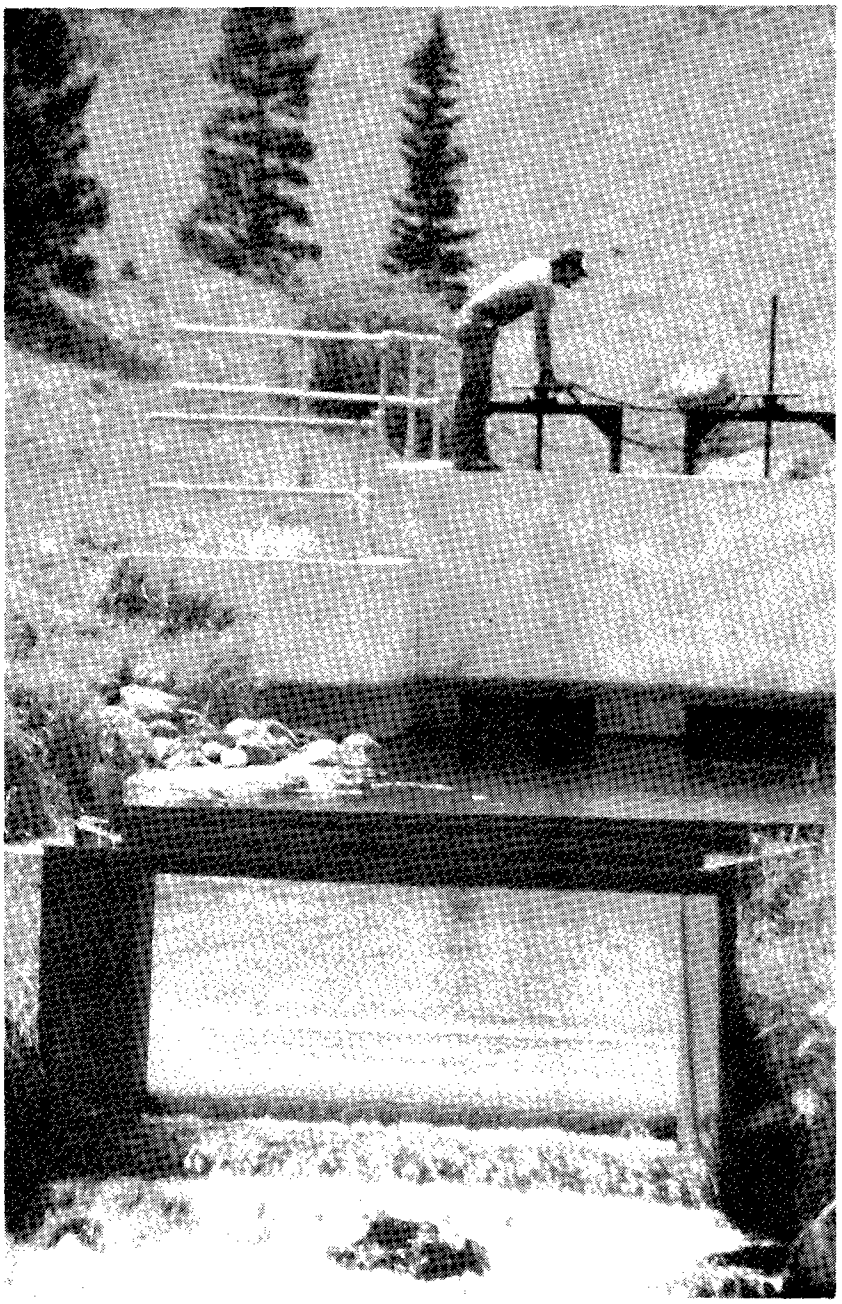
Annual Report

Colorado Division of Water Resources
Office of the State Engineer
July 1, 1993 - June 30, 1994



Colorado Department of Natural Resources

Our Mission is to serve the water resource needs of the public and to distribute, conserve, protect, develop and maximize the beneficial use of the state's present and future water supplies.

"The water of every natural stream, not heretofore appropriated, ... is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation...

The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied."

Constitution, State of Colorado, Article XVI, sections 5 and 6.

Office of the State Engineer and Colorado Division of Water Resources

Governor
Roy Romer

Executive Director
Department of Natural Resources
Jim Lochhead

State Engineer
Hal Simpson

Deputy State Engineer
Will Burt

Division Engineers	
Alan Berryman	*Division 1*
Steve Witte	*Division 2*
Steve Vandiver	*Division 3*
Ken Knox	*Division 4*
Orlyn Bell	*Division 5*
Ed Blank	*Division 6*
Ken Beegles	*Division 7*
Assistant State Engineer - North Region - Divisions 1 & 6	*Richard Stenzel*
Dam Safety Branch	*Alan Pearson*
Hydrography Branch	*Jim McDanold*
Water Supply Branch, North Region	*Purushottam Dass*
Assistant State Engineer - South Region - Divisions 2, 3, 4, 5 & 7	*Steve Lautenschlager*
Geotechnical Branch	*George Van Slyke*
Permit & Licensing Branch	*Rich Bell*
Water Supply Branch, South Region	*Bruce DeBrine*
Technical Support	*Vacant*

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Hal Simpson, State Engineer

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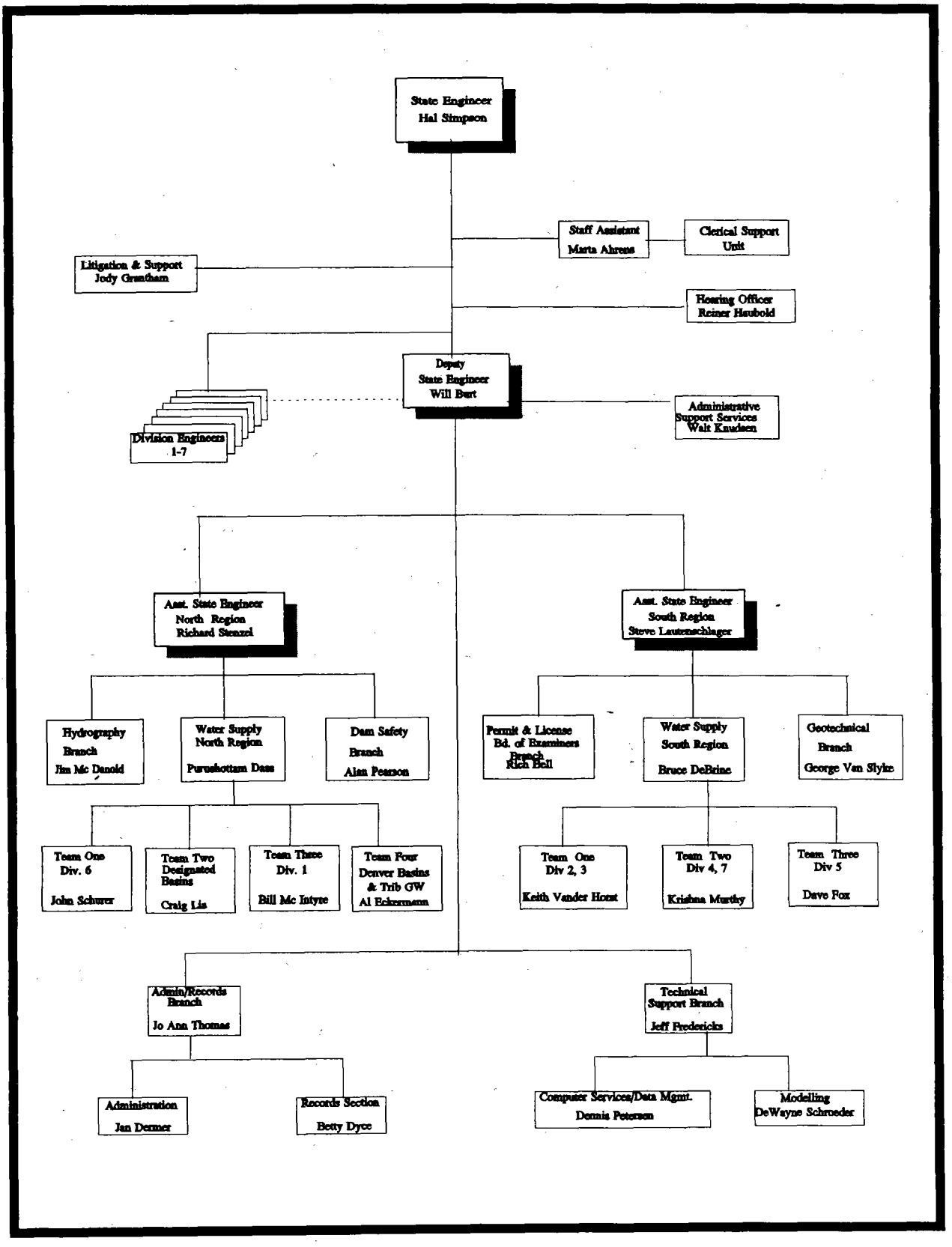

Office of the State Engineer
and
Colorado Division of Water Resources

Mission Statement

The Office of the State Engineer and Division of Water Resources is an agency of the State of Colorado operating under the direction of specific state statutes, court decrees, and interstate compacts.

Our Mission **is to serve the water resource needs of the public and to distribute, conserve, protect, develop, and maximize the beneficial use of the state's present and future water supplies.**

The achievement of our mission will be guided by the following principles:

Water Distribution

We distribute and manage surface and ground water according to the state's water rights system, and in compliance with interstate compacts and decrees. We permit the construction of wells to allow effective use of the ground water resource.

People

People are our greatest asset. We encourage ideas and involve our people in the decisions which affect the areas in which they work. We will extend Total Quality Management principles throughout our organization. We provide training toward improvement of work and personal skills, so that ultimately we are better capable of serving the citizens of Colorado.

Public Safety

We seek to prevent both loss of life and property damage from the failure of dams, open well holes, and high water levels in streams and ditches.

Efficiency

The taxpayers of the state have demonstrated their intent that the state government operate within current revenue resources. We will utilize all available technology and management techniques to improve our efficiency such that our increasing operating requirements are met in a quality fashion within available financial resources.

Planning

We believe that appropriate planning can enhance the effectiveness by which we meet our objectives in the future.

Beneficial Use

We continuously seek to optimize beneficial use of the available water of the state by eliminating waste, encouraging cooperation among water users, and planning. We will work toward incorporating water quality standards into our decision processes.

Engineering and Geology

We conduct engineering and geologic investigations so that we can improve predictions of present and future water supplies, and determine if existing water rights will be injured by proposed development. We monitor the state's streams to collect accurate streamflow data, used for both water administration and engineering analysis.

Welcome

Message from the State Engineer
Hal Simpson

This is the second annual report by the Office of the State Engineer since I became State Engineer in August of 1992 (reports had been discontinued in 1968). I still believe that an annual report to the General Assembly and citizens of the state provides an opportunity for our agency to report on the more important activities and policy decisions that have taken place in the past year.

This was the first year of implementation of our Five Year Long Range Plan, which I view as critical for the future focus and success of our agency. The plan established verifiable goals in the areas of human resources, technology, water resource administration, quality data, and allocation of the division's fiscal resources. All of these areas in total clearly show the mission of the agencies is public service to our customers, the water users of Colorado.

As part of that plan, Total Quality Management teams were created to examine in detail the well permitting process and the well permit applications themselves, so that our agency may be more efficient and effective. Due to recent upturns in Colorado's economy, our office has been deluged by requests from the public to obtain well permits. These teams and the recommendations they set forth in cooperation with management will enhance our abilities as an agency to serve the public's needs in this arena. This, in coordination with the addition of four technicians through our Ground Water Management Fund as a result of HB-1289, should allow us to reach our goal of an average permit turnaround time of less than three weeks in the near future.

We continue to be deeply involved in the development of the Colorado River Decision Support System (CRDSS). Our agency's responsibilities in identifying irrigated acreage, crop types, and ditch systems for Geographical Information System (GIS) use are near completion. We look forward to the utilization of this new tool for water rights management and administration in the coming years.

The South Platte Water Rights Management System (SPWRMS) is now operational through funds made available through the Colorado Water Conservation Board Construction Fund. This is enabling us to do real-time water administration on portions of this river system through the use of the Water Commissioner's Tool Kit, a lap top computer used by water commissioners in the field to obtain and provide data for administration on an instantaneous basis. In the near future, we look forward to systems such as this one in other basins to further enhance our water administration capabilities and increase the water available to water rights in priority.

I am most appreciative of the ongoing cooperation between this office and the Colorado Water Conservation Board; its director, Mr. Chuck Lile; and its staff. Together we are developing data, decision-making technology, and strategies to manage and protect our water resources and to utilize our interstate compact entitlements.

Special Master Arthur Littleworth has submitted his report on the Kansas v. Colorado Arkansas River Compact litigation to the U.S. Supreme Court. He found that Colorado did not violate the compact in two of the allegations by Kansas, i.e., the operation of the Winter Water Storage Program and the operation of Trinidad Reservoir. He did find that the pumping of post-compact wells has and does deplete the useable flow of water at the state line under certain conditions. He did not quantify the amount of depletion for the 1950-1985 study period. He stated that the quantification will be decided in the remedy phase of the case, which will begin after the Supreme Court rules on objections to his report filed by the parties in November 1994. Oral arguments are expected to take place in early 1995.

In response to the Special Master's criticism concerning the lack of good data on the amount of ground water pumped in the basin, I promulgated rules and regulations, effective July 15, 1994, requiring all non-exempt tributary wells in the basin to provide annual records of water pumped. Enforcement of these rules will require additional effort, resources, and staff. The Colorado Legislature recognized the importance of this responsibility and approved funding for 4.5 FTE's, vehicles, and equipment. We are extremely appreciative of this funding and cooperation from the Legislature.

Jim Lochhead was appointed Executive Director of the Department of Natural Resources early in 1994 following the resignation of Ken Salazar. I look forward to working with Jim in our many areas of common responsibility, especially with the impact of the Endangered Species Act upon the water users of the state. This act is most powerful, and we must develop strategies and implement reasonable recovery plans in conjunction with adjacent states on the Colorado River, the Platte River, and the Rio Grande. This is a tremendous responsibility for the Department of Natural Resources, the CWCB, and the Office of the State Engineer.

This report is a compilation of the many efforts in diverse areas to continuously improve our capabilities to serve the public and manage our water resources. All of these efforts could not have been achieved except through an extremely professional and capable staff dedicated to our mission. Our people are truly our most important asset.

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Hal Simpson, State Engineer

Total Quality Management

The Division of Water Resources began Total Quality Management (TQM) practices in 1990. Since that time, various projects have been undertaken by teams formed to examine problems or tasks throughout the division. For example, a formal training program was instituted division-wide as a result of TQM that has been very successful in providing a variety of training opportunities for the personnel employed at the division.

Currently, the Division of Water Resources has two separate teams employed in analyzing various aspects of one of the division's most important statutory functions, i.e., the permitting of ground water diversions. One team has been charged with the responsibility of examining the well permit application forms and another has been assigned to look at the permitting process itself. Both teams are focusing on making the process simpler for the public and the personnel who deal with permitting on a daily basis.

The Permit Form Team has reviewed what must be included on a ground water application form to fulfill statutory and office procedure requirements. Their goal: a form that gathers all the required information in a user-friendly fashion. The team has developed two prototype forms that are being reviewed by division personnel. After the review and comment period is complete, a testing phase for implementation of the forms will begin. The team is hopeful that the end product will result in time savings for permit evaluators and less frustration for the public who have to fill out the form.

The Permit Process Review Team has completed an Interim Progress Report to the State Engineer and has developed suggestions that will be implemented by management in an attempt to simplify the process of evaluating well permits. Presently, the team is focusing on the exempt well permitting process. This is based upon data that reveals approximately 80% of the division's well permit application workload is in this area. Recommendations to management have included the purchasing of county plat maps to assist in the easy location of wells being applied for within subdivisions. This will allow the counties and the division to work from the same data field and save time through the elimination of location problems evaluators have in the examination of an exempt well permit application. The team also recommended a Water Division 7 (Durango) well permitting pilot program that was implemented in September of 1994. This is an attempt to decentralize the permitting process to provide better service to customers while at the same time streamlining the process. During this pilot program, data will be collected to evaluate whether decentralization is a viable alternative for permit issuance.

In the future, the Permit Process Review team will conduct a detailed examination of the statutes in relation to present policies and procedures, examine the rate and reasons for returned applications, examine staffing patterns, statement of beneficial use requirements, and future technological advancements that may assist in issuing well permits.

1993 - 1994 Legislative Highlights

- ***Senate Bill - 29, Colorado Water Conservation Board Construction Fund*** -- $1.8 million was approved for the continuation of the Colorado River Decision Support System (CRDSS), which the Division of Water Resources is heavily involved in developing. It also appropriated $157,000 to assist in the continued development of the South Platte Water Rights Management System and authorized $113,000 for the division's satellite monitoring program of stream flows.

- ***Senate Bill - 203, Colorado Water Conservation Board General Fund Transfer Bill*** -- Approved $447,040 for the State Engineer's Office to continue activities related to the Kansas v. Colorado lawsuit.

- ***House Bill - 1289, Changes to the Ground Water Management Act*** -- This bill makes the statutes consistent between the designated basins and the rest of the state regarding well permits. It also requires well owners to file a change of ownership or change of address and increases the spending authority in the State Engineer's Ground Water Management fund to allow for the hiring of four additional FTE to handle the large increase in well permit applications due to recent economic development activities.

- ***Senate Bill - 97, Rules and Regulations Regarding Artificial Recharge*** -- This bill directs the State Engineer to promulgate rules concerning the permitting and use of waters artificially recharged into Denver Basin aquifers outside designated basins.

- ***Senate Bill - 138, Conditional Water Right Well Construction*** -- This bill was a result of the joint Water Division 5 Bench Bar and State Engineer meeting held in Glenwood Springs in June of 1993. It reduces the possibility of the State Engineer or others raising water right abandonment issues when well owners allow their well permits to expire on conditional water rights.

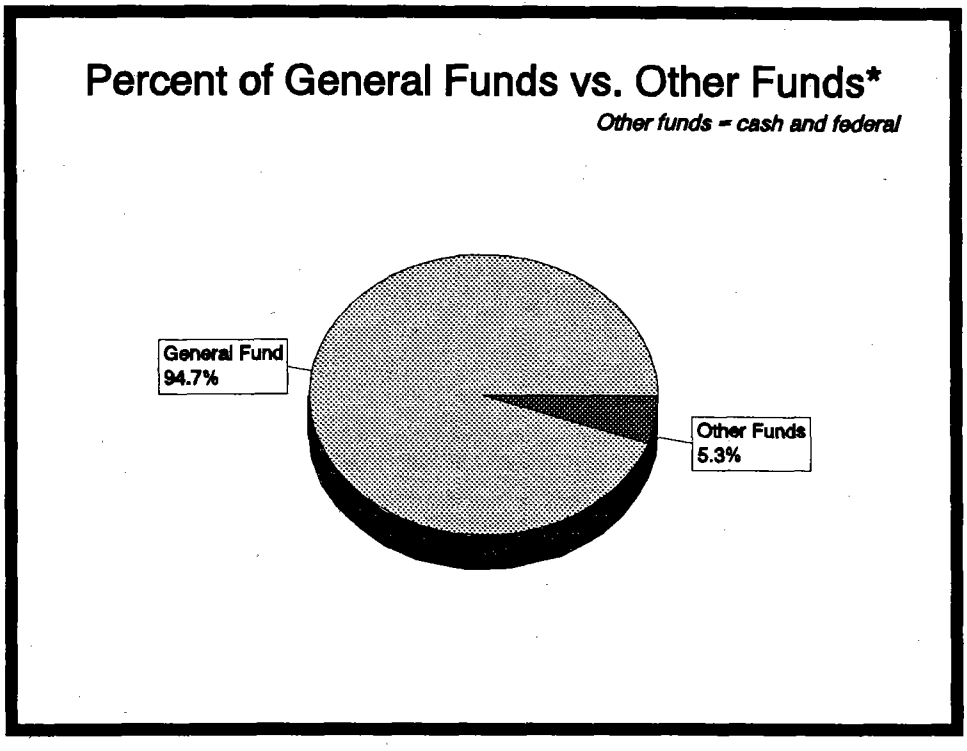
- ***Senate Joint Resolution - 32, Water Resources in Colorado*** -- This resolution calls for a joint report to be prepared by the State Engineer and the Water Conservation Board to assess information in existence on water supplies throughout the state, and to assess future data needs with regard to the same.

- ***House Bill - 1242, Relocation of Wells*** -- This bill states that the relocation of a well within 200 feet of the existing well location does not change the use of the well as long as there are not any changes in volume, historic use or aquifer source.

Budget and Funding of the State Engineer

The Division of Water Resources is funded primarily through general fund tax revenues -- less than 6% of our funding comes from cash revenue (i.e., direct fee) sources. Among all funding, 87% is used for employee wages and benefits. Although costs for personnel have increased over the past 10 or more years, this increase has not been attributable to either an increase in the number of staff, or to an increase in the overall level of jobs. The increase is almost exclusively a result of the salary increases resulting from the annual salary adjustments to maintain parity with private industry.

Operating and travel funds continue to be a great source of concern for the division. The division's water distribution and record-keeping activities are directly dependant on the amount of operating and travel funds available for travel in the field by our water commissioners. We requested and received an increase of $20,000 for water commissioner travel in the 1994 legislative session. Those funds have been completely allocated to water commissioners to fund travel related to water administration.



On April 1st, 1994, the division came into compliance with a revised interpretation of our responsibilities under the federal Fair Labor Standards Act. The Legislature provided funding to pay water commissioners overtime, and we instituted a division-wide timekeeping system which provides work time and overtime tracking and a more detailed basis for managing information regarding the activities that consume our resources.

We experienced a 52% increase in well permit applications between 1991 and 1993, with another increase projected for 1994. As a result, the division proposed a small increase in the well permit application fee as a method of funding cash-funded personnel to perform the additional workload. The Legislature did not agree to any increase in the application fee, but granted the use of additional funds available from the increased number of applications received. These funds are being used to hire three additional processing technicians and one clerical support staff member to better enable the delivery of permits within the statutory 45 day time limit, or sooner whenever possible. Should the application workload decrease in future years, the additional staff will be phased out.

As described elsewhere in this report, the Special Master appointed to hear the Kansas v. Colorado case over Arkansas River water has now issued his report to the Supreme Court. In anticipation of additional water administration responsibilities necessary to meet the Master's recommendations, the division is hiring four full-time water commissioners to perform the additional water administration responsibilities in the Arkansas River Basin. First year funding is from the Colorado Water Conservation Board Construction Fund. In subsequent years, funding will be sought from general funds, the traditional funding source for water administration personnel.

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Although some interest in water resources management and protection has been elicited by perceived threats to Colorado's compact entitlements and increasing pressure form downstream states, the general level of public interest in water issues remains relatively the same. Demands for active water administration are continually increasing, as water decrees become more complex. The number of people who are moving into rural areas with expectations of water use that may not coincide with Colorado law adds further demands on the system. Nevertheless, it seems unlikely that water administration will in and of itself attract support for significant numbers of increased staff in the foreseeable future. As we have experienced with the two areas of increase in personnel described above, it appears likely that any future increase in staff will come in specific activity areas, where a strong case can be made for focused satisfaction of workload demands. Despite this outlook, we remain committed to continued examination of our service priorities, and allocation of resources with the intent of providing high quality service to meet our highest priority demands.

Water Administration

Water Division 1, The South Platte River Basin, Greeley, Colorado

Many significant events occurred during Water Year 1993 in the South Platte Basin in addition to the normal activities of daily administration of ditches, reservoirs, wells, exchanges and plans for augmentation. Growth impacts along the Front Range, environmental issues, and important court decisions were just a few of the highlights during Water Year 1993.

Division personnel are involved with water users in a variety of settings in Division 1 to meet these challenges. Water allocation and enforcement activities bring continual interaction and education. Additionally, the staff has been working with metropolitan entities to develop the South Platte Water Rights Management System (SPWRMS), which will bring much more information about water conditions and activities to water users. The division staff has also been a part of the Metropolitan Water Supply Investigation, in which metro water users are examining additional ways to increase water supplies, and a well monitoring study being conducted in cooperation with the Lower South Platte and Central Colorado Water Conservancy District and Ground Water Appropriators of the South Platte. Negotiations are constantly being held with water users concerning new water right applications. Division staff are also involved in water festivals and seminars which educate the public about water in Colorado.

Water Division No. 2, The Arkansas River Basin, Pueblo, Colorado

United States Supreme Court Special Master Arthur L. Littleworth delivered a draft ruling in the case of Kansas v. Colorado on February 4, 1994. While only a draft, this ruling found that post-Arkansas River Compact well development in Colorado results in a violation of that interstate compact. The final ruling, issued in early July 1994, confirmed this finding.

In response to this ruling, the State Engineer promulgated rules governing the measurement of tributary ground water diversions located in the Arkansas River Basin. Those rules were filed with the Water Court on March 29, 1994, and approved by the Division 2 Water Court in early July. The staff for the Division Engineer in Water Division 2 has since been extremely busy interpreting and preparing for implementation of these new provisions, as well as continuing to enforce the requirements of the Arkansas Rules and Regulations Governing the Use of Groundwater.

Within the next year, it is expected that amendments to the ground water use rules will be promulgated. In order to meet that challenge, additional staff is being recruited, equipped and trained specifically in the area of ground water administration.

Water Division No. 3, The Rio Grande and Conejos Basins, Alamosa, Colorado

One of the most exciting milestones to occur in Water Year 1993 was the completion of the Closed Basin Project. All construction and testing was completed

by the spring of 1993, and the construction office of the U. S. Bureau of Reclamation closed in September. Operation staff of the bureau and staff of the Rio Grande Water Conservation District continue to utilize those facilities. Virtually all wells are operational in the entire project, although several wells are unable to pump at full capacity due to the need to mix different qualities of water in order to achieve water quality standards set forth in the Rio Grande Compact. During 1993, the project was not pumped at full production because of the reduced need by the Rio Grande for their portion of the production. Tributary inflow and return flows provided much of the water to meet the Rio Grande Compact obligation, and therefore the project was managed to ensure that it was pumped only when necessary.

The San Luis Valley Water Conservancy District continued with their recharge plan in the Closed Basin. Monitoring wells for the project have been completed and instrumentation installed to continuously record water levels in those wells. A sizable volume of water was introduced onto the recharge area throughout the year to begin the process of managing the aquifers in that area and to determine what response they have to the introduction of the water. The division is very interested in making sure that the observations are taken accurately and consistently in this project and hopes to learn more about aquifer characteristics as the project moves forward.

Water Division 4, Gunnison River Basin, Montrose, Colorado

The Division 4 office provided considerable assistance to the state and local agencies which deal with flood preparedness during Water Year 1993. Staff provided site-specific knowledge of the streams involved in flooding during the year, and the first-hand knowledge proved valuable to these agencies. Localized flooding on the small creeks occurred, but major flooding was relatively rare when compared to the high snowpack amounts that existed. The largest and most damaging flooding occurred on the North Fork of the Gunnison, where flows reached a peak of 8,610 cubic feet per second on May 27, 1993. These flows resulted in significant bank erosion, which in turn caused some loss of agricultural land. The City of Delta also experienced some flooding, but due to the cooperation of many agencies and individuals, levees prevented much property damage.

The staff completed the irrigated acreage project (as a result of the CRDSS project). By September of 1993, all irrigated fields in Division 4 were identified and their respective area boundaries checked against aerial surveys and topographical maps. Of interest from this survey was that there are 8,536 irrigated fields within the Gunnison, San Miguel and Little Dolores River watersheds. Inspections of those fields further identified that 66% of those fields were irrigated by the furrow method, 32% by flood and the balance by sprinkler and drip irrigation systems.

Corrected mylar maps which are scaled to overlay published U.S.G.S. topographic maps were sent to the U.S. Bureau of Reclamation on a periodic basis. The bureau intends to assimilate the new corrected field boundary information into the Geographic Information System and provide to the

division the actual number of acres irrigated. Use of the above information will be helpful in future net consumptive use studies and in assigning values in relation to historical diversion records.

Water Division 5, Colorado River Mainstem, Glenwood Springs, Colorado

Overall, the 1993 water year was considered to be good to excellent. Better than average snowpack was supplemented with timely rainfall, and therefore cattle and grass looked good and harvests were even better. Late freezes threatened fruit crops in lower valleys, but damage remained minimal. High spring runoff (for rafters), even summer flows with few cloudbursts (clear water), and limited demand on reservoirs were good for the recreation and environmental interests as well as water diverters.

For the first time an official call from Green Mountain power and storage water was placed by the U.S. Bureau of Reclamation. This began the priority system administration of the Blue River with all of the exchanges, agreements, and augmentation plans. It will take years to develop all of the spreadsheets required to sort through and develop records of use. However, the division has soundly begun the process.

Public Service Company's Shoshone Power Plant placed a call on the upper river for most of the year, but there was never a shortage or call from Cameo (Grand Junction area rights). Division personnel continued total river administration with daily calculations and release adjustments, refined the method for setting weekly numbers for the call, and also refined consumptive use calculations for West Slope replacements.

Improved economic conditions and low interest rates stimulated increased workload in the area of ground water and well permitting. Research by realtors, appraisers, land developers, attorneys, engineers, property owners and prospective real estate purchasers created the bulk of the increased workload. Additionally, the repeal of House Bill-1111 (watering of non-commercial domestic animals) by Household Use Only wells, caused an influx of questions, concerns, amendments and new applications prior to the expiration date (June 30, 1993).

Following last year's decree on Green Mountain administration (Case No. 88CW382, Water Division 5), the Surface Water Administration Team (SWAT Team) turned its attention to brainstorming an accounting method to handle first reservoir fills, second fills, upstream storage fills, carryover storage, exchanges for snowmaking and the administration involved. Most of this work was directed at the Blue River. As a result of these efforts, one decree was issued for Clinton Reservoir and dozens are pending. The State Engineer is not formally objecting to these cases, but participates in a non-litigious manner via informal comments.

A Bench Bar Committee meeting was held between representatives of the legal and consulting community and the State Engineer, his staff and counsel, and the Division Engineer early in the summer of 1993 in Glenwood Springs. Many policy and procedural items were discussed, ushering in a new era of understanding and cooperation. Legislation eventually resulted from this meeting in the form of

the passage of SB-138 which alleviated fears of abandonment of conditional underground water rights as a result of the Colorado Supreme Court decision in Good v. Bell.

Water Division 6, Yampa and White River Basins, Steamboat Springs, Colorado

The 100-year flood plain of the Yampa River below the City of Craig was designated as critical habitat for the Endangered Fish Recovery Program. Imposition of bypass flow requirements to support the recovery of endangered fish and the setting of other limitations will be the only way future permits for new projects and renewal of existing projects will be approved. Review of new projects and projects under revisions that would deplete stream flows from current levels during the four runoff months promises to be very critical in the years to come. Review of projects that would deplete stream flows below the 50% recurrence level during the non-runoff months also promises to be just as critical. The Colorado Water Conservation Board is exploring ways to establish minimum stream flows on the lower Yampa River before the United States Fish and Wildlife Service imposes standards of their own.

The division has also been working to determine and verify irrigated acreage and historic diversion records for use by the Colorado River Decision Support System. This verification is anticipated to be complete in the fall of 1994. The data will also be utilized in conjunction with data from a lysimeter site operated by Division 6 to improve the accuracy of consumptive use calculations.

"The seven division offices of the State Engineer represent the heart and soul of water administration in Colorado. The dedicated individuals in those offices, from water commissioners to the Division Engineers, provide our link to the public and the resource that we manage." - Hal Simpson, State Engineer

Water Division 7, San Juan, Dolores and Animas-La Plata Basins, Durango, Colorado

Growth in the southwest corner of the state continued to have a major impact on the operations of the Division 7 office during Fiscal Year 1993-1994. A large increase in the number of subdivisions and issuance of well permits has raised concerns about the water availability and water supplies in the county near Durango. The division staff worked closely with the La Plata County officials, and was involved in the planning and subdivision process to try and supply information about what types of well permits would be available in the proposed development areas. In conjunction with the division's Denver staff, the division office is also currently participating in a hydrogeologic study with various county, state and federal agencies to attempt to identify and quantify water supplies in the aquifers near Durango.

Work on the Colorado River Decision Support System continued for division personnel in the form of identifying irrigated acreage. Most of that work was completed, and a quality check and assurance program was initiated to verify the validity of historical diversion data in the database which will be used in the model.

Interstate Compacts

The State Engineer is charged with the administration of five interstate compacts that delineate the state's obligations to deliver water to downstream states. They are: the South Platte River Compact; the Republican River Compact; the Costilla Creek Compact; the Rio Grande Compact; and the La Plata River Compact.

The South Platte River Compact is fairly self-administering; when flows at the Julesburg gage are less than 120 c.f.s. (cubic feet per second), water rights junior to June 14, 1897, must be curtailed on the river downstream of the Washington-Morgan county line.

The Republican River Compact allocates to Colorado in a normal year 54,100 acre-feet of consumptive use from the four sub-basins of the Republican River. In 1992, the allocation was adjusted downward to 39,750 acre-feet due to below average water supply conditions. The computed consumptive use was 24,380 acre-feet for 1993, which is 2,230 acre-feet more than 1992.

The Costilla Creek Compact allocates water to water rights in Colorado and New Mexico based upon a joint priority list. A Water Master is employed by both states to deliver water to users. Last year, 1993, was an above average year with 27,487 acre-feet of stream and reservoir water delivered to approximately 7,000 acres of crop land.

The Rio Grand Compact is the most complex compact to administer because it has a variable annual stateline delivery obligation based upon the inflow to the basin as measured at four index gages. In 1993, Colorado had a scheduled delivery of 398,200 acre-feet at the New Mexico state line. The actual deliveries were 399,700 acre-feet, resulting in an accumulated credit on January 1, 1994, of 65,300 acre-feet. This includes an initial accrued credit on January 1, 1993, of 70,900 acre-feet. Colorado's intent was to reduce the accrued credit in 1993 to near zero, but precipitation and return flows were such that this could not be achieved even with no curtailment on the Rio Grande mainstem.

The La Plata River Compact requires Colorado to operate and maintain two stream gages for compact purposes. If the flow is less than 100 c.f.s. at the lower state line gage during the period between February 15 and December 1, Colorado must deliver one-half the flow at the upper gage (Hesperus) to the state line on the following day. This compact requires day-to-day administration, and the satellite-linked water resources monitoring system greatly facilitates the administration of this compact.

The federal decree on the North Platte River limits irrigation in Colorado (Jackson County) to 145,000 acres. Storage is limited to 17,000 acre-feet for irrigation purposes and exports are limited to an average of 6,000 acre-feet.

The decree on the Laramie River limits diversions outside the basin (exports) to no more than 19,875 acre-feet. Diversions in the basin are limited to 29,500 acre-feet for irrigation purposes only.

Dam Safety

The Dam Safety Program is administered by the division's Dam Safety Branch. The branch consists of two units; one is the Design Review and Construction Inspection Unit, and the other is the Dam Safety Engineering Unit. The program is managed by a Principal Engineer, who develops program goals and objectives and is responsible for deciding the kind and extent of engineering programs needed to accomplish the objectives, and to assure they are being met. The branch carries out two principal duties of the State Engineer: to determine the safe storage level of the reservoir dams in the state; and to approve the plans and specifications for the construction and repair of dams greater than 10 feet in vertical height to the bottom of the spillway, or greater than 20 surface acres or 100 acre-feet in capacity at the high-water-line.

Thanks to a concentrated effort by the branch in cooperation with the division offices, all Class I dams (high potential for loss of property and life if failure occurs) have an Emergency Preparedness Plan on file for responding to an incident. The branch published and distributed to the dam owners and emergency managers an updated guideline for preparing emergency plans and conducted workshops to enable them to use the guide for preparing such plans.

In cooperation with the Colorado Water Conservation Board, the branch has began a study of extreme precipitation events above 7,500 feet in Colorado. The goal is to better understand the phenomenon of probable maximum precipitation, and to be able to make better estimates of large rainfall events in order to assure that dams have sufficient spillway capacity to protect the public from the failure of dams during such events.

During Fiscal Year 1993-1994, the branch conducted 570 safety inspections of existing dams, 83 inspections of construction, and 186 follow-up inspections. Of the 1,817 jurisdictional size dams (dams over 10 feet in height), approximately 185 dams are under restriction. Plans and specifications were approved for one new dam and 15 alterations and repairs. Three studies were made for hydrology purposes. Fees collected for the 1993-1994 Fiscal Year for filing of plans amounted to $21,212 based upon $14,448,758 of construction and engineering costs.

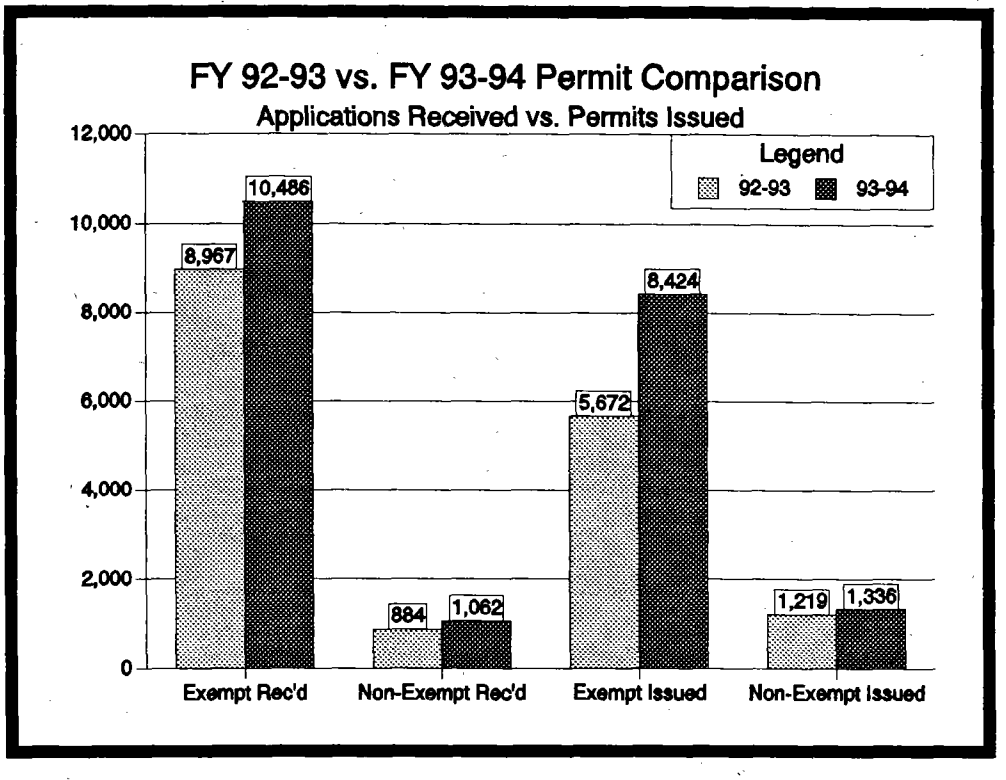
Five incidents occurred at dams this past fiscal year, two of them leading to failure, but resulting in only minor damage. Lake Henry dam near Ordway experienced increased leakage; Aurora-Rampart near Waterton had sinkholes in the reservoir and severe leakage downstream; Carpenter dam on the Grand Mesa failed by piping; an illegal dam near Battlement Mesa failed due to poor construction; and Maon dam on the south slope of Pikes Peak experienced leakage and boils at the toe of the dam.

All Class I dams in the state have Emergency Preparedness Plans (EPP's) in effect as of March 1994. The due date for the filing of EPP's for Class II dams is March of 1995.

Well Permitting

Several major actions were initiated during Fiscal Year 1993-1994 in order to improve the quality of existing data and the well permit evaluation process. Legislation (House Bill- 1289) was adopted, requiring well ownership change forms to be filed with the State Engineer when well ownership changes hands. That same legislation allowed the State Engineer to hire four full-time technicians via an increase in the spending authority under the State Engineer's Ground Water Management Fund to assist in the evaluation and issuance of well permits. This was significant legislation in that it allowed the hiring of the additional FTE's by utilizing existing funds available to the State Engineer, and it should assist greatly in the issuance of well permits. With the addition of these four technicians, the State Engineer's goal is to have well permits issued within 20 days, which is 25 days shorter than the statutory limit of 45 days.

Two Total Quality Management Teams were created to examine the well permitting process and make suggestions to management regarding streamlining initiatives. The Well Permitting Form Team is reviewing the existing well permit application form to determine the need for new forms as well as assess the what criteria should be used to design a new form. This team is currently active and a testing phase for new forms should begin during Fiscal Year 1994-1995. The Well Permitting Process Team was formed to analyze the permitting process itself and make recommendations for enhancement of the entire process, with the goal being greater customer satisfaction and increased productivity. Some initial recommendations from this team have already been implemented. This team's focus during Fiscal Year 1994-1995 will be to examine the existing statutes, policies and procedures currently in place.



Hydrography & Satellite Monitoring

The activities of the Hydrographic Branch during Fiscal Year 1993-1994 included continued monitoring of stream flow data from throughout the state. Records for a total of 185 stations from six of the water divisions were included in the 1994 compilation of stream flow records computed by state personnel. Included in that total were 61 records which were prepared for the United States Geological Survey's annual Water Resources Data for Colorado publication as part of a cooperative agreement.

Funding by the Colorado Water Conservation Board (CWCB) permitted the branch to replace 15 old Data Collection Platforms with new generation DCP's. These DCP's are an integral link in the state's stream flow satellite monitoring program. The Branch's repair and maintenance program has markedly increased the useful life of this expensive hi-tech equipment. Through this program, the life of DCP's have been extended to nine years, four years beyond their normal life expectancy. The maintenance and repair of satellite monitoring equipment is completed using in-house electronic shops in Denver and Alamosa. This maintenance and repair program results in considerable cost savings to the state.

At present, new generation DCP's have been installed in Divisions Four, Six and Seven. Continued funding from the CWCB will permit the replacement program to continue this year, with the focus of the program being in Water Division Three.

In addition to the DCP replacement program, funds received from the CWCB allowed the branch to renovate several stream gages long overdue for refurbishing. Eight stream gages were renovated and two more started and scheduled for completion in the fall of 1995. These gages are located on the Purgatoire, Arkansas, Huerfano, Navajo, Rio Grande, South Platte and Cache La Poudre rivers and North Crestone, Boulder and Culebra creeks. Again, continued funding will permit this renovation program to continue.

Funding for the satellite-linked monitoring system for the Fiscal Year 1993-1994 included $54,974 collected from water users and $192,691 appropriated by the Legislature from general funds. Two new users were added to the funding sources and one user dropped the system. The annual report to the Legislature was presented in November 1993.

Gaging Stations monitored	***300 sites***
Gaging Stations recorded	***160 sites***
DCP Stations monitored	***220 sites***

Customer Service/Records

During Fiscal Year 1993-1994, the Customer Services/Records Section served approximately 18,600 individuals who either visited, telephoned or mailed request for information and copies of water-related materials. More than half of these contacts were visits to our offices by individuals seeking information and copies of well permit and water right records, and assistance with completing well permit applications.

The upturn in the Colorado economy, coupled with the boom in the real estate market, has significantly impacted the division by increasing the number of customers needing to research and/or copy water records and apply for well permits. This has severely impacted and challenged the section to find additional filing space and provide fast, efficient customer service.

The customer service aspect of the section also takes care of our internal customers, our employees. A training program instituted in 1992 continues to provide skill enhancement, cross-training and continuing education for the staff. Almost every staff member has received some form of training in the past two years, and as we move into our third year, plans are in the works to provide in-house training in technical skill refresher courses and cross-training between field offices and the Denver staff.

Another aspect of this training program was instituted during this fiscal year whereby each month a manager presents a two-hour class on a specific subject matter in their area of expertise. To date, training on interstate compact administration, well permitting, geology, and conflict management have been held as a part of this program.

The following is a summary of the training either received during Fiscal Year 1993-1994:

# Staff	Type of Training
93	Water Administration/Water Law
61	Computer Training
72	Communication Skills
30	Management Skills
111	Other Technical Training

Geotechnical Services Branch

The Geotechnical Services Branch is responsible for providing geologic, hydrogeologic, and engineering geologic data for the entire division. It is also responsible for conducting a number of special studies, cooperative programs and on-going projects within the division.

Highlights of Ongoing Studies

Denver area shallow aquifer study -- This is a cooperative program with the United States Geologic Survey to evaluate the extent and location of shallow alluvial aquifers in the area from the Douglas County line to the Weld County line and will result in maps and basic data for use by the general public and the consulting community.

Dakota aquifer study -- This is a cooperative program with the Colorado Oil and Gas Conservation Commission and the Environmental Protection Agency to determine the extent of the Dakota aquifer in the eastern plains area. The study will be used to determine where the Dakota must be protected during petroleum activities.

La Plata County - Florida Mesa -- A cooperative study with La Plata County and the U.S. Bureau of Reclamation, the study was initiated to determine the ability of the mesa to supply water for individual wells.

Lower Black Squirrel Creek Basin -- At the direction of the Ground Water Commission, a study was performed to map the basin, determine the ground water system in the area, and determine the amount of ground water available for use. The study was completed and the Commission recommended that the basin be designated. However, due to considerable opposition to the proposed designation, the Commission withdrew the application.

South Platte well pumpage study -- A pilot project to determine the most accurate and economical way of determining the amount of ground water pumped.

CRDSS irrigated lands mapping -- The branch is coordinating the mapping and verifying all irrigated lands within the Colorado River drainage for use in the Colorado River GIS model which will be part of the Colorado River Decision Support System (CRDSS).

Northern High Plains Depletion Projections -- At the request of the Ground Water Commission, the branch prepared projections of depletions to the Ogallala aquifer in the Northern High Plains.

The Geotechnical Branch continues to monitor wells in the following areas:

Northern High Plains	650 wells
Southern High Plains	80 wells
Lost Creek Basin	21 wells
North Kiowa-Bijou	38 wells
Upper Black Squirrel	15 wells
Upper Big Sandy	40 wells
Camp Creek Basin	10 wells
Western Slope	200 wells
Denver Basin	150 wells
South Platte Alluvium	55 wells

Colorado River Decision Support System

The Colorado River Decision Support System (CRDSS) is a multi-year, multimillion-dollar project sponsored by the Colorado Water Conservation Board (CWCB) and the Colorado Division of Water Resources (DWR) to provide a tool for water resource planning and management in the Colorado River Basin. Originating in 1991 as a result of Endangered Species Recovery efforts and discussions concerning Colorado River operations among the seven Colorado River Basin states, the project has two main functions: a data management component and an alternative evaluation component.

A needs assessment and feasibility study was performed and completed in January of 1993. The feasibility study identified 90 major types of water resource data used by state, federal and local water user agencies. Those needs were grouped and prioritized, with the highest ranked need categories indicated below.

- **Interstate Compact Analysis**
- **State Water Resource Planning**
- **State Water Rights Administration**

Development of CRDSS will occur over the next four years and is being managed jointly by senior staff members of the CWCB, DWR and Leonard Rice Consulting Water Engineers, Inc. Major activities during 1994 included the development of a comprehensive irrigated acreage database, quality review of selected diversion records within Water Divisions 4, 5, 6 and 7, and porting of the Bureau of Reclamation's (USBR) Colorado River Stream Simulation Model to in-house computers. A consulting team consisting of Riverside Technology, Inc., Colorado State University and W. W. Wheeler and Associates was selected by management in January of 1994 to develop CRDSS. The general plan of development calls for:

1994 Discovery, evaluation and selection of databases and models to be used in CRDSS. Initial database and interface design will be performed. Refinement of a work plan for the first two years of development.

Completion of database design and initial population of the database. Development of a CRDSS prototype system including USBR's Colorado River Stream System Modeling environment, a water rights planning model for the Gunnison River Basin, and a consumptive use model for the Gunnison River Basin. A "briefing room" will be set up in state offices to contain the prototype CRDSS system to provide a mechanism for potential uses to give feedback to the project managers and developers.

1995 Further population of the system database will occur. The water rights planning model and consumptive use model will be applied to the Yampa, Upper Colorado, San Juan, White and Dolores river basins. As the USBR develops its replacement for its CRDSS model, that tool will be incorporated into CRDSS.

1996 Development of a real-time database, water rights administration model, stochastic flow model, river forecasting and demand forecast model.

HydroBase

Upon completion, HydroBase will provide an integrated environment for relational data storage and geographic data storage.

An objective of the State Engineer's strategic plan is to provide improved computer technology for the collection, storage, and retrieval of data. To achieve this directive, the Technical Services Branch of the Division of Water Resources is in the process of developing a technical tool known as HydroBase.

The goal of HydroBase is to provide an integrated environment for the relational storage of data, including geographic data. UNIX running on Silicon Graphics workstations were chosen as the operating system and networking platform. The data needs of this agency require a Relational Data Base Management System (RDBMS) and a Geographic Information System (GIS). In compliance with the Department of Natural Resources' standards, INFORMIX was chosen as the RDBMS, and ARC/INFO and GRASS were chosen as the GIS.

The relational aspect of HydroBase will implement a data-centered design to enable statewide access to tabular data collected and maintained by the State Engineer's Office. That data includes:

Geographic locations of manmade structures (headgates, wells, gaging stations, dams and reservoirs)
Water Rights
Streams (name and stream number)
Irrigated acreage (crop type, size and irrigation method)
Derived time series (diversion records)
Observed measurements (diversion records)
Dams
Well permits
Aquifers

The GIS aspect of HydroBase will enable statewide access to spatial data collected and maintained by the State Engineer. This data includes:

Hydrography
Irrigated acreage information (field activity, crop type, diversion point)
Public Land Survey System (section/township/range)
Land use/land cover
Topography
Aquifers
State administrative boundaries (water divisions, water management districts and counties)
Manmade structure locations (headgates, wells, gaging stations, dams and reservoirs)

South Platte Water Rights Management System

The South Platte Water Rights Management System (SPWRMS) is a project designed to facilitate water rights administration and river management decisions in the South Platte Basin. The application will aid in real-time administration of water rights and enhance the transfer and exchange of data between agencies and water users by providing direct user access to the data, monitor physical conditions of the basin, allow spatial monitoring and analysis of water use in the basin and perform a variety of administrative analyses, such as a curtailment and allocation analysis.

SPWRMS was initiated in June 1990 by many South Platte water users and the Colorado Division of Water Resources. Since June of 1993, these private and public sponsors have funded the project. The University of Colorado, Center for Advanced Decision Support Systems (CADSWES), has designed and developed the spatial and relational databases for the system and the PC Interface for water commissioners.

- **Spatial and Relational Database Development:** CADSWES has developed the spatial and relational databases on the UNIX platform. CADSWES has also provided training to DWR staff on the use of the South Platte application that resides on the UNIX workstations. Division of Water Resources users are testing and reviewing the databases and documenting problems and changes that must be made for final integration into the application.

- **Wide Area Network (WAN) Connection between Greeley and Denver:** Division staff are responsible for installation of WAN between Greeley and Denver. We began testing the WAN in January of 1994. Performance was very poor with the original architecture of the network. As a result, a new architecture and configuration was installed and is now being tested. We are already experiencing some major performance improvements; however, more performance improvements must still be achieved during 1995.

- **Personal Computer (PC) Interface for Water Commissioners:** The PC interface accesses information and data from the UNIX workstations in Greeley and Denver. The primary application within this PC interface is the "Daily Water Information Sheet." This sheet provides an estimate of flows at key structures within a given district (gages, headgates, and inflow points). The information sheet identifies the diversions by type (i.e. in priority, exchanges, delivery, etc.) and provides essential information on river calls within the district. The water commissioner transmits this daily information, via modem, to the workstations in Greeley and Denver. Once this data is committed to the database on the workstation, it can be viewed by other water commissioners, water users, or division personnel. The Daily Water Information Sheet concept is an essential application to keep water users, river managers, and division staff informed of daily river operations.

As mentioned, CADSWES provided a training session on the water commissioner's PC application. Two water commissioners began testing the PC application developed by CADSWES in April of 1994, and documented problems within the system. Testing and debugging continues as we prepare for the final version of the PC application. Presently, efforts are focused on improving performance aspects in transmitting the Daily Water Information Sheet from the PC to workstation.

Highlights during Fiscal Year 1993-1994 included:

- **Water Commissioner Training:** Water commissioners received computer tools in November of 1993. The division then conducted numerous training sessions on the use of the PC's, the Microsoft software and the PC interface developed by CADSWES. The training provided a good foundation for water commissioners, many of whom were not accustomed to using computers.

- **User Manuals and Documentation:** Draft documentation was provided during training sessions and final user documentation was furnished in July of 1994. This included the user manuals for the PC South Platte application, the UNIX application, programmer's manual, and database manual.

- **Support and Maintenance Contract:** A one-year support and maintenance contract with CADSWES on the PC and UNIX application exists through July 1, 1995. Long-term support and maintenance of this application is a concern. In order to maintain this application, long-term funding alternatives must be identified and secured by July 1, 1995.

- **Project Expenditures July 1993 to May 1994:**

UNIX Hardware and Software		$ 73,500
Water Commissioner PC Tools		$ 59,000
Network Hardware and Software	$ 23,000	
Training and Expenses		$ 9,000
CADSWES Phase VI Contract		$170,500
TOTAL	$335,500	

The application ... (of SPWRMS)... will aid in real-time administration of water rights and enhance the transfer and exchange of data between agencies and water users by providing direct user access to the data, monitor physical conditions of the basin, allow spatial monitoring and analysis of water use in the basin and perform a variety of administrative analyses, such as a curtailment and allocation analysis.

The Commission

Commission Members (1993-94)

Chairman
Dennis Montgomery

Vice-chairman
Charles Clapper

Eugene Bauerle
Jon Brownell
Michael Gross
Fred Hefley
Richard Huwa
Bill Kerksiek
Ted Schubert

Ex Officio Members
Jim Lochhead
Hal Simpson
Daries (Chuck) Lile

Colorado Ground Water Commission

The State Engineer, as executive director of the Ground Water Commission, provides staff and operating funds to accomplish the functions of the commission. The major function of the commission staff is ground water management within the designated ground water basins. Currently, there are eight designated ground water basins. Thirteen local ground water management districts exist within these basins and each has certain regulatory authorities. The well permitting authority lies with the commission and is carried out by the commission staff.

The Commission had several significant achievement during Fiscal Year 1993-1994:

- Initiated statutory changes which resulted in the passage of the House Bill 1289.
- Initiated, but later terminated, designation of the Lower Black Squirrel Creek Basin.
- Considered, but did not approve, the formation of a ground water management district within the Camp Creek Basin.
- Investigated the declining ground water level trends in the Northern High Plains Basin to estimate the sustainable water levels and water uses within the basin.
- Modified the Commission's policy on the permitting of commingled wells.
- Discussed using power meters to estimate water pumping.
- Conducted several hearings and discussed other policy matters.

Designated Basin well permitting information for Fiscal Year 1993-1994 were as follows:

Small capacity well applications received	1,108
High capacity well applications received	120
Small capacity well permits issued	1,113
High capacity well permits issued	26
Small capacity well denials issued	0
High capacity well denials issued	4
Test holes/wells - notification	84

Dennis Montgomery continued as chairman of the commission for Fiscal Year 1993-1994, and Charles Clapper remained vice-chairman. Jon Brownell was reappointed to the commission to represent the agricultural interests of the San Luis Valley. Ms. Anne Castle of Denver was appointed to the commission to represent municipal and industrial interests.

Board of Examiners of Water Well Construction and Pump Installation Contractors

Improperly constructed wells, abandoned wells and improperly installed pumping equipment in ground water wells can very seriously affect the public health and safety. The Board of Examiners of Water Well Construction and Pump Installation Contractors oversees these matters and makes sure that the public health and safety is ensured via regulation of the industry. The State Engineer, as secretary to the board, provides staff and operating funds to accomplish the board's designated functions.

Activities of the board during Fiscal Year 1993-1994 included:

- Examinations of qualified applicants for licensed well contractors and pump installers. Twenty-two applicants completed written examinations and 20 applicants completed oral examinations.
- Issuance of licenses to conduct well construction and pump installation business. In 1994, 290 licenses were issued.
- Review of their rules and regulations to consider changes.
- Investigation of contractors constructing wells without well permits.
- Investigation and initiation of legal action against unlicensed persons constructing wells and installing pumps.
- Investigations of violations of the Ground Water Management Act and initiation of appropriate legal action.
- Hearings before the board to consider suspension or revocation of licenses of three well contractors. Suspensions were issued in all three instances.

During Fiscal Year 1993-1994, the board supported the efforts of the Colorado Water Well Contractors Association to enact legislation requiring continuing education of well contractors. The bill died in the legislative appropriations committee.

Also during Fiscal Year 1993-1994, in an effort to provide timely notice of alleged violations to well contractors, the staff developed and implemented a system to notify the contractor immediately upon the filing of a complaint with the board.

Board Members

Chairman
Ken Rollin

Secretary
Hal Simpson

Paul Berglund
R. Lynn Twiss
Glen Bodnar

The Long Range Plan

Water, even more so than many other resources, is not an idle commodity. The ever-changing demands on this most precious resource require flexible management and planning. The Division of Water Resources is acutely aware of these features and, therefore, has developed a comprehensive Long Range Plan to effectively plan for and deal with the changing environment surrounding this resource.

There are several areas of emphasis in the five-year, long range plan. These areas were identified through in-depth discussions with employees, managers and our customers. During Fiscal Year 1993-1994, many of the objectives of that plan were initiated or completed.

The area of highest emphasis is the management of our most valuable asset -- human resources. During the past fiscal year, many efforts were implemented to increase communication horizontally and vertically, to recruit a diversified work force, to enhance career path development, increase training opportunities and provide for employee recognition.

Technology is also a major focus of the plan and significant steps were undertaken to make sure that our people have the tools necessary to accomplish the mission of the Division. Local Area Networks were installed in all of the division offices to allow for file sharing and increased communication. A QA/QC (Quality Assurance/Quality Control) program began to verify historic data and ensure the quality of future data collected. Great strides were also made in the Colorado River Decision Support System and the South Platte Water Resource Management System, which are detailed in this report. The plan will continue to focus on maintaining high-quality data and ready access to computer hardware, software and communication technology that link computers, data and people.

Further, the division is also committed to improve water resources administration and its well permitting system to improve service to our customers. As noted in this report, total quality management teams were formed and are operating in both the permitting process area and the permit application arena. The recommendations of those teams will be forthcoming in the future and the division is excited about the possible suggestions that those efforts will bring.

Finally, the long range plan focuses on the allocation of the division's human and fiscal resources, in finding new ways to communicate with and serve our customers. These goals are being accomplished via staffing analyses, educational efforts and increased public contact and communication.

The Division of Water Resources is committed to meet the challenges of the future in the water resource arena through its Long Range Plan. We are convinced that the vision and detailed goals and objectives outlined in the plan will allow us to meet those challenges in a beneficial and efficient manner.

APPENDIX A
WATER DIVERSIONS IN ACRE-FEET BY USE, WATER YEAR 1993
October 1, 1992 to September 30, 1993

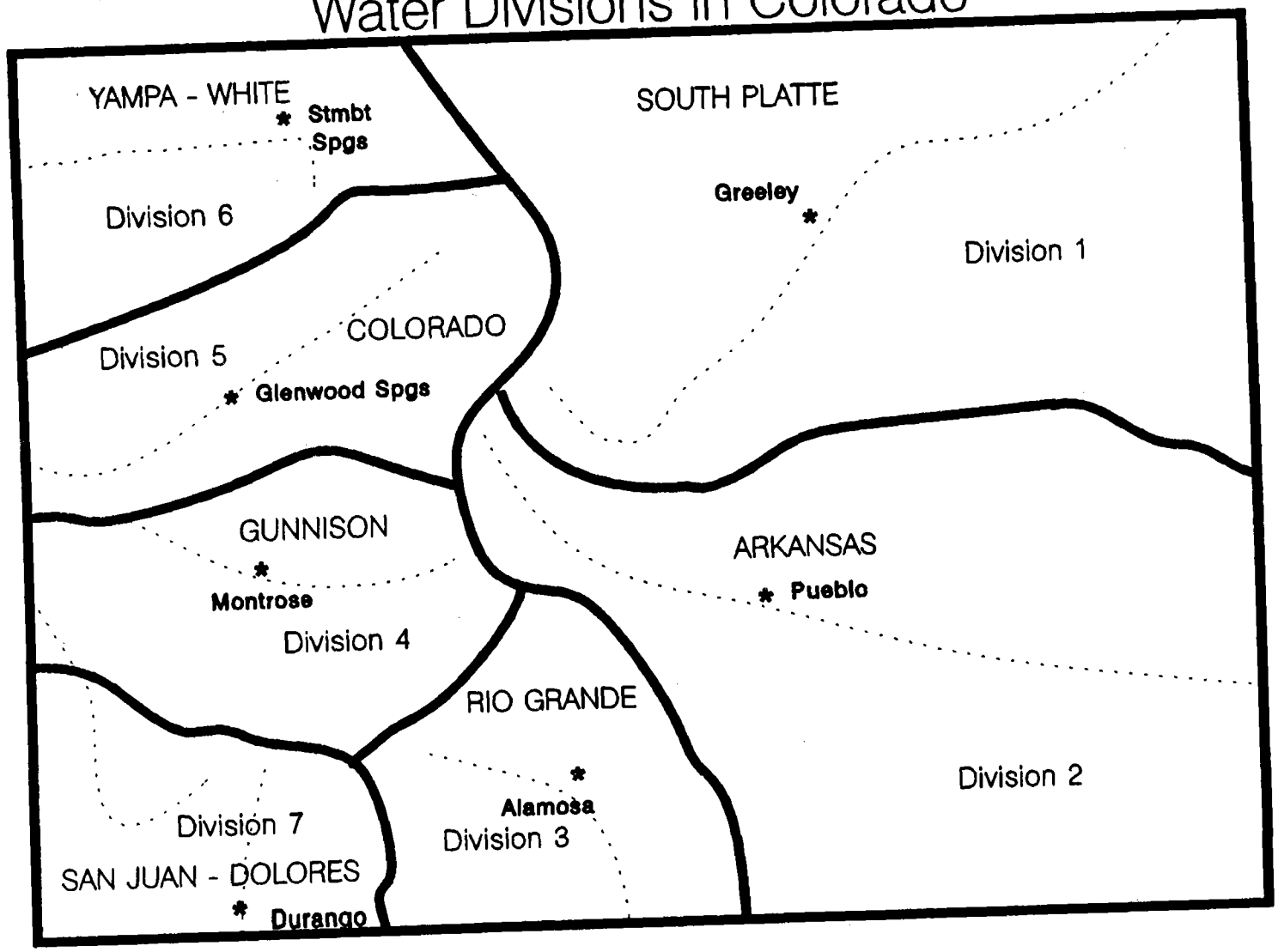
	Div. 1	Div. 2	Div. 3	Div. 4	Div. 5	Div. 6	Div. 7	Total
Irrigation	1,949,924	1,576,177	1,389,447	2,429,390	2,081,753	1,261,234	789,952	11,477,877
Storage	1,082,412	133,490	145,899	81,000	643,463	25,981	268,312	2,380,557
Municipal	411,276	60,302	8,219	15,476	46,583	7,187	13,484	562,527
Commercial	1,652	734	1,953	19,973	169	635	1,129	26,245
Domestic	11,250	178	4,794	1,096	5,462	5,204	459	28,443
Stock	276	1,296	997	37,488	38,196	47,335	42,174	167,762
Industrial	71,700	87,040	322	2,122	2,632	28,163	2,268	194,247
Recreation	3,653	104	686	612	7,180	882	1,290	14,407
Fish	5,519	7,125	9,821	176,185	114,974	31,094	22,749	367,467
Augment	90,627	0	6,345	6	2,312	0	102	99,392
Recharge	80,476	0	14,393	41	2	0	79	94,991
Total	3,708,765	1,866,446	1,582,876	2,763,389	2,942,726	1,407,715	1,141,998	15,413,915
Acres Irr.*	1,223,662	277,437	566,540	355,476	350,343	231,438	201,797	3,206,693

*Water user supplied data

Appendix B
Fiscal Year 1993-1994 Well Permit Activity

	Div. 1	Div. 2	Div. 3	Div. 4	Div. 5	Div. 6	Div. 7	Total	Designated Basins	Grand Total
Exempt Received	5,121	1,666	472	400	904	216	620	9,399	1,087	10,486
Non-Exempt Received	480	166	101	38	102	20	35	942	120	1,062
Exempt Issued	4,044	1,463	339	280	639	186	545	7,496	928	8,424
Non-Exempt Issued	564	205	158	73	186	29	102	1,317	19	1,336
Exempt Replace Issued	355	131	54	21	49	10	41	661	101	762
Non-Exempt Replace Issued	31	16	4	0	0	0	1	52	7	59
Exempt Denied	62	20	2	12	48	0	7	151	0	151
Non-Exempt Denied	41	7	7	22	35	5	2	119	4	123
Late Register Approval	280	143	48	33	23	17	35	579	71	650
Monitor/ Test Holes	772	190	71	167	214	74	62	1,550	84	1,634
Geothermal Apps	4	0	0	0	0	0	0	4	5	9
Geothermal Issued	3	0	0	0	0	0	0	3	7	10
Totals	11,757	4,007	1,256	1,046	2,200	557	1,450	22,273	2,433	24,706

Water Divisions in Colorado



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