ANNUAL REPORT
WATER DIVISION 5

I. WATER ADMINISTRATION

A. 1990 Water Year

This year Division 5 experienced a great many things, including a fairly serious drought. We've played catch-up in many areas, continued training and data collection, and of course focused much of our efforts on the work of water administration.

In review it's clear that the good of 1990 includes many accomplishments in administration, updating tabulation information, attendance at both organized and informal meetings with the water user community, and a stabilization of the dams and reservoir inspections. The office staff has remained stable which has helped the water commissioners in their daily attacks on the work load. And the closer we get to a complete understanding on Green Mountain exchange operations, the better job we can do on handling a total river call.

Unbudgeted expenditures for 1990 were held in check. This was in comparison to the Division overspending by nearly $4000 in 1989. We are faced with the continuing task of trying to do more with less. This is challenging and also proves difficult.

The 1990 water commissioner situation was somewhat improved over the previous year as only 3 of the 17 commissioners were new to the position they occupied at the start of the year. Retirements and transfers that have plagued the staff were minimal. This has had a beneficial impact on training demands and water administration in a stressful drought year.

1. Accomplishments

The goals and objectives of the last several years' reports are continually coming closer to being a reality as various work items are accomplished or near completion.

In the area of completing the jobs required of us, we did finish and sign the 1989 diversion records and are closing in on those for 1990.

With the help of the information section we designed diversion record sheets which included permanent water rights and structure information from the Rights and WISP databases. This greatly enhanced the commissioners' ability to handle more data with better

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quality control. This in turn allowed for more emphasis to be put into administration which was fortunate considering the extremely dry year. The commissioners also had better administrative lists to work from as our collective computer literacy permitted them to be developed.

The annual upgrade of the previous years' signed decrees were also added to the Tabulation as were about half of the outstanding augmentation plans.

This year abandonments were again a big time-consumer with the commissioners fine-tuning the Current-In-Use codes (CIU) in the structure lists and the Non-Use-Codes (NUC) from the diversion records. The abandonment lists were prepared and published as required. Protests to it are in the process of being field inspected before finalization for submittal to the Water Court in 1991. There were 600 water rights on the published abandonment list for Water Division 5.

We continue to develop and use several much-needed databases. The wells, water cases, abandonments, reservoirs, and our expenditures are now tracked electronically.

Water Commissioners eliminated in some cases or substantially reduced Current-In-Use codes of "E" and "F" in their diversion records. Also several began the administration of smaller diversions heretofore ignored, such as smaller, very remote ditches, springs, and wells.

Of the 350 new water court applications filed in Water Division No. 5, 324 were processed this year for Division 5 with the appropriate field inspections, consultations, objections, and other assorted work accomplished. This corresponds to 328 applications processed in 1986, 398 for 1987, 483 for 1988, and 288 for 1989.

Hydrographic work on the Fryingpan-Arkansas Project was completed as required, as were a substantial number of the backlog of unworked records. Additional measurements for administrative purposes were made and were extremely helpful in areas that do not ordinarily have calls. Reconstruction of the bridge at the North Fork of the Fryingpan and a cableway at Thomasville were welcome accomplishments.

Having the resident Dam Safety engineer continued to pay results. Not only are the dams being inspected, etc., but the personal touch is paying off in increased efforts by owners to upgrade their structures. Water Commissioner understanding and administrative levels have increased as well. There is definite positive public relations through it all.

The transfer of supervision to the division offices will be another very important step in the process of providing the public with the most for their money in dam safety.

Seventy-one (71) regular S.E.E.D. (Safety Evaluations of Existing Dams) inspections, 9 construction inspections, and 18 follow-up inspections were done by the Dam Safety Engineer and 12 required of the Water Commissioners. Thirty (30) restricted reservoirs were monitored by the water commissioners; new restrictions were placed on 3 reservoirs; and restrictions were removed from 4 reservoirs with 4 more waiting for as-built approval. All Class 1 dams had hydrology studies completed. Major repairs were finished on 5 dams, 2 breach orders were rescinded, 1 breach order was extended, and 2 dams were downgraded to Class 4 (pending approval in Denver).

A "Reservoir Capacity Table" book for the Division was started with 19 new tables developed.

Well inspections were made as absolutely necessary but generally lagged as the inspector's primary duties were directed toward filling in on necessary administration.

A total river call was administered much of the year -- not perfectly by any means -- but many of the individual parts are coming together. Water Commissioner understanding and ability to timely deliver real-time diversion data is increasing. Satellite-supplied data as well as user-supplied information is now possible, and for the third year the records reflect replacements from Green Mountain Reservoir and the exchanges involved. It is very exciting to see this take shape. Several more spreadsheets and it will get even better.

One long-awaited personnel change was accomplished with the establishment by the legislature of a District 36 water commissioner. That position was filled September 1 and we are now in a learning curve with it. The hirings and transfers of the years before are beginning to pay big dividends but it has taken a lot of effort and made possible by a temporarily unfilled position.

Three other very effective personnel moves were tried and worked very well. The most advantageous was the hiring of a temporary secretary while the permanent secretary was on vacation. The temporary was brought on line a week early and stayed three extra weeks for a total of six weeks. The second was the three-month hiring of a student who beefed up the hydro work. Finally, a temporary water commissioner was put on line when it was absolutely necessary to turn reservoir water on Grand Mesa.

The Division Engineer, Assistant, and other office engineers all got in some excellent cross training under fire as water commissioners. All of the regular water commissioners as well as the engineers have been involved with orientation of new personnel and ongoing training of each other, sharing their various expertise. Additionally many Division 5 personnel attended a four-part Colorado Mountain College (CMC) management training session in Glenwood Springs, Carbondale, and Rifle. In addition, each employee was given a performance evaluation and has a new plan in place.

In the area of resource management we were able to temporarily get additional office space for the winter in order to have water commissioners work in the Glenwood office. That space is now under permanent lease.

During the winter the water commissioners revised and upgraded their administrative lists. They also made many contacts regarding the installation or resetting of measuring devices; 45 orders were subsequently sent out. In conjunction with the Dam Inspector, 3 new reservoir staff gages were installed with corresponding capacity tables supplied and 3 existing staff gages were repaired.

We did not have funds for capital goods but did divert small amounts of operating money to purchase used goods through the government resale program. However, at fiscal year end, we did receive and put to good use two file cabinets, two computer work stations, and an executive chair.

We also received another IBM-compatible PC purchased through funding trade-offs associated with the contract operation of Aspen's Roaring Fork River gage and satellite monitoring hardware.

Still in the area of accomplishments, not enough can be said about the satellite monitoring system itself, along with the PC's that came with it. Our ability to administer and record has truly been revolutionized as we train ourselves to utilize the storage, manipulation, and communication capabilities of the system.

Likewise, a computerized well database is up and running. It is used daily to handle all kinds of problems in dealing with the public.

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 have been systematically contacted concerning measuring devices and have submitted much diversion 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.

Specific meetings were held with: Mesa and Spring Creek water users, Bull Creek water users, Mesa County Planning Association, Big Creek water users, Pitkin County and Aspen planners and attorneys, Town of Gypsum officials and other water users, Summit County Small Reservoir Study Group, realtor groups, Well Drillers Association, Northwest Council of Governments (COG), Colorado River Water Conservation District, U.S. Bureau of Reclamation, Denver Water Conservation Board, Northern Colorado Water Conservancy District (WCD), West Divide WCD, Basalt WCD, numerous ditch companies, the Governor's "Dome on the Range," SB-181 water quality meeting attendees, and attendees of "Colorado Water Allocations: The Next 100 Years," a program for the public in Division 5 sponsored by the Colorado Endowment for the Humanities.

One of the more important involvements was the continued effort to work very closely with the Denver Water Board, Northern, Colorado Springs, U.S. Bureau of Reclamation, Colorado River Water Conservation District, and the Colorado Water Conservation Board in the "Clarification of Division 5 Water Administration" including exchange administration, Green Mountain Reservoir, the Blue River decrees and related cases. A final stipulated settlement between all factions, including many other West Slope entities, has yet to be signed but has gotten close. This would come under the several topics of public, self, and interagency education through mutual communication efforts. (The Blue River cases are proceeding in the Federal District Court, which will have a bearing on this.)

3. Issues Impacting Division 5

There are several important trends that are impacting Division 5 which affect the direction of water administration. Decisions will be made for manpower needs, work coverage, and new technology required to deal with these trends.

First, relatively new DIVERSION DEMANDS on a limited water supply are creating all kinds of pressures.

(1) * The rapid growth in the high country and associated 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.

(2) East Slope demands such as Windy Gap, Northern Colorado's major transmountain water diversion, will come on-line and effectively deplete 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 accounting to track water exchanged up the Blue River for snow making and municipal uses.

(3) The Front Range metropolitan area has been involved in several major negotiations concerning water from the Colorado River. An agreement has 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 an additional depletion to the Colorado River of 30,000 to 50,000 acre-feet of firm yield during the non-irrigation season. No request to administer this agreement has been made but will occur sometime.

(4) Previously, 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. Those have run headlong into minimum streamflow filings by the Water Conservation Board. This will create need for careful winter administration of the exchanges involved.

* A District 36 water commissioner was authorized and hired September 1, 1990. This should help the situation.

(5) A major agreement was worked out 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 River and Williams Fork River, including Green Mountain Reservoir. Fortunately, all of this will be developed very slowly which gives us time to work out the administrative details.

(6) The entry and demise of the oil shale industry has affected Division 5. 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 its rights but the population growth pressures associated with it have waned.

(7) Currently the cost/benefit ratio of agriculture is marginal. Therefore, there is little incentive to use water and maintain agriculture as historically practiced. As a result ranches are being divided up into smaller acreages.

(8) 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 we should be prepared for it.

(9) San Diego, Las Vegas, and others are looking for water with interstate sales and transfers being actively contemplated.

Second, as the year progressed it became more evident that current pressures are building in the area of "PUBLIC INTEREST VALUES." This is an issue fraught with potential impact on Division 5 and its functioning.

(1) Conflicts over complex water demands require time and energy for the staff as the precious commodity, water, is bought and sold while in the legal arena very definite demands are set forth for its use. Minimum stream flows, endangered species requirements, and wetlands depletion considerations are only a few of the newer demands that must be weighed as the staff makes decisions concerning administration.

(2) Although at-point water quality concerns have not directly impacted the Division, it seems inevitable that the future holds challenges in this area. With quality concerns having a widespread focus, it seems only a matter of time before wilderness areas, "natural habitats," municipal waters, streams flowing outside state boundaries to neighboring states, groundwater and recreational waters have standards that need monitoring. Is it feasible that a new state department be established or that counties take over the quality policing?

Because quality and quantity of water are so closely related (e.g., a 10 ppb iron quality standard can be reached by "flooding" a stream that is at a 15 ppb level), it seems reasonable that administration of both be handled out of the same offices.

4. Issues of Concern

The main concern is the reduced ability of the staff to accomplish all that needs to be done in almost any area. The continuing areas of concern are:

-- Existing mapping is wearing out and needs replacement.

-- Do not have the hydrographic staff to handle the river accounting. [See Notes (1) through (3) on next page]

-- Gasoline prices are escalating.

-- Number and complexity of augmentation plans are prohibitive to administer with existing staff until software and databases are developed along with appropriate accounting sheets.

-- Some work is still needed on the tabulation. We need to include and/or revise augmentation entries.

-- Ten percent of diversion structures have no record at all, while others are very minimal with a smattering of user-supplied data.

-- Administration of springs, wells, and gravel pits will be difficult.

-- Staff gages and capacity tables are still needed for many reservoirs.

-- Dealing effectively with protests to abandonment list.

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

-- There is still somewhat of a power struggle between the Division and the Dam Safety Section.

-- Controlling diversions on wheels as pumper trucks haul water for gas well drilling.

-- Retirements, etc., have created a very new work force which will take time and resources to develop.

-- Well inspections need to be increased as inconsistencies are increasingly evident.

-- Budget constraints are deepening.

-- The hiring freeze may prohibit replacement of 4 retirees.

-- Judicial decisions (while much better) continue to be made with immediate caseload efficiency in mind rather than astute sensitivity to water laws wherein stipulated settlements are reached. However, there will be a new Water Judge.

Note (1) A general river call requiring deliveries of Green Mountain water and the accounting of such is still not satisfactory. The Satellite Monitoring system has improved our accessibility to accurate data; however, there are a number of holes in the system.

Note (2) 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 is just now beginning with a new Water Commissioner.

Note (3) 300,000 to 500,000 acre-feet of diversions are not monitored for accuracy by any neutral party, which creates nervousness and feeds East Slope/West Slope tensions.

5. Effect of Workload Changes

The biggest impacts were due to tougher administration resulting from a drought complicated by several vacancies in water commissioner positions.

On the up side, the hiring of a temporary secretary really helped relieve paper congestion and data input in the office.

The increased efforts in communications within and outside of the agency as well as expanded public interaction takes time but is paying dividends already, in acceptance by the water-using public. This year that was really evident in the reservoir inspection area.

Additional water rights add work but in this case the rate of addition slowed over the previous year. The abandonment list preparation added some work certainly as did the general upgrading of the recordkeeping process.

6. Impact of the Budgets on Operations

We do not have enough FTE's to put Water Commissioners in each water district. Additionally, 12 of the 18 Water Commissioners are part-time employees and the seasonal nature of their employment severely hampers the updating of structure lists, administrative lists, tabulations, maps or any other non-direct water administration activity. Another problem is that as the jobs are becoming more complex, adequate training is harder to achieve. The pressure for part-timers to seek full-time employment is a problem. Two-thirds of the Water Commissioner work force is in this situation.

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 at a less than desirable level.

In travel we curtailed back on a percentage basis from previous years' expenditures. It is in the this area that it's easiest to make up deficiencies. As we travel less, we will have to rely more on user-supplied information.

The bottom line is that unlike previous years where we spent what was needed and consequently overspent, the budget this year matched the budget and cut service.

B. 1991 Water Year

This coming year will probably find Division 5 again facing some of the good, the bad, and the ugly. We hope to keep the ugly to a minimum and watch for the good.

Hopefully, staffing and training will stabilize so that the operation of the work force can be at maximum output and we can work to see our specific goals met.

1. Operational Concerns

In order of importance based on what happened last year, I believe that toeing the line on expenditures will be more difficult without decreasing service. Training needs of the new employees will be critical -- assuming there will be new employees in view of the hiring freeze, or even more critical: how do we provide service without the employees?

Field inspections regarding abandonments, water right applications, and well replacements will also be costly, time consuming, and necessary.

Quality control and data handling capability and systems design for user-supplied information is becoming increasingly important and will receive some attention.

Lastly, the people, the governor, and the legislature all talk of water planning and management, public benefits, and water quality. The discussion of these issues has been fragmented and unfocused -- even ill-informed. The debate is laced with buzz words that mean different things to different people, with confused analyses which mix the ends to be achieved with the means of achieving those ends, and with misunderstandings and misconceptions about Colorado's current laws and policies. Whatever one's point of view about those issues, Colorado clearly has yet to reach a consensus on how they should be addressed. In the meantime, as administrators we make many decisions with regard to beneficial use and waste of water and hopefully won't catch too much heat or lawsuits in those decisions.

SB-158 was an offshoot of the above and something similar may take its place this year. However, in such unsettled times, some bill nearly the opposite could have just as much support.

2. Projected Work Items for 1991:

The usual business of:

A. Administering water,
B. Collecting and recording diversion data,
C. Reservoir inspections,
D. Well inspections,
E. Hydrographic work, and
F. Reviewing water applications.

The following are specialized work items for 1991 and beyond:

A. Train Water Commissioners in:

1. Standardization of municipal record keeping.
2. Field inspecting augmentation plans.
3. Creating schematics and coding for augmentation plans.
4. Administration of reservoirs.
5. Administration of exchanges.
6. Computer usage.

B. Inventory all fee wells and generate records. (Proposal to spend SB 200 funds to accomplish) *

1. Determine locations and establish mapping accordingly.
2. Determine usage.
3. Determine compliance with permit and decree.
4. Prepare ownership directory.
5. Send orders.

* Project wasn't authorized in 1990 and is re-requested.

C. Lower the "NUC = No information available" level by 30 in each water district.

D. For Augmentation Plans:

1. Finish tabulation of augmentation plans.
2. Establish an augmentation plan data base that can be used for administration.
3. Establish an accounting system for each active augmentation plan.
4. Install control structures and measuring devices as necessary.
5. Obtain field data.
6. Administer.

E. Add 1989 and 1990 decrees to Tabulation.

F. Add 1989 and 1990 decrees to Structure Lists.

G. Develop computer accounting spreadsheets for:

1. Blue River Diversion Project
2. Continental-Hoosier System,
3. McMahon/Red Dirt System.

H. River Accounting Spread Sheet - increase utility by:

1. Phasing in hydrographic support,
2. Utilizing real-time diversion data,
3. Mixing and matching from various spreadsheets.

I. See Appendix B for Proposed Dam Safety Work Items for 1991.

J. Write Individual Performance Objectives (IPO's) for Water Commissioners on diversion data and annual record submittals.

K. Organize and implement program for hydrographic data collection for Division 5, including appropriation of money from legislature for same.

L. Inventory gravel pits. (Proposal to spend SB 200 funds to accomplish)
Using aerial photos for dating:

1. Plot on mapping.
2. Prepare directory of owners.
3. Work to bring those needed into well permit compliance.

M. Inventory and perform an on-site inspection of all test wells and monitoring holes. (Proposal to spend SB 200 funds to accomplish)

1. Take steps necessary to bring them into compliance with State regulations.
2. Insure proper abandonment where necessary.

N. Design system to notify public of calls.

O. Design system to solicit user-supplied information.

P. Complete backlog of hydrographic records.

Q. Implement a secretarial handbook.

3. Goals and Objectives

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

A. Water Rights Management

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

2. Uphold all other statutory duties of the State Engineer's office.

B. Water Records and Information

1. Provide the public with service regarding water usage.

2. Address the public's needs in water resources.

In order to fulfill these objectives, the following goals must be attained. It is imperative that we have a complete and reliable tabulation of water rights.* All water usage and consumption must be inventoried and we need to possess the ability to monitor the same on a real-time basis. We need to know where augmentation and exchanges are taking place and in what amounts. We must know the locations and amounts of the water supply at any given time. We have to fully develop our personnel and must have an educated public willing to cooperate with us. We must also work with the legislature and other governmental agencies in order to have our needs provided for. We can begin to reach these goals as more of the work projects are completed.

We are much closer to obtaining these objectives because of the past year's accomplishments. The prospects for the upcoming year look challenging.

* We should have a complete and reliable tabulation of permitted wells and, likewise, a complete and reliable dams database.

TRANSMOUNTAIN DIVERSIONS SUMMARY
WATER DIVISION V -IMPORTS

1990

RECIPIENT							SOURCE	
			PREVIOUS IYR		IYR OF RECORD			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
38	Roaring Fork Bypass Flow	Roaring Fork River	1,586	304	1,672	281	11	Turquoise River
45	Divide-Highline Feeder	Divide Creek	2,086	56	1,428	55	40	Clear Fork Muddy Cr.
50	Sarvis Creek Ditch	Red Dirt Creek	1,667	350	1,295	365	58	Sarvis Creek
53	Dome Creek Ditch	Egeria Creek	58	49	58	NIA	58	Bear Creek
53	Stillwater Ditch	Egeria Creek	2,560	107	4,138	100	58	Bear Creek
72	Redlands Power Canal	Colorado River	519,252	323	538,683	362	42	Gunnison River
72	Grand Junction Municipal	Colorado River	6,695	365	5,980	365	42	Kannah Creek
72	Fruita Water Works	Colorado River	0	0	0	0	73	Little Dolores River
		TOTAL DIV 5 IMPORTS:	533,904	1554	553,254	1,528		

TRANSMOUNTAIN DIVERSIONS SUMMARY
WATER DIVISION V -EXPORTS

		RECIPIENT					SOURCE	
			PREVIOUS IYR		IYR OF RECORD			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
7	Straight Creek Tunnel	Clear Creek	820	365	434	365	36	Straight Creek
7	Vidler Tunnel	Clear Creek	966	120	668	114	36	Snake River
23	Boreas Pass Ditch	Tarryall Creek	0	0	0	0	36	Blue River
23	Hoosier Tunnel	Main Fork of South Platte River	10,720	130	11,130	136	36	Blue River
80	Roberts Tunnel	Main Fork of South Platte River	74,410	265	56,858	197	36	Blue River
11	Columbine Ditch	Tennessee Creek	1,420	114	1,485	78	37	South Fork of Eagle River
11	Ewing Ditch	Tennessee Creek	786	152	812	189	37	South Fork of Eagle River
11	Homestake Tunnel	South Platte via Arkansas River	22,760	199	25,997	92	37	Homestake Creek
11	Wurtz Ditch	Tennessee Creek	2,070	127	1,567	89	37	South Fork of Eagle River
11	Boustead Tunnel	Lake Fork Creek	37,140	94	47,410	166	38	Fryingpan River
11	Busk-Ivanhoe Tunnel	Lake Fork Creek	3,750	192	5,236	174	38	Fryingpan River
11	Twin Lakes Tunnel	Lake Fork Creek	37,390	365	43,634	365	38	Roaring Fork River
		PAGE 1 SUBTOTALS:	192,232	2,123	195,231	1,965		

TRANSMOUNTAIN DIVERSIONS SUMMARY
WATER DISIVION V - EXPORTS

1990

		RECIPIENT					SOURCE	
			PREV. I YR		IYR OF REC			
WD	NAME	STREAM	AF	DAYS	AF	DAYS	WD	STREAM
3	Grande River Ditch	Cache La Poudre Rvr	18,680	162	20,982	138	51	N. Fk Colorado Rvr
3	Eureka Ditch	Cache La Poudre Rvr	(est) 40	NIA	88	73	51	N. Fk Colorado Rvr
4	Alva B. Adams Tunnel	Big Thompson River	275,100	365	202,845	341	51	N. Fk Colorado Rvr
6	Moffat Tunnel	Boulder Creek	64,890	365	68,428	365	51	Fraser River
7	Berthoud Pass Ditch	Clear Creek	0	0	637	124	51	Fraser River
-6	August P Gumlick Tunnel	Boulder Creek via Fraser River	INCLUSIVE IN MOFFAT TUNNEL				51	Williams Fork Rvr
6	Vasquez Pipeline	Boulder Creek via Fraser River	INCLUSIVE IN MOFFAT TUNNEL				51	Williams Fork Rvr
40	Leon Tunnel Canal	Surface Creek	1,577	80	1,132	84	72	Leon Creek
		PAGE 2 SUBTOTALS	360,287	972	294,112	1,125		
		PAGE 1 SUBTOTALS	192,232	2,123	195,231	1,965		
		TOTAL DIV 5 EXPORTS	552,519	3,095	487,343	3,090		

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
36	Black Lake	Black Creek	1,997		1,997		2,000		2,000		1,990
	Cataract Lake	Cataract Creek	1,652		1,652		1,652		1,650		1,640
	Dillon Reservoir BRDP	Blue River	237,697		257,815		250,004		234,282		253,874
	Goose Pasture Tarn	Blue River	900		900		912		912		912
	Green Mountain Reservoir	Blue River	86,630		152,158		72,669		151,400		71,113
	Hoagland Reservoir No 1	Elliott Creek	35		100		35		109		18
	Reynolds Reservoir	Keystone Creek	157		157		157		157		157
	Upper Black Creek Res	Black Creek	650		660		655		655		595
	Upper Blue Lake Res	Blue River	0		2,119		0		2,119		0
	Way Reservoir	Springs Creek	25		80		75		94		30
		TOTALS:	329,743		417,638		328,159		393,418		330,311

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	Benchmark Lake	Eagle River	168		116		130		130		130
	Black Lake No. 2	Gore Creek	90		90		90		90		90
	Bolts Lake	Cross Creek	--		--		74		74		74
	Chalk Mountain Res	Eagle River	217		217		204		204		204
	Climax Moly No. 4	Eagle River	--		--		1,280		1,280		1,280
	G.G. Reservoir	Eby Creek	0		0		0		0		0
	Homestake Reservoir	Homestake Creek	23,735		24,095		15,681		35,800		9,112
	L.E.D.E. Reservoir	Gypsum Creek	0		180		0		160		10
	Lower G.G. Reservoir	Eby Creek	0		0		0		0		0
	Noecker Reservoir	Eby Creek	0		280		0		160		0
	O.Z. Reservoir	Brush Creek	452		452		452		452		452
	Robinson Reservoir	Eagle River	3,136		2,020		2,020		3,000		2,560
	Welsh Reservoir	Alkali Creek	0		105		0		132		0
		TOTALS:	27,798		27,555		19,931		41,482		13,912

RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF (Page 1 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	Alicia Lake Reservoir	Lime Creek	673		673		673		673		673
	Beaver Lake	Crystal River	73		73		73		73		73
	Consolidated Ditch Res	W Coulter Creek	80		802		11		507		0
	Crooked Creek Reservoir	Lime Creek	NIA		NIA		40		40		40
	Elk Creek Reservoir No 2	Elk Creek	NIA		NIA		10		10		10
	Himmeland Reservoir	Fryingpan River	92		92		92		92		92
	Hopkins Reservoir	Landis Creek	NIA		NIA		15		8		0.3
	Ivanhoe Reservoir	Fryingpan River	7		409		0		0		0
	Jacobsen Lakes & Ponds	Roaring Fork River	225		225		225		225		225
	Lake Ann Ditch Res	Sopris Creek	4.5		325		20		53.1		20
	McNulty Reservoir	Cattle Creek	0		0		0		0		0
	Ralston No 1 Reservoir	W Coulter Creek	0		0		0		0		0
	Ruedi Reservoir	Fryingpan River	83,816		97,262		84,405		101,270		89,535
	Spring Park Reservoir	Cattle Creek	30		1,412		4		252		5
	Tagert Lake	Roaring Fork River	NIA		NIA		30		30		30
	Thomas Reservoir	Thomas Creek	160		160		160		160		160
	Upper Chapman Reservoir	Fryingpan River	2,450		2,450		2,450		2,450		2,450
	Van-Cleve Fisher Res	Mesa Creek	0		146		0		0		0
	Van Springs Res No 2	Coulter Creek	160		102		0		0		0

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	Warren Lakes	Warren Creek	NIA		NIA		50		50		50
	Wildcat Reservoir	Snowmass Creek	1,125		1,175		1,100		1,100		1,100
	Woods Lake Reservoir	Lime Creek	300		300		300		300		300
		TOTALS (Pp 1 & 2):	89,195.5		105,606		89,658		107,293.1		94,763.3

1990

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	City of Rifle Pond No 1	Colorado River	56		56		46		56		40
	Grass Valley Reservoir	Rifle Creek	3,036		5,860		555		5,600		651
	Harris Reservoir	Rifle Creek	100		200		100		200		100
	Meadow Creek Reservoir	Elk Creek	984		984		864		864		744
	Middle Fork Reservoir	Parachute Creek	7,463		7,463		119		119		118
	Park Reservoir	Elk Creek	19		176		45		156		43
	Rifle Gap Reservoir	Rifle Creek	1,888		12,276		1,282		6,629		1,167
		TOTALS:	13,546		27,015		3,011		13,624		2,863

1990

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
45	Anderson Pond No. 1	Colorado River	312		312		313		313		273
	Centenial Lake	Colorado River	238		238		238		238		143
	Porter Reservoir	Three Mile Creek	5.8		184.8		7.7		5.1		0
		TOTALS:	555.8		734.8		558.7		556.1		416

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1990

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
50	Albert Reservoir	Albert Creek	3		125		3		125		0
	Antelope Reservoir	Colorado River	0		280		35		245		35
	Basin Reservoir	Muddy Creek	0		80		0		50		0
	Binco Reservoir	Troublesome Creek	50		500		5		204		0
	Hinman Reservoir	Muddy Creek	300		611		20		611		500
	Lake Agnes	Muddy Creek	400		431		400		430		420
	Martin Reservoir	Muddy Creek	215		215		55		200		6
	Matheson Reservoir	Troublesome Creek	50		1,073		0		1,073		0
	McElroy Reservoir	Pass Creek	0		240		0		240		0
	McMahon Reservoir No 2	Red Dirt Creek	440		3,490		440		3,600		377
	Milk Creek Reservoir	Middle Creek	25		105		25		105		20
	AKA Martin Lily Pond North Meadow Reservoir	Muddy Creek	0		300		0		185		0
	Oaks Reservoir	Muddy Creek	15		50		20		61		4
	Parsons Reservoir	Muddy Creek	0		0		0		65		0
	Whiteley Peak Res	Muddy Creek	350		773		100		700		305
	Woods Reservoir	Muddy Creek	5		50		15		40		25
		TOTALS:	1,853		8,323		1,118		7,934		1,692

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
51	Bull Run Reservoir	Williams Fork River	160		200		192		200		192
	Cottonwood Reservoir	Gardiner Creek	10		80		30		35		10
	East Branch Reservoir	Williams Fork River	700		1,800		2,000		1,900		2,000
	F W Linke No 2 Reservoir	Ten Mile Creek	0		50		0		40		0
	Hankinson Reservoir	Fraser River	116		116		116		86		116
	Jack Orr Reservoir	Colorado River	20		20		20		20		20
	Kings Reservoir	Buffalo Creek	731		390		256		352		256
	Lake Granby	Colorado River	399,454		374,644		273,959		301,033		284,109
	Langholen Reservoir	Battle Creek	8		50		5		55		5
	Meadow Creek Reservoir	Ranch Creek	934		5,100		127		5,098		1,232
	Moore Reservoir	Williams Fork River	70		130		75		175		75
	Musgrave Reservoir	Corral Creek	80		300		0		350		0
	Rock Creek Reservoir	Rock Creek	140		100		0		0		0
	Scholl Reservoir	Corral Creek	0		165		0		100		0
	Shadow Mtn Reservoir	Colorado River	18,075		17,687		17,785		17,450		17,743
	Sun Valley Reservoir	North Fork of Colo	72		72		72		72		72
		SUBTOTALS:	420,750		400,904		294,637		326,966		305,830

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
51	Sylvan Reservoir	Little Muddy Creek	95		1,000		5		1,000		10
	Ute Creek Reservoir	Williams Fork River	40		100		72		190		165
	Williams Fork Reservoir	Williams Fork River	68,573		85,029		65,712		93,854		74,960
	Willow Creek Reservoir	Willow Creek	9,962		9,110		7,776		7,846		7,546
		SUBTOTALS:	78,670		95,239		73,515		102,890		82,681
		SUBTOTALS PAGE 1:	420,750		400,904		294,637		326,766		305,830
		SUBTOTALS PAGE 2:	78,670		95,239		73,515		102,890		82,681
		TOTALS:	499,420		496,143		368,152		429,856		388,511

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
52	Christenson Reservoir	Sheephorn Creek	69.2		69.2		0		0.3		0
	Jones Reservoir	Hartman Gulch	69.2		69.2		69.2		62.0		41.6
	Ragland Reservoir No 2	Alkali Creek	NIA		NIA		~~122~~		~~122~~		~~122~~
	Rock Gap Dam	Unnamed Tributary to Colorado River	52		52		52		35		15.1
		TOTALS:	190.4		190.4		243.2		219		178.7

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	Beaver Dam Reservoir	Sweetwater Creek	NIA		NIA		122		122		122
	Clyde Reservoir	Egeria Creek	6.4		66.4		6.0		66.0		0
	Cresent Lake	Derby Creek	87.2		237.2		0		237.0		90.0
	Ed W. Harper	Egeria Creek	14.2		194.2		14.0		194.0		112
	Egeria Reservoir	Egeria Creek	7		107.3		7		107		0
	Grimes Brooks Reservoir	Red Ditch Creek	206		326		0		163		103
	Hadley Reservoir	Egeria Creek	164		164.6		164		80		0
	Heart Lake Reservoir	Deep Creek	3,255		3,255		2,769		3,060		2,621
	Hidden Springs Res	Horse Creek	NIA		NIA		50		50		50
	Jones No. 1 Reservoir	Sheep Creek No. 2	0		200		0		150		0
	Jones No. 2 Reservoir	Sheep Creek No. 2	3		400		255		197		96
	Kelly Reservoir	Egeria Creek	43		226		100		108		68
	Luark Reservoir	Spring Creek	0		90		0		90		0
	Mackinaw Lake Res	Derby Creek	NIA		NIA		0		84		0
	Morris Reservoir	Toponas Creek	0		75		0		75		0
	Newton Gulch Reservoir	King Creek	0		123		0		67		0
	Reid Reservoir No. 3	Egeria Creek	93		93		93		93		93
	Sterner Reservoir	Egeria Creek	30		90		0		154		0

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	Sweetwater Reservoir	Sweetwater Creek	490		490		490		490		490
	Tonier Gulch Reservoir	Tonier Gulch	64		64		64		20		20
	Toponas Rock No 2 Res	Toponas Creek	0		88		0		196		0
	Wohler Reservoir	Elk Creek	93		93		93		60		50
		TOTALS (Pp 1 & 2):	4,555.8		6,382.7		4,227		5,863		3,915

1990

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
72	Big Beaver Reservoir	Bull Creek	0		79		0		0		0
	Big Creek No 1 Res	Big Creek	0		746		0		0		0
	Big Creek No 3 Res	Big Creek	1,308		1,549		980		1,493		609
	Big Creek No 4 Res	Big Creek	181		143		0		152		0
	Big Creek No 5 Res	Big Creek	0		105		0		105		26
	Big Creek No 7 Res	Big Creek	592		1,223		271		1,116		582
	Bob McKelvie Res	Plateau Creek	N/A		N/A		N/A		200		200
	Bull Basin No 1 Res	Bull Creek	0		0		0		0		0
	Bull Basin No 2 Res	Bull Creek	0		30		0		0		0
	Bull Creek No 1 Res	Bull Creek	0		83		0		83		45
	Bull Creek No 2 Res	Bull Creek	0		70		0		70		0
	Bull Creek No 3 Res	Bull Creek	0		0		0		59		0
	Bull Creek No 4 Res	Bull Creek	0		226		0		237		0
	Bull Creek No 5 Res	Bull Creek	106		236		35		262		0
	Colby Horse Park Res	Leon Creek	162		490		30		490		116
	Coon Creek No 1 Res	Coon Creek	0		0		0		0		0
	Coon Creek No 2 Res	Coon Creek	0		120		0		225		41
	Coon Creek No 3 Res	Coon Creek	0		47		0		138		0
		SUBTOTALS:	2,349		5,147		1,316		4,630		1,619

1990

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
72	Cottonwood Lake Res No 1	Cottonwood Creek	1,670		1,114		1,378		1,325		1,080
	Cottonwood Lake Res No 2	Cottonwood Creek	0		143		0		87		0
	Cottonwood Lake Res No 4	Cottonwood Creek	260		285		256		285		68
	Cottonwood Lake Res No 5	Cottonwood Creek	209		171		72		203		144
	Dawson Reservoir	Big Creek	220		220		203		220		0
	Hawxhurst Reservoir	Hawxhurst Creek	0		71		0		60		0
	Highline Reservoir	Mack Wash	2,080		2,080		2,770		2,640		3,400
	Jerry Creek Res No 1	Plateau Creek	1,037		1,197		192		1,134		977
	Jerry Creek Res No 2	Plateau Creek	5,668		5,705		5,350		6,076		5,963
	Kendall Reservoir	Leon Creek	0		84		0		56		0
	Kirkendall Reservoir	Leon Creek	0		112		0		112		0
	Leon Lake Reservoir	Leon Creek	665		1,477		378		1,108		398
	Lost Lake Reservoir	Bull Creek	0		24		0		61		0
	Mack Mesa Reservoir	Mack Wash	NIA		NIA		NIA		NIA		NIA
	Mesa Creek No 1 Res	Mesa Creek	0		78		0		285		15
	Mesa Creek No 3 Res	Mesa Creek	0		146		0		150		36
	Mesa Creek No 4 Res	Mesa Creek	0		109		0		131		0
	Monument No 1 Reservoir	Leon Creek	0		572		0		572		0
	Monument No 2 Reservoir	Leon Creek	0		102		0		71		0
		SUBTOTALS:	11,809		13,690		10,599		14,576		12,081

1990 RESERVOIR STORAGE SUMMARIES GREATER THAN 50 AF (Page 3 of 3)

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
72	Palisade Cabin Reservoir	Rapid Creek	957		775		800		991		842
	Palisade Storage Res 1	Rapid Creek	87		0		0		0		0
	Palisade Storage Res 2	Rapid Creek	96		96		0		0		0
	Parker Basin Res No 1	Cottonwood Creek	244		174		199		229		99
	Parker Basin Res No 2	Cottonwood Creek	0		60		0		51		48
	Parker Basin Res No 3	Cottonwood Creek	0		0		0		0		0
	Rapid Creek No 1 Res	Rapid Creek	50		50		0		500		150
	Rapid Creek No 2 Res	Rapid Creek	800		884		700		884		0
	Stubbs McKinney Clark R	Spring Creek	153		230		0		70		0
	T E Kitson Reservoir	Cottonwood Creek	132		159		178		55		3
	Twin Basin Reservoir	Bull Creek	0		30		0		24		13
	Vega Reservoir	Plateau Creek	6,619		26,398		2,270		15,384		1,783
	Y T Reservoir	Grove Creek	0		18		44		150		44
	Jensen Reservoir	Cottonwood Creek	225		NIA		NIA		NIA		NIA
		SUBTOTALS PAGE 3:	9,363		28,874		4,191		18,338		2,982
		SUBTOTALS PAGE 2:	11,809		13,690		10,599		14,576		12,081
		SUBTOTALS PAGE 1:	2,349		5,147		1,316		4,630		1,619
		TOTALS:	23,521		47,711		16,106		37,544		16,682

1990 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
36			329,743		417,638		328,159		393,418		330,311
37			27,798		27,555		19,931		41,482		13,912
38			89,196		105,606		89,658		107,293		94,763
39			13,546		27,015		3,011		13,624		2,863
45			556		735		559		556		416
50			1,853		8,323		1,118		7,934		1,692
51			499,420		496,143		368,152		429,856		388,511
52			190		190		243		219		179
53			4,556		6,383		4,227		5,863		3,915
70			0		0		0		0		0
72			23,521		47,873		16,106		37,544		16,682
	DIVISION TOTAL RESERVOIRS	GREATER THAN 50 AF	990,379		1,137,461		831,164		1,037,789		853,244
	DIVISION TOTAL RESERVOIRS	LESS THAN 50 AF	1,224		2,018		1,276		2,092		1,144
	DIVISION 5 TOTAL STORAGE:		991,603		1,139,479		832,440		1,039,881		854,388

1990

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			116		178		114		185		109
37			89		89		104		104		102
38			356		383		337		323		310
39			27		32		70		72		50
45			78		104		54		93		67
50			98		224		98		208		64
51			59		324		117		354		103
52			109		219		109		164		124
53			223		337		194		343		163
70			0		0		0		0		0
72			68		128		79		246		52
	DIVISION TOTAL RESERVOIRS LESS THAN 50 AF		1,224		2,018		1,276		2,092		1,144

WATER DIVERSION SUMMARIES BY DISTRICT

1990

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	(300)	9	(375)	(281)	1,577	682,083	141,472	80,837	12,792	6.4
37	(297)	18	(463)	(419)	3,742	142,778	21,394	83,341	16,262	6.8
38	1,185	29	(882)	(964)	6,734	531,164	30,708	300,407	35,434	8.48
39	(469)	20	(302)	(150)	991	177,509	12,029	126,390	21,085	5.7
45	(437)	138	(360)	(71)	2,734	100,673	155	87,035	19,058	4.6
50	224	7	104	16	1,242	95,258	7,631	87,310	19,956	4.38
51	474	18	497	317	7,395	777,879	233,181	169,505	28,118	6.03
52	194	5	(91)	(64)	518	23,112	93	22,166	8,031	6.1
53	545	6	(175)	(64)	1,423	865,003	2,665	103,203	30,810	3.35
70	131	51	164	49	790	12,664	0	11,989	5,509	2.18
72	429	71	447	552	8,056	1,841,237	32,751	862,252	123,960	6.96
TOTALS:	4685	372	3860	2947	35,202	5,249,360	482,079	1,934,435	321,015	6.01

WATER DIVERSION SUMMARIES BY DISTRICT (Continued)

1990

WD	TRANS-MOUNTAIN OUTFLOW AF	TRANS-BASIN OUTFLOW AF	STOCK AF	MUNICIPAL AF	DOMESTIC AF	INDUSTRIAL AF	RECREATIONAL AF	FISHERY AF	(includes snowmaking) COMMERCIAL AF	EVAPORATION AF
36	69,090	0	6	5,735	54	371,311	0	3	669	12,906
37	29,861	0	0	6,438	180	0.3	0	0	265	1,299
38	96,280	538	4,136	8,450	1,233	73,187	6,791	6,992	173	2,269
39	0	1,240	334	2,393	2,469	1,213	0	31,259	4	178
45	0	0	11,856	1,205	201	121	0	1	0	99
50	0	0	191	0	20	0	0	16	0	90
51	292,980	9,221	4,456	2,199	244	45,478	0	1,180	56	19,379
52	0	345	124	0	204	4	61	0	1	114
53	0	0	170	3,798	332	751,416	7	1,051	1,231	1,130
70	0	0	602	46	17	10	0	0	0	0
72	1,132	1,418	2,448	20,612	91	909,234	0	9,956	39	1,304
TOTALS:	489,343	12,762	24,323	50,876	5,045	2,151,974	6,859	50,458	2,438	38,768

D. WATER COURT ACTIVITIES Calendar Year 1990 (1/1/90 thru 12/31/90)

Number of Water Rights Applications = 90CW001 thru 90CW350
324 = Division 5 26 = Division 6, District 43

Number of Water Court Applications by District:

District 36 = 12	District 45 = 27	District 53 = 8
District 37 = 22	District 50 = 0	District 70 = 2
District 38 = 126	District 51 = 63	District 72 = 46
District 39 = 20	District 52 = 7	

Number of Structures in Applications by Water District (excluding aug/exchange/change cases):

District 36 = 97	District 45 = 42	District 53 = 14
District 37 = 61	District 50 = 0	District 70 = 2
District 38 = 163	District 51 = 59	District 72 = 54
District 39 = 27	District 52 = 8	TOTALS = 526

Number of Cases Decreed = 277
Number of Cases Decreed Abandoned for Lack of Diligence = 16
Number of Cases Denied = 1
Number of Cases Dismissed = 5
Number of Cases Withdrawn = 6

E. OFFICE ADMINISTRATION Calendar Year 1990 (1/1/90 thru 12/31/90)

Orders For Installation and/or Repair of Headgates By District:

District 36 = 0	District 45 = 8	District 53 = 0
District 37 = 0	District 50 = 0	District 70 = 0
District 38 = 15	District 51 = 4	District 72 = 10
District 39 = 18	District 52 = 0	TOTAL: 45

NAME	POSITION	MILEAGE
OFFICE STAFF:		
Bell, Orlyn J.	Division Engineer	2,306 P
Martellaro, Alan C.	Asst Division Engineer	565 P
McCabe, Robert D.	Sr Water Resource Engineer	998 P
Schieldt, Wayne I.	Sr Water Resource Engineer (Hydro)	0 P
Blair, John G.	Sr Water Resource Engineer (Dam Safety)	0 P
Hitchcock, Nancy C.	Sr Secretary	0 P

E. OFFICE ADMINISTRATION (continued): Calendar Year 1990 (1/1/90-12/31/90)

FULL-TIME EMPLOYEES IN THE FIELD:

NAME	POSITION	DISTRICT		MILEAGE
Hummer, Scott	Wtr Comm B	36	Effective 9/1/90	4,652 P
Wells, L. Wayne	Sr Wtr Comm	36/37		6,177 P
Cerise, Alvin L.	Wtr Comm C	38/39/45		12,729 P
Klenda, Robert C.	Wtr Comm C	45		8,463 P
Thompson, Wm. H.	Wtr Comm C	50		12,044 P
Klocker, Marcus A.	Prin Wtr Comm	72		337 P

PERMANENT PART-TIME EMPLOYEES IN THE FIELD:

Whitehead, Dwight	Wtr Comm B	38/Wells		144 P
Bergquist, Joe	Wtr Comm B	38		10,628 P
Lemon, James	Wtr Comm B	39		4,717 P
Nelson, Glen	Wtr Comm B	45		850 P
Daxton, James	Wtr Comm B	51		10,035 P
McEwen, Bill	Wtr Comm B	52/53		6,450 P
Anderson, George	Wtr Comm B	70		6,965 P
Hummer, Scott	Wtr Comm A	72	Till 9/90	7,620 P
Greene, Ronald	Wtr Comm A	72		6,325 P
Cox, Tom	Wtr Comm B	72		4,250 P
Hittle, Ray	Wtr Comm B	72	Retired 10/90	2,838 P
Wilson, Marshall	Wtr Comm A	72	Terminated 5/90	298 P
Law, Russell	Wtr Comm A	72	Temporary 7/90-10/90	3,791 P
		TOTAL PERSONAL MILES DRIVEN:		113,182 P

STATE VEHICLES ASSIGNED TO DIVISION 5:		MILEAGE
13-0382	Principal Driver: Wayne Schieldt	11,300 S
13-0359	Principal Driver: Marc Klocker	11,044 S
13-0423	Principal Driver: Dwight Whitehead	7,984 S
13-0414	Principal Driver: John Blair, Dam Safety	6,012 S
	TOTAL STATE VEHICLE MILES DRIVEN:	36,340 S

FLEET MANAGEMENT LEASE VEHICLES ASSIGNED TO DIVISION 5:

01-8416	Principal Drivers: Wayne Wells, Bill McEwen (Replacement for Vehicle 13-0354 retired 9/89)	9,413 L
01-8190	Principal Driver: Orlyn Bell (Replacement for Vehicle 01-7006 retired 5/15/90)	11,042 L
01-7006	Principal Driver: Orlyn Bell	6,098 L
	TOTAL LEASE VEHICLE MILES DRIVEN:	26,553 L

F. COLORADO RIVER CALLS FOR 1990

DATE OF CALL	CALLING STRUCTURE	AMOUNT OF CALL	ADMIN NUMBER
12/31/89	Shoshone Power Plant Call Still ON	158.0 cfs	33023.28989
12/31/89	" " " " " "	1250.0 cfs	20427.18999
4/23/90	Shoshone Power Plant Call for 1250 cfs OFF		
4/30/90	Shoshone Power Plant	158.0 cfs	33023.28989
5/01/90	Shoshone Power Plant	1250.0 cfs	20427.18999
5/09/90	Shoshone Power Plant Call for 158.0 cfs and 1250.0 cfs OFF		
5/16/90	Windy Gap Project	300.0 cfs	43621.42906
6/30/90	Windy Gap Project Call OFF		
7/27/90	Shoshone Power Plant	158.0 cfs	33023.28989
7/30/90	Grand Valley Canal	119.47 cfs	30895.23491
8/09/90	Grand Valley Project	730.0 cfs	22729.21241
9/22/90	Shoshone Power Plant	1250.0 cfs	20427.18999
10/09/90	Grand Valley Project Call for 730.0 cfs OFF		
10/22/90	Grand Valley Canal Call for 119.47 cfs OFF		
12/31/90	Shoshone Power Plant Call for 1250.0 cfs Still ON		

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
36	Bumgarner Reservoir	Beaver Creek	0		22		0		22		0
	Dillon Reservoir	Salt Lick Creek	44		44		44		44		44
	Griggs Reservoir	Beaver Creek	41		41		41		41		37
	Griggs Reservoir No 2	Beaver Creek	0		0		8		8		8
	Griggs Reservoir No 3	Beaver Creek	0		34		0		35		0
	Jones Reservoir	Sawmill Creek	0		14		0.5		15		0.5
	Sawmill Reservoir	Carter Creek	0		0		17		17		17
	Shane Reservoir	Shane Gulch	0		0		3		3		2.5
		TOTALS:	85		155		113.5		185		109

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
37	4th Hole Reservoir	Eagle River					1.3		1.3		1.3
	15th Hole Reservoir	Eagle River					9.2		9.2		9.2
	Black Lake	Gore Creek			NIA		44.4		44.4		44.4
	June Creek	June Creek	NIA		NIA		38		38		36
	Lake Creek Meadows	Lake Creek	NIA		NIA		7		7		7
	Nottingham Reservoir	Nottingham Creek	0		0		0		0		0
	Schmidt Gypsum Rch Dam	Eagle River					4		4		4
	Tract E Reservoir	Eagle River					0.6		0.6		0.6
		TOTALS:	0		0		104.5		104.5		102.5

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
39	Brungs Pond	East Elk Creek	5		5		5		5		5
	Cherry Creek Pond No 1	West Elk Creek	1		1		1		1		1
	Cherry Creek Pond No 2	West Elk Creek	1		1		1		1		1
	Cherry Creek Pond No 3	West Elk Creek	1		1		1		1		1
	Cherry Creek Pond No 4	West Elk Creek	1		1		1		1		1
	Cherry Creek Pond No 5	West Elk Creek	1		1		1		1		1
	Clough Stock Water Res	Colorado River	1		1		0		1		0
	Cozza Reservoir	Cozza Gulch	0		5		5		5		0
	Emmer Reservoir	Rifle Creek	7.9		7.9		2		3.5		2
	Lisa Pond	Colorado River	8		8		1		1		1
	Raymond Pond	West Rifle Creek	3		3		3		3		3
	Sample Reservoir No 1	East Elk Creek	2		2		1.8		1.8		1.8
	Sample Reservoir No 2	East Elk Creek	5		5		2		2		2
	Coulter Reservoir	East Rifle Creek	2		2		45		45		30
		TOTALS:	38.9		43.9		69.8		72.3		49.8

1990 RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
45	Conger Reservoir	Cottonwood Creek	0		1.8		0		1.8		0
	Frei Reservoir	Divide Creek	26.6		26.6		6.8		22		22
	Island Ranch Lake No 1	Colorado River	3.7		5		3.7		5		3.7
	Island Ranch Lake No 2	Colorado River	18		24		18		24		18
	Island Ranch Lake No 3	Colorado River	16		20		16		20		16
	Jonathan Gant Res	West Mamm Creek	0		12.2		0		10.4		0
	KLC Reservoir No. 1	Alkali Creek	2.4		2.4		2.4		2.4		1.3
	Miklish Reservoir	South Canon Creek	2.5		2.5		1.5		1.5		1.5
	Weller Lake	Colorado River	6		6		6		6		4.8
		TOTALS:	75.2		100.5		54.4		93.1		67.3

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
50	Colburn Reservoir	Muddy Creek	1.0		16		0		16		0
	Colburn Reservoir No 2	Muddy Creek	.5		23		0		23		0
	Confluence Reservoir	Antelope Creek	7		7		0		7		3
	Davidson Reservoir	Muddy Creek	0.5		2		0.5		2		1.5
	Hartman Res No 2	Star Gulch	30		48		35		48		43
	Heini Reservoir	Pinto Creek	45		47		45		45		0
	Heini-Kramer Reservoir	Pinto Creek	0		19		0		0		0
	Lewis Reservoir	Pinto Creek	0		35		0		40		0
	Paul Pool	Muddy Creek	0.7		0.7		0.7		0.7		0.7
	Saraceno Reservoir	Pass Creek	6		11		10		11		10
	Slide Reservoir	Troublesome Creek	4		12		4		12		3.5
	Wheatley Divr Pond No 1	Lawrence Creek	3		3.5		3		3.5		2
		TOTALS:	98		224		98		208		64

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
51	Cole Reservoir	Battle Creek	0		30		0		33		0
	Dale Reservoir	Battle Creek	4		25		2		30		4
	Doe Creek Reservoir	Doe Creek	0		4		0		0		0
	Eby Reservoir	Reeder Creek	NIA		NIA		1		1.5		1
	F W Linke No 3 Reservoir	Ten Mile Creek	0		20		0		26		6
	F W Linke Reservoir	Ten Mile Creek	0		35		0		0		0
	Greenwood Reservoir	Williams Fork River	NIA		NIA		8		8		8
	Gregerson Reservoir	Copper Creek (Kinney)	8		38		33		34		30
	Hockett Reservoir	Eby Creek	NIA		NIA		8		12		9.5
	Huntington Reservoir	Sheriff Creek	0		15		0		40		0
	Lewis Pond Impoundment	Williams Fork River	3		3		3		2.7		2.5
	Linke Reservoir	Ten Mile Creek	0		20		0		30		5
	Little HO Reservoir	Walden Hollow	20		34		20		35		0
	Marte-Linke Reservoir	Nine Mile Creek	20		36		18		37.5		8
	McCandliss Reservoir	Skylark Creek	0		24		0		23		0
	Pickering Reservoir	Fraser River	20		20		20		20		20
	Robinson Swan Pond No 1	Williams Fork River	1		3		1		1		0.5
	Robinson Swan Pond No 3	Williams Fork River	1		3		2		2.5		2
	Robinson Swan Pond No 4	Williams Fork River	2		2.5		2		2.5		2
		TOTALS	79		312.5		118		342.7		98.5

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
51	Skylark Reservoir	Skylark Creek	0		12		0		15		4.5
	Springdale Reservoir	Copper Creek (Kinney)	0		0		0		0		0
		SUBTOTAL PAGE 2	0		12		0		15		4.5
		SUBTOTAL PAGE 1	79		312.5		118		342.7		98.5
		TOTALS	79		324.5		118		357.7		103.0

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
70	Trough Springs Res	Dry Fork	0		0		0		0		0
		TOTALS:	0		0		0		0		0

1990

RESERVOIR STORAGE SUMMARIES LESS THAN 50 AF

WD	RESERVOIR NAME	STREAM SOURCE	1989 PREVIOUS IYR				1990 IYR OF RECORD				
			Beg. IYR		Beg.Irr.Season		Beg. IYR		Beg.Irr.Season		End IYR
			AF	%	AF	%	AF	%	AF	%	AF
72	Carpenter Reservoir	Leon Creek	0		15		0		21		0
	Currier Reservoir No. 2	Buzzard Creek	0		20		0		40		0
	Fred DeCamp Reservoir	Cottonwood Creek	38		38		20		38		10
	Gardnier Reservoir	Colorado River	30		30		30		30		30
	Macs Reservoir	Brush Creek	0		25		0		25		0
	Michaelson No 1 Res	Big Creek	0		0		0		35		0
	Palisade Storage No 3	Rapid Creek	0		0		0		25		8.0
	Beaver Lake Reservoir	Big Creek	NIA		NIA		0		28		0
		TOTALS	68		128		50		242		48

ROY ROMER
Governor

JERIS A. DANIELSON
State Engineer

DIVISION OF WATER RESOURCES

WATER DIVISION V
ORLYN J. BELL
DIVISION ENGINEER
P.O. BOX 396
1429 GRAND AVENUE
GLENWOOD SPRINGS, COLORADO 81602
945-5665

January 3, 1991

MEMORANDUM

TO: Division 5 Office

FROM: Orlyn J. Bell OJB

RE: Staff Meeting - Today - 3:00 p.m.

Items To Be Discussed:

1. 1990 Annual Report - Overview

   a. What was accomplished
   b. What was not accomplished

2. Personal and/or Division Goals for 1991

   a.
   b.
   c.
   d.

3. Major Items of Importance and Unique Situations Encountered During the 1990 Irrigation Year

4. Concerns About Next Year

5. Improvements Accomplished and Improvements Needed

Please have your information ready for collection and discussion at the meeting.

OJB/nch

APPENDIX A

INFORMAL MEMORANDUM

TO: Orlyn J. Bell
FROM: Robert C. Klenda, Water Commissioner, District 45
RE: 1/3/91 Staff Meeting Agenda Response Comments

1. 1990 Annual Report - Overview

A. What Was Accomplished

1. Received the training I was hoping for (Bill Hill - CMC)

2. Received the monthly ditch sheets in time to distribute them to my deputy commissioners before irrigating season began.

3. Cerise and I were able to keypunch our diversion records on a timely basis. Reviewed print-outs and made corrections in September and October.

4. Printed 1989 Infrequent data and Annual Report by stream number.
   a. Enabled each commissioner to update data as per 1990 status.
   b. Was able to provide each commissioner with maps of area worked and tabulation.
   c. Each commissioner reviewed the 1989 comments and acres, revising the data as per 1990.

5.

Results		1989	1990	
a.	Summary Pages	43	43	
b.	Diversion Daily Pages	359	481	
c.	Infrequent Pages	31	34	
d.	Reservoir Summary	1	1	
e.	Reservoir Pages	5	10	
		439	569	
f.	1989 NUC=F (No information available)			34
	" " " " "		(BLM)	30
g.	1990 NUC=F (No information available) Moved the BLM Springs to a CIU=U			12

   h. Set of records, although not perfect, I am proud of their accuracy and completeness.

6. Studied the water rights and actual diversion locations of many structures in the Rulison area.

7. Developed a basic knowledge of how to administer the Diversions-on-Wheels.

8. Met all the basic needs within the constraints of our budget.

9. Wayne Schieldt bound the Tabulation in plastic rings (using bookbinding equipment) for commissioners -- a tremendous help.

B. What Was Not Accomplished

1. I completed signing my diversion records on 1/2/91 instead of 11/22/90 as I had hoped. (I did spend considerably less hours on them than in previous years so I accomplished many things during that time that I didn't in previous years.)

2. I wanted to develop a special sheet for the Diversion-on-Wheels people to use.

3. Although I have field inspected the structures put up for abandonment, I still need to write the reports.

2. Personal and/or Division Goals for 1991

Handle diversion records as in 1990 except:

A. By 4/1/91 compile a list of shortcomings in the 1990 procedures and how they can be corrected.
B. Look into the possibility of setting up a computer program for the monthly well record developed from cards send into the office by water users.
C. Develop a daily diversion sheet to be provided to the Diversions-on-Wheels water users.
D. Do a complete update on my Structure Information record.
E. Work on my field inspections early in the month instead of leaving them until the end of the month.
F. Become proficient in DBASE IV and DOS -- take a course at CMC if possible.
G. Become current with tabulation cards.

3. Major Items of Importance and Unique Situations Encountered During the 1990 Irrigation Year

Cache Creek Administration:

A. The sensitivity of relieving a native of the area and fellow water commissioner.
B. Camp Bird water users that still don't want to accept the Supreme Court decision of the 1930's.
C. Canary Bird Ditch and large springs that have been used for a hundred years but are not decreed.
D. "Diversions-on-Wheels" - the volume, impact, recordkeeping, critical administrative decisions in allowing a source and diversion location.
E. 75 people in attendance at a BLM hearing concerning a water user building a ditch across a short span of BLM land.
F. Filing for water rights on a stream and a chain reaction of filings on the same stream.

4. Concerns About Next Year

A. Hiring freeze - promotions - transfers
B. Mileage
C. Time to research data for possible court cases
D. Utilization of man-hours for maximum results

5. Improvements Accomplished and Improvements Needed

A. Improvements Accomplished

1. Computer and printer capability and speed.
2. Timely budgeting and review of Division's funds.

B. Improvements Needed

1. Monthly diversions sheets that we work with in the field. We need two sheets of Acres Irrigated: one, the total amount under the ditch; another listing those irrigated in the current year.
2. Need more man-months.
3. Need more funding for travel - a higher rate per mile and total mileage allocation.
4. Need the commissioners in the field to be updated to keep pace with the Division office. Need hand-held computers for the Commissioners to be able to keypunch their data on the spot instead of writing it in a book as was done 50 years ago and is still done today.

RCK/nch

ROY ROMER
Governor

JERIS A. DANIELSON
State Engineer

DIVISION OF WATER RESOURCES

WATER DIVISION V
ORLYN J. BELL
DIVISION ENGINEER
P.O. BOX 396
1429 GRAND AVENUE
GLENWOOD SPRINGS, COLORADO 81602
945-5665

December 18, 1990

MEMORANDUM

TO: Alan Pearson

FROM: Orlyn Bell, Division Engineer, Division 5
John Blair, Dam Safety Engineer, Division 5

RE: Proposed Dam Safety Goals for 1991

MISSION

Public Safety: We seek to prevent both loss of life and property damage from the failure of dams.

OBJECTIVES

1. Uphold the State statutes in regard to dam construction and safety by adherence to policies of the State Engineer.

2. Provide the public the best possible service by being responsive to the dam owners' particular problems and to the safety of the general public.

GOALS (Some are not just Division 5 goals)

1. Generate and maintain complete and reliable Dam Roster.

2. Timely review the design of new dams.

3. Timely review the plans for repairs, alterations, and modifications of existing structures.

4. Monitor construction as necessary.

5. Provide training in dam safety as necessary.

6. Encourage team building.

7. Promote Division Engineer/Dam Safety Engineer liaison and support.

GOALS (continued)

8. Evaluate work procedures and paperwork in order to maximize efficiency.

9. Establish priorities for implementation of regulations for dam safety.

WORK ITEMS FOR 1991

1. Continue to assist dam owners to repair and maintain their dams by performing necessary follow-up and construction inspections, design review of repairs planned, and consultation for minor repair, monitoring, and maintenance items. Pursue getting restricted dams repaired and off the restriction list.

2. Routine inspections of all non federal Class 1 dams annually, Class 2 dams every other year, Class 3 dams once every five years. Also, accompany the Bureau of Reclamation on their routine inspections of the Collbran Project dams, if time permits.

3. Continue to update hazard ratings of dams when land use and development changes have occurred downstream of these dams, as time permits; also where errors or deficiencies are discovered in past hazard evaluations. At least 7 are already planned for this year.

4. Continue to pursue the internal inspections of outlet pipes for Class 1 and Class 2 to get these inspections on a 10-year cycle.

5. Continue to pursue and assist having the dam owners of all Class 1 and Class 2 dams submit an updated Emergency Preparedness Plan (EPP) as necessary.

6. Check the adequacy of spillways for Class 2 and Class 3 dams, as time permits; at least 9 are planned for this year.

7. Continue to develop capacity tables and assist the dam owners in installing staff gages where necessary, with the goal of 10 staff gages and matching capacity tables.

8. Update the Division 5's Dam Database from the 1990 inspections.

9. Review Livestock Water Tank, Erosion Control Dam, and Nonjurisdictional Dam applications where necessary.

10. Assist the Division 5 office in other dam safety/water administration issues where necessary.

OJB/JGB/nch

THE FOLLOWING PAGES CONTAIN:

ANNUAL WATER DIVERSION STATISTICAL SUMMARY REPORTS

APPENDIX D