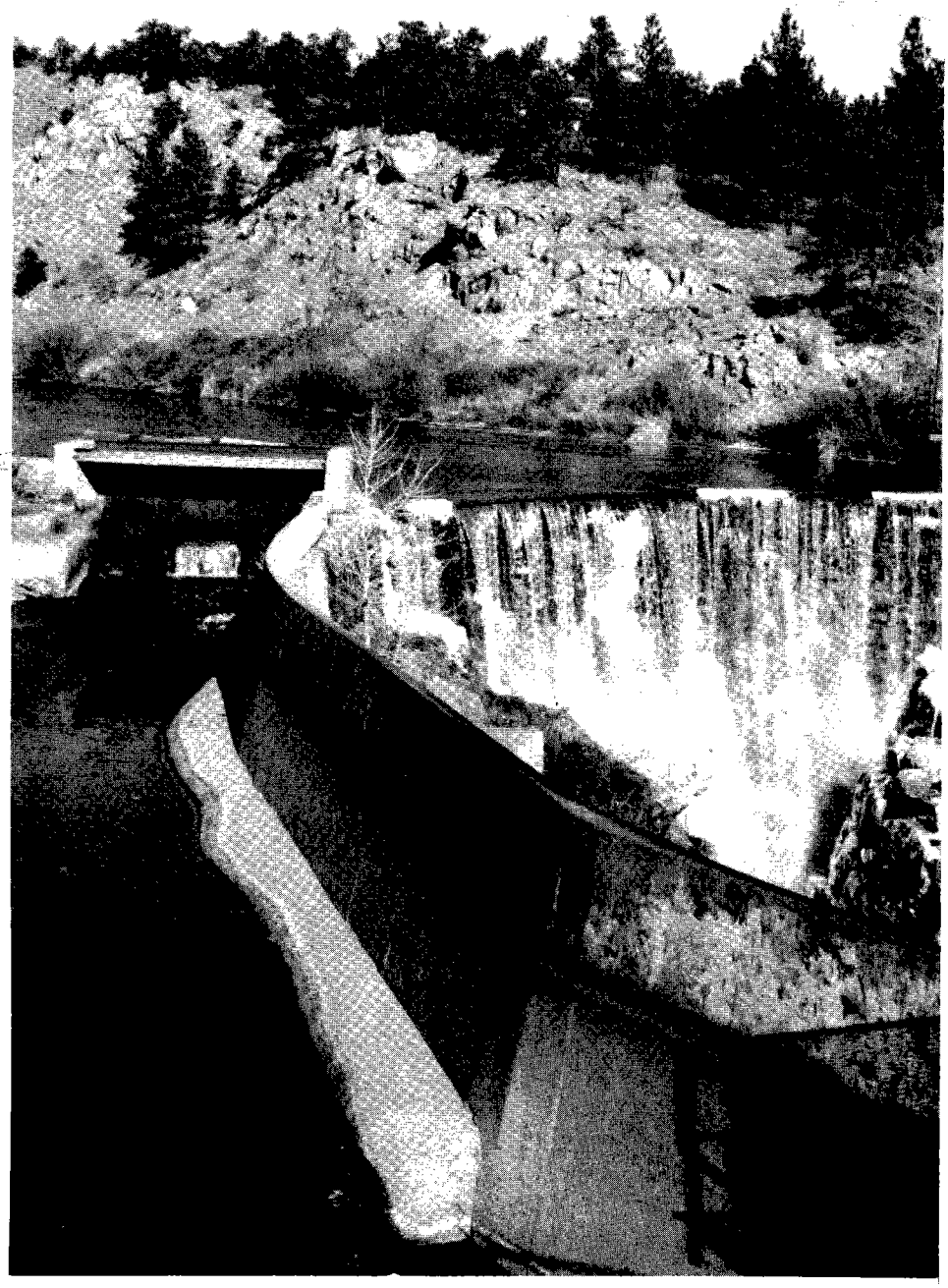
Annual Report

Colorado Division of Water Resources
Office of the State Engineer
July 1, 1992 - June 30, 1993



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.

Colorado Department of Natural Resources

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
Ken Salazar

State Engineer
Hal Simpson

Deputy State Engineer
Will Burt

Division Engineers	
Alan Berryman	*Division 1*
Steve Witte	*Division 2*
Steve Vandiver	*Division 3*
Keith Kepler	*Division 4*
Orlyn Bell	*Division 5*
Ed Blank	*Division 6*
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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	*Jeff Fredericks*

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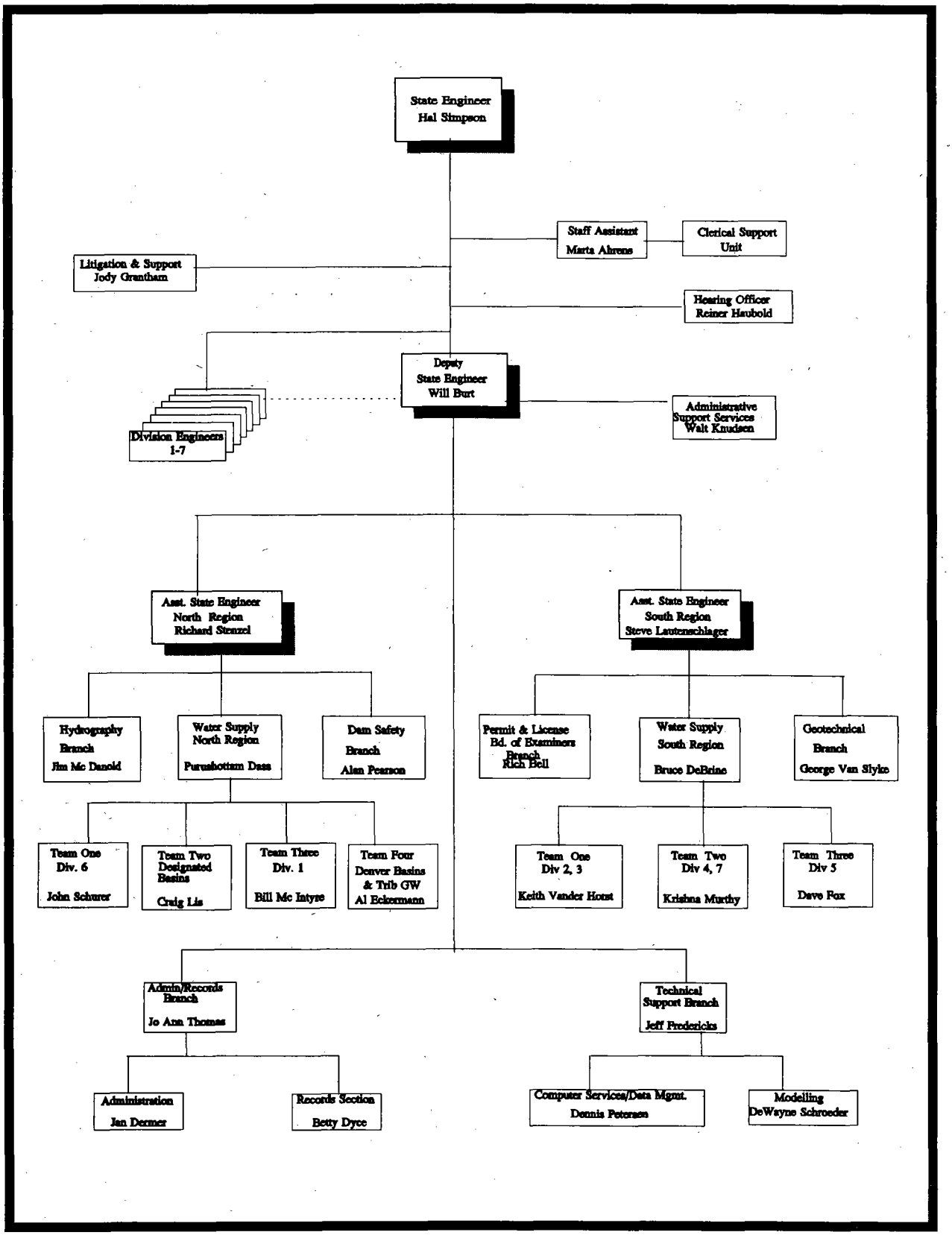


Office of the State Engineer
and
Colorado Division of Water Resources

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 edition of an annual report by the Office of the State Engineer is the first since 1968 when the statutes requiring such a report were deleted. I 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. At the same time, I am completing my first year as State Engineer and this report permits me to discuss some of the management decisions that I have made since being appointed to this position.

We began the year by focusing on our Mission Statement and revising it based upon input from all staff. I have, in my discussions with all staff, emphasized the public service responsibilities and opportunities of this agency. While we are a regulatory agency, we must be consistent and fair, and also explain our decisions so the affected party understands the basis for the decision.

We implemented a comprehensive Training Program based upon the recommendations from a Total Quality Management team who carefully surveyed the needs of our staff and evaluated training programs of other state and federal agencies. The results of this new program have been excellent and staff have utilized the opportunities for training in many ways.

We reorganized the Denver office operations to provide more opportunities for professional development of staff and to emphasize our data collection, management, and administration responsibilities, and to seek out new opportunities for use of our data. We reduced the number of mid-level managers in order to use these positions to enhance our data management capabilities. We established a North Region and a South Region with teams in each region responsible for all activities originating within the water divisions. Team members can work on all aspects of water resources engineering rather than focusing on one area, such as well permitting. We encourage cross-training so that engineers or technicians can expand their areas of expertise.

The new Technical Support Branch has three areas of emphasis: computer support; data management; and decision support systems including modeling. As we learned from the Arkansas River Compact litigation in Kansas v. Colorado, we must have good quality data bases to support decisions and various historical analyses. This new branch will provide the emphasis on quality data produced by this office, especially water use data. The organizational diagram on page 2 of this report reflects this new structure.

Chuck Lile, Director of the Colorado Water Conservation Board, and I have placed considerable importance on utilizing the expertise of our staffs to work together toward achieving the various objectives of the Department of Natural Resources' Four-Year Plan related to water resources. We have made significant progress in overcoming some of the past mistrust that existed between the agencies.

As we look forward to the upcoming year, we will be developing a Five-Year Strategic Plan for this agency utilizing input from our staff and the water user community. We must have clear goals with achievable objectives and strategies for accomplishing these goals that will guide us as we deal with ever-changing conditions.

"...a highly capable and professional staff sincerely dedicated to administering and managing Colorado's water resources..."

We will be deeply involved in Phase I of the development of the Colorado River Decision Support System (CRDSS). Our responsibilities will include irrigated areas, crop types, and ditch systems for a GIS (Geographical Information System) data base; the review and improvement of various data bases for use in the CRDSS; and project management on areas where we will have need to use the system such as a water rights planning model.

With funds made available through the Colorado Water Conservation Board Construction Fund, we will expand the South Platte River Water Rights Management Support System downstream to the state line. This new technology integrates our real-time data via the satellite monitoring system with spatial data such as diversion structures, stream gages, reservoirs, and water rights to improve the exchange of data by various diverters and to permit the monitoring of the South Platte River by the water users themselves via computer. This greatly improves the ability to manage the water resources of the basin and improves communication and trust between users.

In conclusion, I strongly believe that we have a highly capable and professional staff sincerely dedicated to administering and managing Colorado's water resources, protecting our compact entitlements, and assisting in the development of our unused compact entitlements.

History

History of the State Engineer's Office

Colorado holds the unique distinction of being the first state to provide for the distribution of water by public officials. In 1879, the legislature created a part of the present administrative system. It provided for the division of the state into ten water districts, nine of these in the South Platte valley and one in the Arkansas drainage. In each district, the statute provided for a Water Commissioner to divide the water according to priorities of the various ditches within the district in accordance with the prior appropriation doctrine of first in time, first in right. The priority of each ditch was determined by the district courts based upon the date the ditches were constructed and the water placed to beneficial use. The statute as passed by the legislature in 1879 did not provide for stream measurement.

The Office of the State Engineer was created in 1881. The primary responsibility of the State Engineer was to measure the water in each stream from which water was diverted for irrigation, starting with those most used for irrigation. Three water divisions were created made up of water districts located within the South Platte, the Arkansas, and the Rio Grande basins. Within six years, each of the remaining four water divisions as they exist today were created. In 1887, the state created a Superintendent of Irrigation, who is known today as the Division Engineer, to supervise Water Commissioners within each division.

By the beginning of the 1890's, many stream systems were overappropriated. Ditch companies were actively constructing reservoirs to store winter and spring runoff. In addition, new sources of water were being pursued, which included transmountain diversions and ground water. Changes of water rights, exchanges, transfer of water rights and "loan statutes" were issues that had to be addressed by the office of the State Engineer by the turn of the century.

In 1899, the State Engineer was given the responsibility of approving all plans and specifications for dams designed over ten feet in height and covering more than twenty acres, or having a capacity of more than 1,721 acre-feet. In addition, the statutes required that the construction had to be approved by the State Engineer. That same year the State Engineer was given authority to have water levels lowered in any reservoir that were deemed unsafe.

Prior to 1957, no permit was required to construct a well. Ground water was not managed or allocated by the state, even though some of the earliest state engineers expressed concerns about the impact alluvial wells might have on surface water rights. The Colorado Ground Water Law of 1957 required a permit from the State Engineer as a prerequisite to drilling a new well and obtaining a new ground water right. The law also made provisions for the registration of existing wells. The act also created the Ground Water Commission that was to identify districts where the rate of withdrawal from an aquifer exceeded the rate of recharge. The Colorado Ground Water Management Act of 1965 provided for the formation of management

districts which were empowered to regulate the spacing of wells in designated basins and set limits on production rates to minimize the lowering of water tables.

Also in 1965, statutes were passed that directed the State Engineer to administer the laws of the state relative to the distribution of the surface waters to include underground waters tributary thereto, in accordance with the prior appropriation doctrine. Subsequent findings of the Colorado Supreme Court found that regulation of tributary wells in order to protect senior surface water rights was constitutional. In addition, the court directed the State Engineer to promulgate rules and regulations that would maximize the beneficial use of ground water while preventing injury to senior water rights.

Basin of origin issues, reserved rights, wetlands, endangered species recovery and interstate water issues are all creating new pressures on an already limited water supply.

In response to the Supreme Court's findings regarding tributary wells and surface water, the Water Rights Determination and Administration Act of 1969 was passed. Besides changing the name of the State Engineer's Office to the Division of Water Resources, the act required that surface and ground water rights be administered together. Ground water rights were required to be adjudicated in order to protect their priority. Plans for augmentation were also allowed to mitigate material injury to senior vested water rights.

During the mid-1980's, new legislation was enacted concerning non-tributary and not non-tributary ground water and the permitting requirements that the Division of Water Resources must utilize in managing these resources. Gravel pit legislation was also enacted which required owners of any gravel pit constructed after December 31, 1980, to obtain well permits and a court approved plan for augmentation or plan of substitute supply to replace the evaporation losses that resulted from exposure of ground water. The State Engineer was given authority to promulgate rules and regulations regarding water quality for well construction, exchanges and substitute water supply plans. These rules and regulations were established in 1992.

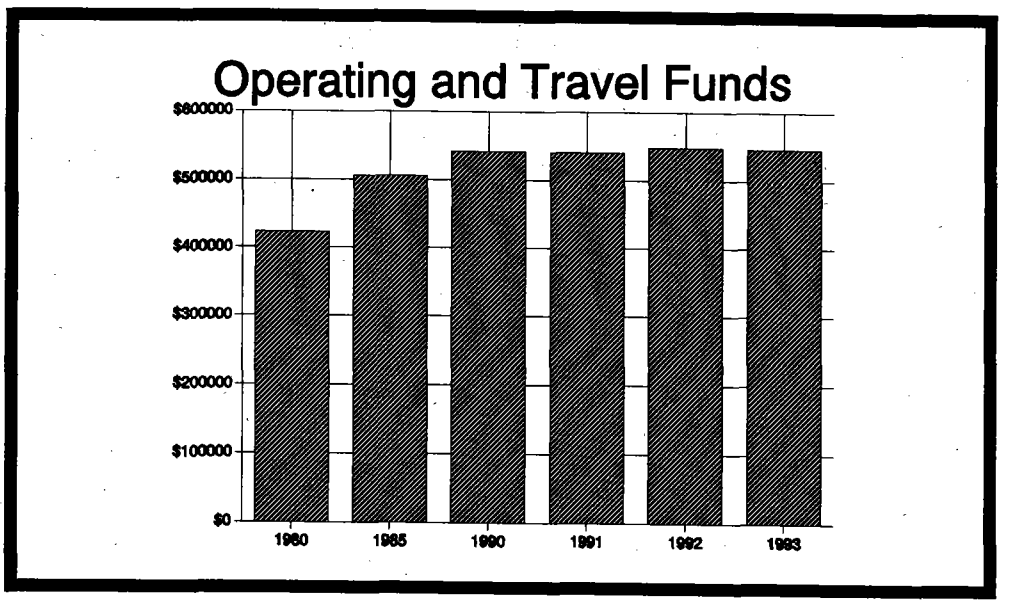
The Division of Water Resources and the State Engineer are finding administration of water rights to be ever increasing in its complexity. Basin of origin issues, reserved rights, wetlands, endangered species recovery and interstate water issues are all creating new pressures on an already limited water supply. The State Engineer and the Division of Water Resources of the 1990's are committed to efficiently meeting these challenges of the future.

Budget and Funding of the State Engineer

Source of funds The Division of Water Resources is funded almost exclusively by general fund tax revenues. Only 6% of our funding comes from cash revenue (i.e. direct fee) sources. The main line functions of the agency's mission: dam safety; water administration; and well permitting, do not easily lend themselves to funding by direct fees based upon the amount or value of the product or service delivered. For example, a robust dam safety program benefits not only the owner of the dam, but also the many property owners and municipalities downstream who benefit from lower flood insurance premiums, as well as from some greater peace of mind.

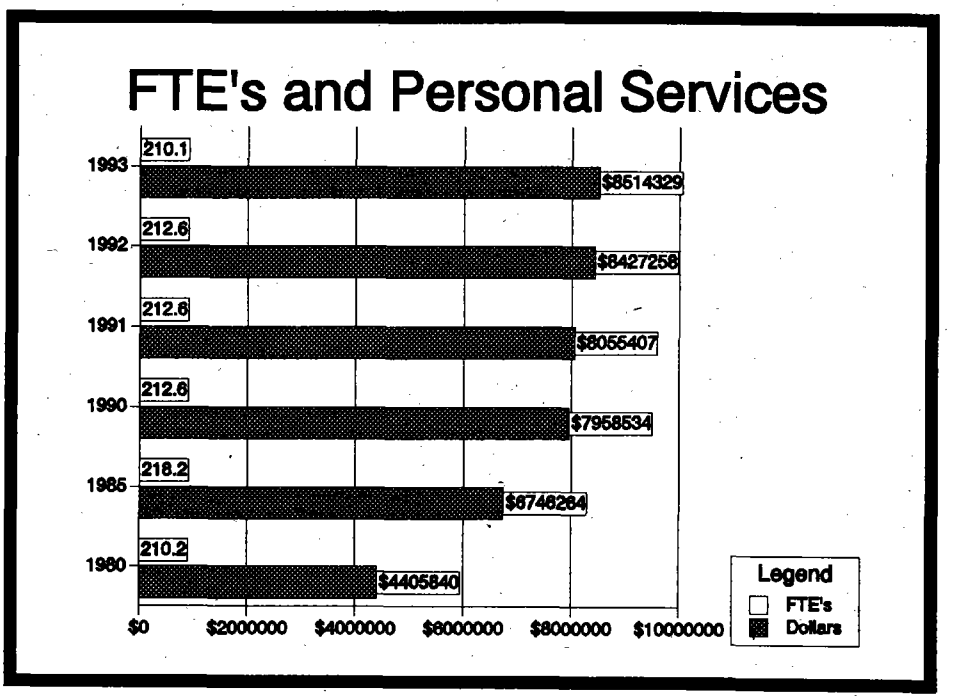
Use of funds The Division of Water Resources uses 87% of its funds for staff wages and benefits. Although costs for personal services have increased over the past ten years, this increase has been attributable to neither the number of staff nor the job level of staff. This increase is almost exclusively a result of the salary increases from annual salary adjustments.

No increase in operating & travel funds The division's water distribution and water record-keeping activities are directly dependent on the amount of operating and travel funds available for travel in the field by our Water Commissioners. While the bar chart below shows an increase in operating and travel funds of 7% in the past ten years, the division has actually received a net decrease of 13% in inflation-adjusted funds over that same period (assuming an average inflation rate of 2% per year). During that same period, approximately 65,000 additional water structures have been decreed, and many of these decrees involve more complex water administration requirements than was the case in earlier years.



Due in part to Amendment 1, but in greater part due to the significant increase in demands upon state government resources for non-water related activities in the coming years, we foresee no likely increase in the amount of these funds over the current level. The expected result is a continuing increase in workload with essentially constant resources.

Over the past ten years, the division has been able to achieve significant increases in productivity by developing computer and other technology improvements to assist our staff. These productivity gains cannot continue at the same rate. We are continually required to prioritize our demands for services and to select those that merit the highest priority.



General outlook for additional funding

The outlook is not optimistic for additional funding. When compared to crime, prisons, school funding, and Medicare, water resources is generally not viewed as a significant problem that warrants additional funding. Cash funding for water resources activities has, to date, never been politically palatable, probably due to the diverse beneficiaries of our product and services. In addition, any proposals for new fees to fund specific activities must come within the overall revenue limitations set by Amendment 1. One possibility is to make proposals to the Water Conservation Board for the use of their funds to meet specific water resources needs that come within the framework and policies established for those funds. A one-year trial program to refurbish gaging stations for both physical and electronics needs funded by the Water Conservation Fund is now underway. Our hope is that we can demonstrate that this program merits continuous funding in the coming years.

Four-Year Plan and DNR Goals

The Division of Water Resources and the State Engineer promote the following goals as set forth in the Department of Natural Resource's Four-year plan. Some of the key areas that the Division is focusing on, specifically in relation to water resources, are as follows:

GOAL 1 **DEVELOPING COLORADO'S WATER:** Promote necessary and appropriate development of Colorado's water resources.

GOAL 2 **PROTECTING COLORADO'S INTERSTATE COMPACTS:** Strengthen Colorado's ability to defend its water against claims and threats from downstream states.

GOAL 3 **INCREASING WATER EFFICIENCY:** Promote wise and efficient use of Colorado's limited water resources.

GOAL 4 **IMPROVING THE ADMINISTRATION OF WATER RIGHTS:** Improve the efficiency and effectiveness of Colorado's water rights administration and adjudication system.

GOAL 5 **PROTECTING INSTREAM FLOWS AND MINIMAL LAKE LEVELS:** Assure that Colorado's streams, rivers and natural lakes receive appropriate protection.

GOAL 6 **RELATING WATER QUANTITY AND WATER QUALITY:** Strengthen the relationship between Colorado's existing decision processes for water quality protection, water rights administration and protection of Colorado's compact entitlements.

GOAL 7 **PROMOTING COOPERATIVE FRONT RANGE WATER INITIATIVES:** Increase cooperative initiatives among Front Range municipalities and rural Colorado for the benefit of both rural and urban Colorado.

Dam Safety

During FY 1992-93, the Dam Safety Branch conducted 800 safety inspections of existing dams, 111 inspections of construction, and 118 follow-up inspections. Presently, there are approximately 250 restricted dams of the 1,849 jurisdictional dams in the state. Plans and specifications for seven new dams were also approved.

Colorado is one of the pioneer states in the recognition of the value of dam safety. The mining and agricultural communities realized early the need to construct dams to create reliable water supplies for beneficial use. The State Engineer became responsible for dam safety in Colorado in 1888. Colorado's Dam Safety Program is rated among the finest in the nation, and dam safety is the number-one priority in the State Engineer's Office.

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 the Chief of the Branch, 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 ten 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 (C.R.S. 37-87-105).

In order to more efficiently and effectively administer the program, the State Engineer completed a decentralization of safety inspections by moving the Dam Safety Engineers under the supervision of the Division Engineers. This has reduced operating costs for the program and has made the engineers more accessible to the owners and their engineers.

During 1992, the branch conducted 800 safety inspections of existing dams, 111 inspections of construction, and 118 follow-up inspections. When safety inspections reveal conditions which could jeopardize the safety of the dam, the reservoir is restricted to a safe level. About 250 dams of the 1,849 dams jurisdictional size dams (dams over ten feet in height) are restricted. Plans and specifications were approved for seven new dams, eight alterations and repairs, and six special studies were made for hydrology. Fees collected for the 1992-1993 fiscal year for filing of plans amounted to $14,854 based upon $6,256,337 of construction and engineering costs.

Two significant incidents occurred during 1992. A sinkhole developed on the upstream face at Sanchez Dam near San Luis and an apparent leakage problem developed at Big Beaver Dam (Lake Avery) near Meeker. In both instances, serious consequences were averted by the actions of the owners and the actions of the state to lower the reservoirs and require close monitoring.

Interstate Compacts & Federal Decrees

The State Engineer is charged with the administration of five interstate compacts that delineate the state's downstream delivery obligations. 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 21,560 acre-feet for 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 jointly employed by the both states to deliver water to users. Last year was an above average year with 30,325 acre-feet of stream and reservoir water delivered to approximately 7,000 acres of crop land.

The Rio Grande 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 1992, Colorado had a scheduled delivery of 190,700 acre-feet at the New Mexico state line. The actual deliveries were 240,600 acre-feet, resulting in an accumulated credit on January 1, 1993, of 70,900 acre-feet. This includes an initial accrued credit on January 1, 1992, of 22,900 acre-feet. Colorado's intent was to reduce the accrued credit in 1992 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.

Litigation and Support Services

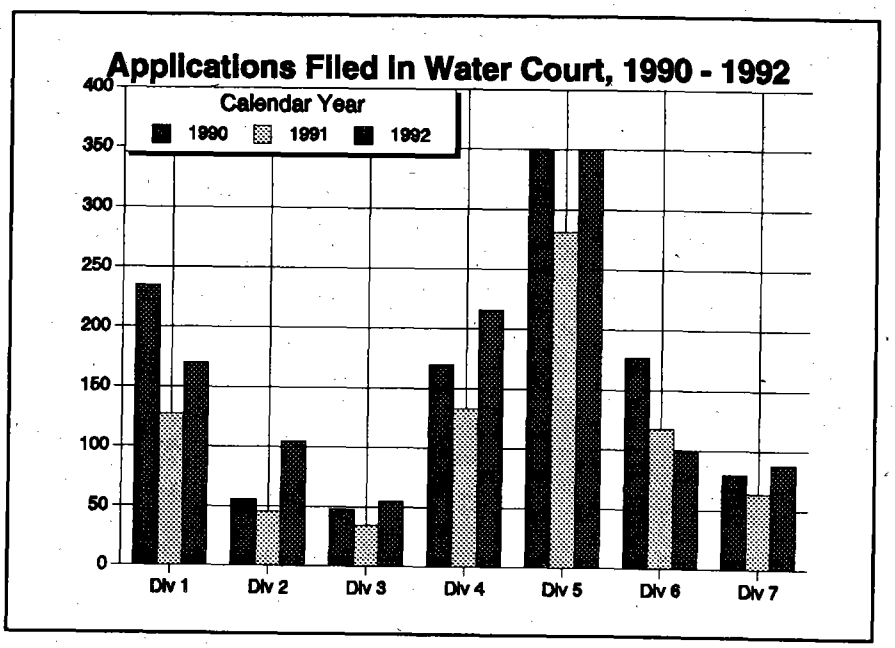
The purpose of the Litigation and Support Services Unit is to provide cost-effective use of legal services dollars via coordination with the Attorney General's Office and the Division of Water Resources staff. Enforcement of the state's water-related laws, protection of vested water rights and maximizing beneficial use of the state's waters are often in conflict. But as the unit's mission statement indicates, *facilitation* of these three functions of the State Engineer's Office is its primary goal. To accomplish this, three key areas were addressed: training, information sharing and utilization of the consultation process prior to litigation.

To facilitate the maximum utilization of the waters of the State of Colorado while upholding the law and protecting vested water rights.

Training Training of Water Commissioners took place in Grand Junction to enhance their abilities to properly administer their respective water districts by educating them in the basic concepts of Colorado water law. Training of Denver personnel took place in Pueblo with an on-site review of a water court application currently on file to assist in proper issue identification and ramifications of water court applications on the system.

Information Sharing In June of 1993, the State Engineer and staff met with practicing members of the water bar and water resource engineers in Glenwood Springs. The meeting focused on legal policies and procedures of the State Engineer and provided an opportunity for the private sector to air their views on issues in the Colorado River basin. A subcommittee was created to work out differences on problems that may eventually reduce the costs of litigation in Division 5.

Consultation Process To further reduce the cost of litigation, a concerted effort was made to utilize the consultation process as provided for in Section 37-92-302(4), C.R.S., to inform applicants of issues that the State and Division Engineers had with an application. In some instances, meetings were held between the applicant and the state to negotiate a favorable position for all concerned, avoiding formal legal participation by the state.



Water Administration

Water administration, of both surface and ground water, is one of the most important duties of the Office of the State Engineer. With the assistance of the seven Division Engineers and their Water Commissioners, the office is responsible for the administration and distribution of the waters of the state in accordance with the doctrine of prior appropriation, i.e., "first in time, first in right."

During water year 1992 (November 1, 1991, to October 31, 1992), Water Commissioners throughout the state made over 200,000 visits to structures to accomplish their water delivery responsibilities. While doing so, they collected numerous data that are vital to the water users of the state and the state of Colorado itself.

During the same water year, diversions from streams statewide totalled 13,668,853 acre-feet. Of that amount, over 2,000,000 acre-feet went into storage and over 10,000,000 acre-feet was diverted for irrigation of the state's lands. Further detailed information on statewide diversions is located at the end of this report in Appendix A.

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

As in past years, the normal activity of daily administration of ditches, reservoirs, wells, exchanges, and plans for augmentation consumes the majority of the Division 1 efforts. Those administrative activities involve approximately 8,500 direct flow rights, 3,150 storage rights, 430 decreed plans for augmentation, 40 substitute supply plans, and 950 gravel pits. Since the start of activities surrounding the 1990 abandonment list, nine water rights were protested and currently there are five rights that remain under protest and are the subjects of related filings for changes of water right.

A longstanding agreement between Colorado and Wyoming involving the waters of Sand Creek, a tributary to the Laramie River, was reviewed by representatives of both states. The preliminary recommendation is to amend the agreement to reflect contemporary operations. The issues are such that the states should be able to agree on the revision and to apportion waters accordingly. The water in the stream has been divided between the states without litigation or a compact since the 1930's.

The artificial recharge project at Julesburg progressed significantly. The structural components of the project are completed and running smoothly. Water quality measurements continue to be made quarterly, and the associated plan for augmentation is well underway.

Water Division 2, The Arkansas River Basin, Pueblo, Colorado

Efforts were made in 1992-93 to further improve enforcement and awareness of the requirements of the Arkansas Rules and Regulations Governing the Use of Groundwater in Division 2. This was done in cooperation with the Colorado Water Development and Protective Association and the Lower Arkansas Water Management Association.

Governor Roy Romer established the Lower Arkansas River Commission to lead efforts to obtain water for John Martin and the Great Plains reservoirs and to accelerate the process of establishing a state park in Southeastern Colorado. The commission consists of representatives of six counties, five agencies of state government, two at-large members and is chaired by the Executive Director of the Department of Natural Resources, Ken Salazar. The commission's efforts resulted in a draft implementation plan in November 1992 which preliminarily set forth recommended actions to accomplish its goals and described the procedures to carry out these actions. The plan was transmitted to the legislature on April 1, 1993, by Governor Romer, who recommended that it be implemented.

The trial in the case of Kansas v. Colorado, No. 105 Original before the U.S. Supreme Court, which began on September 17, 1990, was finally concluded on December 16, 1992. After a delay of nearly nine months occasioned by the loss of one of Kansas' chief witnesses, the trial resumed on February 24, 1992, to allow Kansas to complete its case and to allow Colorado to respond to the revised Kansas case. On June 9, 1992, Special Master Arthur L. Littleworth granted Colorado's motion to dismiss Kansas' claim that the operation of the Trinidad Project resulted in a violation of the Arkansas River Compact. On July 31, 1992, the Master granted Kansas' motion to dismiss Colorado's counterclaim regarding the post-compact development of wells in Kansas. Summary briefings have been completed and the Master should rule on the case sometime in the near future.

Water Division 3, The Rio Grande River Basin, Alamosa, Colorado

The Closed Basin Project continued to deliver water to the Rio Grande in 1992 which was creditable under the compact and reduced curtailments of direct flow water rights on both the Conejos and Rio Grande. As the amount of water delivered continues to increase as different stages of the project are completed it has a noticable effect on our administration of the compact and the amount of water that is deliverable to the senior ditches. All five stages of the project are complete, and Stage 5 wells are on line, giving the project the capability for full production. The completion of this project is very exciting in that the construction phase has taken nearly ten years at an approximate cost of $100,000,000. The water generated by the project will be an excellent tool in meeting Colorado's compact obligation. Also, the required environmental mitigation associated with the project should satisfy many of the environmental impact concerns.

Water Division 4, The Gunnison River Basin, Montrose, Colorado

The increased presence of environmental issues was the major trend and focus in Division 4 during fiscal year 1992-1993. Topics include endangered fish species in the Colorado River downstream of Grand Junction, streamflows for the Black Canyon of the Gunnison National Monument, and changes in operations of Blue Mesa Reservoir and other federal reservoirs to allow for releases of water to enhance fish habitat.

Division 4 has been deeply involved in determining and verifying irrigated acreage for the Colorado River Decision Support System and the development of an accounting spreadsheet and basin model for the Gunnison River. The speadsheet and model activities involve the efforts of the Colorado Water Conservation Board, the Colorado River Water Conservation District, Uncompahgre Valley Water Users Association, Bureau of Reclamation, Upper Gunnison River Water Conservancy District, and Tri-County Water Conservancy District. The two objectives are to: 1) produce an accounting spreadsheet which Division 4 will use to keep a day-by-day account of the river; and 2) to produce a river model with a monthly time step which can be used to predict the effect of new developments or changed operations of existing features.

Water Division 5, The Colorado River Basin, Glenwood Springs, Colorado

Division 5 personnel continued total river administration with daily calculations and release adjustments, refined the method for setting weekly numbers for the call and refined consumptive use calculations for West Slope replacements. A spreadsheet was developed and utilized for allocation of replacement water. Other spreadsheets were developed to account for water in several major systems.

The most outstanding occurrence was the signing of the Stipulated Agreement on the administration of Green Mountain Reservoir. This cleared the way for the settlement and signing into decree of Case No. 88CW382 (the Federal Blue River Case counterpart), dozens of side issue court cases, and the withdrawal of many more. It was very gratifying to see the years of effort of all concerned finally bear fruit.

An offspring of the Stipulated Agreement negotiations was the formation of what has become known as the "SWAT team" (Surface Water Administration Team). That group has been working diligently on accounting for first reservoir releases, second reservoir fills, upstream storage fills, carryover storage, exchanges for snowmaking and the related administration involved. It has proved to be an excellent forum for the exchange of ideas and the education of all concerned on the administration of the Colorado River.

Water Division 6, The Yampa-White River Basins, Steamboat Springs, Colorado

The Colorado River Water Conservation District continues to evaluate Yampa River Basin alternatives for Juniper water rights. Several sites were proposed, and studies and analyses were made of basin yields, construction costs, environmental impacts, water delivery capabilities, and recreational potential. It was decided that an enlargement to Elkhead Creek Reservoir will provide the most benefits for the least cost. There is also a potential for a future enlargement of Stagecoach Reservoir. Final project evaluation and development planning is in progress.

The division continues to assist the public in preparing court and well permit applications, plus providing water rights information. Dam owners are given assistance with completing Emergency Preparedness Plans, and water users are assisted with the installation of water measuring devices. Use of computers to assist in water administration and provide information to the water using community continues to increase efficiency and provide better service to the public.

Water Division 7, The San Juan - Dolores River Basins, Durango, Colorado

The Colorado Water Conservation Board approved funding for an irrigated acreage study of lands on the Colorado River drainages. The division has been field checking and verifying lands and crop types to obtain a clear understanding of the total irrigated acreage in Colorado for future consumptive use studies and modeling.

The Animas-La Plata Project received funding for startup work but was soon delayed by a Sierra Club lawsuit that requested a new Environmental Impact Statement be undertaken. Work continued, however, until ancient burial sites were uncovered during excavation. A preliminary injunction issued September 22, 1992, enjoined the Bureau of Reclamation from performing ground disturbing activities at the site until the Supplemental Environmental Impact Statement is completed.

The coming year will be crucial in the development of the Animas-La Plata project. Our office intends to work closely with project issues to address the alternatives as they present themselves and to look for ways to promote appropriate water development of Colorado's water resources.

Legislation

Legislative Highlights

Bills that passed related to water issues during fiscal year 1992-1993 were as follows:

House Bill 1240 *Tabulation of Water Rights*

Sponsored by Representative Mary Blue and Senator Linda Powers, this bill authorized the State Engineer to issue an official water rights tabulation every two years. This replaced the old system of issuing it every four years with a revision following 18 months later.

Senate Bill 260 *Fees for Gravel Pit Reviews*

This bill, sponsored by Representative Tim Foster and Senator Don Ament, was a late bill introduced to replace House Bill 1184. It passed on the last day of the session and increases the fee for first-time gravel pit review to $1,343, which is good for two years. It provides for a renewal fee of $217.

Senate Bill 241 *Extension of Provisions Which Create A Presumption of No Material Injury on Wells*

Sponsored by Senator Mike Bird and Representative Lewis Entz, this bill corrected an error in some 1991 legislation that would have repealed the State Engineer's ability to issue household use only well permits and wells on tracts larger than 35 acres under the presumption of no material injury. This bill passed on the last day of the session and allows the State Engineer to continue to consider issuance of well permits that meet the presumptions set forth in section 37-92-602, C.R.S.

Senate Bill 76 *Funding of Satellite Monitoring Maintenance*

This bill approved additional funding for the controlled maintenance of the Satellite Monitoring System from the Colorado Water Conservation Board Construction Fund. The measure was sponsored by Senator Mike Bird.

House Bill 1060 *Water Well Application Notices*

This bill amended last year's HB 92-104 concerning entities that had to be notified of the intent to withdraw ground water. This bill limited the parties who had to be notified to a more reasonable scope. This bill was sponsored by Representative Jeanne Adkins.

House Bill 1273 *CWCB Construction Fund*

Sponsored by Senator Tille Bishop and Representative Jeannie Reeser, the Colorado Water Conservation Board Construction Fund bill provided funding in the amounts of $1.4 million for the Colorado River Decision Support System, $350,000 for the South Platte Water Rights Management System, $115,000 for gaging station maintenance and $450,000 for the Front Range Metropolitan Water Supply Study.

Hydrography & Satellite Monitoring

The activities of the Hydrographic Branch emphasized improved data quality, efficiency, and service. In May 1992, the branch published its first annual compilation of streamflow records computed by Division of Water Resources staff. Records for a total of 157 stations from six of the Water Divisions were included in the first effort. This included 62 records which were prepared for the United States Geological Survey for its annual Water Resources Data publication as part of a cooperative agreement. The 1993 compilation of stream flow records was again produced in May and gives stream flow data for water year 1992.

The branch purchased and is currently installing a new system to receive satellite signals. The new system uses a domestic satellite (DOMSAT) to rebroadcast signals received from data collection platforms (DCPs) back to the Division of Water Resources on a single channel. This new system should solve interference problems and allow the division to continue to receive data as the current satellite in use begins to decay. The new system allows for automatic retransmission of data that is not received.

Funding for the satellite-linked monitoring system for the fiscal year 1991-1992 included $43,489 collected from fifteen water users and $198,414 appropriated by the legislature from general funds. Fiscal year 1992-1993 spending authority was $253,500. Three new users have been added to funding sources, and $56,000 was collected in user fees. An annual report to the legislature regarding this project was presented in November 1992. The Division of Water Resources provides its own maintenance and repair of DCP field satellite monitoring stations in Denver with considerable cost savings to the state.

Improved telecommunications via the use of the Colorado Supernet began in the spring of 1993 to provide network connections for the field offices. This enhancement will assist in keeping direct telephone lines from the field offices to Denver free for voice communications and allow division hydrographers faster, error-free access to the satellite monitoring system computer. The use of this network will also improve communications and data transfer with other agencies.

During flood stages that were experienced throughout Colorado during the spring of 1993, the Hydrography Branch provided vital information to officials throughout the state for monitoring peak river flows. Utilizing the satellite monitoring system at key gage areas, graphs were provided on a daily basis showing the levels of river flows as against flood stage. This system provided real-time data that allowed for better emergency preparedness and assisted in avoiding major disasters due to flooding.

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

Well Permitting

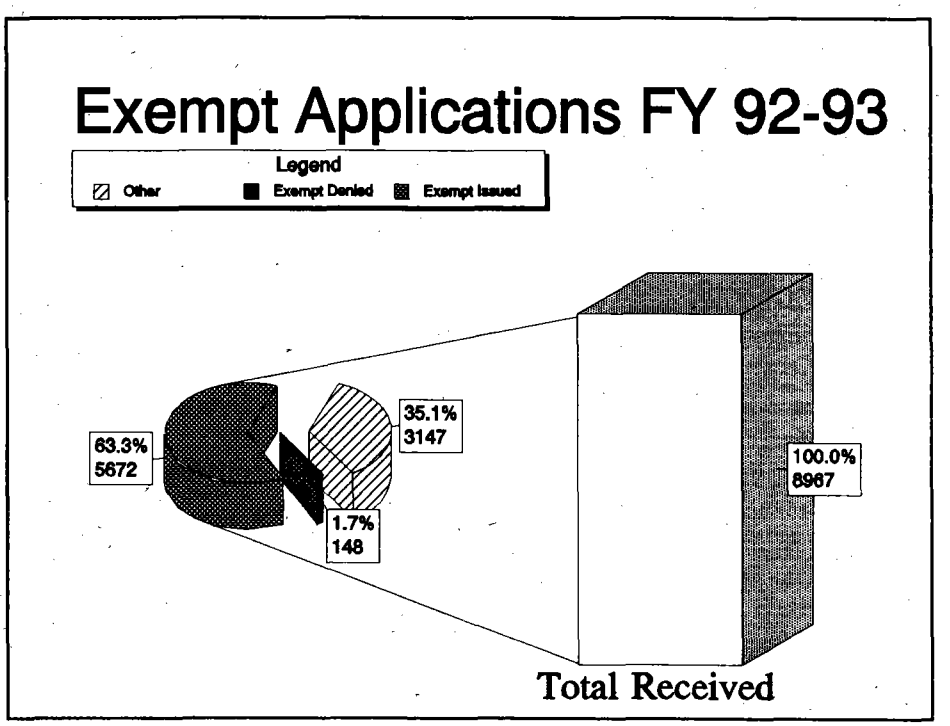
Well Permitting

In fiscal year 1992-1993 there was an increase in the well permit applications over the past few years. That increase was attributed to three factors: 1) improvement in the economy and new housing starts; 2) increase in environmental awareness and activities resulting in a need for more monitoring and observation wells; and, 3) an increase in applications due to a statutory change in exempt well permit provisions. The increase was handled with existing staff, but there was some reduction in turn-around time.

Several actions were initiated in an effort to reduce costs and improve service to our customers. The division developed and obtained a sponsor for legislation to simplify well permitting activities. House Bill 92-1008, enacted on March 20, 1992, simplified processes related to monitoring and observation well permits and the filing of late documents. In Divisions 3, 4, 6, and 7 special training and new procedures that allowed staff in the field offices to interact directly with well permit applicants and to pre-evaluate those applications were implemented. This allows for early identification of application inaccuracies which in turn results in reduced incidences of application rejection. It has also improved the turn-around time for acting on permit applications in those divisions.

Improvements to the well data base were completed that allow for more complete information on the computer system, which in turn yields quicker well permit analysis. These improvements also generate reports on well permit activities which will be useful in notifying applicants of their permit status.

For detailed information on the numbers and types of well permits issued and denied during fiscal year 1992-1993, please see Appendix B.



Substitute Supply Plans

Review of substitute water supply plans are a service and benefit provided to the water community during the interim period of obtaining a decreed plan for augmentation. In accordance with Section 37-80-120, C.R.S., the substitute water supply plans provide water users a mechanism to exchange or replace out-of-priority depletions on an interim basis. The substitute water supply plan actually provides an emergency water supply during times of need and prior to obtaining a court decreed augmentation plan.

The statute requires that substitutions of water must not injure or impair the availability of water to other vested water rights. Substitute water supply plans are issued for a period of one year. Renewal of the plan is typically based on the applicant's need for the water supply, progress made on securing long term augmentation sources, continuing non-injury to downstream vested water rights, the ability to properly administer the plan and continuing pursuit of a plan for augmentation being filed with the appropriate water court.

During the 1993 legislative session, Senate Bill 260 was passed which increased the fee for evaluation of substitute supply plans for gravel pits. This will allow for continued evaluation by consultants as to the ability of proposed substitute supply plans to off-set depletive effects from evaporation from gravel pits.

Substitute Supply Plan Issuance

Fiscal Year 1992-93

Division	*New Issue*	*Renewal*	*Total*
1	*18*	*22*	*40*
2	*10*	*10*	*20*
3	*1*	*1*	*2*
4	*3*	*1*	*4*
5	*5*	*13*	*18*
6	*0*	*0*	*0*
7	*1*	*2*	*3*
Total	*38*	*49*	*87*
Gravel Pits	*20*	*16*	*36*
Grand Total	*58*	*65*	*123*

Technical Support Branch

The purpose of the Technical Support Branch is to provide computer hardware, software, networking, data management, and modeling support, and to ensure efficient processing and retrieval of information for the public and Division of Water Resources staff.

During fiscal year 1992-1993, the Technical Support Branch provided support to ongoing activities and participated in several innovative programs directed at introducing new technologies expected to result in major long-term benefits to the agency.

- **Computer Hardware and Software** To improve public and staff access to well, water rights, and diversion records, GIS (ARCINFO) and relational database management (INFORMIX) software were purchased.

- **Data Management** A new data management team was formed and assigned responsibility for GIS development and data quality assurance.

- **Water Information Network Systems (WINS)** Approximately 3,000,000 manual pages of documents that contain information on 235,000 water wells currently are on file. More than 6,000 new well permits are issued and added to the database each year. There are also separate dam, water diversion and water right databases. A tightly integrated information system that will physically and logically link all these data is under development to provide "one-stop shopping" for the public.

- **South Platte Water Rights Management Support System (SPWRMSS)** The purpose of this project is to develop a data and information management support system for use by the Office of the State Engineer to improve daily administration of the South Platte River. The project provides the capability of transferring and exchanging data between agencies and water users, sharing of real time information, direct user access to data, sharing of administrative analysis tools and monitoring water use. Water users have funded the project for the last three years. The Colorado Water Conservation Board (CWCB) allocated $350,000 for fiscal year 1993-1994 to support Phase VI, which begins in September 1993.

- **Colorado River Decision Support System (CRDSS)** A needs analysis and feasibility study for development of the Colorado River Decision Support System (CRDSS), funded by the Colorado Water Conservation Board, was prepared. The feasibility study determined that a data-centered Decision Support System would be a feasible project and recommended that a CRDSS be developed over a four-year period. The Colorado legislature approved the recommendation and allocated $1,400,000 for fiscal year 1994 from the CWCB Construction Fund. The Technical Support Branch will provide staff support toward the management of consultants developing the system.

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.

Cooperative 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. This is a two-year project to determine the extent and nature of the shallow alluvial aquifer within this area and to produce maps and basic data for use by the general public and the consulting community.

- *Dakota aquifer study* -- 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. This project is complete in draft form.

- *Buena Vista Fish Hatchery (Division of Wildlife)* -- Determination and mapping of the ground water system in the area and development of preliminary design for an infiltration gallery to be used to supply the fish hatchery.

- *Mount Shavano Fish Hatchery (Division of Wildlife)* -- Pump tests of wells for use in supplying ground water for the fish hatchery.

Statewide Water Level Monitoring Program

The branch is in charge of the on-going project of monitoring the various aquifers of the state to determine ground water trends, predict future ground water supplies, and to provide the ground water user community with data which can be used in determining the availability and use of ground water within the state. At present, the division has established a network of over 1,250 wells throughout the state which are monitored annually. Each year a water level report is published for each area and is provided to the well users, interested parties, agencies and the general public.

The network of wells that are monitored by the Geotechnical Services Branch includes 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

Training

Training Program

In July of 1992, the Division of Water Resources committed to the development of a training program with the mission being: to provide a comprehensive and equitable training program for all employees; to ensure that every employee receives all required and optional training needed to improve competence, job satisfaction and productivity; and, to ensure that every employee receives any additional training that may be available for the enhancement of his/her career, skills, or personal development.

A training coordinator was named and charged with the task of developing a viable and equitable training program with the assistance of a five-member steering committee and a budget of $24,800. Each field office named one or two local training contacts to act as liaisons between their offices and the training coordinator. The program has been deemed a success due largely to the assistance and cooperation of the many managers, local training contacts, and other individuals who have given their time and effort to locate training resources in the various communities and to work, develop, organize and schedule in-house training.

Although the program is less than one year old, it has provided many opportunities for job-related training. The following is a summary of the training received during fiscal year 1992-1993:

Type of Training	**Number of Recipients**
Water Administration/Water Law	200
Computer Related	58
Communication Skills	41
Cross-Training	30
Other: (GIS, HEC1, Flood Routing, HAZMAT, Ground Water Modelling)	55

Training Coordinator *Betty Dyce*

Steering Committee *Scott Hummer, Bruce Whitehead, Crystal Carter, Craig Lis, Dennis Petersen*

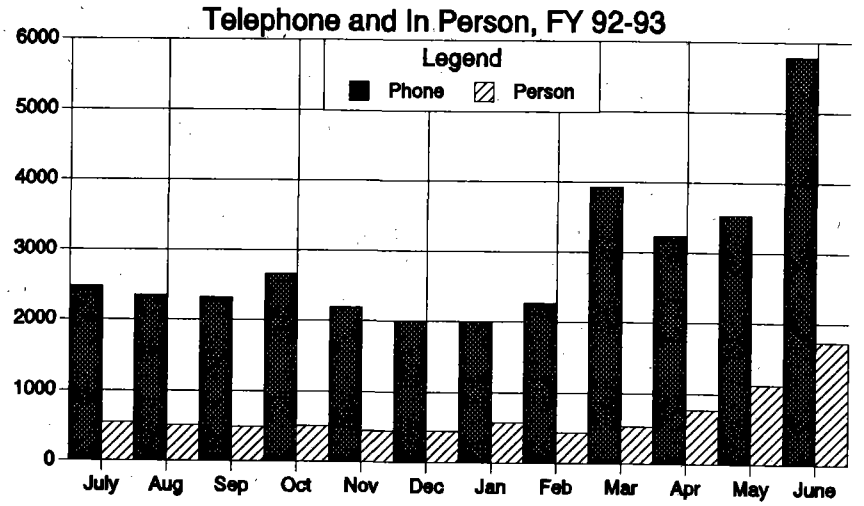
Customer Service/Records Section

The Customer Services/Records Section served 41,856 individuals during the fiscal year who either visited, telephoned or mailed requests for information and copies of water-related materials. Over 8,000 of those customers visited our offices in person seeking ground water information and copies of well permits and water rights records.

Abilities to serve these customers were enhanced by the addition of three computers and a printer in the public area, which customers can now access to research and print information on well permits and water rights. That information access is further enhanced by easy-to-use programs that allow novice computer users ease of use in locating and retrieving information.

As can be seen from the graph below, a large increase in customer contacts occurred during the months of April, May and June of 1993. This increase was due to the repeal of the exemption for domestic animals in the issuance of exempt well permits which expired on June 30, 1993. Over 7,500 public contacts were made during the month of June alone as the public attempted to amend their permits or receive new permits that would allow for such use. This represented, in one month, approximately three times the normal operations for customer contacts.

Record Section Public Contacts



	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Phone	2479	2351	2319	2663	2188	1987	1992	2263	3923	3237	3530	5795
Person	545	513	494	508	443	447	574	439	531	772	1125	1733

Information via different media were provided to the public by the Customer Service/Records Department. Numbers for FY 92-93 were as follows:

Microfiche or computer prints	48,400
Photocopies of records	38,600
Certifications	417
Total	87,417

The Commission

Commission Members (1992-93)

Chairman
George Bush

Vice-chairman
Charles Clapper

Dennis Montgomery
Jon Brownell
Barbara Green
Fred Hefley
Bill Kerksiek
Ted Schubert
John Vasa

Ex Officio Members
Ken Salazar
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. In 1992, the level of well permitting activity was normal.

The commission promulgated Rules and Regulations for the Management and Control of Designated Ground Water, effective May 1, 1992. This was a major effort that took several years of compromise.

The processing of final permits for large-capacity conditional well permits has been an on-going effort for the last several years. In 1992, nearly 850 final permits were issued, mostly for wells within the Northern High Plains Designated Ground Water Basin.

The commission assigns any adjudicatory type hearing to a hearing officer for an initial decision. In 1992, nine hearing cases were resolved, mostly via negotiated settlements between the parties involved.

The Colorado Ground Water Commission is also in the process of designating certain ground water sources within the Lower Black Squirrel Creek drainage basin. The proposed basin encompasses approximately 500 square miles and is located east of Interstate 25, extending roughly from Colorado Springs to Pueblo. A hydrogeologic study of the area has been completed, and formal designation proceedings have begun. A hearing on the designation is expected to be held in the fall of 1993.

Designated Basin well permitting information for fiscal year 1992-1993 were as follows:

Small capacity well applications received	786
Non-exempt applications received	93
New small capacity well permits issued	421
New permits issued, non-exempt	37
Exempt denials issued	0
Non-exempt denials	38

Dennis Montgomery was appointed chairman of the commission for fiscal year 1993-1994, and Charles Clapper remains the vice chairman. Ted Schubert was reappointed to the commission, and Michael Gross, Eugene Bauerle and Richard Huwa replaced Barbara Green, John Vasa and George Bush, respectively.

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.

Normal activities of the board include:

- Examinations of qualified applicant's for licensed well contractors and pump installers.
- Issuance of licenses to conduct well contracting and pump installation business.
- 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 Article 91 and initiation of appropriate legal action.
- Hearings before the board as necessary.

In an effort to reduce costs and improve service during fiscal year 1992-1993, the staff developed new licenses that are generated by data base retrieval and word processing means. Additional personnel were also cross-trained to assist with licensing activities during the January rush.

Board Members

Chairman
Ken Rollin

Secretary
Hal Simpson

Paul Berglund
R. Lynn Twiss
Glen Bodnar

The Division of Water Resources' Long Range Plan

While most of this report has dealt with accomplishments during the past fiscal year, the Colorado Division of Water Resources also looks forward in setting goals to be accomplished in the future. Recently, the division prepared a five year, long range plan that sets forth achievable, verifiable goals for the future. These goals are more of a global nature and go beyond the yearly key areas and objectives that the division sets forth for itself on a yearly basis to meet its statutory requirements.

There are several areas of emphasis in the five year, long range plan. These areas were identified by in depth discussions with employees, managers and our customers.

The area of highest emphasis is the management of our human resources -- our most valuable asset. The plan will focus heavily on employee recognition, communication, diversity in the work force, career path development and management skills.

Because technology is so important in support of the mission of the division, the plan focuses on maintaining high quality data and ready access to computer hardware, software and communication technology that link computers, data and people. This will be achieved by enhanced training, data communication links and data verification standards. The division will also complete, in cooperation with the Colorado Water Conservation Board and assigned consultants, the Colorado River Decision Support System and the South Platte Water Resource Management System.

The division is also committed to improve water resources administration and its well permitting system to improve service to our customers. Quality data collection and record keeping will be a focus, as well as a review of the well permitting process and system.

Finally, the long range plan will focus on the allocation of the division's human and fiscal resources, and find new ways to communicate with and serve our customers. These goals will be accomplished in a number of ways, including staffing analyses, educational efforts and increased public contact and communication.

Water, its distribution and allocation, faces challenges in the future unlike any it has seen in the past. Only through vision and planning can the demands of the future be met. The Division of Water Resources believes that through its long range plan an excellent beginning has been made on being prepared for those future challenges and the employees of the division look forward to bringing the goals set forth into reality.

APPENDIX A

WATER DELIVERIES IN ACRE-FEET BY USE, WATER YEAR 1992

October 1, 1991 to September 30, 1992

	Div. 1	Div. 2	Div. 3	Div. 4	Div. 5	Div. 6	Div. 7	Total
Irrigation	1,955,321	1,469,399	1,086,545	2,118,093	1,903,710	1,022,291	764,583	10,319,942
Storage	1,127,876	129,441	72,202	28,883	467,955	17,801	212,310	2,056,468
Municipal	413,532	65,577	7,844	14,015	49,546	8,089	13,025	571,628
Commercial	9,357	0	2,009	11,759	147	240	10,017	33,529
Domestic	337	1,165	877	1,008	6,049	4,245	436	14,117
Stock	1,294	2,103	582	35,319	31,074	23,478	39,673	133,523
Industrial	74,638	99,692	460	1,073	2,681	24,425	1,874	204,843
Recreation	3,634	17	1,411	342	1,280	865	1,440	8,989
Fish	4,391	6,259	4,233	11,938	52,324	38,339	25,673	143,157
Augment	78,685	0	2,738	17	1,447	0	0	82,887
Recharge	82,269	997	16,474	0	2	0	28	99,770
Total	3,751,334	1,774,650	1,195,375	2,222,447	2,516,215	1,139,773	1,069,059	13,668,853
Acres Irr.*	1,172,539	277,437	568,345	355,476	376,216	231,438	198,950	3,180,401

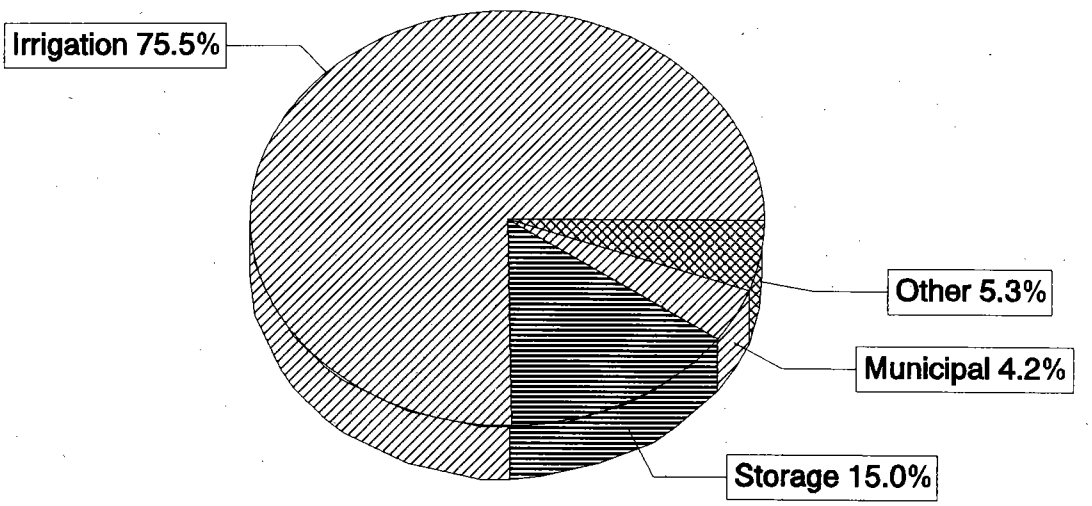
*Water user supplied data

Appendix B
Fiscal Year 1992-1993 Well Permit Activity

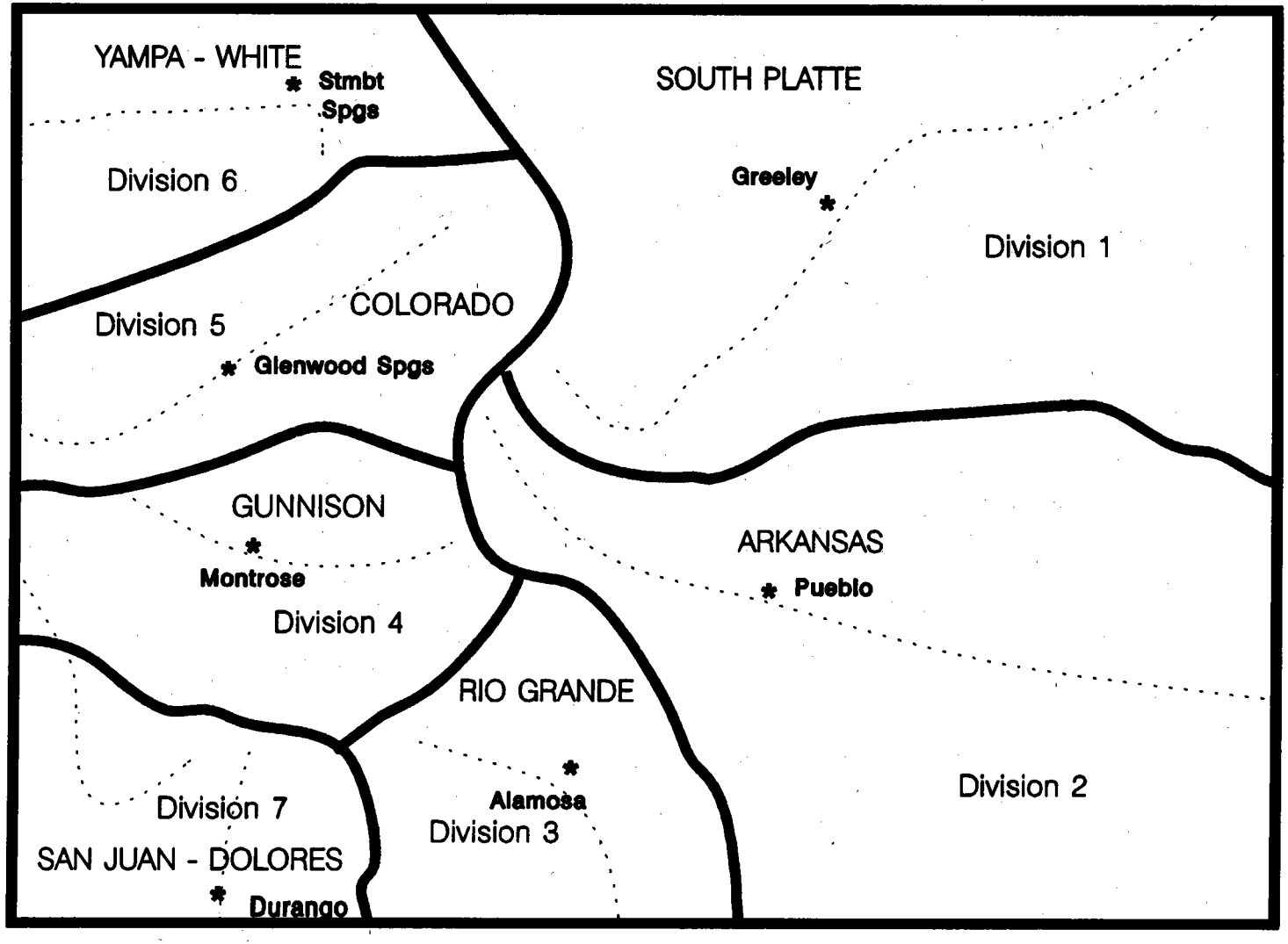
	Div. 1	Div. 2	Div. 3	Div. 4	Div. 5	Div. 6	Div. 7	Total	Designated Basins	Grand Total
Exempt Received	4,229	1,873	321	365	665	204	524	8,181	786	8,967
Non-Exempt Received	372	68	101	64	122	27	37	791	93	884
Exempt Issued	2,793	1,048	185	280	429	160	356	5,251	421	5,672
Non-Exempt Issued	533	101	126	89	249	33	51	1,182	37	1,219
Exempt Replace Issued	297	104	44	14	28	14	23	524	102	626
Non-Exempt Replace Issued	41	16	7	2	3	1	0	70	23	93
Exempt Denied	65	9	11	10	47	2	4	148	0	148
Non-Exempt Denied	141	43	8	26	35	0	3	256	38	294
Late Register Approval	229	79	51	18	27	8	20	432	87	519
Test Holes	593	244	21	113	175	42	40	1,228	52	1,280
Geothermal Apps	0	0	0	0	0	0	0	0	3	3
Geothermal Issued	4	0	0	1	0	0	0	5	6	11
Totals	9,297	3,585	875	982	1,780	491	1,058	18,068	1,648	19,716

Percent of Water Deliveries By Use

October 1, 1991 to September 30, 1992



Water Divisions in Colorado



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