COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
http://www.water.state.co.us

2002 Annual Report

"Never lose sight that the value of our service is ultimately determined not by our own definition, but by the public's perception of its worth."
Division of Water Resources' Philosophy of Service

Message from Hal Simpson, State Engineer

It is no secret in Colorado that 2002 saw the worst drought in our state in recorded history. In many areas, it was the third consecutive dry year, and it stressed the water supply capabilities of many water providers and users. The value of reservoir water and ground water was clearly realized, and we all recognize that additional storage would have reduced the impact of the drought.

Naturally, the Division of Water Resources suffered at the hands of the drought as well, in turn, so did Colorado's water providers. It was a year during which we had to reduce funding as budget reductions were necessary to respond to declining general fund revenues. The Division has had to leave open 24 positions (10 percent of the work force) in order to reduce expenditures to meet budget cuts. The vacant positions caused existing staff to assist with the related workload since we did not want service to the public to decline drastically. Many staff worked extra hours and long days to help us achieve our mission, and I deeply appreciate this dedication and work ethic.

As a result of a Colorado Supreme Court interpretation (Empire Lodge v. Moyers) of the State Engineer's authority to approve substitute water supply plans (SWSP) in December of 2001, the Colorado Legislature enacted, and Governor Owens signed, House Bill 02-1414 which grants to the State Engineer the authority to approve SWSP's that meet one of three conditions. HB02-1414, when combined with the extreme drought, resulted in many requests to approve SWSP's, especially those under the 90-day emergency condition of the act. Again, dedicated staff in Denver and the field offices assisted over 17 communities in developing and approving emergency substitute water supply plans.

Finally, the year 2002 was a year in which we saw several top level managers retire, including Will Burt Deputy State Engineer, and Dick Stenzel, Division Engineer for the South Platte River Basin. To deal with continuing under-funding due to imposed vacancy savings by the Legislature, I had to reorganize the Denver office to reduce the number of managers. As a result, I have appointed Ken Knox as Chief Deputy State Engineer and Jack Byers as Deputy State Engineer. These two individuals will manage their prior areas of responsibility and will assume management of areas previously assigned to Will Burt. I have also reduced other vacant management positions to lower level engineers to reduce expenditures in the future.

This year provided many challenges to the Division of Water Resources and the water community, but through the cooperation provided by many water users and the tireless dedication of our staff, especially our Water Commissioners, we were able to maximize water use and minimize conflicts and reduction in customer service.

Office of the State Engineer
Division of Water Resources

Executive Director, Department of Natural Resources
Greg E. Walcher

Governor
Bill Owens

COLORADO DEPARTMENT OF NATURAL RESOURCES

State Engineer
Hal D. Simpson

Chief Deputy State Engineer
Kenneth W. Knox
Water Supply, Interstate Compacts, Water Well Permitting, Litigation, Designated Basins

Deputy State Engineer
Jack G. Byers
Engineering, Technology, Budget and Investigations

Public Information Officer
Marta Ahrens

Division Engineers/ River Basins

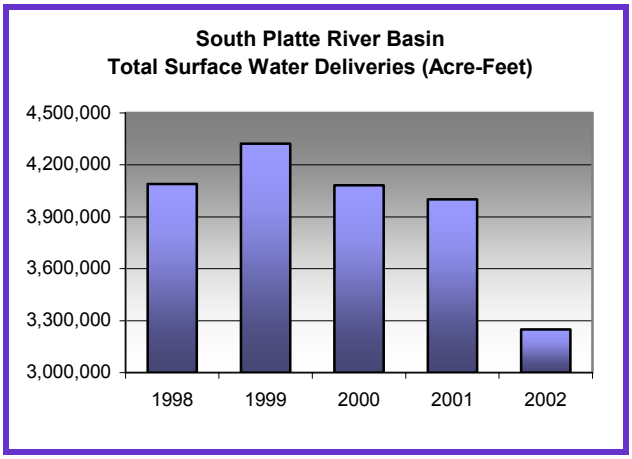
Richard L. Stenzel, Division 1
South Platte
Steven J. Witte, Division 2
Arkansas
Steven E. Vandiver, Division 3
Rio Grande
Wayne I. Schieldt, Division 4
Gunnison
Alan C. Martellaro, Division 5
Colorado
Robert M. Plaska, Division 6
Yampa / White
Kenneth A. Beegles, Division 7
San Juan / Dolores

South Platte River Basin—Division 1

In 2002, we saw the most innovative administrative processes concerning methods to minimize the impact of the drought on water users. Two of the main processes used to do this were headgate bypasses and augmentation wells to provide replacement water for out-of-priority well depletions. Reservoir levels on the tributaries were in much worse shape than the mainstem of the South Platte going into this water year. The very dry winter kept water users from coming close to filling these reservoirs. Reservoirs that did not fill under their senior priority included Halligan, Chambers, Big Windsor, and Timnath in the Poudre basin; Boyd Lake in the Big Thompson basin; and Union Reservoir in the Saint Vrain basin.

The storage levels of reservoirs associated with the Colorado Big Thompson project, a major source of supplemental supply for the South Platte basin, were extremely low. This was the first time in eight years that the storage in this transbasin system was far below average.

The first direct flow call on the South Platte occurred on April 4, 2002 and was not removed until after the first significant snowstorm that occurred at the end of October.



Unlike most years, the spring runoff from the less than 30 percent of snowpack conditions never developed sufficiently to remove the call from either the mainstem or the tributaries. In fact, some lower snow courses showed no remaining snow by the end of April, an extremely unusual occurrence.

The dry conditions continued all summer. By the end of August, large mainstem reservoirs, including Jackson, Riverside, Empire, and Julesburg, were empty except for dead storage. North Sterling was emptied by the middle of September, and Prewitt by the end of September. Operators of some of these reservoirs looked at, and in some cases attempted, dredging as a way of being able to release additional water in isolated pockets of the reservoirs. In one situation, reservoir owners even used dynamite to release isolated pockets of storage.

Due to the dry year, well augmentation organizations had to obtain additional augmentation supplies for wells. The Groundwater Appropriators of the South Platte, Central, and the Lower South Platte Water Conservancy Districts worked together to utilize their combined resources to maximize the available water supplies available as replacement sources.

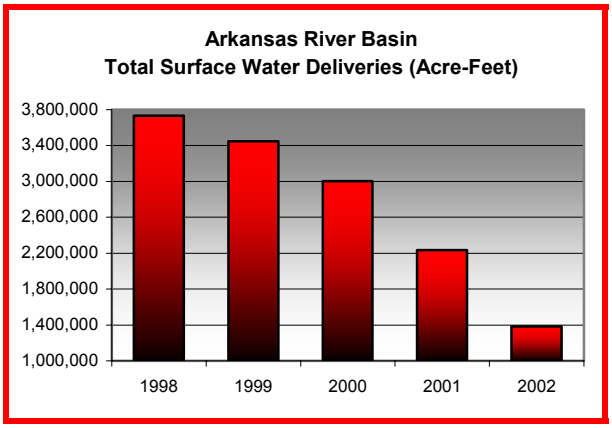
Arkansas River Basin—Division 2

Colorado's drought made its impact felt in the Arkansas River basin in 2002. Some of the more obvious effects were the dry streambeds and the low reservoir levels. Less obvious, however, was the increased water administration efforts required to manage our priority system, interstate water compacts, and our conjunctive water and ground water use.

Some of the Arkansas Valley's largest irrigation ditches were either completely dry or received only a portion of their direct flow priority for most of the season. The Amity and Fort Lyon ditches have been dry since early July, and such a fine balance was created between upstream junior and downstream senior ditches along the mainstem Arkansas that timing for diversion of hourly stream flow fluctuations and the distribution of short duration storm peaks became critical. This resulted in increased administration to manage supplemental reservoir releases, transit losses, and ditch maintenance activities.

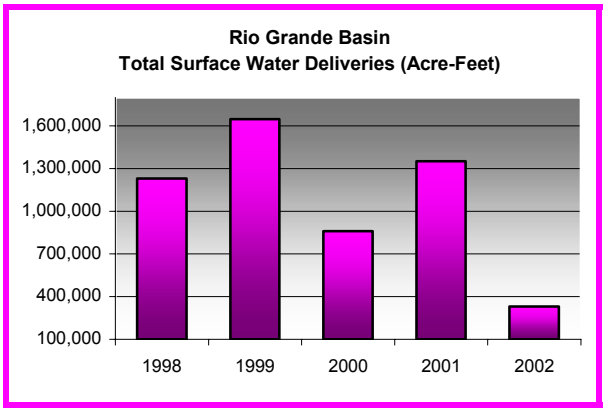
Reservoirs in the basin experienced significant drops in storage amounts. Pueblo Reservoir fell approximately 25 feet between winter water storage seasons, and John Martin Reservoir dropped over 19 feet. Trinidad Reservoir's largest water holder is the permanent fishery pool, which accounts for approximately 96 percent of the total reservoir.

The experience of administration during this period of drought has been instructive to everyone in the organization. It forced understanding of the relationship between water rights that have never been tested at any time in our history as a state. The development of tools, such as the EZ Read Form, which facilitated enforcement of ground water pumping limits, was a great example of applying technology to the efficient performance of duties.



Rio Grande Basin—Division 3

The Rio Grande drainage experienced conditions unequaled in the history of the Rio Grande Compact. The continually decreasing forecast resulted in a very difficult water year for water users. Record-low streamflow was experienced on virtually all streams in the San Luis Valley, and it caused great harm to many water right owners. The extremely low runoff did not provide enough streamflow for most ditches to divert water and, as a result, recharge of the aquifer from diversions was nonexistent. This situation, along with very little natural recharge and very heavy pumping from both aquifers, caused a heavy draft on the aquifers of the San Luis Valley. Additionally, the summer monsoon season never developed, which only added to the woes of those using surface water. Ironically, the warm, dry conditions made ideal growing conditions for those with a ground water supply and helped yield record crops. These conditions prompted irrigators with access to ground water to pump extraordinary amounts of water. The result was a significant decline in aquifer storage.



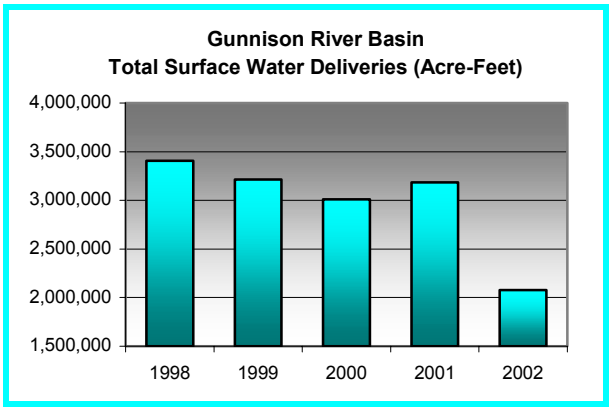
The administration of the Rio Grande Compact was very different due to abnormally dry conditions and the lack of summer precipitation. The Rio Grande obligation was an unknown quantity for most of the year. Flows were so low at the Rio Grande index gage at Del Norte that they were below the bottom of the compact delivery schedule for the Rio Grande. The Conejos River had no compact obligation for the year


Rio Grande near Lobatos

because the index and corresponding obligation was below any value on the schedule. Many streams were down to the number one priorities only for a large part of the irrigation season. Several streams even had futile calls to the number one priorities and dried up completely before they reached the gaging station on the stream. The peak flow on the Conejos River was just over 400 cfs and then dropped down to record low levels. The Rio Grande was also severely low throughout most of the summer months. The peak was approximately 680 cfs, which is normally a nice base flow in most years. After the flow in May, the stream dropped and remained in the 90-to-120 cfs range for much of the season.

Gunnison River Basin—Division 4

The drought conditions created unusual circumstances that the water users in this river basin had not experienced. Various meetings were held with government agencies and water users in the Gunnison and Uncompahgre Basins to deal with the matters. The major users in this basin cooperatively worked out the main issues to give everyone the best opportunity to use the small amount of water available. Recognizing the extreme conditions and the need to utilize the water wisely, the U.S. Fish and Wildlife Service (USFWS) agreed to accept a reduction in the flows for endangered fish in the Gunnison River below the Redlands Canal.



Blue Mesa Reservoir, the largest reservoir in the state with a volume of 939,000 acre-feet, was only able to store about 17,000 acre-feet of water. Had it not been for storage releases from Blue Mesa Reservoir, the Gunnison River in the Black Canyon of the Gunnison National Park would have been nearly dry.

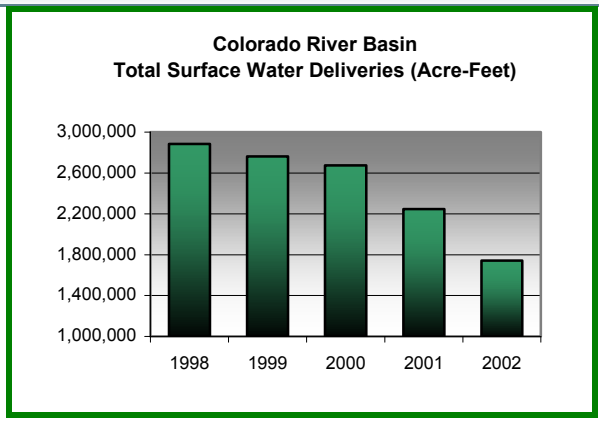
The two major creeks on the south side of the Grand Mesa near Cedaredge received a call in April that discontinued all reservoir storage for the remainder of the spring and summer. Since there was such a shortage of reservoir water, many of the pasture irrigators sold their shares to higher bidders, such as orchard growers that needed to produce crops and keep the trees alive. Some ditch systems were shut off for periods of time and used intermittently, consolidating their deliveries at the same time to minimize ditch losses.

Gaging station records indicated the effects of low flows. For the San Miguel River near Placerville, the average flow in June was the lowest since 1934. On the Gunnison River at Gunnison, the average flow in September was the lowest since 1924.

Colorado River Basin—Division 5

Of major significance to this area was the Coal Seam Fire that started on June 8 and burned for several weeks. The West Glenwood area was evacuated and closed to non-emergency personnel through June 10. The Division office was closed to the public for a few days until the evacuation order was lifted. The fire decimated the western adjacent properties and came to within a few hundred feet of the building, causing only minor smoke damage and ash residue.

Winter basin-wide snowpack began below average and, with each passing month, the projections became worse. By April, snowpack was at historically low levels at many gages. It was obvious that such low runoff had not been experienced since 1977. The situation did not improve during May as basin-wide precipitation for the month averaged 35 percent of normal, dropping the water year precipitation to 60 percent and the snow/water equivalent to zero. This dropped the runoff forecast to an extreme for June 1 at Cameo and Dotsero of 34 and 37 percent, respectively.



Lower than average streamflows in many streams and rivers resulted in in-stream flow water rights not being satisfied. This required extra diligence in streamflow gaging and water administration.

Sylvan Lake in Eagle County was drained for repairs. In coordination with the Colorado River Water Conservation District, 350 acre-feet of water was released and exchanged to Wolford Reservoir for possible refill later in the year. Construction was competed in a timely manner, but because the Shoshone call did not come off, Sylvan could not refill and will rely on free river conditions during next runoff.

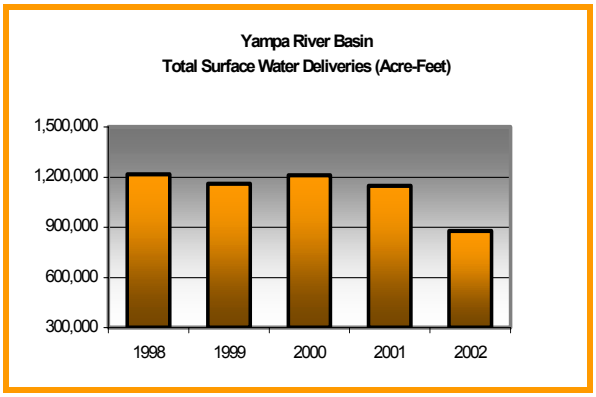
Augmentation plans are steadily becoming a larger part of water administration in Division 5. The drought conditions revealed a number of augmentation plans that were not operational during extremely dry years.

Yampa/White River Basins—Division 6

Because of the extremely dry conditions, all of the major rivers and streams in the Division went under administration, including a formal call on the White River and curtailments on the main stem of the Yampa River. Many of the streams and rivers went under administration early in the irrigation season, with the call not taken off for the entire year. Many ditches throughout the Division were never able to divert water at all.

Runoff on the Yampa River started early due to the warm spring temperatures. Peak flows occurred in late May and early June, about a week to ten days before the historical peak flow date. Flows were very low, with the peak on the Yampa River at approximately one-third of average. In July, the public was requested to voluntarily stop any use of the Yampa River through Steamboat Springs, and cease all fishing activity from the outlet of Stagecoach Reservoir down to the confluence with the Elk River below Steamboat Springs. This voluntary ban lasted into August.

The Little Snake River, a major tributary of the Yampa River, was subject to administration for the third year in a row. The call placed on July 1 was in affect for the remainder of the irrigation season. Administration in the White River drainage began early in the year with a call on Piceance Creek on April 19, which lasted the entire irrigation season.

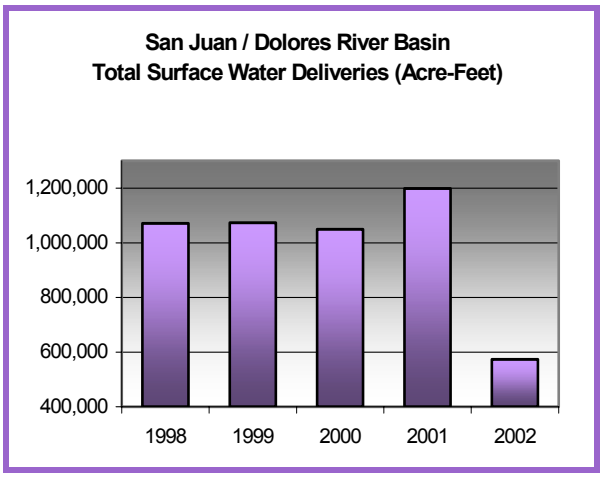


By the end of August, the town of Walden was in danger of running out of water. The town draws part of its municipal supply from the Michigan River. Even though the town owns part of the senior water right, there was not enough flow to satisfy their needs. Eventually, the Division of Wildlife released water from North Michigan Creek Reservoir, to help meet the needs of the town until streamflows increased.

San Juan/Dolores River Basin—Division 7

The year began with an eight-month dry spell, which was not broken until the second week of September. Most streamflow peaks occurred in mid-September. January precipitation in Durango broke a record low with only .06 of an inch, and May had no recordable precipitation. The spring runoff barely materialized at all. The snowpack fell off drastically from about 80 percent of normal to 33 percent on April 1, and by early May all stations were essentially melted out.

The La Plata River dropped to record low levels, less than 3.9 cfs in early April at Hesperus. The snowpack ran off fairly consistently and lasted three to four weeks longer than was originally anticipated. Farmers lost much of the winter wheat and were unable to irrigate many areas on Fort Lewis Mesa. Stock water usage was essentially all that was available. No water was available to the Lake Durango area from the Pine Ridge Ditch at any time. After the La Plata Compact was determined to be futile, only two ditches operated until the September rainstorm.



On June 9, the Missionary Ridge Fire began from a spark that fell into a ditch southeast of the first switchback in Missionary Ridge Road. The fire burned eastward up Missionary Ridge and expanded north and south. It crossed the Florida River and the Pine River and burned in three river valleys. By the end of June, Vallecito reservoir was burning on both the east and west sides.


Helicopter dip — pond near Florida River

During the fire, there were significant uses of water for fire-fighting. On the Florida River, this use was for slurry batch plants set up on streams that were under call. When the fire was over, individuals wished to refill undecreed ponds out of the river. Communications to the Division office by the fire officials could have been better and final reports from the fire users were not always received. The fire marshal made recommendations for storage for fire fighting in certain areas where the supplies are not decreed for such use. Certainly, water administration must accommodate the need for emergency use of water to a reasonable degree. However, when water is so scarce that it cannot be replaced, it does have an impact on the system.

Dam Safety Activities

The Colorado Division of Water Resources' Dam Safety Branch's objective is to prevent property damage and the loss of life, while protecting the loss of water supplies due to the failure of dams in Colorado. During Fiscal Year 01-02, plans were approved for three new dams and thirty-one plans for alteration, modification, or enlargement. Twelve separate hydrology studies were also approved for determination of the inflow design flood for spillway design. The estimated cost of construction for the submitted plans was over $49 million.

A total of 639 safety inspections and 128 construction inspections were conducted for a total of 767 inspections. In addition, 158 follow-up inspections were performed. At the conclusion of the reporting period, there were 193 dams restricted from full storage due to various structural deficiencies such as significant leakage, cracking and sliding of embankments, and inadequate spillways. The total storage restricted was 130,086 acre-feet.

As is typical, a number of dams experienced safety incidents during 2002, including Tarryall, Fruita No. 1, Clear Lake, Mariano, and May Ranch Dams. However, these incidents resulted in reduced consequences with no loss of life or significant property damage. This is attributed to the increased awareness and responsibility of the dam owners for their dams and to the enforcement of the regulations, policies, and procedures. The Branch continues to use risk-based tools to help evaluate and prioritize the jurisdictional dams in order to more efficiently and effectively use program resources.


Tarryall Dam— Cracks found in the upstream face of the right gravity section of Tarryall Dam resulted in the lake being drained in response to a concern for the structural stability of the dam. The reservoir remains empty pending repairs.

Decision Support Systems

The **Rio Grande Decision Support System (RGDSS)** entered into the final development phase. Future activities are expected to occur within the Modeling Branch as the project moves into the maintenance phase.

Ground water models continued to be developed for incorporation into the RGDSS and include a steady state, average monthly, and monthly (historic) models. All three models are enhanced versions of the model used in the AWDI trial in 1990. The models include five geologic layers and every major water budget component in the valley including recharge, boundary inflows, pumping, stream-ground water interactions, flowing wells, evapotranspiration by native species and subirrigation by irrigated meadow lands. The Modeling Branch worked hand-in-hand with the RGDSS ground water consultant to complete development and calibration of the RGDSS ground water models.

Rio Grande Basin

The Phase 3 surface water model reached a 95 percent completion level. The surface water model is a comprehensive water supply model that simulates every water use and water right in the basin from 1950 to the present. Major enhancements to the state's surface water model, StateMod, that were performed by the Modeling Branch include the ability to simulate the Rio Grande Compact, operate on a daily basis, include ground water use and simulate the variable efficiency of water use.

The **South Platte Decision Support System (SPDSS)** moved from a feasibility study into implementation. The Modeling Branch worked with the CWCB to select experts in the areas of Surface Water, Ground Water, Consumptive Use, Geographic Information Systems, and Systems Engineering (database and software). Contracts were negotiated with each expert that will allow the SPDSS development to begin with a data collection phase in 2003. Branch staff will provide technical review of all SPDSS deliverables and will be involved in the surface water, ground water, and consumptive use modeling portions of this critical six-year, $11 million project.

Hydrography and Satellite Monitoring Activities

The Hydrographic and Satellite Monitoring Branch strives to provide accurate, high quality "real-time" streamflow data. The Branch develops historic stream records in coordination with other state and federal entities and the water user community. Key staff record and check measurements, maintain equipment and improve the quantity and quality of data used to manage and administer water throughout the state.

The Division cooperated with the USGS and CWCB on numerous activities this year, including analyzing the stream gaging network in an effort to ensure the networks are as efficient as possible; continued to upgrade the DWR and USGS gaging sites with monetary assistance from CWCB to "flood harden" areas that may have likely been damaged and unable to report stage during a flood event; and developed an ALERT system to warn key staff in the event of low or high flows.

The Division 3 Hydrographic Branch installed two new control structures at gaging stations this year. These control structures are a relatively new type of structure called a ramp flume. The flumes were placed at the Kerber Creek near Villa Grove gage and the North Clear Creek below Continental Reservoir gage. The ramp flume is more accurate than a parshall flume, and it is hoped that these installations will provide better data for these sites.

Ramp Flume Installation

The Hydrographic and Satellite Monitoring Branch is responsible for the development and publishing of annual stream flow records in accordance with USGS standards. The streamflow records are published in May of each year for the prior stream flow. In May of 2002, a total of 208 records were published.

Arkansas River Pilot Water Bank

As required by C.R.S § 37-80.5-101, et seq., the State Engineer and the Division Engineer from Division 2 in Pueblo met with Arkansas River Basin water users and their legal advisers on numerous occasions during the spring to develop and promulgate rules to implement a pilot water banking program in the Arkansas River Basin. The purpose of these rules is to implement a pilot water bank that simplifies and facilitates water leasing, loans and exchanges, including interruptible supply agreements, of stored water within the Arkansas River Basin, and to reduce the costs associated with such transactions. Further, it is also the purpose of these rules to increase the availability of water-related information and assist farmers and ranchers by developing a mechanism to realize the value of their water right assets without forcing the permanent severance of those water rights from the land.

The rules do not permit any expansion of use of stored water deposited into and leased, loaned, optioned or exchanged through the water bank. Nothing in the rules is intended to restrict the ability of the holder of a water right to sell, lease, option or exchange that water right in any other manner that is currently permitted under Colorado law. The rules shall not be implemented in a manner that would cause material injury to the owner of or persons entitled to use water under a vested water right or a decreed conditional water right.

The Arkansas River Pilot Water Bank rules became effective July 1, 2002. The Southeastern Water Conservancy District is responsible for operation of the pilot water bank and works collaboratively with the Division 2 Office in Pueblo. The rules are effective through June 30, 2007.

Republican River Compact Litigation Settled

The Republican River Compact was signed in 1943 and operated without controversy until the 1980s when Kansas expressed concern about unrestricted well development in Nebraska. The Republican River basin consists of 24,900 square miles in northeastern Colorado (7,000 square miles), northwestern Kansas (7,500 square miles), and southwestern Nebraska (9,700 square miles). The average annual precipitation varies from 14 inches in Colorado to 30 inches in the eastern end of the basin. The compact negotiators estimated the total average annual streamflow of the basin to be 478,900 acre-feet using about ten years of data, with Colorado's allocation being 54,100 acre-feet in an average year. This streamflow included discharge from the Ogallala aquifer, which underlies the three states, as well as five other states. The compact was based on the allocation to each state of a portion of the annual streamflow assumed to be available, so that the total average supply was allocated to beneficial consumptive use. The allocations were based on streamflow produced in each tributary basin, and the potential for future development.

The concern about well development in the Ogallala aquifer causing depletions to streamflow led to Kansas filing its case against Nebraska with the U.S. Supreme Court in 1998. Nebraska filed a counter-suit against Colorado in 2000. Each of the three states ended up being sued by the other two states. The Supreme Court appointed former Maine Supreme Court Justice Vincent McKuisick as Special Master in 1999. He made an initial determination in 2000 that the effects of ground water pumping had to be considered as a depletion that must be accounted for under the compact. Considerable development of the Ogallala aquifer began in the 1950s in all three states. Currently, there are 4,400 wells in the Colorado portion of the basin irrigating 550,000 acres. Nebraska irrigates about 1.2 million acres with wells, and Kansas irrigates about 450,000 acres with wells, with the majority of pumping from the Ogallala aquifer.

Special Master McKuisick set very short timelines for bringing the case to trial. This led to the states considering the negotiating a settlement rather than going to trial under these timelines. The states began negotiations in the fall of 2001 along with the United States, which was in the case as an amicus curiae. The Special Master supported the efforts to settle and granted several stays to the trial schedule to allow the negotiations to proceed with monthly status conferences to monitor settlement progress. The states reached agreement in principle in April of 2002 and requested time until December 15, 2002 to negotiate a detailed final settlement. After considerable time and effort by all parties, the states filed a final settlement stipulation with the Special Master.

Key features of the settlement include: (1) waivers by the states of all claims including damages through December 15, 2002; (2) a moratorium on new well construction in basin with the agreement that the existing restrictions in Colorado and Kansas are adequate and will not be made less stringent; (3) determining stream depletions from ground water pumping using a complex model of the basin developed by experts from all three states; (4) accounting procedures for all depletions were developed and allow for the use of five-year moving averages and other important features that benefit each state; (5) an agreement by Nebraska to improve the supply to Kansas in dry years; (6) a dispute resolution process for future use if needed; and (7) agreement to cooperate on additional technical studies to improve the understanding of the impact of soil and water conservation practices, and on the possibility of improving the water supply in the lower basin through structural and non-structural means.

ADDITIONAL ACCOMPLISHMENTS AND STATISTICS

A stipulated settlement to the Republican River interstate compact lawsuit before the United States Supreme Court, Kansas v. Nebraska and Colorado, was filed with the Special Master on December 16, 2002. The State of Colorado participated in lengthy negotiations with Kansas, Nebraska, and the federal government that resulted in the settlement of the Republican River Compact litigation that was filed by Kansas in the U.S. Supreme court in 1998. The settlement provides certainty and more flexibility to Colorado with respect to meeting its compact obligations and will save millions of dollars in legal and engineering costs to continue the litigation where the outcome is never sure.

The State of Colorado completed the final trial segment in Kansas v. Colorado that was filed in 1985 with the U.S. Supreme Court. Colorado has been successful in minimizing the damage claims by Kansas resulting from depletions to state line flow by post-compact wells in Colorado. Kansas initially claimed damages of over $100 million but, after a long and difficult period of trial involving complex hydrologic computer models and testimony from many experts, the Special Master has recommended that Kansas is entitled to $29 million for the period 1950 to 1996. The final report of the Special Master is expected in April of 2002, which will deal with the final issue of future compact compliance by Colorado.

The Colorado Water Conservation Board and the Division of Water Resources have implemented a statewide program to develop decision support systems (DSS) for each of the major river basins in Colorado to assist in the management of the water resources of that basin and to address interstate compact issues. The Colorado River Basin DSS has been completed and the Rio Grande DSS will be finished in 2003. The South Platte River DSS development is underway and should be completed by 2006. The DSS's are complex data centered hydrologic computer model models that can be used for many management purposes.

Several key diversion and return structures along the South Platte River were identified and satellite equipment was installed and maintained to allow more timely information to be provided to water commissioners and water users. The program to locate large capacity wells to more accurately determine the location of several thousand wells in the South Platte and Republican River basins in Division 1 was expanded. This provided crucial data for the litigation concerning the Republican River and also provided information to more accurately determine the impact of well pumping in the South Platte River basin. Use was made of CWCB grants, cooperative agreements, and coordination with the USGS to establish several new gages that were used to track augmentation water.

During the 2002 legislative session, the Colorado Legislature passed House Bill 02-1414, which clarified the authority of the State Engineer to approve substitute water supply plans. This bill affects all substitute water supply plans submitted to the State Engineer after January 1, 2002, and provides for specific notice requirements to other interested parties (227 parties are on the DWR Notification List), coordination with the water courts, timelines, a fee structure, and provision for emergency plans to protect the health and welfare of Colorado's citizens.

Additional Miscellaneous Statistics for 2002

- The ground water evaluation staff acted upon 13,191 new well permits applications.
- Designated Basins staff acted upon 1,167 small-capacity well permits, 182 large-capacity permits, evaluated 47 change applications, and were involved in numerous enforcement activities and hearings.
- 1,831 water court applications were reviewed and 41 formal statements of opposition were filed.
- 98 general substitute water supply plans were reviewed and acted upon and 44 related to gravel pits; 17 emergency substitute water supply plans were approved to provide drinking water to municipalities and other water suppliers to alleviate public health and safety concerns.
- Staff performed 1,200 water level measurements; monitored water levels in over 1,500 wells covering almost three-fourths of the state; reviewed 230 well construction variance requests, 120 geophysical log waivers, 12 Mined Land Reclamation plans, and 17 Oil and Gas injection well proposals; and 250 geophysical logs were evaluated.
- 230 requests for variance from the well construction rules were processed; staff reviewed 7,374 completion reports; 4,074 pump installation reports; 1,050 abandonment reports; and over 2,500 well owner completion notices.
- The Board of Examiners licensed 325 contractors, including seven new contractors.