

ROY ROMER
Governor



JERIS A. DANIELSON
State Engineer

DIVISION OF WATER RESOURCES
WATER DIVISION I

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January 15, 1992


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

Dear Dr. Danielson:

Attached please find the Annual Report for the 1991
irrigation year.

I do appreciate the support that has been extended to me and
our staff by you and all of the Denver people. I look
forward to the 1992 year and to the challenges that need to
be addressed.

Sincerely,


Alan D. Berryman
Division 1 Engineer

ADB: ct

ANNUAL REPORT

DIVISION NO. I

1991 IRRIGATION

BY

ALAN D. BERRYMAN, DIVISION ENGINEER

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WATER ADMINISTRATION

Current Water Year

Accomplishments

The daily administration of existing water rights was accomplished again without any large problems. Administration of the 8500 direct flow rights, 3150 storage rights, and approximately 14,000 non-exempt and 60,000 exempt wells consumes a large portion of the divisions resources. The 1990 abandonment list was revised and forwarded to the water court.

The Upper South Platte management study that is being accomplished in cooperation with several of the Denver metro entities saw the completion of phase one of the study. That phase incorporated several data bases into the computer based prototype model that will allow a user to access water rights information, geographical data, precipitation data, flow data, and perform some administrative analyses. The first phase involved significant input from the water commissioners and engineers from division one. The second phase has begun. This work is directed toward adding routing, real time data access, and allowing interactive communication through the workstation environment.

The physical components of the groundwater recharge project at Julesburg have been completed and 500 plus acre feet of water was run into the facility this fall. Design revisions over the summer allow water to be run to both ponds separately or simultaneously. A new flume and recorder were installed at the site. Over 50 wells have joined the augmentation plan associated with the project and the modelling phase is being finished.

A well pumping efficiency program for South Platte wells was initiated during the year and will be implemented during the coming year. In cooperation with GASP, CCWCD, and LSPWCD the Division of Water Resources plans to run a test program to determine which methods are acceptable in measuring

groundwater withdrawal from the alluvial aquifer. The program will be expanded in the future to develop the data bases necessary to monitor groundwater usage.

Another effort that was initiated during the year is a joint study in cooperation with the St. Vrain-Lt. Hand Water Conservancy District to develop a basin wide capability to provide augmentation resources for small users.

A concentrated effort to bring well users into compliance in old water district 23 was successful. Several users were allowed to amend permits to conform to exempt historical uses and other non-exempt users were placed into augmentation programs. The Upper South Platte Water Conservancy District initiated an augmentation program for the users in that area.

Administration of gravel pits started during the past year. Over 200 inspections of individual pits were made to determine their status. Letters notifying the owners of compliance problems are now being sent out and enforcement actions are anticipated to begin in early 1992.

In the area of hydrography, several accomplishments were made. As a joint effort with the Left Hand Ditch Company and the St. Vrain/Lt. Hand Water Conservancy District, a gaging station was installed in the transmountain diversion ditch and a satellite monitoring station was put in to report both the diversion amount and the amount of water remaining in the South St. Vrain Creek. This will enhance administration greatly. Also, efforts to replace the control structure at the mouth of Clear Creek is nearing completion. Enough cooperators have been found to finance the job. In addition a new gaging station has been installed at the Weldona site on the South Platte river. Finally, the control put in last year at the Denver site has performed well and the rating curve has stabilized.

Involvement in the Water User Community

Numerous efforts were made in cooperation with the water users to improve water use and management within the basin. Several projects are listed above. Personnel from the division office also participated in water education efforts for young and old students through seminars and presentations. Extensive efforts with applicants for new water rights were made to improve accounting for new, complex decrees. Assistance was given to several water users to enhance streamflow conditions for special activities such as rafting, fishing, and community events. Lastly, help was given to water users to bring their uses into compliance in the area of non-exempt well permits and the need for augmentation plans.

Key Issues/Impacts

Water rights continue to be impacted by relatively new water interests such as wetlands, recreation, water quality, riparian uses, and federal rights. The U.S. Forest Service appears to be threatening non-renewal of special use permits to procure minimum stream flows in areas where water rights have been exercised for 100 plus years. The water rights in the Boulder watershed which have provided excellent water to the city for years are subjected to relinquishment for minimum stream flow in order to have the special use permit renewed for the area. SB 181 has established a basis for considering water quality in specific areas of water use. Implementation of the bill's provisions is scheduled for the near future. Federal efforts to maintain and establish new wetlands creates problems when water rights issues are considered. Demands for special flow conditions continually increase from recreational uses such as rafting, fishing, duck races, and other community activities.

Water transfers such as being done by the city of Thornton have created concern by water users and also produced some large litigation costs in order to protect existing water uses. Other areas of the state have experienced similar concerns and costs. One related issue with the large transfers is the extensive accounting and burden on administration that are created by such complex decrees.

One last issue that may create a large impact on water use and administration is the deficient state budget. Projected shortfalls could require reductions in personnel and operating that will impair the ability to administer water rights. Due to the existing complexity of rights, proper administration may be difficult to achieve.

Unresolved Issues

As indicated above the provisions of SB 181 regarding water quality are as yet in operation. Rules and regulations will become active in 1992 and application of the rules will ensue.

Gravel pits will continue to be inspected and efforts will be made to bring them into compliance. To date about 250 pits have been field inspected and enforcement letters have begun to go out on those found not in compliance.

Wells near Julesburg that have not been covered by augmentation plans in the past are now coming under the plan put together by the Lower South Platte Water Conservancy District. Over 50 wells have joined with less than 10 still outstanding.

Workload Changes/Effect on Staff

In the past year, the abandonment list consumed extra time for the staff. The revised list has been forwarded to the water court.

Gravel pit enforcement took a considerable portion of staff time. The large number of pits resulted in extra efforts from both field and division staff. Over 250 pits were researched and inspected by staff.

Finally, several staff changes were made in the past year which required adjustment. Two engineers left division one and one new engineer was acquired. Upcoming retirements in the field staff will result in future changes.

Budget Impact

The impact of budget is already being felt. Reduction in travel funds have altered the functions of most of the staff within the division. Anticipated future budget reductions have a high likelihood to result in personnel reductions and further operating cutbacks. Because of the increased workload from gravel pits, special projects, and decrees, the ability to adequately address all issues will be increasingly doubtful. Extra time has already been spent in analyzing budget parameters in order to address possible cutbacks.

COMING WATER YEAR

Problems/Concerns

At the present time the budget shortfalls in state government create the greatest concern to all members of the staff. Uncertainty about media articles regarding the legislature's problems with the budget and how they will be affect employees is an everyday discussion subject. Associated with this is a genuine concern by staff regarding how they will be able to do the job that is needed under budget constraints. As the year progresses, these concerns will necessarily be resolved as best as is possible.

Retirements and transfers of experienced field staff create concern about filling and training the positions, especially in the light of budget restrictions. Reduced travel constricts field investigations and limits new personnel in getting familiar with the area they are to administer. Special efforts will be necessary to address these situations.

Gravel pits will again require extra efforts from staff. Budget restrictions will make administration of these structures difficult. Due to the large number of pits within division one, it will be extremely difficult to administer all of the pits in the coming year.

Completion of the following special projects will be difficult with the budget situation. Time spent on the Upper South Platte Project may not be as available as in the past. The new well efficiency program will require additional staff time. Time on the Julesburg recharge project will not require as much time as in the past. Extra time will be needed for the installation of the control structure at the mouth of Clear Creek.

With the addition of 4 dam safety engineers, more time will be spent in supervision and management of this function. Also secretarial and record keeping support will be needed for the dam safety program.

Projected Work items/Staff

One engineer will continue to spend daily time with gravel pits. Field personnel will continue to inspect pit sites as time and resources allow.

Training of water commissioners in the area of well permitting will continue as long as the budget allows. Two commissioners are currently helping Denver groundwater staff in the permit process. The knowledge gained from this is already paying dividends to the Denver and Greeley operations. This type of training has helped commissioners identify problems with well permit applications and also enables them to assist in correcting the problems.

Dam safety engineers will inspect the 366 dams required for this year and will catch up on some of the class 3 inspections that have fallen behind in the past. Also, about 20 small size outlets will be inspected using the remote photo unit being built in division four.

Staff personnel will continue to attend water court matters, including the consultation process, hearings, negotiations, and investigations.

Existing decrees such as plans for augmentation are being reviewed to evaluate their compliance with decree requirements. Meetings with municipal users regarding their complex accounting needs will continue so that the water officials and the users will understand the requirements of the decrees.

STATISTICAL INFORMATION

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

A. Administration of Plans for Augmentation

Division one has approximately 407 plans for augmentation. In 1991, about 110,515 acre-feet were released for replacement purposes. For a district by district breakdown of the releases made for augmentation, refer to the summary of water diversions for 1991 in section E that follows (2nd page of section E).

B. Transmountain Diversions

C. Storage Water

D. Water Diversions

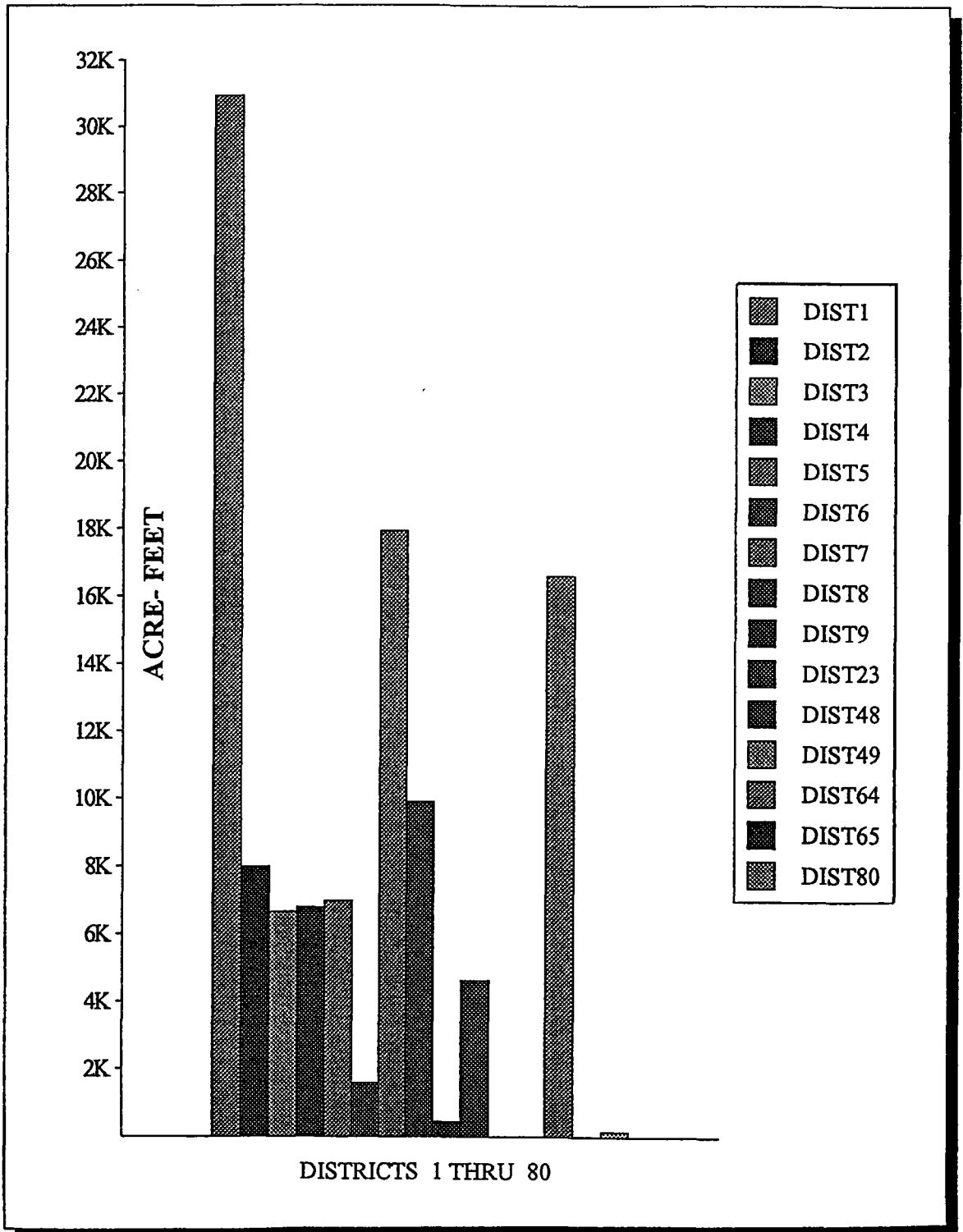
E. Court Activities

F. Office Administration

G. River Calls

H. Compact Deliveries

DIVISION 1
1991 AUGMENTATION RELEASES



TRANSMOUNTAIN DIVERSIONS SUMMARY - INFLOWS

WD	NAME	STREAM	1990 WATER YEAR		1991 WATER YEAR		SOURCE	
			AF	DAYS	AF	DAYS	WD	STREAM
03	Wilson Supply Ditch	Cache La Poudre River	1,640	35	2,530	52	48	Sand & Deadman Cr.
03	Deadman Ditch	Cache La Poudre River	656	18	835	45	48	Deadman Creek
03	Bob Creek Ditch	Cache La Poudre River	0	0	0	0	48	Nunn Creek
03	Columbine Ditch	Cache La Poudre River	0	0	0	0	48	Deadman Creek
03	Laramie-Poudre Tunnel	Cache La Poudre River	16,760	92	16,530	109	48	Laramie River
03	Skyline Ditch	Cache La Poudre River	355	6	0	0	48	Laramie River
03	Cameron Pass Ditch	Cache La Poudre River	93	23	0	0	47	Michigan River
03	Michigan Ditch	Cache La Poudre River	2,620	290	4,600	339	47	Michigan River
03	Grand River Ditch	Cache La Poudre River	20,980	128	18,410	120	51	Colorado River
04	Eureka Ditch	Big Thompson River	88	66	37	88	51	Colorado River
04	Adams Tunnel	Big Thompson River	213,700	337	198,600	356	51	Colorado River
06	Moffat Tunnel	South Platte River	67,390	365	64,900	343	51	Fraser River
07	Berthoud Pass Ditch	Clear Creek	623	108	624	115	51	Fraser River
07	Vidler Tunnel	Clear Creek	660	114	1,240	129	51	Montezuma Creek
23-								
08	Roberts Tunnel	South Platte River	59,420	197	65,850	253	36	Blue River
23	Boreas Pass Ditch	South Platte River	0	0	82	52	36	Indiana Creek
23	Hoosier Pass Ditch	Arkansas River	11,200	136	12,380	146	36	Blue River
23	Aurora Homestake	South Platte River	19,100	170	13,560	126	37	Homestake Creek

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 1

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR					
		Beg Irr Yr	%	Beg Irr Season	%	Beg Irr Yr	%	Beg Irr Season	%		
		AF		AF		AF		AF			
Bijou #2	South Platte	1,130	12	3,580	39	3,700	40	2,151	23	3,660	3,660
Empire	South Platte	19,869	53	34,930	93	14,225	38	33,122	88	5,271	5,271
Jackson	South Platte	20,565	58	27,149	76	9,064	25	26,801	75	11,669	11,669
Riverside	South Platte	8,155	13	63,113	97	35,636	56	58,962	93	20,537	20,537
Others		395	18	1,114	52	168	8	1,159	54	267	267

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 2

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1990-1991 IRRIGATION YEAR			End 1991 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	Beg Irr Yr AF	%	Beg Irr Season AF			
Barr Canal #8	South Platte	17,541	55	32,152	100	11,047	34	28,771	89	17,968
Coal Ridge	Clear Creek	1,692	19	3,526	59	1,013	17	2,709	46	1,265
Great Western	Little Dry Creek	561	86	411	63	680	104	458	70	664
Horse Creek	Walnut Creek	2,571	79	1,596	49	2,732	84	1,605	49	2,582
Lord	South Platte	5,966	35	15,311	90	8,674	51	15,222	90	5,789
Lower Latham	South Platte	41	0	479	13	0	0	527	14	0
Milton	South Platte	5,929	95	5,976	96	5,551	89	5,957	96	5,740
Prospect	South Platte	16,371	78	21,016	100	16,712	79	22,088	104	17,417
Quincy	South Platte	1,332	22	5,022	84	2,118	35	4,922	82	2,277
Standley	South Platte	2,527	90	2,638	94	2,514	90	2,596	93	2,348
Others	Woman Creek	35,074	83	35,629	84	34,853	82	34,686	82	34,797
		2,767	54	2,906	57	3,478	68	3,438	67	3,312

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 3

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1990-1991 IRRIGATION YEAR			End 1991 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	Beg Irr Yr AF	%	Beg Irr Season AF			
Fossil Creek	Fossil Creek	5,453	47	10,455	91	5,953	52	9,744	85	3,830
Halligan	N Fk Poudre River	817	13	6,428	100	976	15	1,143	18	1,960
Indian Creek - aka Mountain Supply	Indian Creek	1,673	88	1,572	82	1,155	61	1,051	55	1,742
North Poudre #2	N Fk Poudre River	495	13	2,153	55	0	0	0	0	1,597
North Poudre #3	N Fk Poudre River	2,889	84	3,066	89	2,045	59	1,943	56	0
North Poudre #4	N Fk Poudre River	380	23	410	25	791	47	209	13	549
North Poudre #5	N Fk Poudre River	4,534	54	4,398	52	2,399	29	3,083	37	2,940
North Poudre #6	N Fk Poudre River	0	0	0	0	0	0	0	0	0
North Poudre #15	N Fk Poudre River	2,060	37	3,064	55	1,115	20	2,442	44	3,652
Park Creek	Park Creek	3,168	43	6,025	82	2,293	31	6,391	87	1,870
Cobb Lake	Cache La Poudre R	7,850	35	13,980	62	13,650	61	13,260	59	7,240
Seaman aka Milton Seaman	N Fk Poudre River	49	0	2,485	50	2,568	51	2,731	55	2,663
Claymore	Cache La Poudre R	371	01	862	85	454	45	756	74	627
Panhandle	Panhandle Creek	841	36	841	36	841	36	841	36	841
Seeley	Cache La Poudre R	1,007	65	1,069	69	1,069	69	1,069	69	1,069
Warren	Cache La Poudre R	1,920	05	1,667	71	560	24	467	20	1,453
Wood	Rollard Draw	1,117	36	2,166	70	2,098	68	2,437	78	2,037
Joe Wright aka Cameron	Joe Wright Creek	3,900	54	4,568	64	2,604	36	3,113	43	3,874
Rawhide	Cache La Poudre R	15,801	89	16,000	90	14,212	80	14,026	79	14,445
Horsetooth	Dixon Canyon Cr	65,614	43	115,388	76	86,841	57	129,317	85	90,084

RESERVOIR STORAGE SUMMARIES (Continued)

WATER DISTRICT 3

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				End 1991 Water Yr
		AF		%		AF		%		
		Beg. Irr Yr	%	Beg. Irr Season	%	Beg. Irr Yr	%	Beg. Irr Season	%	
Douglass	Cache La Poudre R	6,056	65	7,431	79	0	0	0	0	2,310
Windsor Res. #8	Cache La Poudre R	7,312	71	9,052	88	4,251	41	4,768	46	3,133
No. 8 Annex	Cache La Poudre R	2,542	70	3,293	90	2,187	60	1,945	53	878
Windsor Res.	Cache La Poudre R	7,271	41	16,423	93	8,511	48	11,047	62	5,516
Chambers	Joe Wright Cr	266	03	2,233	25	1,213	14	2,990	34	0
Long Draw aka Grand River	Long Draw Cr	1,361	12	2,160	20	1,836	17	2,388	22	2,629
Black Hollow	Cache La Poudre R	4,050	50	4,376	54	3,589	45	3,816	47	3,663
Curtis	Cache La Poudre R	494	39	444	35	426	34	398	32	524
Kluyer	Cache La Poudre R	785	68	719	63	743	65	656	57	819
Long Pond aka Water Supply #5,6,7	Cache La Poudre R	2,521	62	274	07	2,814	70	2,649	66	2,415
Rocky Ridge aka Water Supply #1	Cache La Poudre R	3,483	79	3,343	75	3,303	75	3,283	74	3,125
Water Supply #3	Long Pond Res.	1,363	28	3,960	82	250	05	1,154	24	2,304
Water Supply #4	Long Pond Res.	805	55	797	54	790	53	697	47	1,232
Terry aka Larimer Weld	Cache La Poudre R	4,976	61	6,326	78	4,272	52	4,763	58	3,585
Worster	Sheep Creek	220	06	932	25	392	10	729	19	134
Timnath	Duck Slough	3,651	36	10,070	100	2,095	21	8,500	84	3,035
Windsor Lake	Cache La Poudre R	558	38	1,014	69	969	66	917	63	740
Barnes	Barnes Meadows Cr	2,157	92	1,468	62	2,120	90	480	20	2,062
Others		8,904	52	6,298	37	8,085	47	9,008	52	8,778

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 5

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1990-1991 IRRIGATION YEAR			End 1991 Water Yr	
		Beg Irr Yr AF	%	Beg Irr Season AF	Beg Irr Yr AF	%	Beg Irr Season AF		
Beaver Pond	Beaver Creek	0	0	0	0	0	320	15	556
Foothills	St. Vrain	2,682	62	3,466	80	1,305	1,368	31	951
Highland #1	St. Vrain	874	85	979	95	588	726	70	589
Highland #2	St. Vrain	3,226	87	3,642	98	2,224	2,859	77	2,511
Highland #3	St. Vrain	1,491	92	1,670	102	566	1,491	92	898
McIntosh	St. Vrain	2,254	88	2,460	96	1,496	1,432	56	1,282
Pleasant Valley	St. Vrain	2,492	81	3,076	100	2,429	2,790	91	2,161
Oligarchy Res. #1	St. Vrain	1,640	94	1,640	94	1,545	1,425	82	1,471
Union	St. Vrain	8,275	65	12,715	100	6,544	9,103	72	7,580
Left Hand Park*	Left Hand Creek	1,328	81	1,549	94	1,228			
Left Hand Valley*	Left Hand Creek	2,596	69	3,188	85	2,253			
Button Rock	St. Vrain	15,223	98	16,153	105	15,998	12,327	80	16,197
New Thomas	St. Vrain	1,939	52	2,246	60	2,020	2,250	60	2,012
Lagermann	Left Hand Creek	812	64	867	68	767	929	73	852

* No Information 1990-1991 Available

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 6

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	End 1991 Water Yr
Albion	Albion Creek.	1,111	100	813	73	1,000	90	1,111	100	1,111
Barker	Boulder Creek	8,057	70	3,848	33	8,187	71	4,094	36	7,897
Baseline	Boulder Creek	1,862	35	3,884	73	3,555	67	3,440	65	2,417
Boulder	Boulder Creek	7,241	42	10,134	58	6,938	40	7,268	42	7,984
Goose	North Boulder Cr.	1,036	100	689	67	1,000	97	500	48	900
Gross	South Boulder Cr.	25,358	60	14,568	35	26,522	63	20,336	49	28,421
Hillcrest	Boulder Creek	1,878	88	2,207	103	1,947	91	2,200	103	1,859
Leggett	Boulder Creek	1,355	87	1,601	103	1,406	91	1,590	102	1,341
Marshall	South Boulder Cr.	3,929	38	9,193	88	4,892	47	6,725	64	4,350
McKay	South Boulder Cr.	241	28	415	49	515	61	515	61	441
Panama	Boulder Creek	3,585	72	4,008	80	0	0	1,701	34	2,968
Silver	North Boulder Cr.	3,595	90	1,653	41	3,809	96	1,000	25	3,352
Six Mile	Boulder Creek	902	63	1,228	86	804	56	1,228	86	636
Valmont	South Boulder Cr.	6,670	90	7,426	100	6,831	92	7,400	100	6,627

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 8

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				End 1991 Water Yr
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	
Aurora Rampart	Gulch	1,068	89	1,032	86	1,195	100	910	76	1,130
Chatfield	South Platte	19,958	28	27,366	38	20,411	28	24,384	34	23,623
Cherry Creek	Cherry Creek	12,789	05	14,097	06	13,020	05	13,346	05	11,629
McLellan	Dad Clark Gulch	4,634	77	5,611	94	5,665	94	5,483	91	5,478
Platte Canon	South Platte	918	95	682	71	842	87	608	63	806
Quincy	South Platte	2,527	91	2,665	96	2,679	97	2,583	93	2,376
Strontia Springs	South Platte	7,359	94	7,049	90	7,349	93	7,007	89	7,285

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 9

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				End 1991 Water Yr
		— Beg Irr Yr — AF	%	— Beg Irr Season — AF	%	— Beg Irr Yr — AF	%	— Beg Irr Season — AF	%	
Soda #1 & #2	Bear Creek	*1,054	60	*1,614	92	*1,629	92	1,606	92	1,588
Bowles	Bear Creek	2,097	85	1,649	67	2,062	83	1,896	77	1,508
Patrick	Bear Creek	1,035	93	1,152	104	1,076	97	1,161	104	1,036
Bear Creek Reservoir	Bear Creek	1,968	03	2,034	03	1,987	03	2,013	03	1,968
Marston	South Platte	10,199	59	12,464	72	9,815	57	10,197	59	11,042
Others		2,232	42	2,812	53	2,184	36	4,093	68	3,895

*Soda Lakes #1 & #2 combined in 1988-89

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 23

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				End 1991 Water Yr
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	%	Beg Irr Season AF	%	
Antero	S Fk South Platte	20,013	23	20,059	23	20,037	23	20,015	23	19,454
Montgomery	Mid. Fk. S. Platte	4,802	94	1,347	26	4,354	86	546	11	4,786
Eleven Mile	Mid. Fk. S. Platte	99075	101	99,761	102	98,664	100	99,521	102	99,452
Spinney Mountain	Mid. Fk. S. Platte	44,319	81	30,919	57	32,813	60	20,882	38	39,670

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 64

RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR			1990-1991 IRRIGATION YEAR			End 1991 Water Yr		
		Beg Irr Yr AF	%	Beg Irr Season AF	%	Beg Irr Yr AF	Beg Irr Season AF			
Prewitt	South Platte	20,570	72	28,130	98	14,600	51	26,650	92	18,630
North Sterling	South Platte	24,310	30	73,720	90	22,620	28	70,880	86	22,470
Julesburg	South Platte	8,467	30	21,504	76	14,126	50	22,814	81	8,267

RESERVOIR STORAGE SUMMARIES

WATER DISTRICT 80

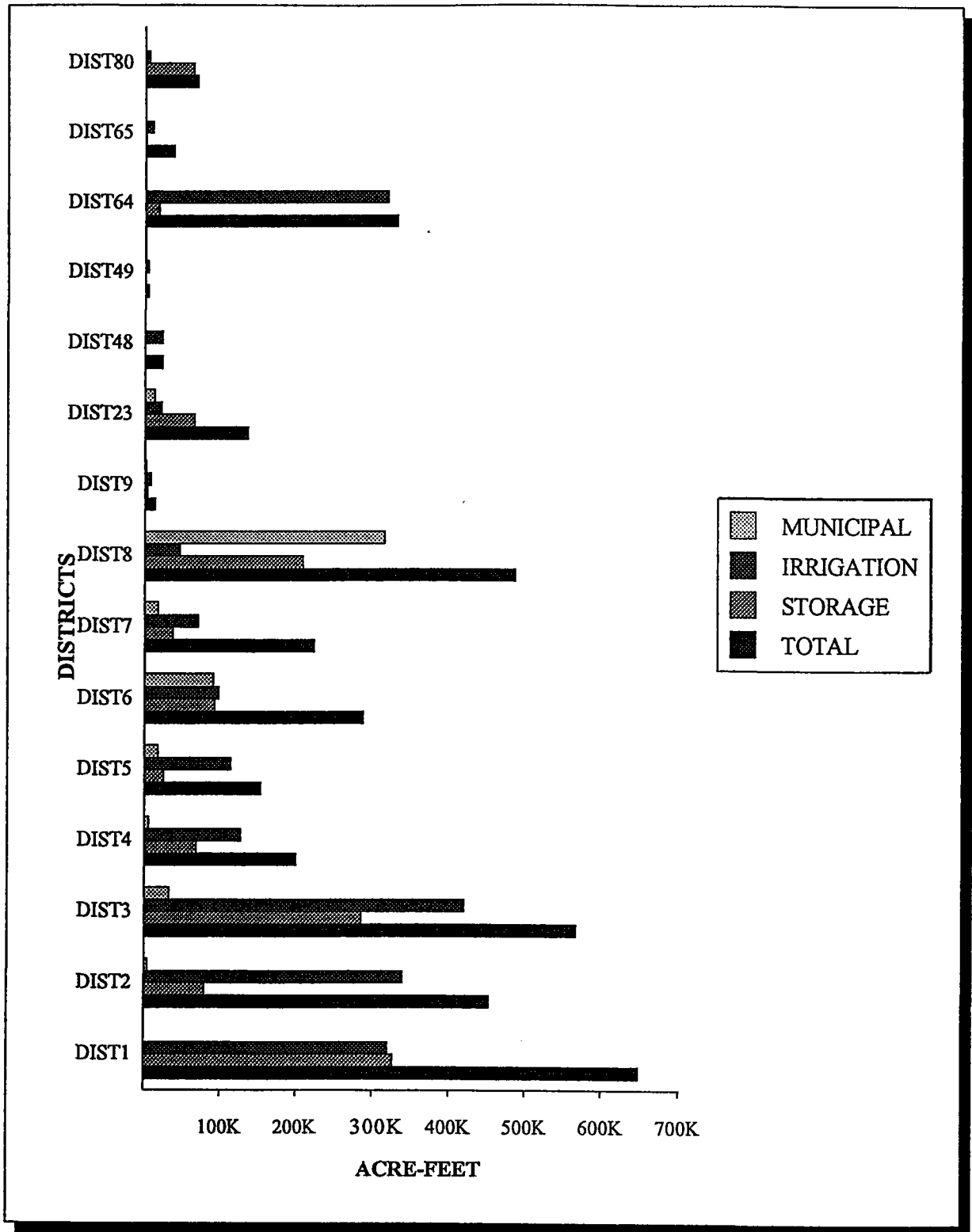
RESERVOIR NAME	STREAM SOURCE	PREVIOUS IRRIGATION YEAR				1990-1991 IRRIGATION YEAR				End 1991 Water Yr
		— Beg Irr Yr — AF	%	— Beg Irr Season — AF	%	— Beg Irr Yr — AF	%	— Beg Irr Season — AF	%	
Cheesman	S. Fk. S. Platte	63,787	81	78,419	99	60,722	77	56,921	72	60,886
Wellington	N. Fk. S. Platte	2,501	34	3,400	46	3,026	69	3,194	73	4,388
Others		54	04	10	01	10	01	17.3	01	17.3

1991 WATER DIVERSION SUMMARIES BY DISTRICT IN AF

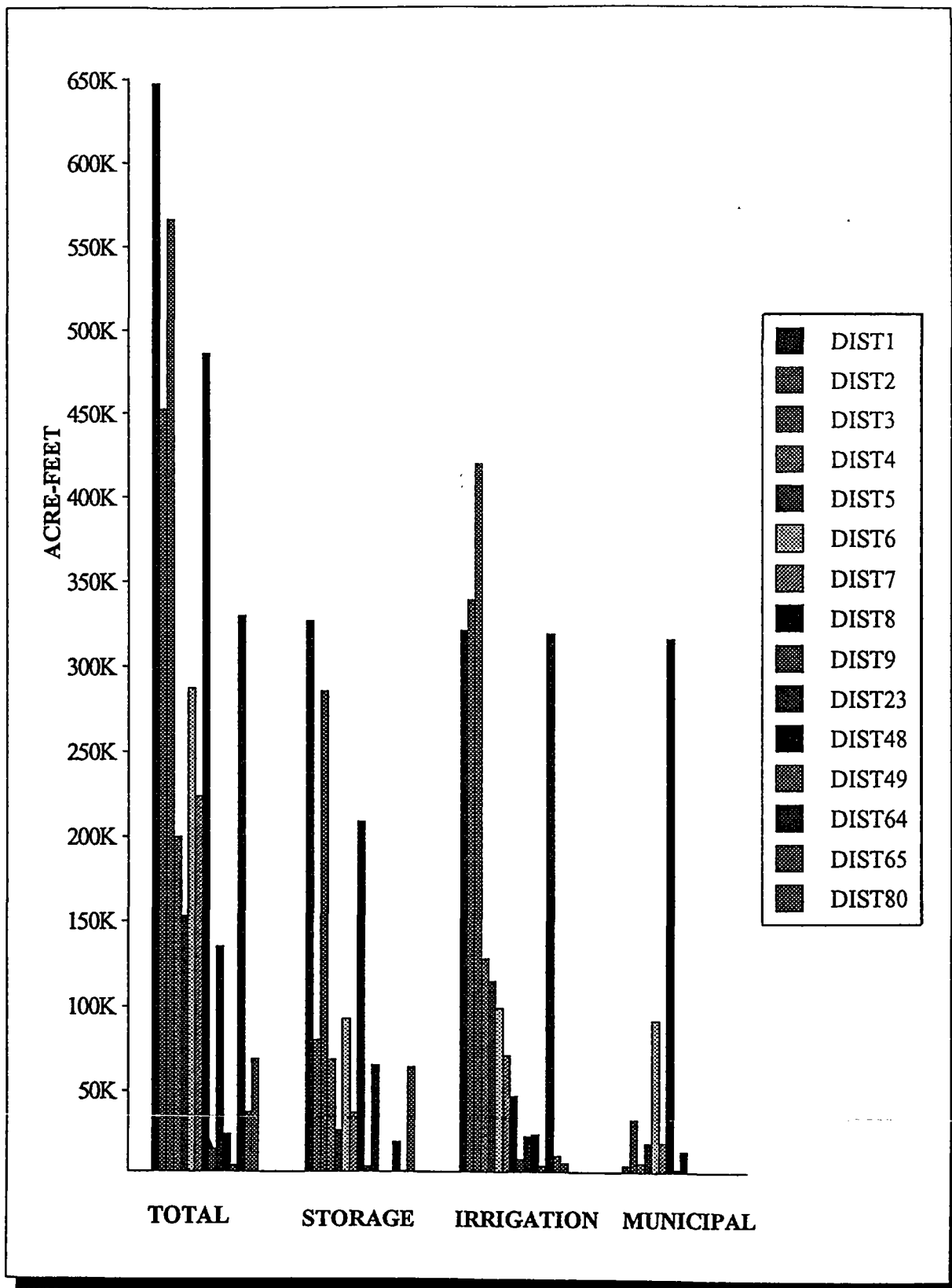
TOTAL DITCHES REPORTING										
WD	WA	NWA	NR	NU	ESTIMATED NUMBER OF DITCH/WELL VISITATIONS	TOTAL DIVERSIONS -AF-	TOTAL DIVERSIONS TO STORAGE -AF-	TOTAL DIVERSIONS -AF-	IRRIGATION	
									NUMBER OF ACRES IRRIGATED	AVERAGE AF PER ACRE
01	239	1	4,773	150		647,128	326,382	320,183	189,225	1.69
02	167	2	4,285	226		452,522	79,221	338,386	185,718	1.82
03	226		2,622	68		565,948	285,105	418,764	262,425	1.60
04	102	5	1,223	35		199,407	67,554	126,385	107,706	1.17
05	95		1,162	34		153,065	24,616	113,275	111,780	1.01
06	163	1	1,190	125		287,172	91,449	69,761	100,331	.97
07	325		1,469	121		223,344	36,453	45,847	51,250	1.36
08	366	14	4,571	293		485,852	208,189	7,946	9,781	4.69
09	73		1,482	43		13,226	3,240	21,031	1,960	4.05
23	326	33	1,193	310		135,045	64,344	22,310	11,057	1.90
48	74		71	8		22,310		22,310	4,355	5.10
49	20		40	19		3,936		3,936	1,555	2.50
64	142	5	1,756	60		329,388	17,907	318,153	140,470	2.27
65	25		103	17		37,341	647	9,536	4,720	2.02
80	156		814	73		68,673	63,163	5,329	1,674	2.18
TOTALS										
	2,299	61	26,754	1,582		3,624,357	1,268,270	1,918,049	1,184,007	2.29

1991(WATER DIVERSION SUMMARIES BY DISTRICT IN AF (CONTINUED))

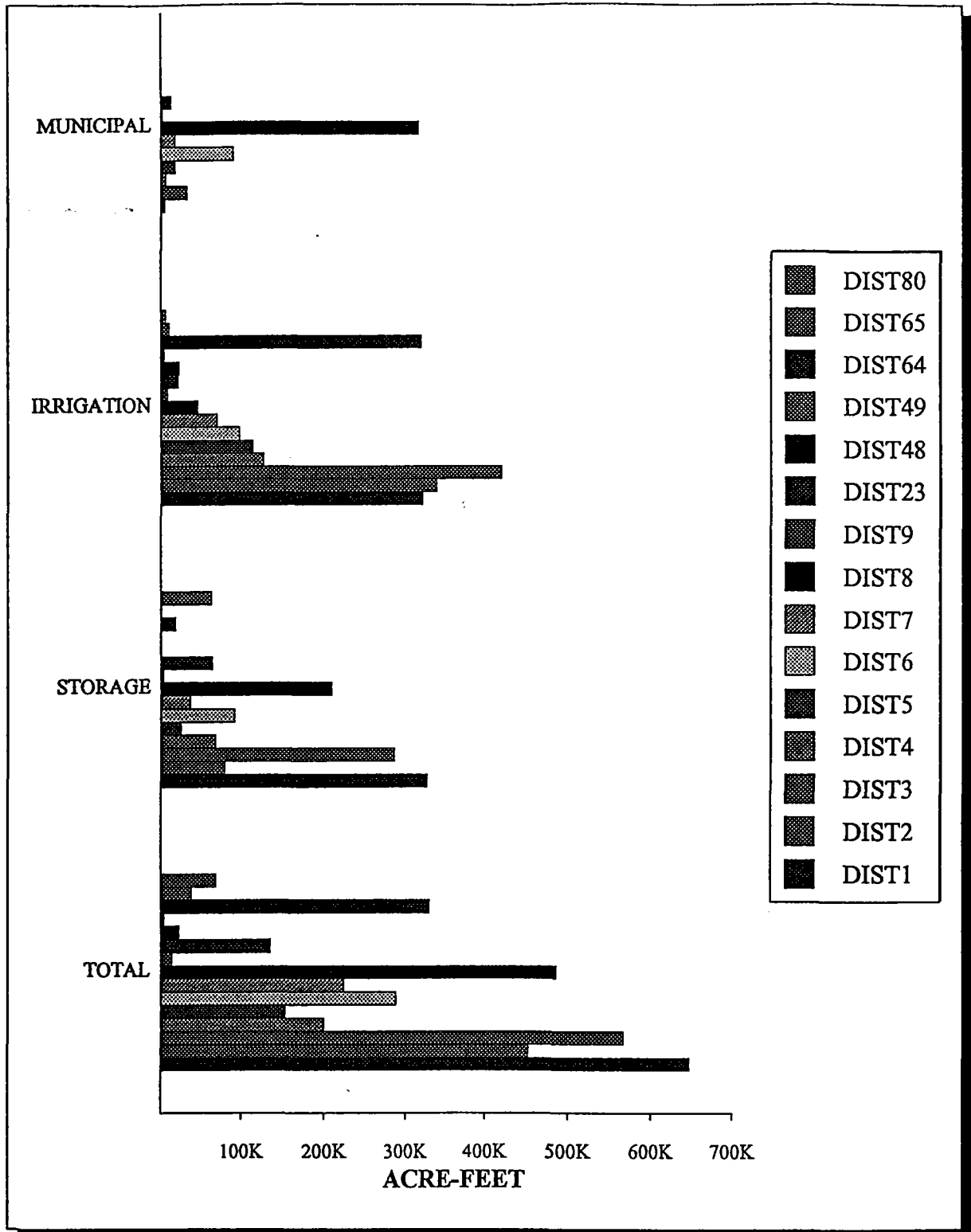
WD	TRANSMOUNTAIN OUTFLOW	TRANSBASIN OUTFLOW	MUNICIPAL	INDUSTRIAL	RECREATIONAL	FISHERY	COMMERCIAL	RECHARGE	AUG
01			4,037	8,018			8,248	60,136	30,929
02			31,804	2,036				5,853	7,980
03			5,468						6,635
04			17,286				14		6,768
05			89,652	1,057					6,967
06			17,442	51,304					1,584
07			314,898	3,846		3,211	57		17,931
08			1,826				10		9,886
09			12,318	1,733	3,466	172			4,445
23									4,634
48									
49									
64							910	7,296	16,588
65						1,312			9
80			175						159
TOTALS			494,731	67,994	3,466	4,695	9,239	73,285	110,515



DIVISION 1
1991 DIVERSIONS



DIVISION ONE
1991 DIVERSIONS



DIVISION 1
1991 DIVERSIONS

WATER COURT ACTIVITIES
(CALENDAR YEAR 1991)

No. Applications for Decrees	127
No. Consultations with Referee	154
No. Decrees Issued by Water Court	284
No. Meetings with Applicant/Denver Office Court Preparation	85
No. Resume Reviews Denver Office	12

TYPES OF DECREES

Findings of Diligence on Conditional Rights	24
Conditional Water Rights Made Absolute	16
Augmentation Plans Approved (Including Exchanges)	26
Cases Involving New Surface Water Diversions	40
Cases Involving Alternate Points of Diversion	30
Cases Involving Transfers	5
Cases Awarding Change of Location	17
Cases Awarding Change of Use	42
Cases Involving Reservoir Storage	42
Cases Involving Groundwater (Nontributary/Tributary)	100
Cases Involving Springs	8
Cases Involving In-Stream Flows	2
Number of Cases Denied	2
Number of Cases Dismissed	38
Conditional Water Rights Abandoned	11
Water Rights Abandoned	2
Requests for Withdrawal Allowed	2

TYPE STRUCTURES IN DECREES

No. Ditches	284
No. Reservoirs	85
No. Wells	315
No. Other	50

ACTIVITY SUMMARY

ACTIVITY	TOTAL CALENDAR YEAR
Number of professional and technical staff	14.6
Number of clerical staff	2
Number of Water Commissioners	Full Time 15.4 Part Time 8
Number of decreed surface rights	11,650
Number of surface rights administered	6,394
Number of wells	74,015
Number of plans for augmentation	422
Number of consultations with Referee	154
Number of Water Court appearances	141
Number of meetings with water users	175
Number of contacts to give public assistance on water matters	13,308

RIVER CALL 1990-1991

Calling Priority

Date Call Initiated	Date Call Released	Structure Name	Appropriation Date	District	Person Placing Call	Districts Affected
11/01/90	11/14/90	Burlington	11/20/1885	02	Keith Delventhal	8,9,23,80
11/14/90	11/20/90	Barr Lake	01/13/1909	02	Keith Delventhal	8,9,23,80
11/14/90	12/10/90	Cheesman	06/27/1889	08	Jim McClure	8,23,80
11/20/90	01/02/91	Horse Creek	03/17/1911	02	Keith Delventhal	8,9,80
12/10/90	02/21/91	Denver Intake	12/06/1910	08	Jim McClure	8,9,23,80
01/02/91	03/20/91	Chatfield	12/28/1977	08	Jim McClure	8
02/21/91	03/06/91	Denver Intake	05/01/1899	08	Jim McClure	8,9,23,80
03/06/91	03/25/91	Denver Intake	12/06/1910	08	Jim McClure	8,9,23,80
03/25/91	03/28/91	Burlington	11/20/1885	02	Mamuel Montoya	8,9,23,80
03/28/91	04/04/91	Denver Intake	12/06/1910	08	Jim McClure	8,9,23,80
04/02/91	04/04/91	Cheesman	06/27/1889	08	Jim McClure	23,80
04/04/91	05/11/91	Burlington Direct	11/20/1885	02	Manuel Montoya	8,9,23,80
05/11/91	05/13/91	Independent	11/20/1876	02	Keith Delventhal	7,8,9,23,80
05/13/91	05/15/91	Burlington	11/20/1885	02	Keith Delventhal	7,8,9,23,80
05/15/91	05/16/91	South Platte	04/21/1883	64	Elton Watson	1,2,3,4,5,6,7,8,9,23,80
05/16/91	05/17/91	Pawnee	06/22/1882	64	Elton Watson	1,2,3,4,5,6,7,8,9,23,80
05/17/91	05/24/91	Bijou	10/01/1888	01	Mae Cunning	2,3,4,5,6,7,8,9,23,80
05/24/91	05/30/91	Riverside	05/31/1907	01	Mae Cunning	2,3,4,5,6,7,8,9,23,80
05/24/91	06/24/91	Cheesman	06/27/1889	08	Denver	23,80
05/30/91	06/02/91	Dist. 1. Reservoir	12/31/1929	01	Mae Cunning	2,3,4,5,6,7,8,9
06/02/91	06/12/91	Chatfield	12/28/1977	08	Marc Waage	8,80
06/17/91	06/20/91	O'Brian Canal	03/09/1908	02	Manuel Montoya	2,8,9,80
06/20/91	06/22/91	Burl/Cheesman Bypass	06/29/1889	02	Keith Delventhal	8,9,80
06/22/91	06/24/91	O'Brian Canal	03/09/1908	02	Keith Delventhal	8,9,80
06/24/91	06/27/91	Burlington Direct	11/20/1885	02	Keith Delventhal	8,9,23,80
06/25/91	06/26/91	North Sterling	05/27/1914	01	Mae Cunning	1,2,3,4,5,6,7
06/26/91	06/27/91	Bijou	10/01/1888	01	Mae Cunning	1,2,3,4,5,6,7
06/27/91	06/27/91	Union Ditch	11/02/1881	02	Keith Delventhal	2,5,6,7,8,9,23,80
06/27/91	06/29/91	Ft. Morgan	10/18/1882	01	Mae Cunning	1,2,3,4

RIVER CALL (Continued)

Calling Priority

Date Call Initiated 1990-1991	Date Call Released 1990-1991	Structure Name	Appropriation Date	District	Person Placing Call	Districts Affected
06/27/91	07/06/91	Independent	11/20/1876	02	Keith Delventhal	2,7,8,9,23,80
06/29/91	07/14/91	Pawnee	06/22/1882	64	Elton Watson	1,2,3,4
07/06/91	07/10/91	Platteville.	10/15/1873	02	Keith Delventhal	7,8,9,23,80
07/10/91	07/13/91	Independent	11/20/1876	02	Keith Delventhal	7,8,9,23,80
07/13/91	07/17/91	Denver Highline	01/18/1879	08	Ken Salser	8,9,23,80
07/14/91	07/17/91	Iliff	10/01/1883	64	Elton Watson	1,2,3,4,5,6,7,8,9
07/17/91	07/18/91	Springdale	07/19/1886	64	Elton Watson	1,2,3,4,5,6,7,8,9
07/17/91	07/23/91	Independent	11/20/1876	02	Keith Delventhal	7,8,9,23,80
07/18/91	07/23/91	Iliff	10/01/1883	64	Elton Watson	1,2,3,4,5,6,7,8,9,23,80
07/23/91	07/24/91	Riverside Direct	05/03/1907	01	Mae Cunning	1,2,3,4,5,6,7,8,9,23,80
07/23/91	07/25/91	Cheesman.	06/27/1889	08	Denver	23,80
07/24/91	07/27/91	Dist. 1 Reservoir	12/31/1929	01	Mae Cunning	1,2,3,4,5,6,7,8,9,23,80
07/27/91	07/31/91	Peterson Ditch	03/01/1895	64	Elton Watson	1,2,3,4,5,6,7,8,9,23,80
07/30/91	08/01/91	Independent	11/20/1876	02	Keith Delventhal	2,7,8,9,23,80
07/31/91	08/01/91	Bijou	10/01/1888	01	Mae Cunning	2,3,4,5,6
08/01/91	08/02/91	U. & L P. & Beaver	04/15/1888	01	Mae Cunning	2,3,4,5,6
08/01/91	08/03/91	Platteville	10/15/1873	02	Keith Delventhal	2,7,8,9,23,80
08/02/91	08/04/91	Springdale	07/19/1886	64	Elton Watson	2,3,4,5,6
08/03/91	08/04/91	Burlington	11/20/1885	02	Keith Delventhal	2,7,8,9,23,80
08/04/91	08/05/91	Dist. 1 Reservoir	12/31/1929	01	Mae Cunning	1,2,3,4,5,6,7,8,9,23,80
08/05/91	08/06/91	Riverside Direct	05/31/1907	01	Mae Cunning	1,2,3,4,5,6,7,8,9,23,80
08/06/91	08/15/91	Peterson	03/01/1895	64	Elton Watson	1,2,3,4,5,6,7,8,9,23,80
08/12/91	08/26/91	Burlington	11/20/1885	02	Keith Delventhal	7,8,9,23,80
08/15/91	09/05/91	Springdale	07/19/1886	64	Elton Watson	1,2,3,4,5,6
08/26/91	08/28/91	Farmers Independent	11/20/1876	02	Keith Delventhal	7,8,9,23,80
08/28/91	09/03/91	Burlington	11/20/1885	02	Keith Delventhal	7,8,9,23,80
09/03/91	09/05/91	Farmers Independent	11/20/1876	02	Keith Delventhal	7,8,9,23,80

RIVER CALL (Continued)

Calling Priority

Date Call Initiated 1990-1991	Date Call Released 1990-1991	Structure Name	Appropriation Date	District	Person Placing Call	Districts Affected
09/05/91	09/11/91	U.P. & Beaver	04/15/1888	01	Mae Cunning	1, 2, 3, 4, 5, 6,
09/05/91	09/26/91	Burlington	11/20/1885	02	Keith Delventhal	7, 8, 9, 23, 80
09/11/91	10/11/91	Dist. 1 Recharge	12/31/1972	01	May Cunning	1, 2, 3, 4, 5, 6, 7, 8, 9, 80
09/26/91	11/01/91	Cheesman	06/27/1889	80	Jim McClure	23, 80
09/26/91	09/27/91	Aurora Direct Intake	05/15/1964	80	Bruce	8, 80
09/27/91	11/01/91	Denver Intake	12/06/1910	80	Jim McClure	8, 80

COMPACTS

SOUTH PLATTE RIVER COMPACT

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

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

Preliminary flow data for the Julesburg station indicates that during the 198 day period from April 1 to October 15, 1990, the mean daily flow dropped below 120 cfs on 113 days.

REPUBLICAN RIVER COMPACT

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

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

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

The computed annual consumptive use in Colorado in the Republican River Basin for the 1988 water year, the last year for which official figures are available, was as follows:

<u>STREAM</u>	<u>ADJUSTED ALLOCATIONS</u>	<u>CONSUMPTIVE USE SURFACE & GW</u>	<u>% OF ADJ. ALLOCATION</u>
N. Fk. Republican River	8,180	4,740	57.9
S. Fk. Republican River	12,320	10,470	85.0
Arikaree River	10,300	6,110	59.3
Beaver Creek 3,700	0	0	

COMPACTS (continued)

LARAMIE RIVER AGREEMENT

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

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

In 1991, the transmountain diversions under the Laramie River Compact totaled 17,365 acre feet of the 19,875 acre feet compact allowance. The meadowland diversions totaled 22,310 acre feet or some 76% of the allotment. Total Colorado diversions were 41,891 acre feet or 81% of the total allotment of 49,375 acre feet.