

**DIVISION ENGINEER'S
ANNUAL REPORT
IRRIGATION DIVISION NO. 2
1990**

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WATER RESOURCES
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COLORADO DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

DIVISION ENGINEER'S

ANNUAL REPORT

WATER DIVISION NO. 2

1990

ROY ROMER
Governor



JERIS A. DANIELSON
State Engineer

DIVISION OF WATER RESOURCES
WATER DIVISION II

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January 10, 1991

Dr. Jeris A. Danielson
Colorado State Engineer
Room 818 Centennial Bldg.
1313 Sherman Street
Denver, CO 80203

Dear Sir:

I submit herewith my report of the operations of Water Division 2 for the year 1990. This report summarizes the accomplishments of this office in certain 'Key Areas' throughout the past year, it identifies several operational concerns that have affected our operations, as well as those that are expected to have an effect in the future. Additionally, I have included goals that I have set for the coming year.

I want to express my thanks to you and your staff for your support and to the entire Division 2 staff for their contributions toward fulfilling the various responsibilities of water administration during the last year.

It is my hope that you will find this report to be informative, and that you will concur that the goals that have been set are appropriate.

Sincerely,

Steven J. Witte
Division Engineer
Water Division II

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* The format of this report is somewhat different than the standard format utilized by other Divisions which is thought to be redundant. However, for the sake of consistency the standard format has been incorporated in the the Table of Contents with subject matter references.

WATER ADMINISTRATION

1990 in Review

1990 started out to be an extremely dry year. The forecasted flows for the Arkansas River above Pueblo gauge was 69% of average as of May 1, 1990. Concerns were heightened throughout the month of June by minimal precipitation combined with a two week period of record or near record high temperatures. Fortunately, precipitation in the Arkansas basin during the month of July was 150% of average which helped the October '89 through September '90 precipitation total to be 108% of average and the flow recorded at Arkansas above Pueblo over the April-September period to be 89% of the 1961-1985 average.

Demands for imported water and stored water were moderately high during the year. A total of 45,780 a.f. of Fry-Ark project water was allocated by the Southeastern Colorado Water Conservancy District in 1990 of which approximately 19,000 a.f. was delivered. Of the 36,222 a.f. stored in Pueblo Reservoir during the 1989-90 winter storage program, approximately 24,000 a.f. were released prior to the end of the irrigation year. At the close of the 1990 compact year, the content of John Martin Reservoir was 17,588 a.f., which is approximately 10,000 a.f. less than one year ago.

Although the above average precipitation during the peak of the growing season coupled with the availability of adequate storage reserves were indeed a blessing in that they prevented an anticipated drought, the variability of streamflows on top of planned exchange and reservoir release operations complicated administrative activities.

COLORADO DIVISION OF WATER RESOURCESKEY AREAS AND OBJECTIVES
1990-1991KEY AREA I - PERSONNEL

- team building
- orientation of new personnel
- on-going training
- cross-training

KEY AREA II - DOING OUR JOB

- new statutory duties
 - Senate Bill 120
 - Senate Bill 181
- rules and regulations
 - geothermal
 - fee structure
 - Ground Water Commission
- drought response
- work systems analysis (flow charting)
- day-to-day functions

KEY AREA III - IMAGE

- legislative liaison
- public informational meetings
- office atmosphere
- press releases
- public recognition program
- DWR video and slide presentations
- Water Resources Expo at 1990 Colorado State Fair

KEY AREA IV - RESOURCE MANAGEMENT

- water commissioner allocations
- satellite monitoring uses
- computer applications
- telecommunications
- Denver \Leftrightarrow Division Support
- expenditure management
- non-water commissioner allocations
- statewide vs. division programs
- litigation management
- COFRS implementation
- Quality management pilot program

KEY AREA V - COMMUNICATIONS

- legislators
- information sharing within DWR
- electronic mail
- enlarge VAX
- other state and Federal agencies

ACCOMPLISHMENTS IN KEY AREAS

Five 'Key Areas' of endeavor have been identified for the Division of Water Resources. These Key Areas were the same for FY 89-90 and FY 90-91; however, the Objectives changed slightly. The Key Areas and Objectives for FY 90-91 are included herein as Table 1. A discussion of Division 2 accomplishments in these areas follows.

PERSONNEL

Multiple reorganizations of the Division 2 staff were necessary in 1990 due to unexpected turnovers and the assumption of additional responsibilities.

Lead hydrographer, Ken Knox, was appointed Assistant Division Engineer for Division 4 and transferred to Montrose in mid-February. As a result Frank Kipple assumed control of the Division's hydrographic program. In order to provide temporary assistance in this area Tony Guterrez was hired as a summer student beginning 5/21/90. Steve Kastner transferred from Division 3 on 7/1/90 in order to fill the vacancy created by Ken Knox. The hydrographic program was thoroughly re-evaluated and re-structured at that time to allow for a partial redistribution of manpower.

This plan was short lived. On 8/17/90 Tom Simpson, who performed many vital functions as River Operations Manager, announced his resignation. Steve Kastner was immediately reassigned to these responsibilities. Although it has not been possible to refill the technician position vacated by this resignation, a new plan has been formulated which assigns it to the hydrographic program on a full time basis.

Assistant Division Engineer, Ken Cooper, also submitted his resignation, effective 11/16/90. The vacancy remains unfilled to date because of a hiring freeze that is currently in effect.

Two new positions were added to the Division 2 staff in 1990. Mike Graber was hired as a Senior Professional Engineer on 3/1/90 to be primarily responsible for implementation of a dam safety program for this office. Vicki Taylor, part-time water commissioner in former Water District 12, transferred to fill a newly created, 5 year position responsible for the implementation of the terms of the Rocky Ford Ditch transfer decree on 3/12/90. Her replacement in District 12 was Chris Doherty, who was hired on a temporary basis on 5/21/90.

These personnel changes have presented one of the principle challenges of the past year. I believe that we have made significant accomplishments in this Area:

- Team Building

- . See current Division 2 organizational chart (figure 1) and program responsibilities assignment chart (Table 2).
- . Of the positions that we have been able to refill, we have been extremely successful in attracting capable, motivated and supportive personnel. Hiring freeze in effect since 7/1/90 has frustrated further progress.
- . Periodic staff meetings were held throughout the year with Division 2 personnel.
- . As of 7/1/90 performance evaluations were completed for all Division 2 personnel in compliance with HB 1352.
- . Concepts of Quality Management (QM) learned at QM workshop 10/15,16/90 were favorably received by Division 2 office staff, incorporated in current reorganization plan, and put into practice.

- Orientation of new personnel

- . Use of Water Commissioners Training Manuel to train Chris Doherty 5/21/90 - 8/10/90.
- . USBR seminar on Dam Safety issues 5/21-25/90 attended by Mike Graber.
- . CSU seminar on dam safety 6/4-8/90 attended by Mike Graber.
- . Tour of Fry-Ark project facilities attended by Steve Kastner 7/23,24/90.
- . Tour of middle Arkansas Valley, Pueblo-John Martin attended by Steve Kastner 7/26,27/90.
- . Meeting of the Board of Trustees for the Pueblo winter storage program attended by Steve Kastner and Mike Graber 10/19/90.
- . Trial concerning exchange of the Las Animas Consolidated Ditch monitored by Steve Kastner 10/29 - 11/5/90.
- . 1990 meeting of the Arkansas River Compact Administration attended by Steve Kastner and Mike Graber 12/11/90.

- Ongoing training/Cross training
 - . Conducted a one day seminar for staff (including water commissioners) on process of water rights tabulations 1/30/90.
 - . Presented a half day seminar concerning Operating Principles and Criteria for Trinidad Project in conjunction with the Purgatoire River Water Conservancy District on 2/24/90. Steve Witte, Chuck Roberts, and Tom Simpson researched, developed, and delivered the presentation.
 - . Non-point Water Quality Symposium hosted by the Colorado chapter of the Soil and Water Conservation Society attended by Steve Witte - 3/22/90.
 - . Groundwater workshop presented by staff from Denver office attended by selected members of Division 2 staff including water commissioners - 4/26/90.
 - . 'Colorado Water Workshop' held in Gunnison, CO on 7/22-24/90 attended by Steve Witte.
 - . 'Quality Management' seminar presented by Colorado State Department of Personnel, attended by Steve Witte - 10/15,16/90.
 - . Conducted a one day training seminar for Division 2 staff on development of official diversion records - 11/12/90.

FIGURE 1

OFFICE OF THE DIVISION II ENGINEER
January 1, 1991

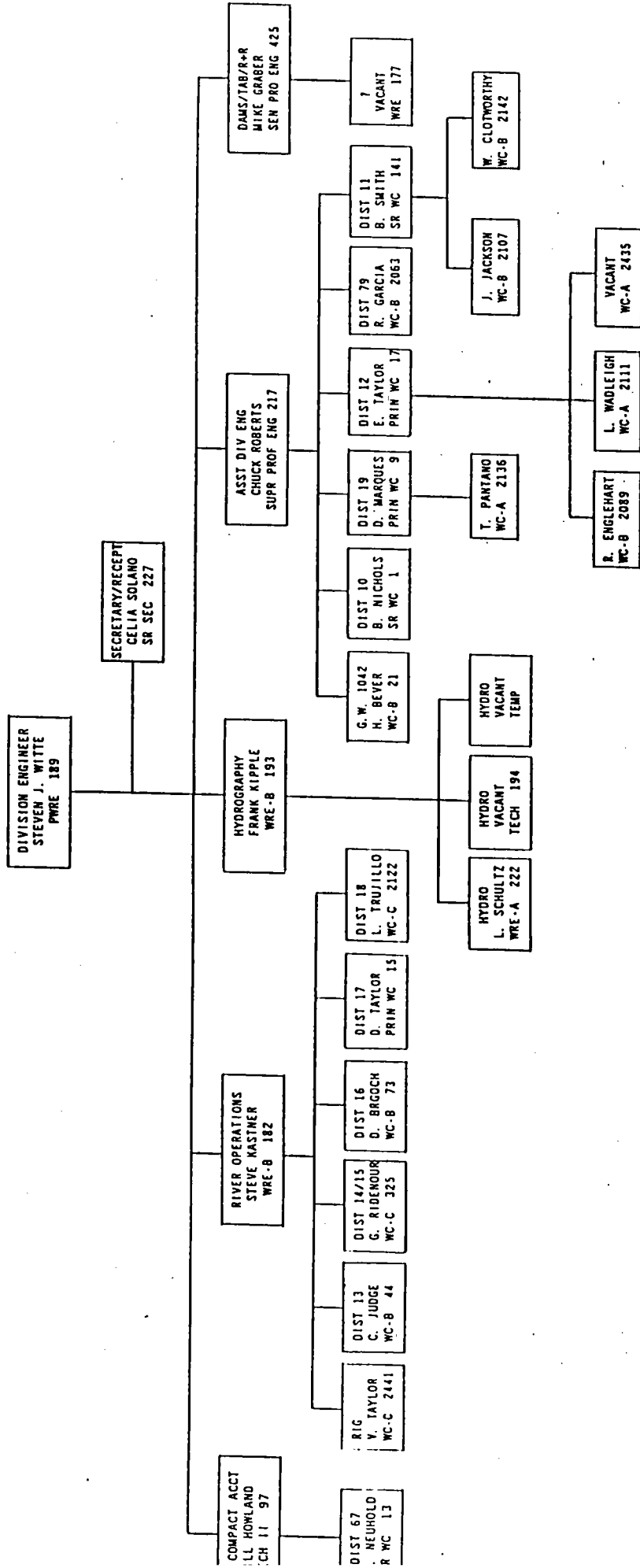


TABLE 2
PROGRAM RESPONSIBILITIES ASSIGNMENT CHART

Division II 'Senior Staff'

	Roberts Sup. P.E.	Kastner WRE-B	Graber Sr.P.E.	Kipple WRE-B	Howland Tech-II
PRIMARY RESPONSIBILITIES	Lit/Resume Review	River Operations	Dam Safety	Hydrography	ARK Compact Acct.
	Financial Acctg/Plng	ADP Liason	Rules and Regs Enforcement	Supervision	Supervision
	Augmentation Admin	RIG	Tabulation		
	Groundwater	Special Projects .Sutron network reorg. .Trinidad Acct. Dev.	(Supervision)		
	Diversions				
	Abandonment	Supervision			
	SRJ Admin. Supervision				
SECONDARY	Staffing Asst.	Diversions Support	River Operation Support		Hydrography Support
	River Ops. Support	Tabulation Support	Lit/Res Review Support		
	Rules & Regs Support	Rules & Regs Support	Abandonment Support		
		Augmentation Support	Augmentation Support		
	Hydrography Support				

DOING OUR JOB

It is impossible to comprehensively detail all of the successes and failures experienced in our attempts to 'do our job' over the course of 1990; however, the following summarizes some of the more significant activities within this 'Key Area'.

- New statutory duties

- . The provisions of SB 120 which relate to regulation of evaporative losses from gravel pits were not addressed through any specific program administered by the Division 2 office. We are aware of the statewide work plan (dated 3/27/90) which has been developed, but have not been called upon to assist.
- . Activities related to SB 181 have included attendance of the Soil and Water Quality Society's Non-point Water Quality Symposium as previously noted, participation in the USGS 'Evaluation of Water Quality in the Arkansas River Basin in Colorado study through collection of water samples by hydrographers and water commissioners in the course of their regular duties, and hosting a public meeting on 11/27/90 for the purpose of briefing the water user community on the State Engineer's role as an implementing agency for SB 181 and soliciting suggestions with respect to rule making.

- Day-to-day functions

- . Trial preparation and support for the case of Kansas vs. Colorado, No. 105 Original before the United States Supreme Court, which began 9/17/90, has had the effect of increasing the workload of Division 2 staff and suspending work efforts in other program areas. These demands were particularly onerous without the assistance of case liason, P. O. Abbott, who was furloughed indefinitely as of the first of the year for budgetary reasons. Our efforts to respond to a subpoena duces tecum imposed by the State of Kansas and duplicitous requests made by our counsel and experts totally disrupted normal office operations for over a month and have perhaps caused the permanent dislocation of certain files, documents, and records.
- . As noted in the earlier section titled 1990 in Review, a number of complicated administrative decisions were made and, as may be expected, some of these were disputed. While many such disputes were minor, those of a more serious nature often require protracted investigations, explanations and justifications on the part of Division staff. Perhaps six such incidents occurred in the 120 day peak season of May through August, which doesn't seem too bad (5% disputed) even if one were to assume that only one operational

decision was made each day. However, because of the time demands that result we must strive to minimize such incidents.

In retrospect one can identify several factors, which contributed to the controversies that have been or should be addressed:

- 1) Procedures regarding lines of communication and certain operational procedures have been reviewed and clarified.
 - 2) Adjustments of manpower distribution are needed to meet administrative demands in critical situations and to provide backup on weekends.
 - 3) Chronic system failures of the Satellite Stream monitoring system throughout the summer of 1990 and the need for additional monitoring sites frustrated efforts to obtain critically needed information on which to base administrative decisions.
 - 4) Unreliable and relatively inaccessible water right information delays the administrative decision making process.
- . The Division 2 Engineer is charged with administering the Pueblo Winter Storage Program decree (84CW179). For a summary of this program please refer to Appendix G of this report.
 - . The Division 2 Engineer acts as the Operations Secretary for the Arkansas River Compact Administration. For a complete accounting of this activity the reader is referred to the 1990 Report of the Operations Secretary. A summary of releases from John Martin Reservoir to the State of Kansas is included herein as Appendix H.
 - . Efforts have been made to improve enforcement of the Arkansas Rules and Regulations governing the use of groundwater. This was done in cooperation with the Colorado Water Development and Protective Association and the Lower Arkansas Water Management Association. Additionally, through an allocation of the State Engineer's SB-200 cash fund we were able to initiate a field reconnaissance and monitoring program. Due to a number of organizational start-up problems the results of this program varied; however, in certain areas good progress was made in achieving compliance. This program has been extended through FY 90-91.

- . Continued efforts were made in 1990 toward the establishment of administration in the Horse Creek basin, which precipitated from Division 2 Water Court Case 86CW91 captioned as SRJ I Venture vs. State of Colorado. On 3/1/1990 a report titled Horse Creek Basin Study Phase I was filed with the Court by the State Engineer. In addition to summarizing the findings made during 1989, this report outlined a plan of administration for 1990 (Phase II), which proposed requiring the installation of measuring devices on all diversion structures, curtailment of all illegal uses of water, and monitoring of the effects of such curtailments. In its decision the Court relied heavily on this report and generally approved of the proposals contained therein; however, this case has been appealed. Pending the outcome of this appeal, we have attempted to pursue the implementation of Phase II but these efforts have been plagued by frustrated enforcement attempts and a lack of staff continuity.
- . In an attempt to fulfill those requirements of 83CW18 regarding the transfer of the Rocky Ford Ditch for which the City of Aurora had been found to be in contempt of Court, the City installed and equipped several control and measuring structures within the ditch, developed a prototype computer program to be used in administering the operational terms of the transfer decree, pursued a 3 year revegetation program according to the terms of a stipulated agreement, and executed an agreement with the State Engineer which enabled the hiring of a temporary employee to monitor and administer the decree. A report is being developed by this employee on the status of matters which will be presented to the Court in January 1991.
- . Some limited progress was made toward gaining administrative control over the various types of replacement or augmentation schemes in effect within Division 2. In particular, monitoring and enforcement of the terms of substitute water supply plans was improved; however, the typically small quantities of water involved and the many details of the diverse and numerous plans make it difficult to incorporate their implementation as a part of administrative routine.
- . A statistical summary of Division 2 Water Court activities may be found in Appendix D of this report; however, this is not particularly descriptive of the work performed by Division of Water Resources (DWR) staff. Division 2 water commissioners have been more conscientious in reviewing the Water Court resume of applications and forwarding their comments to the Division office for consideration. Additionally, it is believed that the

formulation of policy guidelines by the State Engineer have helped clarify lines of decision making authority and emphasize an appropriate level of importance to be placed on these activities. Generally case review and preparation has not received adequate attention or time from DWR staff or legal counsel due to time constraints and lack of staff continuity.

- . Several important preliminary steps have been taken toward improving the quality of the Division 2 Water Rights Data Base. Training was held, a consensus opinion as to the need for this information system has been developed among staff, a work program has been started to provide each water commissioner with a hard copy of every decree relevant to his or her area of responsibility.
- . All deadlines for development and publication of the 1990 Abandonment List were met. Any person wishing to oppose the inclusion of any water right on this list may register a protest with the Division Engineer by 12/31/91.
- . Procedures for the development of official diversion records were further refined which place greater responsibility on individual water commissioners with good results.
- . Through the extra ordinary efforts of the Division 2 hydrographic staff all published records were submitted to the USGS by the publication deadline for the first time in several years. Despite adversities of having reduced staff and lost telemetry data, there are reasonable prospects that this feat may be repeated this year.
- . Without previous experience or training in the area of dam safety, Mike Graber assumed the responsibilities of directing a Division 2 based program for the first time with remarkable proficiency and competence. Approximately 110 inspections were conducted, in addition to setting up an office and receiving training.
- . As previously noted, PACE performance evaluations were conducted for each employee prior to 7/1/90. Meeting this deadline which falls during the busiest season of the year proved most difficult.

IMAGE

It has been said, "Build a better mousetrap and the world will beat a path to your door", but it helps to advertise. In the market for limited public resources where the needs of education, prisons, and highways are prominent while the requirements to meet the demands for effective administration of water resources are no less real but far less obvious, it is imperative that we do a better job of informing the public of the importance of what we do and letting our needs be known. This is a sampling of what we have done in this area.

- Legislative liason

- . Research was conducted to develop familiarity with the background, interests and accessibility to each of the State legislators representing portions of the Arkansas drainage basin.
- . Senator Larry Trujillo (D) of Pueblo established a citizens advisory committee to review proposed legislation on water and the environment. Division Engineer, Steve Witte, was accepted to participate on this committee but strictly limited his involvement due to the sensitive atmosphere created by the introduction of SB-158.
- . Through a tour of the Arkansas River basin hosted by the Central Colorado Water Conservancy District, Division Engineer Steve Witte was able to meet Senators Harold McCormick and Jim Rizzuto and Representatives Steve Arveschoug and Bill Jerke to discuss critical issues related to water administration and establish a basis for future working relations.

- Public Informational Meetings

- . Southeastern Colorado Water Conservancy District - monthly
- . Purgatoire River Water Conservancy District - 1/4/90, 2/1/90, 12/6/90
- . Lower Arkansas Water Management Assn. Annual Meeting - 2/6/90
- . Colorado Water Development and Protective Assn. Annual Meeting - 2/17/90
- . Seminar on Administration of Water on the Purgatoire River - 2/24/90
- . "Colorado Water: The Next 100 Years" - 3/3/90

- . Fort Lyon Canal Company Board of Directors - 8/8/90
- . Summit Group/Upper Arkansas River Water Conservancy District - 9/13/90
- . Frying Pan-Arkansas Project Dedication - 9/28/90
- . Colorado Campground and Cabin Owners Convention - 10/6/90
- . Pueblo Winter Storage Program Board of Trustees Meeting - 10/19/90
- . Presentation to Holmes Junior High School Science classes - 10/25/90
- . Colorado Farm Bureau Annual Convention - 11/26/90
- . SB-181 Public Information Seminar - 11/27/90
- . Fort Lyon Canal Stockholders Annual Meeting - 12/17/90
- Public recognition program
 - . Senator Harold McCormick was the recipient of 1990 'Water Manager of the Year Award for Water Division 2' in recognition of the monumental contributions made to the cause of water management during his 30 year tenure in the State legislature.
 - . Douglas Brgoch was recognized as 'Water Commissioner of the Year' for his thorough grasp of his responsibilities, his well reasoned decisions and actions and his initiative.
- Water Resources Expo - 1990 Colorado State Fair
 - . We all should be extremely proud of DWR's contribution to this effort through which an estimated 140,000 Coloradoans were exposed to a variety of water resource related issues and activities.
 - . Assistant Division Engineer Chuck Roberts is to be especially commended for having first conceived the idea, selling it, and having worked tirelessly with project coordinator, John Kalizewski, in seeing it to a successful completion.
 - . It was our pleasure to serve as informal host to the many DWR participants who contributed to the effort.

RESOURCE MANAGEMENT

- Manpower (Water Commissioner and non-water commissioner) allocations
 - . It has been suggested that a statewide evaluation of manpower distribution should be conducted with the objective of distributing manpower in proportion to 'workload' within each Division. Some rational basis is needed to eliminate some of the subjectivity from the allocation process. Admittedly defining 'workload' in itself will be a subjective process; however, there are a number of concrete factors that may be used conjunctively to formulate a representative definition. Perhaps no discrepancies will be found, but at least some justification for manpower distribution will exist and statewide uniformity of service will be promoted.
 - . See the text under the Key Area of Personnel for a description of some of the intra-Division reassignments which occurred in 1990. One aspect of the reorganization of the hydrographic program was to enlarge upon the job descriptions of several water commissioners to include hydrographic duties.
- Expenditure Management
 - . In FY 89-90 Division 2 underspent its allocation for Operating and Travel by \$1,085. This represents a 1.82% under-expenditure of an allocation of \$59,712. In view of the fact that our actual expenditures in FY 89-90 were only 77.7% of the amount spent in FY 88-89, this is a remarkable achievement. This success is attributable to budgeting, distribution of expenses to appropriate cost centers, improved internal accounting procedures, conscientious monitoring and strict adherence to cost control measures such as an enforced 33% across-the-board mileage restriction.
 - . The FY 90-91 allocation for Division 2 Operating and Travel is \$60,978 which includes an additional \$2200 to cover the costs of the dam safety program which was reassigned to the Division. Taking this into consideration, we have been allocated \$151 more than was spent last year, but \$934 less than was allocated in FY 89-90 and \$721 less than in FY 88-89. In order to meet this budget the same austerity program will be continued, but increased costs of doing business will further reduce services provided.
 - . The availability of SB-200 funds has made it possible for us to continue to provide statutorily required services that otherwise could not have been accomplished.

- COFRS implementation
 - . Little is known about the prospective benefits of this accounting system but many problems associated with its implementation have become manifest ... duplicate coding requirements, incompatibility with existing accounting programs, delayed payments. This was poorly executed!
- Litigation management
 - . A procedure to monitor the status of administrative orders has been established which has proved helpful in promoting more efficient prosecution and enforcement.
 - . The practice of relying upon the consultation process as a means of addressing concerns with Water Court applications occasionally results in a false economy. This is particularly true in those instances when we fail to identify objectionable rulings or file timely protests.
- Quality Management (QM) program
 - . The gospel of QM needs to be spread. The introductory seminar and the experience of the pilot program to date convincingly demonstrate the value of teaching people how to work more efficiently with others as a part of a team. It is strongly recommended that the organizational commitment to this program be continued and extended.

COMMUNICATIONS

- Legislators
 - . The approach that has been taken toward establishing lines of communication with legislators has been to gradually develop acquaintances upon which to build working relationships. More aggressive measures may do more harm than good in that legislators are sensitive to activities that they perceive as overt lobbying on the part of state employees. Often an indirect approach is more effective.

- Information sharing with DWR
 - . From my perspective marked improvements have been made in this area within the past year.
 - . Quarterly meetings between the State and Division Engineers are a vast improvement over the previous bi-annual schedule.
 - . An emphasis on team work and shared responsibilities for Division 2 programs has fostered more frequent informal working group meetings. Additionally, Division staff meetings have become more open.
 - . Vertical communication has been enhanced through exchange of staff meeting minutes.
 - . An attempt was made to schedule monthly briefings with the State Engineer with relatively good success. It is intended to resume these on a more regular basis upon the conclusion of litigation in the Kansas v. Colorado Case.

1991 Prospectus

Expounding upon what will be done in the future seems a foolhardy exercise; however, it is our intent to fulfill our mission which is to serve the needs of the public and to preserve, protect, develop, and maximize the beneficial use of the State's present and future water supplies. How this may be accomplished is of course subject to a multitude of unpredictable circumstances such as the vagueries of nature and political reform. Paranoia aside, my most pressing concerns related to Division 2 operations in 1991 are listed below in approximate order of importance. Additionally, I have included a listing of goals and objectives.

OPERATIONAL CONCERNS

- 1) Insufficient financial appropriations for Personal Services which has resulted in an inability to refill vacant positions, to promote deserving employees, and which threatens furloughs will compromise our ability to execute critical programs such as hydrography, enforcement of groundwater rules and regulations, and water rights tabulations and will serve to demoralize employees.
- 2) Without an increased allocation for Operating and Travel reduced services must be anticipated in the areas of water distribution/water rights administration, dam safety, and hydrography beyond that which resulted from expenditure control measures implemented in FY 89-90, due to continually rising costs.
- 3) Effective team building and staff development are absolutely critical to the future operation of the Division 2 office. We must continue to recruit people who are capable of making positive contributions, train them, develop a clear understanding of responsibilities and expectations and cultivate esprit de corps.
- 4) Monitoring compliance with the Arkansas Rules and Regulations governing groundwater usage effectively will be extremely resource consumptive. Given other demands on resources, this important program cannot be sustained or extended without additional allocations or continued funding from supplemental sources such as SB-200 funds.
- 5) The quality of the Division 2 Water Rights Data Base is poor and must be improved. Information fundamental to proper water rights administration must be made reliable and accessible; however, the resources required will be substantial and legal assistance may be necessary.
- 6) Redoubled efforts are necessary to maintain improved communication processes both vertically and laterally within our organization and between other branches and agencies of government.

- 7) Improvement is needed in our monitoring and enforcement of plans for augmentation and other related replacement schemes.
- 8) Time must be reserved to appropriately consider protests to the Abandonment list that are filed within the coming year.
- 9) In order to maintain credibility among the water using public improvements are necessary to the manner in which we monitor compliance and enforce administrative orders.
- 10) Special attention needs to be given to further improving administrative procedures in former water district No. 19, particularly with respect to refinements in accounting, adherence to the Operating Principles for the Trinidad Project, and facilitating an appropriate division of responsibilities associated with the Trinidad Project.
- 11) The potential ramifications of the Kansas v. Colorado lawsuit are enormous. Conceivably they could include renegotiation of the Arkansas River Compact and stricter enforcement of groundwater administration which would require substantial increases of resources. However, if these effects become reality, it is unlikely that it will be within 1991.

GOALS AND OBJECTIVES

1. Team Building

- Recruit and develop capable, motivated and supportive personnel to refill currently vacant positions at the earliest opportunity.
- Stress the team concept through emphasis on shared program responsibilities, increased frequency of staff meetings, and training.
- Utilize the PACE performance planning and evaluation system to convey expectations and provide feedback.
- Continue employee recognition programs and promote deserving personnel.

2. Accomplish purposes of Division programs as resources allow according to priority

- Surface and groundwater distribution/administration, dam safety monitoring, and hydrography programs will definitely be maintained, however activity levels will be restricted and certain programmatic aspects may necessarily be eliminated.
- Implement work plan, utilizing FY 90-91 SB-200 allocation, to reconnoiter wells subject to Arkansas Rules and Regulations governing groundwater usage, identify potential violations and effect compliance.

3. Strive to minimize disputed administrative actions

- Redistribute personnel in a manner intended to better match workload.
- Clarify procedures and publicize them.
- Maintain and improve streamflow and water rights information sources.
- Improve relations with water users.

4. Increase allocations

- Attempt to document program reductions due to inadequate funding and the effects.
- Inform water users of the effects of program reductions.
- Advocate inter-Divisional allocations in proportion to workload.

5. Improved communications

- Continue to schedule briefing meetings with State Engineer on at least a monthly basis.
- Advocate continuing practice of scheduling quarterly meetings between State and Division Engineers.
- Continue to build working relationships with legislators.
- Increase public awareness of Division activities and procedures through press releases and meetings.
- Distribute Division Engineer's Annual Report among all Division 2 staff.

6. Improve the quality of the Division 2 Water Rights Data Base

- Develop and implement a detailed and comprehensive work plan to upgrade this information system.

7. Develop means of gaining administrative control over plans for augmentation and other related replacement measures

- A summary of administrative procedures for each court approved plan for augmentation and a tickler system is to be developed for use by water commissioners.

8. Improve litigation management

- Develop credibility with referee through more thorough case review and preparation and effective consultation preparation.
- Closely monitor status tracking system for administrative orders to expedite enforcement proceedings as necessary.

9. Revise and redistribute responsibilities associated with Trinidad Project

- Refine accounting procedures and promote transfer of operational responsibilities as is warranted.

TRANSMOUNTAIN DIVERSION SUMMARY

W.D.	RECIPIENT	IYR 1989		IYR 1990		W.D.	SOURCE
		AF	DAYS	AF	DAYS		
14	CITY OF PUEBLO, TENN CRK	1030	150	785	164	11	EWING D
14	CITY OF PUEBLO, TENN CRK	881	58	1570	89	11	WURTZ D
14	CITY OF PUEBLO, TENN CRK	431	79	132	60	11	WURTZ EXT.
14	CITY OF PUEBLO, ARK RIVER	1050	108	746	78	11	COLUMBINE D
17	CATLIN CANAL, ARK RIVER	119	104	8	8	11	LARKSPUR D
11	TURQUOISE RES, LK FK CRK	14280	41	47270	166	11	BOUSTEAD TUN
14	CITY OF PUEBLO, LK FK CRK	4270	154	5170	143	11	BUSK IV TUN
14	CITY OF PUEBLO						
10	CITY OF CO SPRGS, LK FK CRK	28690	125	27480	91	11	HOMESTK TUN
2	CITY OF AURORA						
14	CITY OF PUEBLO, LK CRK	32420	365	41368	365	11	TW LAKES TUN
10	CITY OF CO SPRGS, LK CRK	N/A					
16	CUERNO VERDE CATTLE & LAND CO	1027	116	1460	64	79	MEDANO D & HUDSON EXT.

APPENDIX B

RESERVOIR STORAGE SUMMARY

RESERVOIR	SOURCE	CHANGE IN CONTENT %	CONTENT A.F. 11/1/88	CHANGE IN CONTENT %	CONTENT A.F. 4/1/89	CHANGE IN CONTENT %	CONTENT A.F. 11/1/89	CHANGE IN CONTENT %	CONTENT A.F. 4/1/90	CHANGE IN CONTENT %	CONTENT A.F. 11/1/90
Turquoise	Lake Fork	-1.10	125818	-28.2	90355	+30.2	117620	-42.9	67116	+85.2	124314
Twin Lakes	Lake Creek	-3.52	134114	-1.0	132715	-36.2	84660	+18.8	100553	+18.9	119581
Clear Creek	Clear Creek	-49.84	0	N/A	3298	+170.0	8889	+9.1	9695	-12.8	8450
Pueblo	Arkansas	-13.95	149318	+36.0	203273	-45.5	110769	+36.9	151643	-43.5	85638
Trinidad	Purgatoire	+80.70	19693	+29.3	25469	-72.2	7093	+52.6	10825	-22.4	8404
John Martin	Arkansas	-30.18	78984	+56.6	123669	-77.0	28500	+152.9	72067	-74.9	18057
Total Others	Ark. Riv. Basin	-28.55	72100	+111.2	152259	-68.2	48482	+13.9	55228	-18.1	45234
TOTALS	Ark. Riv. Basin	-18.69	580027	+26.0	731038	-44.5	406013	+49.6	467127	-12.3	409678

WATER DIVERSION SUMMARIES BY DISTRICT IY 1990

W.D.	OBSERVED RECORDINGS	TOTAL DIV. A.F.	TOTAL DIV. TO STORAGE	NO. ACRES IRRIGATED	AVERAGE A.F. ACRE	TOTAL DIV. NON-IRR.
10	1103	198985	419	9475	3.20	168666
11	1180	203418	41615	15172	9.91	53793
12	8304	282894	354	14860	11.24	116464
13	363	30251	0	18700	1.61	164
14	2109	272459	44741	25222	7.28	44103
15	1405	19092	405	4681	1.73	10591
16	3277	12356	0	2361	3.70	5107
17	2602	526471	36694	90000	4.03	127089
18	252	4649	0	3383	1.36	43
19	1757	53320	32371	25000	1.93	4969
66 & 67	1926	215513	44928	61800	2.74	760
79	2103	25767	0	6783	3.77	0

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WATER COURT ACTIVITIES

Calendar Year 1990

Applications	56
Consultations with Referee	66
Decrees Awarding Water Rights	78
Dismissals	3
Complaints	1

TYPES OF RULINGS

Findings of Diligence on Conditional Rights	26 cases	53 structures
Cancellations of Conditional Rights	6 cases	
Conditional Rights made Absolute	6 cases	10 structures
New Wells Adjudicated	2 cases	2 structures
New Springs Adjudicated	13 cases	30 structures
New Reservoirs	5 cases	5 structures
Augmentation Plans Approved	11 cases	113 structures
Changes of Use	2 cases	
Changes of Location	9 cases	121 structures

WATER DIVISION NO. 2

Activity Summary, Water Year 1990

<u>ACTIVITY</u>	<u>TOTAL</u>
Number of professional and technical staff	5
Number of clerical staff	1
Number of Water Commissioner FTE assigned (full and part-time)	18
Number of decreed surface rights (including springs)	*8,319
Number of surface rights administered	5,900
Number of wells	**24,950
Number of plans for augmentation	91
Number of consultations with Referee	66
Number of Water Court appearances	19
Number of meetings with water users	148
Number of contacts to give public assistance on water matters (including telephone inquiries and an estimated number of contacts made by water commissioners)	1334

* Estimate from Tabulation.

** Includes Domestic.

RIVER CALL/CHRONOLOGICAL

DATE	PRIORITY DATE	ENTITY	DISTRICTS	DURATION OF CALL/DAYS
** YEAR 1990				
03/15/90	01/06/1890	HIGHLINE (JR.)	10-15, 17	5
03/20/90	03/01/1887	FORT LYON #2	10-15, 17	2
03/22/90	03/11/1886	HIGHLINE	10-15, 17	5
03/27/90	12/03/1884	CATLIN	10-15, 17	3
03/30/90	03/01/1887	FORT LYON #2	10-15, 17	10
04/10/90	03/11/1886	HIGHLINE	10-15, 17	1
04/11/90	12/03/1884	CATLIN	10-15, 17	20
05/01/90	11/04/1886	LAMAR	10-15, 17, 67	2
05/03/90	03/01/1887	FORT LYON #2	10-15, 17	2
05/05/90	06/20/1890	COLORADO	10-15, 17	2
05/07/90	05/01/1887	BESSEMER (JR.)	10-15, 17	2
05/09/90	03/03/1890	OTERO	10-15, 17	1
05/10/90	03/01/1887	FORT LYON #2	10-15, 17	3
05/13/90	02/21/1887	AMITY	10-15, 17, 67	16
05/29/90	03/13/1888	CONSOLIDATED	10-15, 17	1
05/30/90	03/02/1892	HOLBROOK RES.	10-15, 17	5
05/30/90	01/25/1906	ADOBE RES.	10-15, 17	5
05/31/90	08/01/1896	GREAT PLAINS	10-15, 17	0
05/31/90	05/01/1887	BESSEMER	10-15, 17	1
06/01/90	09/25/1889	HOLBROOK	10-15, 17	3
06/04/90	05/01/1887	BESSEMER	10-15, 17	3
06/07/90	01/06/1890	HIGHLINE	10-15, 17	1
06/08/90	08/30/1893	HOLBROOK #2	10-15, 17	3
06/16/90	06/06/1890	COLORADO	10-15, 17	5
06/17/90	11/14/1887	CATLIN	10-15, 17	2
06/19/90	09/26/1889	HOLBROOK	10-15, 17	1
06/20/90	03/13/1888	CONSOLIDATED	10-15, 17	1
06/21/90	04/16/1887	LAMAR	10-15, 17, 67	1
06/22/90	03/01/1887	FORT LYON #2	10-15, 17	13
07/05/90	02/21/1887	AMITY	10-15, 17, 67	2
07/07/90	03/01/1887	FORT LYON #2	10-15, 17	3
07/10/90	05/01/1887	BESSEMER	10-15, 17	1
07/11/90	08/01/1896	GREAT PLAINS	10-15, 17	2
07/13/90	01/06/1890	HIGHLINE	10-15, 17	1
07/14/90	09/25/1889	HOLBROOK	10-15, 17	1
07/15/90	03/01/1887	FORT LYON #2	10-15, 17	4
07/19/90	02/21/1887	AMITY	10-15, 17, 67	1
07/20/90	03/03/1890	OTERO (SPLIT W/ JMR)	10-15, 17, 67	5
07/25/90	06/09/1890	COLORADO	10-15, 17	1
07/26/90	02/21/1887	AMITY	10-15, 17, 67	1
07/27/90	03/01/1887	FORT LYON #2	10-15, 17	4
07/31/90	05/01/1887	BESSEMER	10-15, 17	1
08/01/90	09/25/1889	HOLBROOK	10-15, 17	1
08/02/90	03/01/1887	FORT LYON #2	10-15, 17	3
08/05/90	09/25/1889	HOLBROOK	10-15, 17	1
08/06/90	06/09/1890	COLORADO	10-15, 17	1
08/07/90	01/06/1890	HIGHLINE	10-15, 17	1
08/08/90	03/01/1887	FORT LYON #2	10-15, 17	1
08/09/90	02/21/1887	AMITY	10-15, 17, 67	1

RIVER CALL/CHRONOLOGICAL

DATE	PRIORITY DATE	ENTITY	DISTRICTS	DURATION OF CALL/DAYS
08/10/90	12/03/1884	CATLIN	10-15, 17	1
08/11/90	12/03/1884	CATLIN (SPLIT W/AMITY)	10-15, 17, 67	2
08/13/90	02/26/1887	OXFORD	10-15, 17	1
08/14/90	03/01/1887	FORT LYON #2	10-15, 17	10
08/24/90	02/21/1887	AMITY	10-15, 17, 67	6
08/30/90	12/03/1884	CATLIN	10-15, 17	6
09/05/90	04/15/1884	FORT LYON	10-15, 17	3
09/08/90	12/03/1884	CATLIN	10-15, 17	7
09/15/90	04/15/1884	FORT LYON	10-15, 17	2
09/17/90	12/03/1884	CONSOLIDATED	10-15, 17	4
09/21/90	03/11/1886	HIGHLINE	10-15, 17	1
09/22/90	11/04/1886	LAMAR	10-15, 17	8
09/30/90	02/21/1887	AMITY	10-15, 17, 67	3
10/03/90	02/26/1887	OXFORD	10-15, 17	2
10/05/90	03/01/1887	FORT LYON #2	10-15, 17	3
10/08/90	02/21/1887	AMITY	10-15, 17, 67	3
10/11/90	03/01/1887	FORT LYON #2	10-15, 17	2
10/13/90	02/21/1887	AMITY	10-15, 17, 67	9
10/22/90	03/01/1887	FORT LYON #2	10-15, 17	13
11/04/90	09/25/1889	HOLBROOK	10-15, 17	2
11/06/90	03/02/1892	HOLBROOK RES	10-15, 17	9
11/15/90	03/01/1910	WINTER WATER (84CW179)	ALL	120

WINTER WATER PROGRAM

The Winter Water Program has maximized use of irrigation water normally applied in the winter months by storing the water for summer application. The 1990 Winter Water Program commenced November 15, 1989 and concluded March 15, 1990. This was the fourteenth year of operation of the Winter Water Program since its inception in irrigation year 1976. (The Program was not in operation in irrigation year 1978).

WINTER WATER PROGRAM OPERATIONS

- A. By foregoing winter diversions, the water will be accounted for by storage in Pueblo Reservoir or headgate diversions on a percentage basis of total river production.
- B. A division of total river production below 100,000 A.F. entitles the off channel storage participants to 71.2 percent of the river flow and the direct flow participants 28.8 percent of the river flow.
- C. The Amity Canal receives the next 2,750 A.F. over 100,000 A.F.
- D. When the system reaches 102,750 A.F., 2,250 A.F. of water is released to the Colorado Canal, pro-rata from winter water stored in reservoirs upstream from Pueblo.
- E. The Holbrook Canal receives the next 356 A.F. over 102,750 A.F.
- F. A division of total river production above 103,106 A.F. entitles the off channel storage participants to 75 percent of the river flow and the direct flow participants, 25 percent of the river flow.
- G. Winter water that is delivered to the Amity Canal account in John Martin Reservoir will not be depleted by transit loss occurring from the Arkansas at Las Animas Gauge to John Martin Reservoir. All participating entities except Fort Lyon will stand that loss, based on the Livingston Formula, on a pro-rata basis. Any winter water delivered to the Fort Lyon or Consolidated accounts in John Martin will be charged a transit loss based on the Livingston Formula.

After eleven years of a successful voluntary Winter Water Program, the Division 2 Water Court awarded the applicants a interlocutory Decree for the Winter Water Program on November 10, 1987.

WINTER WATER PROGRAM
 FINAL STORAGE SUMMARY REPORT
 1989-1990

DIRECT FLOW ENTITIES

.....	
BESSEMER	7557.63
HIGHLINE	10148.32
OXFORD	2446.56
CATLIN	11150.14
CONSOLIDATED	3364.02
RIVERSIDE	161.71
WEST PUEBLO	323.39
.....	
TOTAL	35151.77

STORAGE ENTITIES

.....	
COLORADO	13970.56
HOLBROOK	11580.56
FORT LYON	48267.19
AMITY	20613.89
.....	
TOTAL	94432.20

GRAND TOTAL 129583.97

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THEORETICAL DIVISION OF WINTER WATER PARTICIPANTS

THEORETICAL 100,000 A. F. SYSTEM:

DIRECT FLOW ENTITIES (28.80%)	28800.00
STORAGE ENTITIES (71.20%)	71200.00
.....	
TOTAL	100000.00

AMITY	2750.00
HOLBROOK	356.00
.....	

TOTAL 3106.00

THEORETICAL 103,106 A. F. SYSTEM:

DIRECT FLOW ENTITIES (25.00%)	6619.49
STORAGE ENTITIES (75.00%)	19858.48
.....	

TOTAL 26477.97

GRAND TOTAL 129583.97

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JOHN MARTIN RESERVOIR

RELEASES AND DELIVERIES
TO KANSAS

WATER YEAR 1990 MONTH	DEMAND RELEASE A. F.	TRANSIT LOSS ACCT. RELEASE A. F.	FRONTIER DITCH A. F.	ARKANSAS @ COOLIDGE, KS. A. F.	DITCH & RIVER DELIVERY A. F.	CREDITED FLOW A. F.
NOVEMBER	0.00	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00	0.00
JANUARY	0.00	0.00	0.00	0.00	0.00	0.00
FEBRUARY	0.00	0.00	0.00	0.00	0.00	0.00
MARCH	0.00	0.00	0.00	0.00	0.00	0.00
APRIL	0.00	0.00	0.00	0.00	0.00	0.00
MAY	0.00	0.00	0.00	0.00	0.00	0.00
JUNE	10016.68	3533.13	633.00	8009.00	8642.00	8422.00
JULY	4877.91	609.75	1170.00	8743.00	9913.00	9681.00
AUGUST	0.00	0.00	0.00	0.00	0.00	0.00
SEPTEMBER	0.00	0.00	0.00	0.00	0.00	0.00
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	14894.59	4142.88	1803.00	16752.00	18555.00	18103.00

NOTE: The June and July stateline flows are based on provisional USGS data. Only one release lasting 20 days was made on Kansas' demand during the year. The above table reflects only times when actual releases were being made from John Martin Reservoir plus a 7 day rundown period. "Credited flow" refers to the limitation that credit will not be taken for more than one hundred five percent of Kansas demand.

RELEASES AND DELIVERIES
TO KANSAS
BY RUNS

RUN #	RELEASE PERIOD	RELEASED FROM KANSAS ACCOUNT ACRE FEET	A. F. CREDITED DELIVERY AT STATELINE
ONE	6/18 -- 7/7	14894.59	18103.00
TWO		0.00	0.00
THREE		0.00	0.00
FOUR		0.00	0.00
TOTALS		14894.59	18103.00