs would be utilized in the plan.

GREELEY TRIBUNE

The Greeley Daily Tribune

Original script written by Horace Greeley

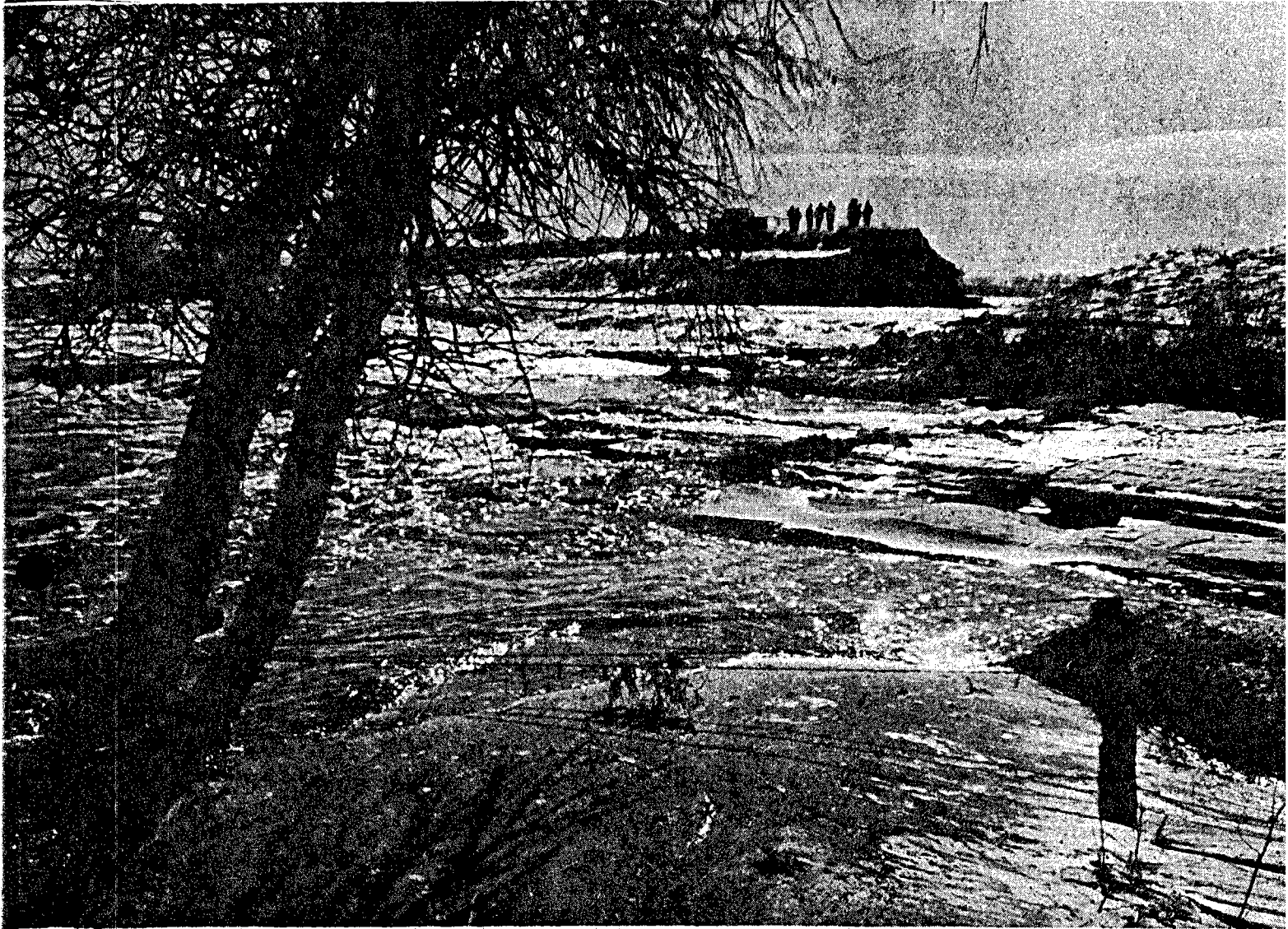
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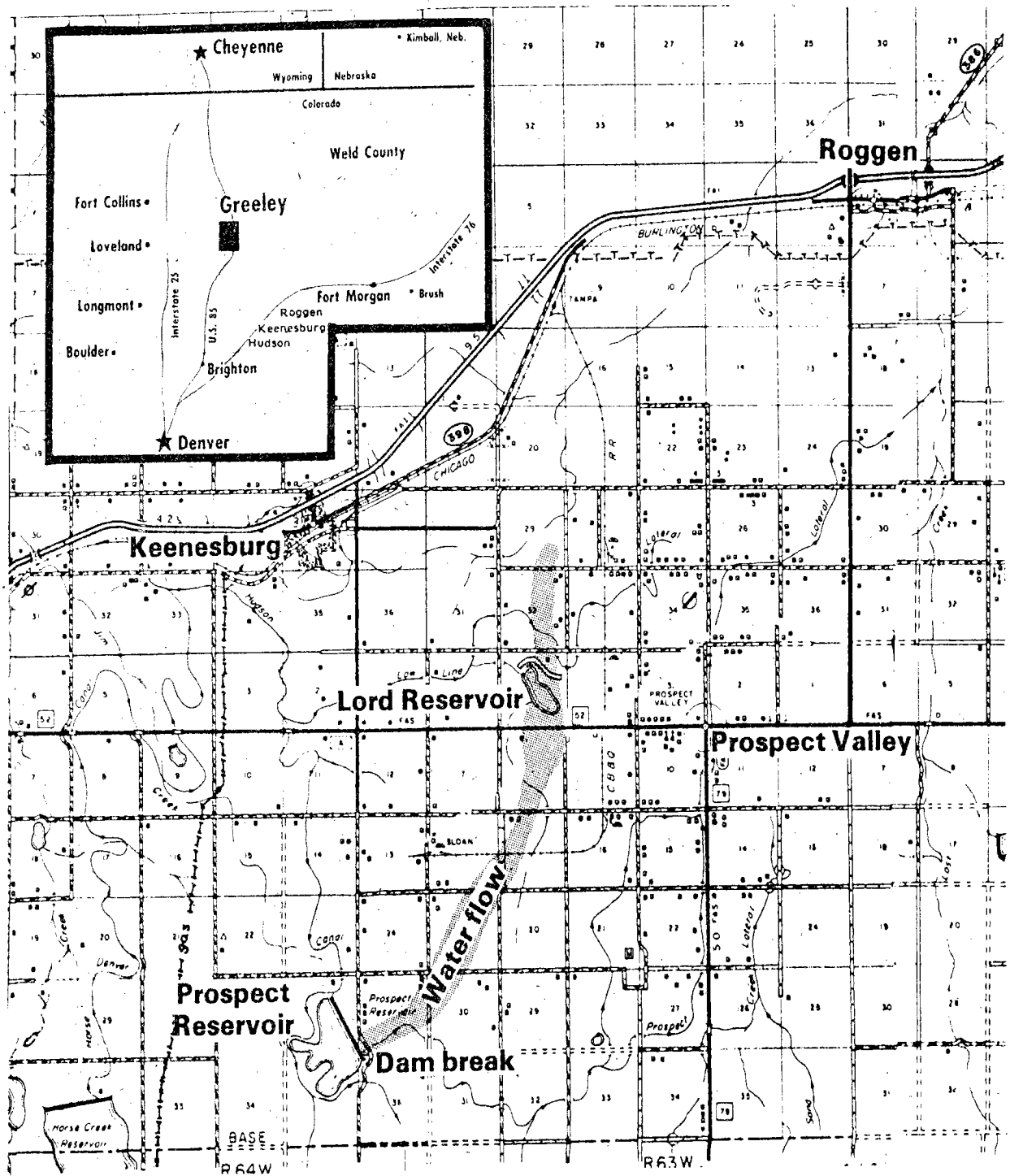


Prospect Reservoir breaks

Water moves downstream out of the broken Prospect Reservoir Sunday afternoon. Another reservoir

downstream from Prospect Reservoir kept most of the flood water in check, although several square miles of

cropland were inundated. Cause of the break is under investigation. (Tribune photo by John Blake)



Cont'd on next page

Dam break floods S.E. Weld

By JOHN SEELMEYER
Tribune Staff Writer

KEENESBURG — Shallow floodwaters, the result of a broken irrigation dam, were expected to reach the community of Roggen Monday afternoon.

The bulk of the floodwaters, however, were expected to miss most of Roggen. Authorities said they believed the water would be channeled to the edge of town by a railroad embankment in the area.

Officials said the broken dam at Prospect Reservoir in southeast Weld County was closed at mid-morning Monday, but an estimated billion gallons of water had spilled out before the breach was closed.

The break may have been caused by animals such as muskrats which burrowed into the side of the dirt-and-concrete dam, according to Charles Starks, president of the Henrylynn Irrigation Co. which owns the reservoir.

As water poured from the break in the 40-foot-high dam, sheriff's officers evacuated about 100 families downstream Sunday night. Most of them spent the night with relatives and friends.

No deaths or injuries were reported, although the Colorado State Patrol rescued three persons who were stranded in their autos when the cars became surrounded by floodwaters.

Authorities haven't begun to estimate damage from the flood. At least eight county roads — along with Colo. 52 — were damaged by the water, and a handful of farms were inundated by the water which generally was no more than 2 feet deep.

Weld County Engineer Wayne Smyth voiced optimism damage to roads might be less than first expected because the water moved relatively slowly after the break Sunday.

But, he said, authorities may have to wait days before they can assess the damage.

"It's going to take a long time for the water to recede," said Smyth. He explained the floodwaters can't soak into the frozen ground, which is already soaked from heavy winter snows.

Authorities first learned of leakage from the dam from area residents about 9:30 a.m. Sunday. By 2 p.m., the

dam 6 miles south of Keenesburg had broken.

Jim Clark, director of the State Division of Water Resources office in Greeley, said Prospect Reservoir had a capacity of some 7,680 acre-feet of water, and held 5,686 acre-feet when checked on Jan. 31.

(An acre-foot is a measurement which is the amount of water spread over one acre, 1 foot deep.)

Water flowed from the broken Prospect Reservoir about 5 miles across cropland to Lord Reservoir, a smaller irrigation lake.

Lord Reservoir, with a capacity of 3,449 acre-feet, was about 75 percent empty when Prospect Reservoir broke.

Still, Lord Reservoir filled rapidly. Water spilled from its dam, and around the east end of the dam, as the flood continued its path north and east.

Officials were relieved late Sunday, however, when Lord Reservoir's dam didn't break as they had feared.

One farmer downstream from Lord Reservoir, Jim Zimbelman, said his farm was surrounded by water late Sunday night. Zimbelman said, however, he was able to move livestock before the slow-moving waters reached his farm.

Other farmers downstream from Lord Reservoir were busy late Sunday building dikes around the farms and livestock facilities.

The American Red Cross established emergency shelter at Weld Central High School, some 3 miles from the broken dam, Sunday night, but only a handful of evacuated persons appeared. They were sent to spend the night with other area residents.

Weld County officials won't seek disaster designation for the area until floodwaters receded and the damage can be assessed, County Commissioner Chairman Bill Kirby said.

Clark said effects of the dam break on farmers who will need irrigation water next summer depend on the speed in which the dam can be rebuilt.

"If they can repair it, we've got plenty of water," Clark said.

Continued from page 1

The dam was built in 1910 and reinforced with concrete in 1965. Sunday's break tore a hole about 100 feet wide in the dam, and more damage resulted as bulldozers moved dirt to plug the break.

Water moved fairly slowly across the flat farmland after the break.

For example, the water took about four hours to move from Prospect Reservoir to Lord Reservoir.

Observers said Monday morning, however, the water appeared to be moving more rapidly as it approached Roggen.

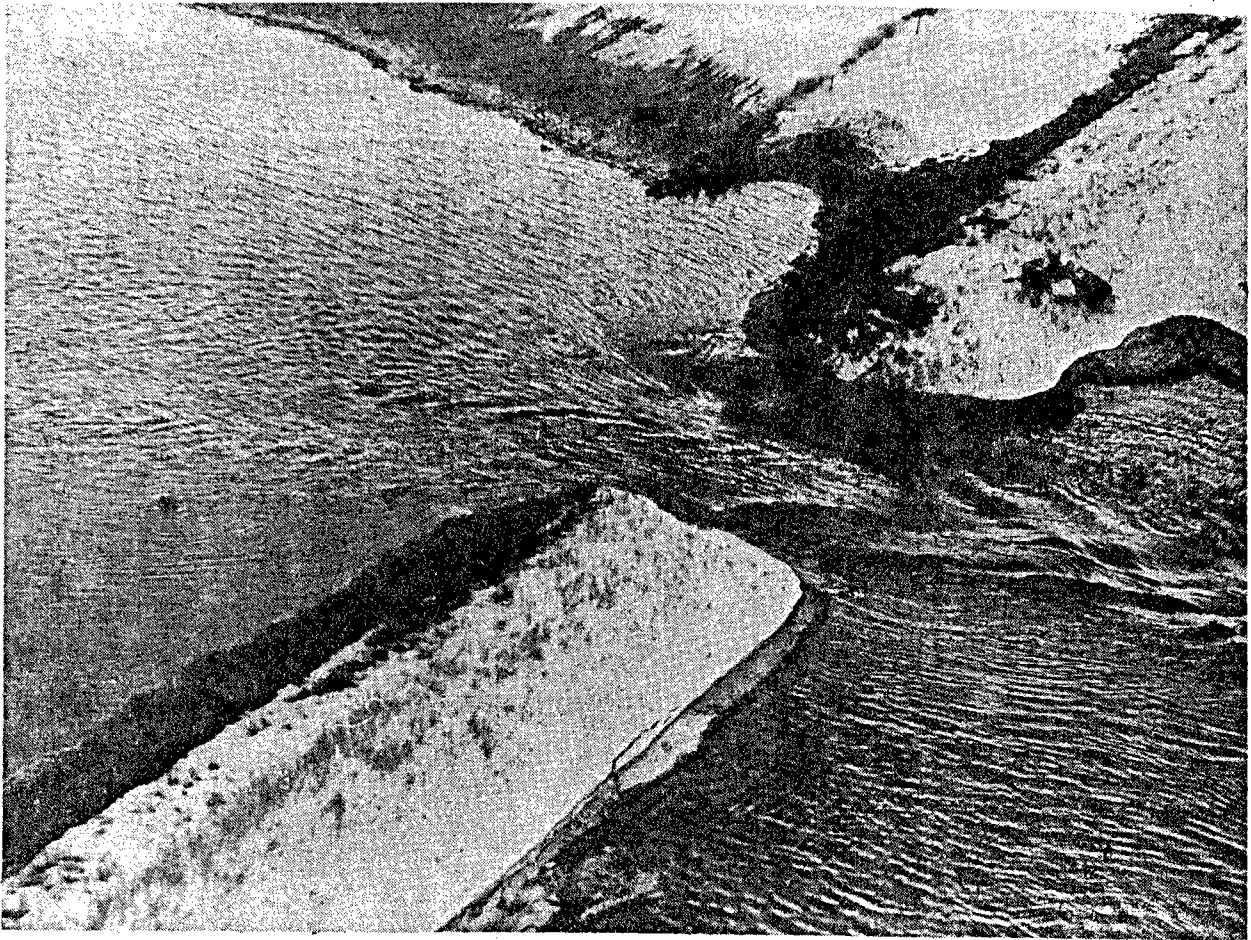
The water traveled 4 miles between midnight and 10 a.m., and had covered a total distance of about 10 miles since the break.

Authorities said they feared the water would travel north to Burlington Northern Railroad tracks near Roggen, dam behind the railroad embankment, then travel east into the community.

They were hopeful, however, that two small culverts under the railroad west of Roggen might divert some of the water away from the town.

The same area was struck by a similar flood in 1949.

Continued on page 2 next page



The break

This aerial photo, shot from a helicopter owned by Channel 7 of Denver, shows the break in Prospect Reservoir south of Keenesburg which flooded several square miles Sunday afternoon. About 100 families were told to evacuate their

homes downstream Sunday night, but few appeared at emergency housing at Weld Central High School. (Tribune photo by Geoff Forester)

Flood area aid studied

DENVER (AP) — The breaching of the Prospect Valley Dam has caused such extensive damage to homes, farm machinery and feed that Gov. Richard Lamm may be asked to declare southwest Weld County a disaster area, Rep. Walt Younglund said today.

The Republican lawmaker from New Raymer said he flew over the area early in the morning before traveling to Denver. He said the channeling of roads and fields from the earthen dam is going to be expensive.

"I'd say at least one or two million dollars," Younglund told a meeting of House committee chairmen.

"At its broadest point, I'd say the water is about 1,000 feet wide. It's damaged a lot of machinery, cars, and

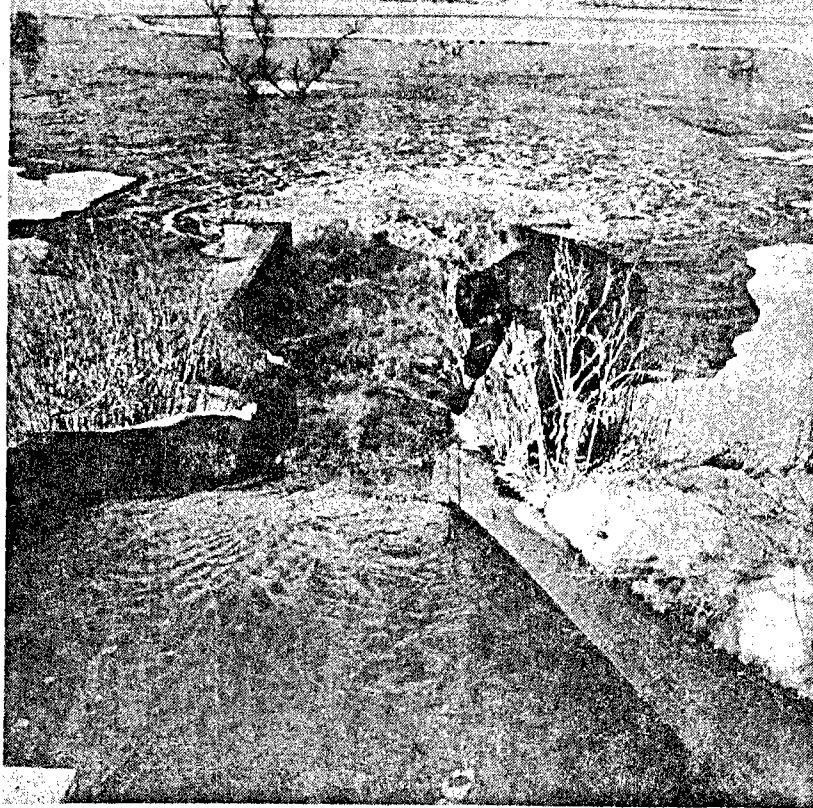
homes, and haystacks and other feed areas have been hit hard, too. I think those stacks are spoiled. It's melting a lot of snow, and building up.

He said cattle were being evacuated from the area, but added he did not know of any extensive livestock deaths.

Younglund said he will discuss the possible disaster request with Rep. John Hamlin, R-Fort Morgan, and with ditch company officials in the area, and make his decision later. Part of the damaged area is in Hamlin's district.

Younglund said he has not discussed disaster funds with the governor or any of his staff members. Lamm has been notified of the flooding and is being kept aware of developments.

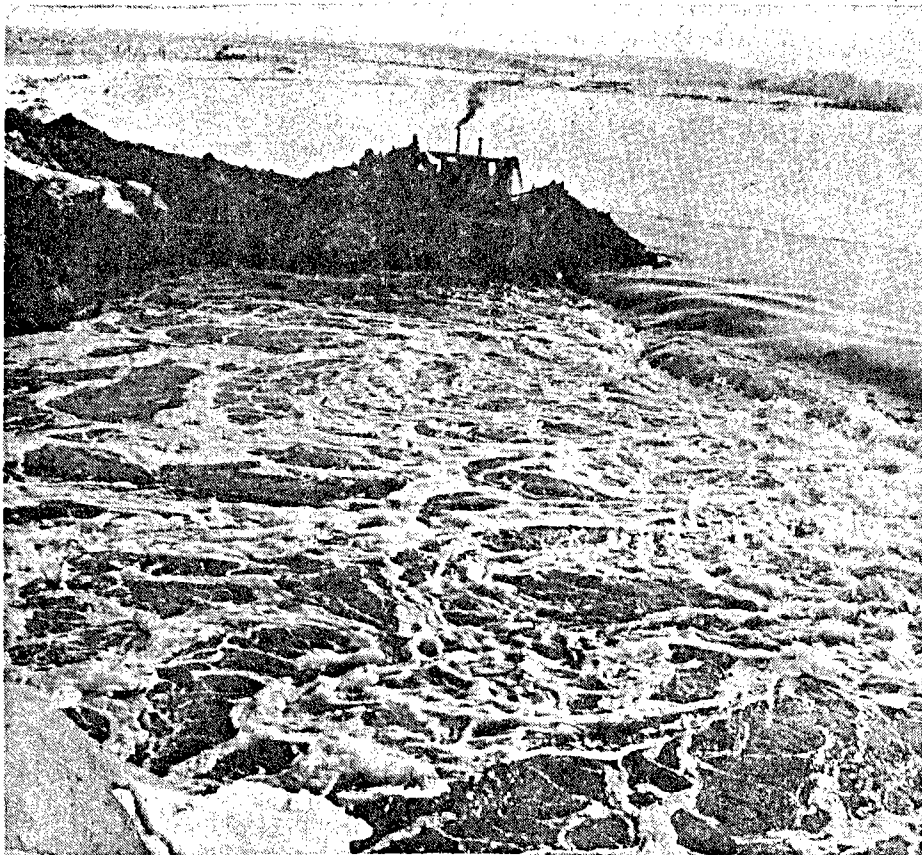
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Full spillway

Eric Wilkinson, an employee of the State Division of Water Resources, discovers that the spillway at Lord Reservoir near Keenesburg has only a foot of capacity — out of a total of five

feet — Sunday afternoon. Lord Reservoir detained water which spilled out of broken Prospect Reservoir in southeast Weld County. (Tribune photo by John Blake)



Closing the break

A bulldozer operator shovels dirt into the breach at the broken Prospect Reservoir late Sunday afternoon. Officials believe the break may have been caused by small animals bur-

rowing into the dam. Damage from the break and flood hasn't been estimated. (Tribune phot by Mike Peters)

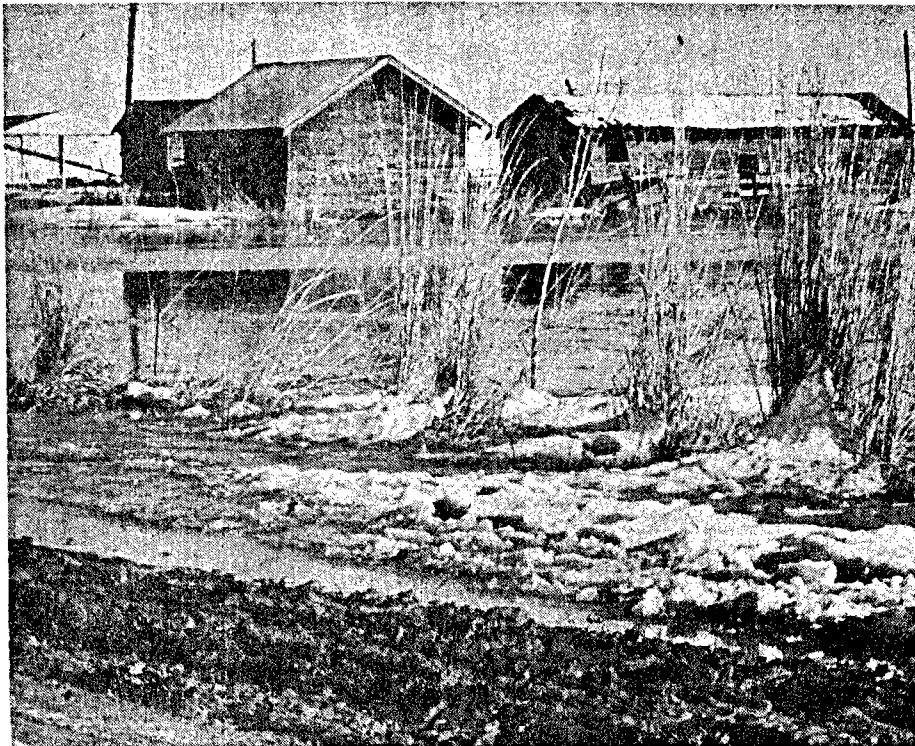
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Flooded farm

Bob Jakel, left, and Ken Barney watch flood waters flow onto the farm of Jakel's brother, Jim, south of Keenesburg Sunday afternoon. Shallow water inundated the farm after

Prospect Reservoir near the Adams-Weld county line broke Sunday afternoon. A handful of farms had been flooded by Monday morning. (Tribune photo by John Blake)



Watery pasture

Shallow water covers a pasture at the Jim Jakel farm southeast of Keenesburg after flood waters poured from the broken Prospect Reservoir. Officials Monday began assessing

damage to roads and farms from the flood which began Sunday afternoon. (Tribune photo by John Blake)

2-14-1980

Bigger staff needed to inspect dams

The collapse of the dam at Prospect Reservoir has pointed up a dangerous shortage of inspectors in the State Engineer's office.

The office does not have an adequate staff of inspectors to implement the law requiring an annual inspection of every dam in the state.

Thus some other dams in Colorado could be — like the Prospect Reservoir dam was — a disaster waiting to happen.

Jerry Danielson, the state engineer, says his office has five inspectors to study the 2,300 dams in the state. But with each inspector unable to examine more than 200 a year, only 1,000 dams get inspected annually.

Only about 500 dams that are considered high-risk receive an annual inspection. High-risk dams are those having the potential for loss of life and major property damage if they break.

The Prospect Reservoir dam was not considered to have a high risk. Neither does the nearby Lord Reservoir dam, which was rebuilt after a break in 1949 and which was threatened last weekend as flood waters from Prospect Reservoir flowed into Lord Reservoir.

The last official inspection of both the Prospect Reservoir and Lord Reservoir dams was March 24, 1977, Danielson said.

Meantime, rodents may have been busy at the Prospect dam. Officials of the Henrylynn Irrigation District, owner of the reservoir, are not certain what caused the break. But they speculate that rodents such as muskrats may have dug holes in the side of the dirt and concrete dam.

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When the Prospect Reservoir dam broke, an estimated one billion gallons of water poured downstream to the Lord Reservoir, a smaller reservoir, and caused it to overflow.

While the dam at Prospect Reservoir was not considered to have a high risk, officials estimate damage from its break could run as high as \$2 million.

Farmland was flooded and damaged. Roads were washed out. Ditch and reservoir facilities were also damaged. About 100 families were evacuated. The town of Roggen was threatened with flooding.

The broken Prospect dam was an unfortunate reminder that the law requiring an annual inspection of each dam in the state has a good purpose.

The State Legislature is in session. Gov. Richard Lamm has inspected the flooded area, in southeast Weld County. So has Weld County Rep. Walter Younglund. To everyone at the State Capitol the message should be clear.

The legislature should not adjourn without seeing that the State Engineer's office has an adequate staff of inspectors to implement the law.

It should not wait for another break, possibly with even more serious consequences, to remind it once again of the need for action.

3-6-1980

Dams should be checked by owners

To The Tribune:

This is in response to your editorial of Feb. 14 concerning dam inspectors in

the State Engineer's Office and the recent flood which occurred as a result of the break in the Prospect reservoir Dam.

No one would argue that the 2300 dams in the state should be inspected regularly. First, they should be inspected and maintained by the owners and operators of the various irrigation companies and conservancy districts that own such dams, and secondly, they should be periodically inspected by the state engineer.

It is interesting, and perhaps ironic, that the blame for the break in the Prospect Dam was transferred somehow to the state government. While the state should make every effort to provide regular inspections, nevertheless, the principal responsibility for the maintenance and safety of the dam must rest with its owners. The fact that the state maintains an inspection program does not and should not, it seems to me, relieve the operators of the irrigation district from their basic ownership responsibilities.

Also, after your editorial on Feb. 14, I had a staff member check with the State Engineer's Office for information

about dam inspectors. I find that the State Engineer's Office has not requested any additional dam inspectors in either of the past two budget years and there has been no request for the next budget year. When asked, the State Engineer indicated to a staff member that he believed other personnel are a higher priority than dam inspectors. To my knowledge, neither the state engineer's office or the Governor's office have amended their budget requests to add more inspectors.

James M. Kadleck,
State Senator,
Greeley

Aid sought for flood area

By JOHN SEELMEYER
and RON TOLLEFSON

Tribune Staff Writers

ROGGEN — Southeast Weld County residents worked Wednesday to divert slow-moving floodwaters from Roggen, a community about 14 miles northeast of the broken Prospect Reservoir.

Authorities voiced hopes, however, that the water wouldn't reach Roggen. They said the flood was practically stopped about a mile from the town.

Meanwhile, Gov. Richard Lamm made an aerial inspection of the flood-stricken area Wednesday afternoon, and State Rep. Walt Younglund, R-New Raymer, said he'll seek disaster aid from two state sources.

Lamm made a helicopter inspection of the area, accompanied by top officials of the state's Highway Department, Department of Agriculture and

Division of Water Resources, just hours after the county commissioners declared the flood-stricken region a disaster area.

Younglund said he'll seek disaster funding for damaged roads through the governor's office, and will study possible aid for damaged ditch and reservoir facilities in the form of low-interest loans from the Colorado Water Conservation Board.

Damage to the broken dam and surrounding farmland could be as much as \$2 million, the manager of the Henrylynn Irrigation District, owner of the broken dam, said Tuesday.

Lawrence Gerkin said, however, an accurate damage assessment will be difficult because farmland in the area is covered with water, snow and ice.

The county commissioners met with representatives of the irrigation com-

pany Wednesday afternoon to discuss the flood, and its damage.

Sheriff's Capt. Rick Dill said officials believe further flood damage will be minimal, unless warm weather melts snow to feed the flood.

Water continued to spill out of Lord Reservoir downstream from the broken dam Wednesday, but Dill said the amount of water coming from Lord Reservoir was sharply reduced from earlier in the week.

When Prospect Reservoir broke Sunday afternoon, about a billion gallons of water moved downstream to Lord Reservoir, which was only about a quarter full at the time of the break.

Still, water spilled out of Lord and flooded an estimated 1,500 acres of farmland for about 5 miles downstream.

Cause of the break hasn't been determined, although Henrylynn officials have speculated it may have been caused by burrowing rodents — such as muskrats — which dug holes in the side of the dirt-and-concrete dam.

Jerry Danielson, the state water engineer, Wednesday contested reports that the dam was inspected last year. Danielson said earlier this week the dam hadn't been inspected since early 1977 because his office is short of inspectors.

A Brush water commissioner told Denver reporters he inspected the dam last year.

Danielson said, however, an inspection by a water commissioner untrained in engineering doesn't qualify as an official inspection required annually under state law.

Anderson pushes for state water planning

DENVER (UPI) — Colorado must take immediate steps to stop excess water from flowing down rivers into other states or face permanent loss of the precious resource, a state lawmaker has warned.

The plea was made Wednesday by Senate President Fred Anderson, R-Loveland, as the Senate considered a \$1 million proposal calling for engineering and planning studies on major water projects.

The GOP lawmaker, who has been the chief architect of the state's water laws over the

past several years, said 300,000 acre-feet of water a year above the compact agreement already was flowing out of the state on the South Platte River. He said the same problem basically was occurring on other streams in the state.

"If we continue to do this, then someday we're going to face litigation on the fact that Colorado, by its refusal to act, has actually abandoned that water to these other states," Anderson warned.

Members of the Senate took no immediate action on the

bill, which the GOP legislator described as one of the most important issues to be considered during the 1980 legislative session.

The bill originally carried a \$100 million price tag but was whittled down when several lawmakers raised their eyebrows at the high cost. Some critics believe even the \$1 million figure is too high.

The bill creates a nine-member Water Resources and Power Development Authority which would make engineering and planning studies on various water pro-

jects a requirement in the state.

Anderson said he believed such legislation was vital because of President Carter's stand against funding costly Western water projects and because of the fact so much of Colorado's water was now simply pouring unused out of the state through its river channels.

A dispute broke out in the Senate over an amendment which would allow Colorado lawmakers to decide by resolution which of the water projects should undergo the

full engineering and planning studies. Some lawmakers among them Sen. Ron Stewart, D-Longmont, argued the selection should be done in bill form.

If lawmakers act by resolution, they would preclude Gov. Richard Lamm, from having any veto power. Anderson argued Lamm still would have a voice before any actual construction could be carried out since funding for such programs must be included in a bill.

Anderson said roughly \$980 million worth of water projects was sitting on Carter's "hit list" right now.

"When you look at major projects that are possible under something like this, you could probably double that number," Anderson said. "Then you start looking at smaller projects."

In other Senate action, lawmakers gave final approval and sent to the House a bill requiring physicians, nurses, nursing home personnel and other officials to report suspected cases of abuse or neglect of the elderly.

Water users find dark clouds ahead

By **BILL JACKSON**
Tribune Staff Writer

The time is before the people of the State of Colorado to put money into water projects — if it isn't already too late.

And the Division of Water Resources has served notice to all water users in Water Division 1 of the state engineer's intent to issue cease and desist orders to any water user who attempts to expand the use of his water rights contrary to law.

Those two points were the thrust Monday night of the 13th annual meeting of the Weld County Underground Water Users Association at the 4-H Building in Island Grove Park.

Rep. Walt Younglund, R-New Raymer, delivered the first point, stating that it was his belief that "the Narrows Dam and its supporters have delayed water projects and will for some time to come" in the state, adding that "we're 20 years late" in putting aside state monies for projects.

Younglund explained three bills before the current session of the state legislature designed to put money aside, but said that one of them — SB130 — is already in trouble and probably will not pass.

That bill, introduced by Sen. Fred Anderson, R-Loveland, would have created a bonding authority to

allow any group to form and go ahead and build dams. He said the bill almost died in the Colorado Senate and has come close in the House, but added that while it is still alive he didn't think the measure would pass.

"And the trouble is the state is losing water to Nebraska and the lower basin states. If Colorado doesn't act soon, Nebraska and the lower basin states will be filing on that water that legally belongs to Colorado," Younglund said.

The other two bills have been introduced by the New Raymer House member — HB1039 and 1040. HB1039, Younglund said, would call for 5 percent being taken from the state sales tax and put into the water conser-

vation fund, while HB1040 would take 30 percent of all surplus in the state coffers to be put into the same fund.

He said that over a 10 year period, HB1039 would provide \$462 million for the water conservation fund, while as much as \$160 million could be released for the fund from HB1040.

Younglund, in stressing the need for such state-funded projects, said that in the case of a three-year drought, the City of Denver would be without water two years following that drought.

Jim Clark, division engineer for Water Division 1, explained the second point at the meeting.

Clark distributed a letter to the some 20 members at

the meeting signed by himself and Jeris A. Danielson, state engineer, which said in part that during the past several years, many water users and state water officials have become increasingly concerned over the expanded use of water rights throughout the division by conversion from flood irrigation methods to the use of sprinkler irrigation.

"Since conversion to sprinkler irrigation increases the on-farm efficiency of water use, there is a tendency on the part of some irrigators to irrigate lands not historically irrigated by flood irrigation methods. This expanded use of water rights can cause injury to other appropriators on the stream who are dependent on the return flow from historical water use," the letter said.

While not opposing the use of sprinklers, Clark said the division and state engineer oppose the expanded use of water rights which injure other appropriators and said the state will take measures to insure that does not happen.

In a response to a question, Clark said that it was his opinion "that cities will come under the same rule as farmers" and said his office will oppose any expansion moves.

In a short business meeting, Jack Wells, George Kammerzell and Ed Frizler were re-elected to the board of directors of the association.

Rivers approaching flood stage

2 GREELEY (Colo.) TRIBUNE

Thurs., April 24, 1980

By BILL JACKSON
Tribune Staff Writer

Continued steady rains on the plains and heavy snow in the mountains the past two days have caused Colorado's rivers to swell and increased worries about possible flood dangers.

In the northern part of the state, water experts are keeping close tabs on the South Platte and Cache la Poudre rivers, while in the southwest part of the state, flooding on the North Fork of the Gunnison River was called "imminent" by an official in Paonia.

Joe Clayton, Water Resources Division District 8 engineer in Denver, said he expected the South Platte "to flow over its banks and into agricultural land" in the Henderson area south of Brighton by sometime Thursday afternoon.

And Jim Clark, Water Resources Division 1 engineer in Greeley, said that "we'll probably lose the Paterson Ditch east of Greeley" sometime Thursday afternoon as water continued to rise in the immediate area.

The Poudre, meanwhile, was seeping into low lying areas between Greeley and Windsor by Thursday morning. According to Jack Neutze, water commissioner in Fort Collins, the heavy flow in the Poudre was the result of 1 inch or more of rain in the Red Feather Lakes and Buckhorn Mountain areas, and because of renewed releases of water from Seaman Reservoir.

The Poudre, Neutze said, was running at 1,500 cubic feet per second (cfs) at the mouth of the canyon near west of Fort Collins Thursday morning. It was at 330 cfs Wednesday morning, he said.

At Kersey, the South Platte was up to 3,570 cfs Thursday, an increase from 2,180 cfs Wednesday. More was ex-

pected in the next one and a half to two days as a result of water being released from Chatfield Reservoir west of Denver.

"We were releasing 300 cfs from Chatfield Wednesday and we still gained 600 acre feet in the reservoir," Clayton said. He said the U.S. Army Corps of Engineers were now in charge of the reservoir since the reservoir had gone into the flood plain. The Corps had increased the release to 500 cfs Thursday morning.

"If I was still in charge, I would have increased it to 750 cfs. It's not a real problem at this point, but it could get there," Clayton said.

In addition, Clayton said, some ditches that flow into Chatfield have been shut off, meaning that instead of that water running into the reservoir, it is going directly into the South Platte.

"Because of that and the increased release from the reservoir, the South Platte should reach 3,500 cfs at Henderson by Thursday afternoon. That's enough to cause it to go over its banks and put water onto agricultural land," he said.

Clark said Thursday morning that there was only about 3 feet of ditch bank left on the Patterson, which supplies irrigation water east of Greeley. With the increase of water coming down the South Platte and on the Poudre, he didn't see how the bank could keep from washing out.

"The flood stage on the Poudre is about 1,900 or 2,000 cfs; anything above that and it really starts spreading out. Flood stage on the Platte in this area is something around 12,000 cfs, so we still have quite a ways to go before we're in real trouble there," Clark said.

Neutze said he was hoping that the

cloud cover over the mountains would "slow down the flow on the river after that warm spell, but the rain is just making things worse."

He said the North Fork of the Poudre was running 500 to 600 cfs Thursday morning as a result of the rain, well above average.

"We might have a repeat of last year when the ground got saturated and farmers didn't need irrigation water. The result was flooding," Neutze said.

The rains resulted in another .57 of an inch for Greeley, upping the year's total moisture to 5.18 inches, compared to 4.72 inches on this date in 1979, a record year for moisture. Similar amounts were reported across Weld County, while 1½ inches fell in 24 hours at Lamar, .83 of an inch was reported in Littleton, .75 of an inch in Fort Collins, .73 of an inch in Colorado Springs and .69 of an inch in Denver. Heavy snow was falling in Denver early Thursday morning.

Sunny skies were reported in eastern Colorado by Thursday morning however, and skies were beginning to clear in the Greeley area by mid-morning.

Warm weather and not rain was the problem in Paonia, where town manager Jim Cheney told United Press International that unless the town receives financial assistance to shore up the banks of the North Fork of the Gunnison and divert the channel, flooding was imminent.

*If the river floods, Cheney said some homes could be damaged or destroyed. Another concern, he said, was possible damage to the town's sewage treatment plant and to water, sewer and natural gas lines along the banks and beneath the river bed.

Arguments end in water case

LITTLETON, Colo. (AP) — A special water judge has begun reviewing stacks of legal briefs and lengthy court transcripts as he works toward a key legal ruling that could determine the fate of Colorado's underground water reserves.

Oral arguments in the case were completed Wednesday at Littleton District Court, but Judge Marcus O. Shivers told attorneys he probably will need weeks, perhaps months, to sift through the documents and arrive at a decision. His ruling could have far-reaching impact on future water-rights cases in Colorado.

The case, a consolidation of hundreds of water-rights applications, pits would-be developers of underground water against landowners and water district officials who fear unchecked commercial exploitation that could deplete the state's limited water reserves.

Most of the applications were filed by Denver geologist-lawyer John Huston and his partners, who claim they are entitled to claim the rights to water under land they do not own. The objecting attorneys say state law prohibits tapping

groundwater unless the owner of the surface land consents.

Shivers, who was appointed to preside over the case by the state Supreme Court, said his ruling almost certainly will be appealed to the high court and that final decisions on individual applications could be years away.

The applications — all filed in December 1978 — seek more than 1.5 million acre-feet a year of water.

Huston and his partners are applying for more than 1.3 million acre-feet annually, in areas ranging across most of Colorado. Huston's plans include hydroelectric plants, irrigation of crops for use in gasohol production, and storage of mountain water in naturally formed underground reservoirs.

Huston's attorney, Michael White, says the applicants have no intentions of creating a monopoly and are proposing creative techniques to tap water that otherwise would go unused. But lawyers for the state and its water districts have termed the plans "flim-flam" and say a ruling

favorable to Huston would encourage other applications and eventually accelerate the depletion of underground reserves.

Shivers will not rule on the specific applications, but will attempt to resolve five constitutional questions which are at the heart of the controversy over the filings.

Those questions are:

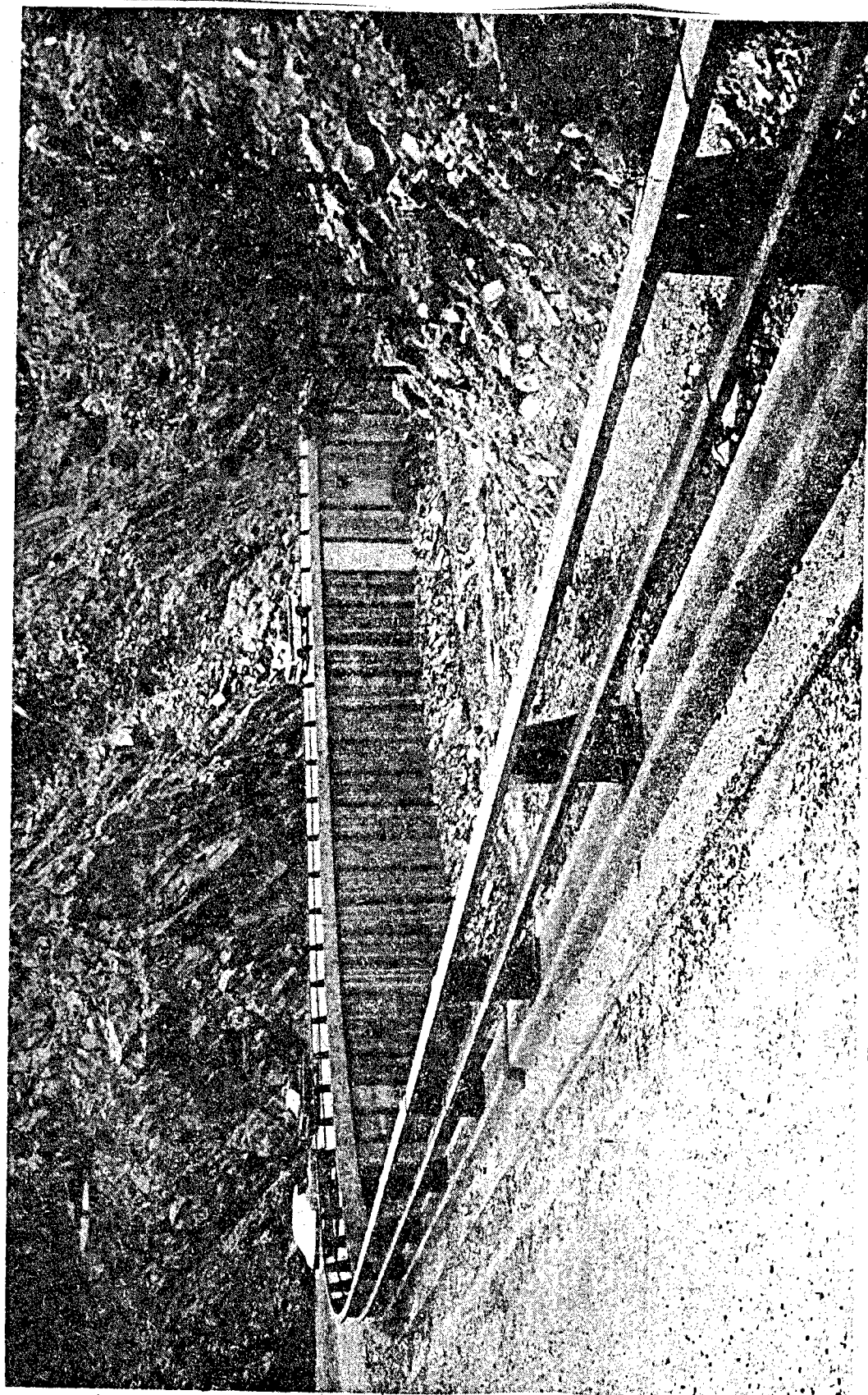
—Whether non-tributary waters — waters not flowing into a river or stream — can be claimed under the "first-come, first-served" policy which applies to tributary waters?

—If non-tributary waters can be appropriated, under what authority?

—Can these groundwaters be appropriated by persons having no property interest in the surface land?

—Can these waters be appropriated for use by persons other than the claimant or those whom the claimant represents?

—Can applications for non-tributary waters be filed without first applying for and obtaining permits from the state engineer?



Big Thompson highway finished

Traffic is moving up U.S. 34 in the Big Thompson Canyon more easily these days than any time since a tragic flood during the summer of 1976, and reconstruc-

tion of the highway is just a few days from completion. The \$25 million project included some tricky engineering problems — especially because most of the work

was completed during winter nights. See story and more pictures on page 8. (Tribune photo by Bruce Robb)

Debate indicates opposition

By **BILL JACKSON**
Tribune Staff Writer

FORT COLLINS — Citizen resistance toward the construction of two dams on the Cache la Poudre River northwest of Fort Collins is growing, if the results of a debate conducted on the campus of Colorado State University Tuesday night is any indication.

The event, sponsored by the Colorado Wildlife Federation and the CSU Student Chapter of the Wildlife Society, featured Dugan Wilkinson, a consultant engineer, Harlan Seaworth, president of the North Poudre Irrigation Co., Tom McKenna of Preserve Our Poudre Organization and Gerry Horak, an environmental consultant.

The four debated the resolution that the Cache la Poudre River should be preserved by a recreational designation under the Wild and Scenic Rivers Act. Moderator was Delwin E. Benson, president of the Colorado Wildlife Federation.

The discussion followed strict debating procedures, with Seaworth and Wilkinson taking the negative stance, and McKenna and Horak the affirmative. Each was given 10 minutes for an initial presentation, followed by three minutes of questioning by the opposite side. A question-and-answer period by the participants and audience of some 125, mostly anti-construction, followed the debate.

McKenna opened the session. He said he felt that the river "should be and can be" designated as wild and scenic, charging that "we'll never get another chance."

He said there are "plenty of other good alternative ways to catch water flowing to the plains" and listed them as increasing the size of both Seaman and Horsetooth reservoirs, using pipelines instead of ditches for the transfer of water and "by building a

reservoir out on the plains somewhere," such as The Narrows, located near Fort Morgan.

"Not one river in the state is preserved under the act. The Poudre is the only one that will be preserved. If we don't preserve it, none along the Front Range will be," McKenna said.

He said that the Poudre is a free-flowing river and if damned warm water would flow below those dams, fishing in the stream would be ruined. He said the fish hatchery above Rustic would be under water and other recreational aspects the river now affords would be destroyed.

"The Poudre Canyon is a major haven for wildlife. There are three herds of mountain sheep, 10,000 to 12,000 deer and several species of birds. All of that should be preserved," McKenna said.

Wilkinson was next on the dias. He said he found the resolution "totally unacceptable" and said he felt that way because the feasibility study on whether or not the so-called Grey Mountain Project should be built has not been completed.

The project calls for the construction of two dams — the Grey Mountain Dam just west of Ted's Place near the mouth of the Poudre Canyon and the Idylwilde Dam, about 1½ miles downstream from the existing state trout rearing ponds, or about 5 miles west of Rustic.

Wilkinson said he felt the feasibility study was necessary, "so that everybody has a basis for making a final decision with all the facts."

He said that any decision to make the river wild and scenic "would halt any future water development," and he said that "I disagree that the river could not be designated wild and scenic in the future."

The Grey Mountain Project, he said, "does not include all the river, but only segments of

it. Some Forest Service segments (of the river) could be designated wild and scenic even with the dams."

He gave a history of the river, noting that 80 percent of the flow of the river comes during May, June and July, and said the river provides the recreational uses it now has because of water projects built along it in the past 80 to 90 years or more.

"Construction of these projects continues today. Long Draw Reservoir has been enlarged and is a real benefit to the community and Joe Wright Reservoir is practically completed and will be used this year," Wilkinson said.

He said that a greater water supply is needed by agriculture, particularly in drought years.

"The benefits of the Grey Mountain Project are that it would provide more recreation, power which would pay for the project and flood control," Wilkinson said.

Horak said that "no one has to defend the Forest Service study to make the river wild and scenic," and echoed McKenna's comments that the Poudre is the last major stream along the Front Range that could come under "this protection."

He said the proposed project "will force Larimer County residents to choose between esthetic beauty or more growth."

He said agriculture would derive only 12 percent of the benefits from the project, while municipalities and industry would get 50 percent of the benefits.

"I feel like I should be debating the chamber of commerce rather than these two gentlemen," Horak said.

Seaworth said that "I have a problem with locking up a renewable resource on the Poudre that would be a benefit to this country."

He said that while he hoped it didn't happen, "some of you

newcomers to this area are liable to see what a flood on the Poudre is really like this year," remembering his grandfather spending the night on top of a barn that was located in northwest Fort Collins when the river flooded in 1904.

The Grey Mountain Dam, he said, would prevent a flood such as that one from happening.

He said that there "has been more recreational facilities since the construction of the Colorado-Big Thompson Project and Horsetooth Reservoir than anyone could have realized," stating that Grey Mountain Project would do the same.

He gave a history on water appropriations of the river and said the advantage of the dams are that they would be on the channel of the river, "catching the water that is available."

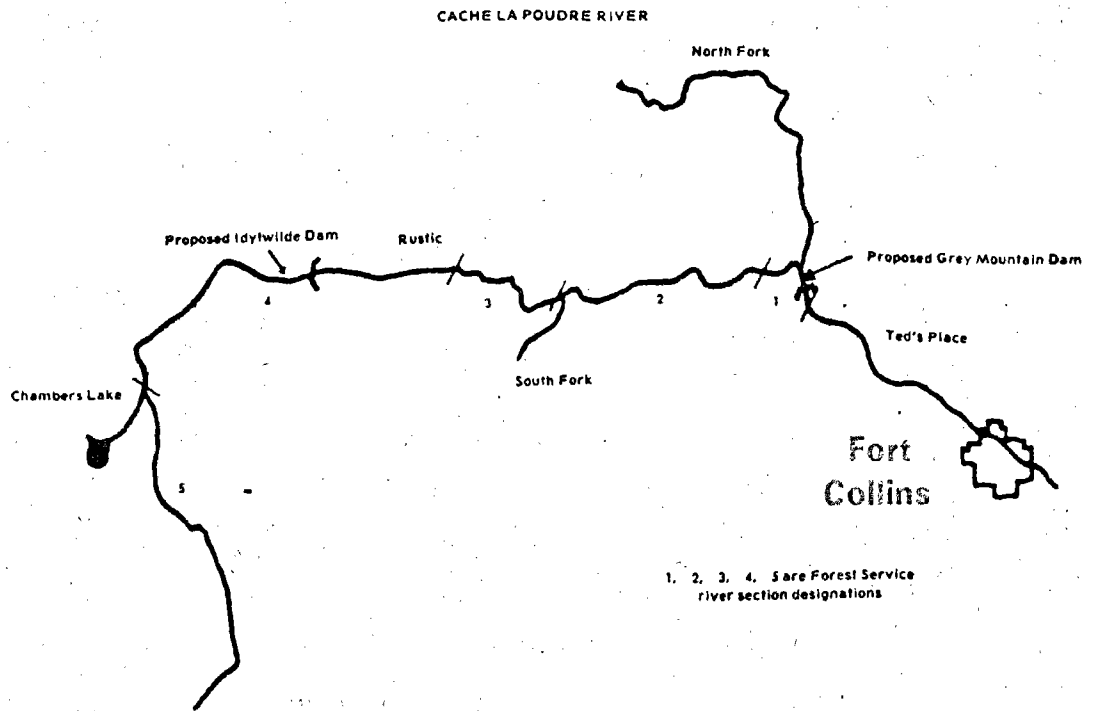
He said that water to Seaman or Horsetooth can not be derived directly from the river.

"Other states depend on Colorado water as much as Colorado does and I'm sure Nebraska would like to have a full right to Poudre water," Seaworth said.

In summary statements, McKenna said, "We should look to the future and realize what people might think of us if we dam the river." Wilkinson said, "I wonder what people will think of us we don't dam the river."

Wilkinson said that "agriculture is one of the best sources of food that I can think of," and said the uses of the river should be preserved, while Horak contended that "Larimer County government and agriculture has done nothing in the past to preserve agriculture."

That followed a half-hour period of questions from the audience and ended with Benson urging the crowd to respond to the Forest Service study.



Harlan Seaworth



Dugan Wilkinson



Tom McKenna



Gerry Horak

PSC Project May Peril Whooping Cranes

By PEGGY STRAIN

Denver Post Environment Writer

The survival of the whooping crane and a 53-mile stretch of the Platte River in Nebraska critical to the endangered bird would be jeopardized by the construction of Wildcat Dam and Reservoir for the Pawnee Power Plant in northeastern Colorado, the U.S. Fish and Wildlife Service has determined.

Further, the Public Service Co. of Colorado, which is building the \$424 million power plant, will have to replace water used in the reservoir or establish a program to improve or maintain the habitat for the birds along the Platte River, the agency said in a report about the project.

The proposed Narrows Project on the South Platte River near Fort Morgan and the Grey Mountain Project near Fort Collins proposed for the Cache la Poudre River, a South Platte tributary, would have the same damaging effect on the crucial waterfowl habitat.

Therefore, if the projects go forward, they will face similar scrutiny and requirements, said John Gill, leader of the endangered-species team for the Fish and Wildlife Service in Salt Lake City.

THE PAWNEE PLANT eventually will consist of two 500-megawatt coal-fired units for a grid system which provides electricity for about 70 percent of the state, including the Denver area. The project figures prominently in the company's effort to accommodate a growing need for electricity in Colorado because of growth in the state.

But apparently there will be no immediate changes as a result of the Interior Department recommendations. PSC, which won't build the second unit for several years, has decided to exercise its rights to water in the South Platte system upstream from the Pawnee plant to cool the first unit and is seeking approval of the state engineer's office for that plan.

In a "biological opinion" about the effects of the Wildcat Dam and Reservoir, which could make possible the use of 14,000 acre-feet of water annually to cool the coal-fired plant, the agency said, "We can only conclude that the proposed project would adversely modify designated critical habitat of the whooping crane."

The report also said, "We are deeply concerned over the condition of the Platte River and the trend toward unsuitable whooping crane habitat" because of the cumulative effect of water withdrawals.

In addition, the report said increased ground-water pumping — if uncontrolled — will deplete the Platte River by at least 330,000 acre-feet at Overton, Neb., just downstream from the important waterfowl area.

The region designated by the government as "critical habitat" for the whooping crane is in central Nebraska between Shel-

ton and Lexington, about 260 miles down river from the proposed reservoir near Brush. The reservoir would hold up to 60,000 acre-feet of water and be on Wildcat Creek. The creek is a tributary of the South Platte River, which joins the Platte River in Nebraska.

UNDER AN AGREEMENT between PSC and the Riverside Irrigation District in Fort Morgan, PSC has agreed to pay for construction of the reservoir in exchange for a 50-year lease for 14,000 acre-feet of water. An acre-foot of water is the volume required to cover an acre to a depth of 1 foot.

The water would be stored in Wildcat Reservoir and released into the South Platte River system as an exchange for cooling water pumped from wells near the Pawnee Power Plant. The first unit of the plant is about 76 percent completed, but work hasn't begun on the dam and reservoir.

Last year, the Fish and Wildlife Service began reviewing the project after it was determined a dredge and fill permit from the Army Corps of Engineers in Omaha, Neb., would be required.

The Endangered Species Act requires that the Fish and Wildlife Service recommend reasonable alternatives for any project in which such federal action is required if the project is likely to jeopardize continued existence of an endangered species or destroy important habitat. Because the permit is considered a major federal action, an environmental impact statement also could be required.

The opinion issued by the agency said one alternative is for the corps to condition the permit to require replacement of the water that would be consumed because of the reservoir.

THE SECOND ALTERNATIVE identified was for the improvement or maintenance of whooping crane habitat along the Platte River, which probably would include water releases and land acquisition and habitat management. The latter could include clearing and leveling of islands, the burning or spraying of vegetation and water flow regulation.

Gary Reeves, a spokesman for PSC, said, "We're still looking at all the various options," and the company hasn't estimated the cost of the alternatives. He also said the company hasn't decided yet whether it will modify its plans in accordance with the Fish and Wildlife Service's recommendation. If that doesn't occur, agency officials have said they will oppose issuance of the permit, which would stop the reservoir from being built.

"The habitat has suffered about all it can. If we start taking any more away from the river without offsetting or replenishing water, we have to take the position that it (development) could jeopardize" the

Cont'd Next Page

whooping cranes, Gill said. He said the suggested alternatives "are not tantamount to saying a project can't be built, but the impacts have to be compensated for."

The utility isn't the first to come to grips with waterfowl needs along the Platte River. In 1978, the Basin Electric Power Cooperative in Bismarck, N.D., agreed to establish a \$7.5 million trust fund to protect the Nebraska habitat. The agreement came after the Interior Department said the Grayrocks Dam and Reservoir on a Platte River tributary near Wheatland, Wyo., would threaten the existence of the whooping crane.

GEORGE GREEN, manager of PSC governmental licensing and planning, said the company doesn't have any interest in the proposed Narrows Project as an alternative source of water supply for the power plant. He also said the company must "resolve the question of whether a 404 (dredge and fill) permit is required, and if it is, what has to be done to get it."

The 53-mile stretch of the Platte River is critical to the whooping cranes, because they stop there during spring and fall migrations. The celebrated birds became a national symbol for the need to protect rare species from extinction after their number declined to 15 in 1941.

Vi Solt, a public affairs officer at the Fish and Wildlife Service in Denver, said the central Nebraska Platte River habitat "serves the needs of a lot of other migratory waterfowl other than the whooping crane. This habitat is so important. We don't want other wildlife to become endangered too."

The whooping crane decline occurred in the last quarter of the 1800s when drainage of wetlands and hunting nearly reduced the birds to extinction. Later there were collisions with power lines, fences and other man-made obstructions. About 75 of the whoopers now receive nutritional needs from the Platte during their migrations. The stream also provides an open expanse for nightly roosting on sand and gravel bars.

Because of its open, spacious character and shallow depth, the stream is used by the whoopers, which don't inhabit narrow or wooded rivers in which predators could hide. But biologists are alarmed about the changes that have occurred in the Platte River during the past 40 years. During that time, water development projects have narrowed the channel and caused vegetation to encroach so that in many places, the river is one-tenth as wide as it was in 1865.

Me 7
20, 1980, Denver, Colo.

Lamm says flood aid available

State agencies can provide \$1 million

By CARL HILLIARD
Associated Press

Gov. Richard Lamm told legislative leaders Monday that it's possible \$1 million may be obtained from state agency budgets for assistance to flood-damaged counties in northern Colorado.

Some funds could be appropriated "immediately" if necessary, Lamm said after the two-hour meeting.

On May 9, Lamm rejected a request from Larimer County for \$2.2 million to help cope with damage and to restore roads, bridges and irrigation facilities. Lamm said he had only \$18,000 in a special fund for emergency situations, but he promised to form a team to assess damages and determine the potential for more flooding.

He said he would make \$10,000 available from the Department of Local Affairs for sewer system repairs in the Loveland area and would form a task force of department heads to exam-

ine other potential problems.

Lamm further promised to summon legislative leaders to discuss the possible transfer of funds from state agency budgets, perhaps through reversions of unspent funds, as well as shoring up emergency funds and coping with problems as they develop.

On May 10, Lamm declared Larimer County a disaster area, for state funds, since the flood problems haven't been large enough to warrant federal disaster designation.

The first meeting of legislative leaders came Monday, and they signed off on the governor's proposals for allocating the monies.

Generally, the proposal would require negotiation of a state and local agreement, to include preparation by local officials of a plan, set definitions for emergency repairs by local jurisdictions with state verification, and approval of the work to be undertaken.

The local jurisdiction would be required to share repair costs to the limit of their funds.

The damage assessment team completed its review of the situation in Larimer, Weld, Morgan, Logan and Sedgwick counties and a memo which Lamm gave to the lawmakers showed:

— \$150,000 is needed for the Loveland area sewer system and related stream control in Larimer County.

— \$200,000 is needed for debris clearance in Big Thompson feeder streams in Larimer County.

— \$80,000 is needed to shore up irrigation systems and to strengthen headgates in Larimer County.

— \$115,000 would be required to repair non-state road and bridge systems in Larimer County.

— \$315,000 is needed for headgate strengthening and irrigation systems in other counties.

No decision was made, however, as to how much money would be made available for each of those items.

The governor and Pat Byrne, director of the Division of Disaster Emergency Services, discussed the funding with House Speaker Robert Burford, R-Grand Junction; Senate President Fred Anderson, R-Loveland; House Majority Leader John Hamlin, R-Fort Morgan; Senate Majority Leader Dan Noble, R-Norwood, and the chairman of the Legislature's Joint Budget Committee, Rep. Robert DeNier, R-Durango.

PSC sues to spend 30 million

Public Service Co. of Colorado and Riverside Irrigation District, Ft. Morgan, Colo., have filed suit in federal district court to proceed with construction of a 60,000-acre-foot reservoir project, Wildcat, in Morgan County.

The lawsuit, naming the Army Corps of Engineers Omaha district engineer, the regional director of the U.S. Fish and Wildlife Service and both agencies as defendants, contends that neither of the agencies have authority under either the Federal Water Pollution Control Act or the Endangered Species Act to examine the Wildcat Reservoir project beyond its anticipated construction effects on the environment.

PSCo and Riverside said that their right to use Colorado waters is a valuable, vested property right guaranteed by the state constitution, and that the federal government, having no right to the use of the water, also has no right to deny their ability to use their water rights.

PSCo's manager of governmental licensing and planning, George Green, said that even if the Corps and Fish and Wildlife did have jurisdiction over the construction of the reservoir project, "it is limited by Congress to a review of the construction activity impacts and not the proposed operation of the reservoir. We and Riverside officials contend that no federal

licenses or approvals are necessary for the reservoir."

The project, which has been planned by Riverside since 1895, calls for public Service Co. to construct the 60,000-acre-foot reservoir in exchange for 14,000-acre-feet of Riverside's water per year if necessary for PSCo's Pawnee Steam Electric Generating Station under construction near Brush.

The Army Corps claims that a permit is necessary because the consumptive use of water from the project would reduce the flow of water in the South Platte River, affecting the habitat of an endangered species (whooping crane) some 260 miles downstream in Nebraska.

PSCo and Riverside say their studies show that Wildcat would have no impact on the whooping crane.

The two organizations also point out that the Corps has no jurisdiction because Wildcat Creek, where the reservoir will be located, is not a navigable water, and as Green points out, "construction activities in the vicinity are not perceivable nor measurable 260 miles downstream."

Continued delay in the start of construction, PSCo and Riverside say, is escalating the cost of the project hundreds of thousands of dollars per month. The suit also requests that should the court determine that the government can

require the water rights of PSCo and Riverside to be subject to the Endangered Species Act, that they can be compensated with \$181.8 million for the water involved and costs incurred to date.

The Wildcat Reservoir will provide much more efficient water management for both PSCo and Riverside. Farming members of Riverside will benefit through a more efficient water distribution and storage system including drought protection, flood control and improved water delivery system. The district's only reservoir, Riverside, is at the extreme end of their district. A call for water from the opposite end of the district is often wasted when it begins raining in the period of several days it takes for the water to flow to the farmers' fields.

Two 500,000-kilowatt units at Pawnee (only one is planned and being built at this time) would require approximately 14,000-acre-feet of water annually. The additional 14,000-acre-feet committed to PSCo by Riverside would be a one-year carryover to insure deliveries in drought years.

Estimated cost of the Wildcat Reservoir as of March 1980 is \$30.2 million.

The Riverside Irrigation District has more than 200 members in Morgan, Weld and Logan counties of Colorado. The service territory includes more than 25,000 acres.

BUSINESS

Support your local business people all you can. They are the ones who support your various causes. They are the ones who pay hefty taxes and provide some local employment. They care. They're your friends and neighbors. Your support helps them grow and expand. Then everybody in the Platte Valley area is a winner.

Domestic wells drilled in town since 1972 are "illegal" says state water official

Kersey residents, who use well water to irrigate their lawns, have been concerned this week following visits from officials of the Colorado Division of Water Resources. According to unconfirmed reports some residents have already been told to stop using their wells. All wells installed after 1972 may be subject to closure.

Jim Clark, division engineer for the Greeley office, states Kersey is not alone in facing some water well shutdowns. It's a problem in many areas in Colorado. The closures are based on a 1972 law which states that wells can only be drilled if a permit is granted. Permits for domestic wells (those used to water lawns and gardens etc.) can only be granted for plots of 35 acres or more, the

engineer points out.

Clark says permits can still be obtained for household wells or those which serve inside household needs only.

Clark explains the 1972 well permit law followed an earlier water reclamation law passed in 1969. This law was to protect senior water rights and required the adjudication of wells used primarily for agricultural needs. Well owners had to belong to some type of augmentation plan to replace water drawn by irrigation wells in order that water would be available for persons holding senior rights should those rights be demanded. Normally, there is little trouble with water supplies unless there is a drought year.

The 1972 law also made provisions

for state supervision of domestic and household wells.

The office in Greeley has responsibility for supervising wells in the eastern quarter of Colorado. The checks recently made in Kersey, Clark notes, are part of ongoing spot checks the division makes to try to insure there are no illegal wells being drilled. He says their office lacks sufficient manpower to move as quickly and thoroughly as they'd like in enforcing the state law.

He notes any well drilled without a permit, since 1972, is an illegal well. He explains further that some persons advised to close down wells may take the matter to court for testing but no one can predict what the court will do. Some of the older wells might

be "grandfathered" in, but there is no guarantee. He doesn't see much chance of a well drilled in the past three or four years being salvagable. In most cases the casing will have to be pulled and the hole filled in.

Clark points out that persons who have older domestic wells could late register them to be in compliance. This could be done through the Greeley office.

Since wells are a matter of state jurisdiction the officials of the Town of Kersey have no records of the number of wells, legal and illegal, that have been drilled here, according to Lanell Swanson, town clerk. Clark did not suggest a timetable when owners of illegal wells may expect a visit from the state.

Better check well permits

by Cheryl Johnson

Do you have a garden? Or horses? Or other livestock? If you live in a home built since 1973, there is a possibility that you shouldn't be providing water for them.

Since 1973 many of the well permits issued by the Colorado State Division of Water Resources restrict water use to "in-house" use only. This means you cannot use water to irrigate lawns or gardens, nor water livestock.

If your well permit does not state in-house use only, it probably allows water for domestic use.

Domestic use well permits allow owners to irrigate up to one acre of lawn or garden. It also provides for livestock.

According to State Engineer Jeris Danielson, the Division of Water Resources has "always adhered to the requirements of the statute" regarding the regulation of private wells.

"The real problem is the enforcement with the limited number of personnel we have," Danielson said.

He said that persons found violating the limitations of an in-house well permit would be asked to stop.

"If they don't come into compliance, we will issue a cease and desist order. If they continue with the violation, we take them to court," he said. "And if the violator has caused any damage to other water users, he is subject to triple damages."

Danielson indicated that the Division of Water Resources is continuing to move to police the use of groundwater.

If you have any question concerning your well permit, you may call the Colorado State Division of Water Resources, in Denver at 839-3581.

Owners Urged to Register Wells

By BILL McBEAN
Denver Post Staff Writer

Because well permits no longer may be denied despite rapidly declining groundwater levels, the only protection remaining for domestic well owners is to register existing wells with the Colorado state engineer.

The engineer, Jeris Danielson, said last week that a recent court decision awarding 15 well permits to the Mission Viejo Co. means his office no longer may deny permits just because

groundwater in a given area is dropping.

Mission Viejo, a wholly owned subsidiary of the Philip Morris Co., plans to use the permits to provide some of the water needed for the new town of Highlands Ranch in Douglas County. The town could have a population of 90,000 by the year 2000.

For two years before the court decision, the engineer's office had been denying some well permits because of an alarming decline of the groundwater level in the Denver area.

However, Danielson said the decision still allows him to deny permits in areas where all groundwater rights have been vested. State law says water may be withdrawn from an aquifer as long as the amount being withdrawn is small enough to guarantee the aquifer a life of at least 100 years.

If all wells were registered, the engineer would know how much water was coming out of an aquifer and he would be able to determine its life expectancy.

But Danielson says his office esti-

mates that less than 50 percent of the state's domestic wells are registered with the state engineer. So when the engineer considers a well application, the vested rights of well owners are sometimes inadvertently ignored.

An aquifer is a strata of sand and rock which harbors recoverable amounts of water.

In some areas, wells are drilled close to one another and all legally available water under the wells has been claimed by the well owners. In such cases, there might be cause for denying additional permits, depending on what information on existing wells the state has in its files.

Water Judge Robert A. Behrman's decision is significant because it deals with the principle of "material injury." State law says one man's well may not do material injury to the vested rights of another man's well.

Behrman ruled the level of water in a man's well isn't part of his vested water right. He said the engineer can't

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Well Owners Urged to Register

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deny a man the right to develop water under his own land just because developing that water might lower the water table.

A group of homeowners with wells in Arapahoe and Douglas counties, organized as Water in Our Wells, complained that the Mission Viejo wells would so drastically alter the groundwater levels that the homeowners will be forced to drill new, deeper and far more expensive wells.

The well owners said this constituted material injury. Not so, Behrman said. If Mission Viejo's wells hurt the other well owners, the owners may sue for monetary damages.

Danielson points out that this is

much easier said than done. "They're faced with a problem, because the burden of proof is on them," Danielson said. "They are going to have to figure out which of Mission Viejo's wells is doing them injury, and that's a very, very difficult burden."

He said aquifer groundwater is a finite resource being "mined" in the Denver basin. In other words, it's being removed and not replaced.

"There's no question that ultimately, if we continue to use this water, it's going to run out."

But Danielson says he can't be more specific about when and where the water is going to run out — primarily because his office hasn't ever been given the money to study the problem.



NEWS PHOTO BY FRANK MURRAY

Chatfield recreation area flooded by runoff

Tom Rendler, left, and Harry McCormack, both of Denver, fish at the end of the main road leading to the Chatfield Reservoir Recreation Area. A large section of the road, as well as picnic tables and the facilities in the background, are under water because of spring runoff in the South Platte River.

1980 LEGISLATION

There were no significant water bills passed in 1980.

