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ANNUAL REPORT

WATER DIVISION 5

I. WATER ADMINISTRATION

A. 1986 Water Year

During the 1986 water year the personnel of Division 5 solidified into a confident working team, or more accurately, a team working confidently toward completing common goals. Not a lot of new projects were started nor were a lot finished. What did occur were long hours, days, and months of hard work spent productively going about the business at hand. The following pages address the specifics but cannot attest to the professionalism, the accuracy, the volume, and the value of what was accomplished. 1986 truly has been a good year, a year to be proud of and to build on.

1. Accomplishments

The goals and objectives of last year's report will be repeated in this year's. The work items ongoing or completed in working toward attaining those goals are addressed below.

The water rights tabulation continues to be upgraded with another 2 FTE's of effort divided between tabulating 217 new decrees, completing Water District 38, correcting Water District 72, and working on the backlog of untabulated decrees. In all, 4,400 line item corrections and additions were made to the tabulation.

There were 672 Water Court applications in 1985 and 328 in 1986. Most of these were field inspected, have had Water Referee consultations written, and have been decreed.

The 1986 diversion data of water usage has been collected and entered into the diversion data base. We are now going through the last revisions of the print-outs and readying them for signing by the Water Commissioners. The in-house PC and software are continuing to revolutionize this process.

We have completed 43 of 47 of the assigned reservoir inspections plus 6 extras not required. Three of the four assigned dams not inspected by our office were inspected by personnel from the Dam Safety Branch in Denver. An early snowstorm caught us and prevented the final inspection. This will be made first thing after spring thaw in 1987.

All 62 reservoir restrictions were carefully monitored by the Water Commissioners. This was one job function that had never been performed before. Due to owner cooperation and efforts by personnel from the Dam Safety Branch and our office, the number of restricted dams were reduced to 54 by the end of the year.

We had a high percentage of abandonment cases that were settled through negotiations either before or shortly after pretrial hearings. The process covering 938 abandonments and 432 line item protests is nearly complete.

In 1985 we had begun to develop several needed data bases. The well data base, water case data base, and abandonment data base were continued and prove to be extremely useful. A reservoir data base has now been started.

The biggest challenge, however, has been the generation of the software to begin computerizing the Colorado River Accounting process. It is now about 50 percent complete and was used this year in tracking the late season river call. Additionally, spread sheets for Ruedi Reservoir accounting and the Colorado-Big Thompson accounting were established.

Several training sessions were held concerning water right application inspections and computer terminal usage. A seminar on ground water was also held.

Finally, little ground was lost in hydrographic data collection under the Fryingpan-Arkansas Project. The Satellite Monitoring system coverage continued to improve.

A new phone system was installed in the Glenwood office with a direct Denver line. PACE evaluations were made for nearly all Division employees.

2. Involvement in the Water User Community

There has been continued effort this year to increase contact with the water user community. Water Commissioners have specifically made that their responsibility and have been successful in it. Municipalities and non-exempt well owners including those with augmentation plans for the first time have been systematically contacted concerning measuring devices and have submitted much diversion data information.

The Division Engineer has been carefully reviewing each new augmentation plan. It is imperative that he work with the applicants' engineers and attorneys to make these plans acceptable for water administration. Establishment of accounting procedures for each is of utmost importance. Many, many problems and misconceptions have been resolved before the decrees were signed.

The Division Office continues to facilitate usage by the public. The more accurate tabulation, decree books with indexes, updated structure lists, well permit information, organized diversion data, combined with a concerted effort to assist anyone with questions has brought this about. It is also convenient for them to have a place to work.

3. Issues Impacting Division 5

There are several important trends that are impacting Division 5 which affect the direction of water administration. Policy decisions including manpower needs, work coverage, and new technology required to deal with these trends are also changing.

First, the NEW DEMANDS on a sometimes limited water supply are creating all kinds of pressures.

(a) The rapid growth in the high country combined with ski industry demands, including water for snow making, has necessitated not only more augmentation plans but increasingly complex augmentation plans requiring more manpower and expertise in administration.

(b) East Slope demands, such as Windy Gap, Northern Colorado's major transmountain water diversion, has come on-line and effectively depleted any excess water in the Upper Colorado River requiring more stringent administrative practices. The exchange pool from Windy Gap for the Middle Park Water Conservancy District will create additional measurements and paperwork to track water exchanged up the Blue River for snow making and municipal uses.

(c) The Front Range metropolitan area has been involved in several major negotiations concerning water from the Colorado River. Agreements have been signed with Public Service Company of Colorado concerning payment in lieu of power generation at the Shoshone Power Plant (the major river call on the Colorado River), thus freeing up the additional depletion to the Colorado River of 30,000 to 50,000 acre feet of firm yield during the non-irrigation season. (Figures provided by Ken Mitchel of the Denver Water Board staff)

(d) Agreements were signed with Summit County enabling augmentation plans and growth to proceed in the Upper Blue River with a uniform approach and protection for Denver water rights.

(e) Finally, a major agreement was just worked out with the Colorado River Water Conservation District Board which basically gives Western Colorado a number of storage reservoirs for their usage, gives Northern Colorado several storage reservoirs for their replacement usage, and gives the Denver metro area the Blue and Williams Fork Rivers, including Green Mountain Reservoir.

All of these agreements will necessarily be administered by exchanges with very little of the administrative details as of yet even conceived. The fairly new principal operating policy for Green Mountain Reservoir along with the federal Blue River decrees and Senate Document 80 now look like interim steps in the continual movement of water to the highest usage.

Second, under OLD DEMANDS, the entry and demise of the oil shale industry has affected Division 5 in many ways.

(a) Conditional water rights have been left undeveloped, water rights that were transferred from agriculture to industrial uses have been left standing and once farmed lands are turning to sagebrush. Oil prices will rise again and therefore the industry is protecting their rights but the population growth pressures associated with it has waned.

(b) Agriculture, along with the economy on the lower river, is on the rocks. With farm prices as low as they are and real estate falling terribly with the oil shale industry, there is little incentive to use water and maintain agriculture.

(c) Further downstream, the Central Arizona Project is using more water and so far has taken it from California. Someday this will affect administration in Colorado also and should be prepared for.

(d) Finally, governmental policies are continuing to slowly shift toward more emphasis on environmental issues. The federal government has been heavily involved in cleaning up the salinity problems in the Grand Valley. The Federal Fish and Wildlife Service is making overtures toward storage pools in West Slope reservoirs to be used for endangered species programs. The United States Bureau of Reclamation is less involved with large agriculture projects. Even the Colorado Water Conservation Board's involvement centers around minimum streamflows and fish and wildlife habitat.

The adopting of the Colorado River Accounting which is being phased out by the United States Bureau of Reclamation has put considerable strain on our manpower. This project, taking 1/2 FTE, has had to be absorbed by our staff and the hydrographic work necessary is presently left undone.

4. Issues of Concern

We, again, have many of the same concerns that we had last year. The main concern is the inability of the staff to accomplish all that needs to be done in almost any area:

-- Many diversion records are estimated rather than observed.

-- 30 percent of the structures have no record at all.

-- Many of the structures have no control and/or measuring devices.

-- Staff gauges and capacity tables are almost non-existent for reservoirs.

-- Much work is still needed on the tabulation prior to republishing.

-- Number and complexity of augmentation plans are prohibitive to administer with existing staff and methods.

-- Upcoming retirements (3).

A general river call requiring deliveries of Green Mountain water and the accounting of such is still beyond our capabilities. The Satellite Monitoring system at Green Mountain Reservoir has improved our accessibility to accurate data from Green Mountain Reservoir; however, there were times this past year that the system was down or transmitting incorrectly.

There is a lack of Water Commissioner coverage in the Blue River area.

There has been a large conversion of agricultural lands and waters to commercial and municipal development in District 36 and the decretal information and the data-gathering network are not functional to the required degree.

5. Effect of Workload Changes

As mentioned above, the adoption of the Colorado River Accounting, the addition of the WANG to the Division Office and the Abandonment proceedings have all placed extra time demands on the Division 5 office staff. The time spent learning how to operate the WANG will eventually decrease as we develop operating proficiency. The Satellite Monitoring system, however, will take additional time in the next year to put the data produced in a usable form as well as time spent in training personnel in operations. The Abandonment proceedings will abate through the second quarter of 1987.

6. Impact of the Budgets on Operations

We did not have enough FTE's to put Water Commissioners in each Water District. Additionally, 14 of 19 are part-time people and the seasonal nature of their employment severely hampers the updating of structure lists, administrative lists, tabulations, or any other non-direct water administration activity.

Not only were we short in human resources but operating funds were precariously low. We had only enough to provide us with the supplies we needed to function by transferring travel money to operating.

Funds for capital expenditures were not received; however, we did not get the phone system.

Travel money was one place we had an excess in 1986. This was due to the excellent water year that we had. We also were fairly confined to the office due to priority work there. This will shift as the backlog of work is completed.

B. 1987 Water Year

1. Operational Concerns

1987 will be a year of finishing old projects and moving on to new ones. We are still working on a sizable backlog but expect to bring much of that to an end, especially if we get some additional help. The

real problem is the large backlog of untabulated decrees. Most are very complicated augmentation plans or large multi structure decrees covering several water districts. We continue to deal with the present as needs dictate and are implementing projects necessary to provide the basis for better administration in the future.

The United States Bureau of Reclamation's pullout of operations on the Colorado-Big Thompson has left a hydrographic void on the Upper Colorado that, combined with the Satellite Monitoring maintenance on gaging stations, creates a need for a full-time hydrographer.

The volume of Water Court activity has slowed somewhat which will give some needed relief. That combined with the new technologies now available to us will help us to somewhat overcome the manpower shortage.

2. Projected Work Items for 1987:

Other than the usual business of administering water, collecting and recording diversion data, reservoir inspections, hydrographic work, and reviewing water applications, the following are Projected Work Items for the next year and for the next five years:

(a) Finish Abandonment hearing and bring to decree stage.
(b) Train Water Commissioners in reviewing water rights applications, estimating irrigated acreage, determining stream mile numbers.
(c) Finish tabulation work for Districts 36 and 51.
(d) Finish assembling a reservoir data base.
(e) In Colorado River Accounting, create spread sheet program for West Slope depletions.
(f) Assemble current status lists for all Water Districts.
(g) Tabulate outstanding augmentation plans.
(h) Install control structures and measuring devices at appropriate headings.
(i) Establish an augmentation plan data base that can be used for administration.
(j) Establish accounting system for each augmentation plan.
(k) Write procedures for Water Commissioners on diversion data and annual record submittal.

Projected Long-Range Work Items:

(a) Create and assemble a Water Commissioner handbook.
(b) Implement regular training sessions for Water Commissioners.
(c) Develop a reservoir data base.
(d) PACE program.
(e) In Colorado River Accounting, continue to phase in hydrographic support.
(f) Continue upgrading each Water District's tabulations.

3. Goals and Objectives

Our objectives are quite broad, yet simply stated, are as follows:

(a) Establish the capability to administer a total river call prompted by either in-state priorities or an interstate water compact requirement.

(b) The ability to uphold all other statutory duties of the State Engineer's office.

In order to fulfill these objectives, the following goals must be attained. It is imperative that we have a complete and reliable tabulation. All water usage and consumption must be inventoried and we need to possess the ability to monitor the same. We need to know where augmentation and exchanges are taking place and in what amounts. Finally, we must know the locations and amounts of the water supply at any given time. We can begin to reach these objectives as more of the work projects are completed.

1986 A. TRANSMOUNTAIN DIVERSIONS SUMMARY - IMPORTS
WATER DIVISION V

RECIPIENT							SOURCE	
			PREVIOUS IYR		IYR OF RECORD			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
38	Roaring Fork Bypass Flow	Roaring Fork River	* 1,715	365	* 1,191	273	11	Turquoise River
45	Divide-Highline Feeder	Divide Creek	2,249	50	1,003	114	40	Clear Fork Muddy Creek
50	Sarvis Creek Ditch	Red Dirt Creek	975	175	962	83	58	Service Creek
53	Dome Creek Ditch	Egeria Creek	391	63	543	75	58	Bear River
53	Stillwater Ditch	Egeria Creek	1,810	116	2,924	100	58	Bear River
72	Redlands Power Canal	Colorado River	513,707	358	511,715	355	42	Gunnison River
72	Grand Junction Municipal	Colorado River	9,890	365	7,096	365	42	Kannah Creek
72	Fruita Water Works	Colorado River	449	365	396	365	73	Little Dolores River
	TOTAL DIVISION 5 IMPORTS:		531,186		525,830			

* Twin Lakes Bypass Exchanged for Fry-Ark Water

1986

TRANSMOUNTAIN DIVERSIONS SUMMARY - EXPORTS (PAGE 1 of 2)
WATER DIVISION V

RECIPIENT							SOURCE	
			PREVIOUS IYR		IYR OF RECORD			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
7	Vidler Tunnel	Clear Creek	429	72	493	51	36	Snake River
80	Roberts Tunnel	N.F. South Platte River	301	6	954	3	36	Blue River
23	Boreas Pass Ditch	Tarryall Creek	0	0	72	39	36	Blue River
23	Hoosier Tunnel	M.F.South Platte River	7,500	148	12,999	164	36	Blue River
7	Straight Creek Tunnel	Clear Creek	NIA		354	365	36	Straight Creek
11	Homestake Runnel	South Platte via Arkansas River	10,190	128	16,929	89	37	Homestake Creek
11	Wurtz Ditch	Tennessee Creek	3,689	147	3,857	116	37	S.F. Eagle River
11	Ewing Ditch	Tennessee Creek	1,308	148	1,073	78	37	S.F. Eagle River
11	Columbine Ditch	Tennessee Creek	2,296	148	1,916	110	37	S.F. Eagle River
11	Twin Lakes Tunnel	Lake Creek	16,451	365	50,600	267	38	Roaring Fork River
11	Busk-Ivanhoe Tunnel	Lake Fork Creek	6,249	174	4,940	199	38	Fryingpan River
11	Boustead Tunnel	Lake Fork Creek	71,610	135	31,750	88	38	Fryingpan River

TRANSMOUNTAIN DIVERSIONS SUMMARY - EXPORTS (PAGE 2 of 2)
WATER DIVISION V

1986

RECIPIENT							SOURCE	
			PREVIOUS IYR		IYR OF RECORD			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
3	Grand River Ditch	Cache La Poudre River	20,820	131	24,481	124	51	N.F. Colorado River
3	Eureka Ditch	Cache La Poudre River	0	0	0	0	51	N.F. Colorado River
4	Alva B. Adams Tunnel	Big Thompson River	285,200	365	275,230	365	51	N.F. Colorado River
6	Moffat Tunnel	Boulder Creek	72,008	365	78,930	365	51	Fraser River
7	Berthoud Pass Ditch	Clear Creek	567	105	911	91	51	Fraser River
6	August P. Gimlick Tunnel	Boulder via Fraser R.	Included in Moffat Tunnel				51	Williams Fork
6	Vasquez Pipeline	Boulder via Fraser R.	Included in Moffat Tunnel				51	Williams Fork
40	Leon Tunnel Canal	Surface Creek	1,499	89	1,021	73	72	Leon Creek
	TOTAL DIVISION 5 EXPORTS:		498,618		506,510			

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
36	Black Lake	Black Creek	1997		2247		1997		1997		1997
	Cataract Lake	Cataract Creek	1653		1773		1600		1652		1600
	Green Mtn Reservoir	Blue River	134,352		61,299		133,301		152,539		140,274
	Hoagland Reservoir No 1	Elliott Creek	100		575		400		100		50
	Lost Lake	Brush Creek	125		155		155		155		155
	Reynolds Reservoir	Keystone Creek	157		182		N.I.A.		N.I.A.		N.I.A.
	Upper Black Creek Res	Black Creek	140		200		200		200		200
	Upper Blue Lake Reservoir	Blue River	0		2140		0		2119		0
	Way Reservoir	Springs Creek									
	Buffehr Enlarged Res	Ten Mile Creek	107		127		N.I.A.		N.I.A.		N.I.A.
	Goose Pasture Tarn	Blue River	912		912		900		900		900
	Dillon Reservoir BRDP	Blue River	243,598		229,255		229,255		259,313		240,418
	Lower Black Creek Res	Black Creek	300		522		400		522		400
		TOTALS:	383,441		299,387		368,208		419,497		385,994

1986

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
37	Black Lake No. 2	Gore Creek	90		90		90		90		90
	Chalk Mountain Reservoir	Eagle River	204.1		204.1		204.1		204.1		204.1
	Lower G G Reservoir	Eby Creek	0		30		0		0		0
	L.E.D.E. Reservoir	Gypsum Creek	45		45		45		45		45
	O.Z. Reservoir	Brush Creek	450		450		450		450		450
	G.G. Reservoir	Eby Creek	0		30		0		0		0
	Welsh Reservoir	Alkali Creek	0		254		60		308		0
	Robinson Reservoir	Eagle River	3,136		3,136		3,136		3,136		3,136
	Homestake Reservoir	Homestake Creek	26,214		21,509		41,799		41,799		39,232
	Noecker Reservoir	Eby Creek	0		159		0		158		0
		TOTALS:	30,139		25,907		45,784		46,190		43,157

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF (PAGE 1 of 2)

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
38	Alicia Lake	Lime Creek	673		688		673		688		673
	Ruedi Reservoir	Frying Pan River	97,077		66,446		93,641		100,884		97,580
	Consolidated Reservoir	W. Coulter Creek	300		970		300		970		300
	Hopkins Reservoir	Landis Creek	200		900		800		816		800
	Ivanhoe Reservoir	Frying Pan River	1,200		1,200		20		1,200		20
	McNulty Reservoir	Cattle Creek	0		100		0		100		0
	Ralston No. 1 Reservoir	W. Coulter Creek	0		80		0		0		0
	Spring Park Reservoir	Cattle Creek	508		4,340		508		4,340		508
	Tagert Lake	Roaring Fork River	60		64		N.I.A.		N.I.A.		N.I.A.
	Van Cleve-Fisher Res.	Mesa Creek	0		400		0		520		0
	Von Springs Reservoir #2	Coulter Creek	120		270		120		270		120
	Warren Lakes	Warren Creek	500		550		500		510		500
	Wildcat Reservoir	Snowmass Creek	1,140		1,190		1,140		1,190		1,140
	Woods Lake Reservoir	Lime Creek	279		294		294		294		294
	Lake Ann Reservoir	Sopris Creek	0		1,060		20		1,060		20
	Himland Reservoir	Frying Pan River	N.I.A.		N.I.A.		80		81.6		80
		Totals	102,057		79,552		98,096		112,924.		103,115.5

1986

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF (PAGE 2 of 2)

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
38	Crawford Dam No. 1	Blue Creek	60		160		160		163		160
	Crawford Dam No. 2	Blue Creek	0		56		56		57		56
	Polaris Reservoir	Coulter Creek	0		437		0		0		0
	Jacobson Lakes & Ponds	Roaring Fork River	175		225		225		250		225
	Upper Chapman Reservoir	Fryingpan River	2,469		2,469		2,448		2,498		2,448
		SUBTOTAL:	2,704		3,347		2,889		2,968		2,889
		SUBTOTAL (pg 1):	102,057		79,552		98,096		112,924		103,115.5
		TOTAL:	104,761		82,899		100,985		115,892		106,004.5

1986

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
39	Middle Fork Reservoir	Parachute Creek	0		2680		100		100		100
	Rifle Gap Reservoir	Rifle Creek	11,117		12,757		8333		12,603		8652
	Harris Reservoir	Rifle Creek	100		200		100		200		100
	Park Reservoir	Elk Creek	92		163		133		163		76
	Grass Valley Reservoir	Rifle Creek	3600		5600		3536		5800		4288
	Meadow Creek Reservoir	Elk Creek	0		984		984		984		984
	City of Rifle Pond No. 1	Colorado River	0		56		56		56		56
		TOTAL:	14,909		22,440		13,242		19,906		14,256

1986

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR Beg. IYR AF	%	PREVIOUS IYR Beg.Irr.Season AF	%	IYR OF RECORD Beg. IYR AF	%	IYR OF RECORD Beg.Irr.Season AF	%	IYR OF RECORD End IYR AF
45	Porter Reservoir	Three Mile Creek	115		206		0		206		5.5
	Centenial Lake	Colorado River	238		238		238		238		238
	Anderson Pond No. 1	Colorado River	237		312		237		312		237
	Vaughn Reservoir	Mamm Creek	N.I.A.		N.I.A.		0		50		0
		TOTALS:	590		756		475		806		480.5

1986

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
	Albert Reservoir	Albert Creek	0		125		55		125		3
50	Antelope Reservoir	Colorado River	100		330		100		330		250
	Basin Reservoir	Muddy Creek	0		118		60		118		0
	Binco Reservoir	Troublesome Creek	75		500		225		500		125
	Hinman Reservoir	Muddy Creek	450		610		300		610		175
	Martin Reservoir	Muddy Creek	80		216		210		216		205
	Matheson Reservoir	Troublesome Creek	1000		1073		600		1073		925
	McElroy Reservoir	Pass Creek	.5		240		0		240		0
	McMahon Reservoir No. 2	Red Dirt Creek	1500		3498		1280		3498		900
	Woods Reservoir	Muddy Creek	10		55		0		55		15
	Parsons Reservoir	Muddy Creek	70		90		2		90		2
	Milk Creek Reservoir	Milk Creek	65		105		100		105		100
	Whiteley Peak Reservoir	Muddy Creek	425		772		360		772		380
	Lake Agnes	Muddy Creek	432		432		432		432		432
		TOTALS:	4207.5		8164		3724		8164		3512

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
51	Cottonwood Reservoir	Colorado River	86		86		40		80		40
	F W Linke #2 Reservoir	Fraser River	61		61		6		0		0
	Hankinson Reservoir	Fraser River	0		116		116		116		116
	Jack Orr	Colorado River	245		245		245		245		245
	Sun Valley Reservoir	N Fork of Colorado	72.5		72.5		72.5		72.5		72.5
	Moore Reservoir	Williams Fork	120		223		90		220		80
	Musgrave Reservoir	Corral Creek	300		320		200		320		75
	Scholl Reservoir	Corral Creek	75		321		0		300		0
	Sylvan Reservoir	Little Muddy Creek	100		1134		250		1134		200
	Bull Run Reservoir	Williams Fork	250		650		300		650		100
	Langholen Reservoir	Battle Creek	20		65		17		65		22
	Lake Granby	Colorado River	530,869		532,888		480,011		535,777		517,835
	Meadow Creek Reservoir	Fraser River	2426		5110		553		5477		874
	Shadow Mtn Reservoir	Colorado River	17,700		17,897		17,836		17,959		17,959
	Willow Creek Reservoir	Willow Creek	10,298		10,046		8767		9400		9359
	Williams Fork Reservoir	Williams Fork River	84,098		92,116		78,470		90,285		85,015
	East Branch Reservoir	Williams Fork River	N.I.A		N I A		100		250		125
		TOTALS:	646,720.5		661,350		587,073.5		662,350.5		632,117.5

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
52	[illegible]ck Gap Dam	Unnamed Tributary to Colorado River	47		50		50		50		48.8
	[illegible]ristenson Reservoir	Sheephorn Creek	N.I.A.		N.I.A.		90		90		88.5
	[illegible]nes Reservoir	Sheephorn Creek	N.I.A.		N.I.A.		70		70		69
		TOTAL	47		50		210		210		206.35

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
53	Clyde Reservoir	Egeria Creek	36.5		66.4		20		66		6
	Cresent Lake	Derby Creek	0		237		2		237		5
	Egeria Reservoir	Egeria Creek	167		107		26		107		57
	Tonier Gulch Reservoir	Tonier Gulch	0		64		0		65		0
	Toponas Rock No. 2 Res	Toponas Creek	0		88		8		88		3
	Wohler Reservoir	Elk Creek	65		28		28		28		27.5
	Sterner Reservoir	Egeria Creek	136		69		1		68		18
	Grimes Brooks Reservoir	Red Ditch Creek	280		247		161		247		120
	Kelly Reservoir	Egeria Creek	112		226		122		290		10
	Luark Reservoir	Spring Creek	0		91		1		90		10
	Newton Gulch Reservoir	King Creek	0		180		19		227		27
	Ed W. Harper	Egeria Creek	194		194		100		194		192
	Hadley No. 2 Reservoir	Egeria Creek	24		24		9		164		151
	Morris Reservoir	Toponas Creek	0		325		317		325		25
	Heart Lake Reservoir	Deep Creek	192		200		192		346		341
	Hidden Springs Reservoir	Horse Creek	0		53		51		53		52
	Jones No. 1 Reservoir	Sheep Creek 2	190		240		236		240		238
	Jones No. 2 Reservoir	Sheep Creek 2	250		333		247		333		247
	Sweetwater Reservoir	Sweetwater Creek	990		1000		990		1200		1190
		TOTALS:	2636.5		3772.4		2530		4368		2719.5

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR Beg. IYR AF	PREVIOUS IYR Beg. IYR %	PREVIOUS IYR Beg.Irr.Season AF	PREVIOUS IYR Beg.Irr.Season %	IYR OF RECORD Beg. IYR AF	IYR OF RECORD Beg. IYR %	IYR OF RECORD Beg.Irr.Season AF	IYR OF RECORD Beg.Irr.Season %	IYR OF RECORD End IYR AF
72	Monument No. 1 Reservoir	Plateau Creek	0		572		0		573		566
	Monument No. 2 Reservoir	Plateau Creek	0		250		0		254		0
	Hawxhurst Reservoir	Hawxhurst Creek	0		180		0		283		116.6
	Vega Reservoir	Plateau Creek	17,019		32,934		15,114		37,757		14,587
	Big Beaver Reservoir	Bull Creek	0		130		0		130		0
	Bull Basin No 1 Reservoir	Bull Creek	132.2		132.2		132.2		132.2		0
	Bull Basin No 2 Reservoir	Bull Creek	0		94.9		0		94.9		23
	Twin Basin Reservoir	Bull Creek	114		114		0		114		114
	Stubbs McKinney Clark	Spring Creek	230.5		230.5		115.2		230.5		0
	Bull Creek No 2 Reservoir	Bull Creek	69.8		69.8		69.8		69.8		69.8
	Bull Creek No 3 Reservoir	Bull Creek	0		59.2		0		59.2		0
	Bull Creek No 4 Reservoir	Bull Creek	0		312.7		0		226		0
	Bull Creek No 5 Reservoir	Bull Creek	0		236.4		0		236.4		214.2
	Lost Lake Reservoir	Bull Creek	0		0		0		0		0
	Kitson Reservoir	Cottonwood Creek	137		137		0		0		0
	Parker Basin No. 2	Cottonwood Creek	125.1		193.7		0		0		0
	Parker Basin No. 3	Cottonwood Creek	57.5		60		21.1		79.3		0
	Parker Basin No. 1	Cottonwood Creek	359.3		271.6		271.6		271.6		271.6
	Decamp	Cottonwood Creek	38.4		38.4		16		38.4		38.4
	Mesa Creek No 1 Reservoir	Mesa Creek	0		238.9		0		238.9		87.3
		TOTALS	18,282.7		36,255.3		15,739.9		40,788.2		15,587.9

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
72	Mesa Creek No 3 Reservoir	Mesa Creek	0		290		290		290		290
	Mesa Creek No 4 Reservoir	Mesa Creek	0		406.7		0		227		0
	Bull Creek No 1 Reservoir	Bull Creek	83.2		83.2		N.I.A.		N.I.A.		N.I.A.
	Coon Creek No 1 Reservoir	Coon Creek	0		652		0		299		0
	Coon Creek No 2 Reservoir	Coon Creek	0		147		0		147		0
	Coon Creek No 3 Reservoir	Coon Creek	0		138		0		138		0
	Currier Reservoir	Cottonwood Creek	N.I.A.		N.I.A.		0		80		80
	Dawson Reservoir	Big Creek	220		220		220		220		220
	Cottonwood No 5 Reservoir	Cottonwood Creek	0		197.6		288.8		182.7		342.3
	Cottonwood No 4	Cottonwood Creek	0		37		160.3		259.2		377.1
	Cottonwood No 2	Cottonwood Creek	136.3		220		0		220		136.6
	Cottonwood No 1	Cottonwood Creek	2224.3		2143.8		2101.8		652.2		1709.7
	Big Creek No 1	Big Creek	745.8		745.8		745.8		745.8		745.8
	Big Creek No 4	Big Creek	180.9		180.9		180.9		180.9		180.9
	Big Creek No 5	Big Creek	175.5		94.2		94.2		104.6		104.6
	Big Creek No 3	Big Creek	1775.6		1549.4		1462.4		1549.4		1549.4
	Big Creek No 7	Big Creek	319.3		737.5		995		1222.6		984.9
	Jensen	Cottonwood Creek	0		0		0		225		225
	Colby Horse Park	Lean Creek	N.I.A.		N.I.A.		200.4		469		182.8
	Palisade Cabin	Rapid Creek	N.I.A.		N.I.A.		163.2		61.60		166
		TOTAL	5860.9		7843.1		6739.6		7132.4		7054.1

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
72	Mesa Creek #5	Mesa Creek	N.I.A.		N.I.A.		15.8		15.8		15.8
	Mesa Creek #2	Mesa Creek	N.I.A.		N.I.A.		48.4		48.4		48.4
	Palisade S 3	Rapid Creek	N.I.A.		N.I.A.		17		96		0
	Palisade S 1	Radid Creek	N.I.A.		N.I.A.		0		88		0
	Total Page 1		18,282.7		36,255.3		15,739.9		40,788.2		15,587.9
	Total Page 2		5,860.9		7,843.1		6,739.6		7,132.4		7,054.1
	Total Page 3						81.2		248.25		64.25
	GRAND TOTAL		24,143.6		44,098.4		22,560.7		48,168.85		22,706.25

RESERVOIR STORAGE SUMMARIES

1986

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
	DISTRICT TOTALS RESERVOIRS GREATER THAN 50 AF										
36			383,441		299,387		368,208		419,497		385,994
37			30,139		25,907		45,784		46,190		43,157
38			104,761		82,899		100,985		115,892		106,004
39			14,909		22,440		13,242		19,906		14,256
45			590		756		475		806		480
50			4,208		8,164		3,724		8,164		3,512
51			646,720		661,350		587,073		662,350		632,118
52			47		50		210		210		206
53			2,636		3,772		2,530		4,368		2,720
70			--		--		--		--		--
72			24,144		44,098		22,561		48,169		22,706
	DIVISION 5 TOTAL RESERVOIRS GREATER THAN 50 AF		1,211,595		1,148,823		1,144,792		1,325,552		1,211,153
	DIVISION 5 TOTAL RESERVOIRS LESS THAN 50 AF		1,013		1,752		1,100		1,496		751
	DIVISION 5 TOTAL STORAGE:		1,212,608		1,150,575		1,145,892		1,327,048		1,211,904

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	PREVIOUS IYR				IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
36			106		186		109		152		56
37			0		22		0		28		0
38			324		368		312		288		265
39			0		19		19		37		37
45			115		73		73		90		77
50			58		184		65		189		45
51			189		280		98		192		32
52			42		163		124		90		59
53			179		422		264		392		180
70			0		37		0		37		0
72			0		0		0		0		0
		TOTAL	1013		1752		1100		1456		751

1986

WATER DIVERSION SUMMARIES BY DISTRICT

WD	TOTAL DITCHES REPORTING				ESTIMATED NUMBER OF DITCH VISITATIONS	TOTAL DIVERSION -AF-	TOTAL DIVERSIONS TO STORAGE -AF-	IRRIGATION		
	ACTIVE		INACTIVE					TOTAL DIVERSIONS -AF-	NUMBER OF ACRES IRRIGATED	AVERAGE AT PER ACRE
	WA	NWA	NU	NR						
36	304	0	202	314	3,277	872,978	146,850	80,627	14,872	5.42
37	391	0	50	629	4,032	167,484	10,306	126,223	22,675	5.57
38	1,210	4	310	786	11,548	533,688	59,919	369,356	52,783	7.00
39	412	0	201	283	885	188,713	8,013	165,194	23,571	7.01
45	328	0	206	423	4,639	171,314	457	134,140	29,448	4.56
50	192	0	101	44	2,590	94,243	6,033	86,413	23,359	3.70
51	322	6	270	786	3,812	938,109	243,871	198,574	30,457	6.52
52	185	0	62	55	1,921	64,256	31	59,408	9,559	6.21
53	452	2	62	261	6,544	1,008,834	1,838	150,900	33,380	4.52
70	146	0	47	85	1,255	58,886	37	57,923	6,557	8.83
72	432	0	192	707	9,628	1,894,079	51,366	987,191	113,101	8.72
TOTALS:	4,374	12	1,703	4,373	50,131	5,992,061	528,721	2,415,949	359,762	6.72

WATER DIVERSION SUMMARIES BY DISTRICT IN ACRE FEET (Continued)

WD	TRANS-MOUNTAIN OUTFLOW	TRANSBASIN OUTFLOW	STOCK	MUNICIPAL	DOMESTIC	INDUSTRIAL	RECREATIONAL	FISHERY	COMMERCIAL
36	14,872		40	4,600	1,086	624,688		201	14
37	23,775			4,530	2,660				
38	87,290	1,109		12,377	1,359		327	1,561	390
39		1,287	1,557	1,652	8,197	1		2,682	130
45			26,096	1,553	7,663		1,405		
50			1,315		24			458	
51	379,552		1,269	1,736	1,575	107,538	722	3,186	86
52		999	300		1,713		1,805		
53			16	3,599	13,645	835,627	724	1,926	26
70			926						
72	1,021	170	1,964	22,360	5,413	824,533			61
TOTALS:	506,510	3,565	33,483	52,407	43,335	2,392,387	4,983	10,014	707

D. WATER COURT ACTIVITIES

Number of Applications for Decrees	328
Number of Consultations with Referee	585
Number of Decrees Issued by Water Court	217

TYPE OF DECREES:
- Surface Water
- Ground Water
- Reservoir
- Protest to Abandonment List

ACTION OF DECREES

- Alternate Point = 6
- Change of Use = 15
- Plans for Augmentation = 27
- Absolute = 17
- Conditional = 42
- Combination (Absolute/Conditional) = 9
- Due Diligence = 160
- Conditional to Absolute = 59
- Combination (Due Diligence/Make Absolute) = 1
- Other = 49
- Delete Structure from Abandonment List = 28
- Withdraw Protest to Abandonment List = 19

STRUCTURES IN DECREES

- Ditches = 62
- Reservoirs = 47
- Wells = 149
- Springs = 63
- Pipelines (Pumping Stations, etc.) = 34
- Canals and Tunnels = 2
- Conduits = 1
- Miscellaneous = 53

E. OFFICE ADMINISTRATION

Public Served - 9,594
Public Consultations - 5,303
Water Court Appearances - 188

No. of Employees - 3 Professional
1 Clerical
17 FTE's

DISTRICT	EMPLOYEE	MILEAGE	PRIVATE	STATE
36 & 37	Wayne Wells	6,371		X
38	Stephen Callicotte	6,735	X	
38	Rebecca Nichols	5,691	X	
39	James Lemon	4,896	X	
45	Robert Klenda	8,011	X	
45	Glen Nelson	1,042	X	
50	William Thompson	12,002	X	
51	James Daxton	10,119	X	
52 & 53	James Shelden	10,842	X	
70	George Anderson	6,623	X	
72	Marcus Klocker	9,077		X
72	Robert Bieser	3,823	X	
72	Tom Cox	3,459	X	
72	Clifford Hill	5,061	X	
72	Ray Hittle	3,275	X	
72	Miles Reed	2,862	X	
WELL INSPECTOR	Alvin Cerise	19,241		X
OFFICE STAFF				
	Orlyn Bell	12,616		X
	Alan Martellaro	14,990		X
	John Blair	173	X	

TOTAL PRIVATE VEHICLE MILEAGE: 84,614 miles
TOTAL STATE VEHICLE MILEAGE: 62,295 miles

F. RIVER CALLS

November 4, 1985	Official call placed by Public Service Company of Colorado
November 12, 1985	Down to 1 generator, no call
September 22, 1986	Official call placed by Public Service Company of Colorado
September 26, 1986	Call off, heavy rains increased natural flow through end of irrigation year

G. ADMINISTRATION OF PLANS FOR AUGMENTATION

The cataloguing of augmentation plans is only partially completed. Less than half of the more than 300 plans are entered into the water rights tabulation. That process is one that is scheduled for this year. As stated previously, work is ongoing in formulating accounting procedures for each plan.

Those plans that have contracts for water out of the major storage reservoirs are being monitored in call situations with corresponding releases delivered. Green Mountain, Windy Gap, and Ruedi replacement water is being reflected in the diversion records.

Computerized listings of all non-exempt wells have been generated. We use that to solicit diversion records and water usage. That is a first step and is being fairly well complied with. Most of those non-exempt wells are associated with augmentation plans. A rough estimate is that the number of actual municipal, community, and industrial records being reported has tripled this year over last.

DIVISION 5

1986 RECOMMENDATIONS

A. Water Administration

In the last two Annual Reports I have stated that manpower alone is not enough to get the administrative job done. We also need some modern technology to assist us. We now have the Satellite Monitoring system and computer capabilities. Many of the projected work items for the next year center around developing these tools. The data bases, administrative listings, accounting programs, and water rights inventories will all assist us eventually in upgrading our water administration.

Recommendations for more efficient water administration are as follows:

1. Technical assistance is needed in putting together specific software to handle Water Commissioner records, augmentation diversions and replacement, and Colorado River Accounting. Much of this was started last year but needs more work.

2. Technical training from Denver staff is needed on consumptive use applications.

3. Guidelines for reviewing augmentation and changes of use plans are needed.

4. Guidelines for administration and record-keeping of augmentation plans are needed.

5. Software needs to be developed to generate current status lists from the tabulation.

B. Personnel

There are still some areas in our operations that will require personnel changes, or more accurately, personnel additions in order to be 100 percent functional.

We still need 1 1/2 FTE's for Water Commissioner positions. The Blue River, District 36, desperately needs a full-time Water Commissioner. The District has Green Mountain Reservoir, Dillon Reservoir, 5 ski areas, and more than a dozen transmountain diversions. Historically, the Eagle River Water Commissioner has

taken care of both districts but the massive amounts of recent augmentation activity make it nearly impossible for one person to effectively administer both areas.

Another area in distress is District 38, with over 4,000 water right structures and 1 part-time Water Commissioner. An administrative change was made last year moving a part-time Water Commissioner from District 72 to District 38. The additional Water Commissioner helped but another 1/2 FTE is needed to adequately handle the volume of decrees, administrative duties, and augmentation plan activity in that district.

I am again requesting 1 FTE full-time Engineering Technician to handle the field work and associated office duties of the Colorado River Accounting. Much hydrographic work is needed to insure standardization and compliance with the USBR, Northern, DWB, and Colorado Springs.

We are almost finished revising the Tabulation which leaves us with a great sense of accomplishment. We still need 1 temporary FTE to complete the revisions and to condense the information to a working administrative list, also known as a current status list.

I am also requesting 1 FTE to add to several existing part-time Water Commissioner positions in order to have 1 full-time Commissioner in each district. With the increase in augmentation plans, new decrees, book work, etc., most Water Commissioner positions have shifted from seasonal to annual in nature. Much of the drain on office personnel time is attributed to districts without a full-time Water Commissioner.

C. Budget

In the area of Capital Expenditures, we need the following:

2 four-drawer legal file cabinets
1 additional PC and printer
2 office desks 2 desk chairs
2 side files 2 book cases

As far as operating funds are concerned, the lack of adequate funds have been a definite curtailment in our efficiency and productivity. Had we more operating funds, we could hire a temporary keypunch person or clerk for the periods of heavy data entry work. We need a weekly janitorial service for our office.

There seems to be a lot more traffic necessitating more attention. We also need more operating funds to cover the rising costs of a phone system, photostatic reproduction equipment, and office supplies.

D. Legislation

A problem that needs to be addressed is the physical identification of structures. Historically in remote areas with unsurveyed sections, correct legal descriptions were hard to come by and many misidentifications were made. The problem has degenerated in the present to many complex augmentation plans that have a multiplicity of water rights transferred to or, more commonly, establishing alternate points at many overlapping locations. We cannot possibly, let alone reasonably, determine which water is being diverted at which structures, nor do the owners and users have this information. The owners, engineering consultants, and attorneys stare blankly when asked for this information and say that it is an administrative problem.

I know that reviewing the plans and decrees helps as does making selective objections and court appearances. However, a proposed legislative solution would be to require monumentation of all points of diversion documenting all water right information in regards to divertible amounts provided at each location prior to the decree being finalized.

In the case of conditional proposals and at non-developed alternate points, there needs to be some mechanism for abandonment that will purge them from consideration if not acted upon.

A third suggestion for legislation would be to devise a process to pass a proposed decree back to the Referee for review prior to signing by the Water Judge under C.R.S. 37-92-304(3). If an application has opposition, it is rereferred back to the Judge by the Referee. If a stipulation is agreed upon, the Applicant proposes a decree and moves for summary judgment. At this point the application is decreed without provision for a Referee-Division Engineer consultation under C.R.S. 37-52-302(4). A written recommendation directly to the Court in C.R.S. 37-52-302(4) is generally several years too premature to be helpful, particularly without the proposed ruling.