COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES

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2006 ANNUAL REPORT

Message from Hal Simpson, State Engineer

My career with the State Engineer's Office began in December of 1972, and my tenure as State Engineer began on August 7, 1992. Over the past 34+ years, I have seen many changes at the State Engineer's Office (SEO) and I have highlighted some of them below.

In 1972, we had access to one computer at CSU for the Colorado Water Data Bank. Over the years, we expanded the use of computers and software to support our many data, modeling, and internet applications including Hydrobase which supports our River Decision Support Systems (RDSS) and related models and programs. The Colorado DSS was completed in 1998, the Rio Grande DSS was completed in 2004, and the South Platte DSS is to be completed in 2008. Colorado is the only state to have such powerful tools to allow it to better manage it water resources.

Since 1988, when the Satellite-Linked Water Resources Monitoring System (SMS) was first piloted in the Arkansas River basin, it has grown to over 420 DCPs at all major stream gages and canals. Colorado is the only state to have such a large statewide program owned and operated by SEO staff.

The Dam Safety Program has grown from three Professional Engineers in 1972 to 14 throughout the state who inspect dams on a regular schedule. The program has added many modern and cutting edge technology changes to the program such as risk-based assessment of a dam, and the Extreme Precipitation Analysis Tool which uses Doppler radar from historical storms to maximize the precipitation in a basin above a dam.

The hydrographic program has grown to over 420 stations all equipped with DCPs supported by a staff of 21 engineers and technicians. Colorado is the only state to have its own complete program and does not have to rely on the USGS.

In 2003, we were able to obtain approval by the Legislature of a cash-funded program using a new $40 fee per well permit. These fees fund an inspection program with five well inspectors located throughout the state resulting in over 2,800 inspections per year.

I began an emphasis on leadership development in 1993. I strongly believe that an organization must practice and develop leadership if it is to be truly successful. I believe in shared leadership and established a Leadership Team consisting of program managers in Denver and the seven Division Engineers. The Leadership Team discusses major issues such budget, personnel, strategic planning, legislation and policy. Decisions made through this process result in much greater buy-in by the team and by staff leading to successful implementation of the decision.

The greatest reward of my tenure has been working with the staff of the SEO, who are the most professional and dedicated public servants working in a government agency. I have been amazed at their dedication and work ethic. They recognize the importance of water to the lives of all citizens and make it their goal to help citizens understand water law and water administration.

Finally, I leave office on May 31, 2007 and look forward to assisting the state in future areas as an advisor on many of these issues if I am able to do so.

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Colorado Division of Water Resources

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South Platte River Basin—Division 1

After what appeared to be a very promising start to the water year, 2006 turned out to be an extremely dry year in Division 1. Because of the continued dry conditions, the Division experienced very early direct flow calls that persisted throughout the irrigation year. This was the fifth year in a row with low flow conditions. In order to respond to the continued dry conditions and increased competition for water, Division 1 has had to change historic administration practices and increase its reliance upon technology in order to fulfill its statutory obligations. Specifically, the Division made changes in non-irrigation season administration, developed and used protocols for recharge and augmentation plan administration, and redoubled efforts to foster communications with users. The Division also dramatically increased use of data loggers to allow better daily administration and to keep track of the many new recharge structures.

Well issues continue to be primary focus of administration in the South Platte. Staff spent considerable time participating in pending augmentation plan cases for well user groups assuring that they could be administered. Staff also continued to be very involved in enforcement efforts to assure that well users who do not have Substitute Water Supply Plans or Water Court Decreed Augmentation Plans did not operate. This involved issuing orders to users not to pump, monitoring to assure users did not pump, and pursuing complaints against users who did pump in violation of an order.

The State Engineer was not able to approve the Substitute Water Supply Plan for the Central Colorado Water Conservancy District Well Augmentation Subdistrict. Subsequently, the Water Court issued an order that the approximately 450 wells in this plan could not be pumped in 2006, adding these wells to the hundreds of other wells curtailed the last few years as a result of increased competition for limited water supplies and dry conditions. Staff was also responsive to the exponential growth in measurement and accounting requirements associated with these new well plans. A system by which accounting can be received, audited and maintained electronically was a major accomplishment.

A new gage on the South Platte River at Atwood was placed in full operation in late 2005 and was used throughout 2006 to track water through the South Platte River Compact reach. This gage was funded by the CWCB through the South Platte Decision Support System.

As always, Division personnel continue to attend and make presentations at conservancy district meetings and ditch company meetings as well as meetings of water user, realtor, and homeowner groups. For the seventh consecutive year, the Division of Water Resources sponsored a booth at the Greeley Farm Show in January, which is staffed by the Denver and Greeley offices. The booth provides a great venue to distribute information, answer questions in an informal setting, and provides positive opportunities for communication with the public.

Arkansas River Basin—Division 2

The water supply within the Arkansas River Basin of Colorado in 2006 was below average in terms of snowpack, but rebounded somewhat due to later season rainfall. The year saw continued improvements in the administration of augmentation plans. The effort put forth to contact plan users by mail proved to be effective, evidenced by numerous phone calls to, and contacts with, water commissioners and the Augmentation Plan Coordinators. The issues are as numerous as the phone calls, but the intended results are well defined; better user supplied reporting resulting in better records of diversions, depletions and releases of replacement water.

Use reports received were encouraging, but fell short of acceptable. In many cases, a report received from a given plan only contained use numbers from a small percentage of the plan participants. For those users of a given plan who did comply with requests to report, it became obvious that some do not understand flow meter units and multipliers, so accuracy becomes an issue and just receiving a report is not enough. Instructional information on flow meters is being assembled and will be distributed to home or property owner associations and other plan participants.

The Division sponsored water commissioner training to emphasize the importance of plan administration and to clarify diversion record coding for the important elements of diversion, depletion and replacement. As part of this effort, Plans of Administration are being written for Augmentation Plans and Substitute Water Supply. The plans assign responsibility for collection and processing of data and enforcement of other terms and conditions.

Development work continued on improvements and expansion of the Fountain Creek Transit Loss Model by the U.S. Geological Survey in cooperation with the Colorado Water Conservation Board, El Paso County Water Association, and numerous water users and municipalities on Fountain Creek.

In addition to attending meetings of the five water conservancy districts held within the basin each month and meetings with various water users associations, Division personnel were provided with a number of various opportunities to address wider audiences on a number of water related topics.

Rio Grande Basin—Division 3

The year 2006 was a year with below average flows. The year started out with the lowest snowpack in 30 years. By March, the snowpack was less than that of 2002, the lowest year of record. The Sangre de Cristo range was particularly hard hit with some basins having no snowpack. Late March and April snow saved the year from being a total disaster, however, calendar total forecasts by June were still well below normal. Streams on the Sangre de Cristo range had some of the worst runoff on record. Ute Creek near Fort Garland had no runoff hydrograph at all.

In June of 2005, the Division of Water Resources promulgated rules on the measurement of ground water in Division 3. Titled, "Rules Governing the Measurement of Ground Water Diversions Located in Water Division III, The Rio Grande Basin," these rules call for the metering of all non-exempt wells over fifty gallons per minute located in Division 3. The Rio Grande Water Users Association filed an objection to the rules. However, the Division was able to work with the objectors in working out concerns regarding the availability of meters, allowing variances under the regulations, and setting up standardized information forms for implementing the program. The Court ruled in favor of the Rules in July. The deadline for having meters installed on these wells is March 1, 2007.

A class was held in May to qualify interested persons to verify the accuracy of well meters. Over 60 people attended the class, assuring that there would be a sufficient number of installers to handle the large number of wells in the valley. To offset the well metering workload, the legislature authorized seven additional full-time employees for the Division staff. Hiring efforts began as soon as the new fiscal year began. By the end of December, four field technicians and a program manager had been hired.

Stream administration was challenging due to the low snowpack and the oddly timed precipitation events in the basin. Early low forecasts for basin yields led to low compact delivery requirements and curtailment percentages. The weather impacted the valley with virtually no precipitation in the summer, causing streamflows to drop to well below average by mid-July. Surface water rights were severely impacted. Meanwhile, the well owners continued pumping. Heavy precipitation events in late August through October relieved the need to pump wells heavily during the traditionally hot and dry summer, and generated large streamflows and the ability to recharge some additional water into the aquifers. The net result was a 35,000 acre-foot loss in the unconfined aquifer study area. This issue continues to fan the flames for ground water administration.

Gunnison River Basin—Division 4

This water year was one of the wettest on record for precipitation. The summer rains started in early July and remained strong through the months of September and October. The snowpack in April was close to normal in the Gunnison and San Miguel basins. Because of the good snowpack the previous year and the abundant rains in the summer and fall, the level in the reservoirs were very high going into the winter season. This is shown in the high carryover storage level in Blue Mesa Reservoir despite running strong flows in the Black Canyon all summer. Blue Mesa, the state's largest reservoir, has gradually gained storage over the past four years. This gaining trend continued throughout the 2006 irrigation year. The reservoir came close to filling but did not because of operational decisions and actual runoff amounts that were below the forecasted amounts.

On the San Miguel River, the frequent rains kept the flows more than high enough to satisfy the numerous senior water rights near Nucla and Naturita for the entire irrigation season. Normally, a river call from the Highline Canal and the other senior ditches is made in August. Even after several low months in the spring, the precipitation totals for the 2006 water year across Division 4 were way above normal with near record amounts occurring in July and August. This virtually eliminated any possibility of river calls on the Gunnison River from the Redlands Canal or the Gunnison Tunnel.

In March 2004, the U.S. Bureau of Reclamation sent out scoping comments for the Aspinall Unit Operations Environmental Impact Statement. Monthly meetings were held in 2004 and in the latter part of 2005, a hydrology subgroup was established to formulate use of the models and data sets that will be used to evaluate each alternative and how it will affect the operations of the Aspinall Unit. The process continued with monthly meetings in 2006. Most of the efforts were focused on developing the data sets and parameters for modeling the various alternatives which will eventually be created to see their impacts on the Aspinall Unit, the Power production, their effects on water rights including the Redlands Canal, and flows in the Gunnison River down the confluence with the Colorado River. On September 11, District Judge Brimmer issued his decision on the Black Canyon water rights. This created uncertainly with the Aspinall EIS Process, so in November, the USBR decided to postpone the process until the water right issues are settled.

After over 22 years with the Division, Division Engineer Frank Kugel retired on September 15. Frank started his career in the Denver office, and was a Dam Safety Engineer in Durango. He came to Montrose as the Assistant Division Engineer in 1999 and became the Division Engineer in 2002.

Colorado River Basin—Division 5

The 2006 irrigation season began with snow accumulations well above average. November and December produces on average 32 percent of the annual snowpack accumulation. However, in 2006, an accumulation of 48 percent of the average annual snowpack occurred. January measurements show the basin was 133 percent of average overall. This positive beginning deteriorated but remained above average with the March 1 basin-wide snowpack at 115 percent of average. The forecast continued to diminish in March and, by May, runoff was projected to be slightly above average; in June, runoff was projected to be slightly below average.

In January, reservoir storage for the major reservoirs was 25 percent greater than the previous year and 101 percent of normal storage. By early July, all reservoirs in the basin had filled with the exception of Granby and Homestake Reservoirs. Both reservoirs continued to increase storage through late July, and the maximum storage at both reservoirs was slightly less than in 2005. Green Mountain Reservoir achieved paper-fill of its 1935 first fill right on May 28, 2006, and a physical-fill on June 20, 2006, reflecting the near average run-off conditions. Releases at Green Mountain were on pace to completely deplete the West Slope HUP by the end of the irrigation season. The declaration of a surplus and management of the HUP resulted in no demands on Green Mountain from the major users of the Grand Valley irrigation canals, but was offset by the releases for endangered fish.

Excluding two days in November, the Shoshone Hydro Power Plant had its senior call of 1,250 cfs on from November 1, 2005 through January 4, 2006. From January 1 through May 1, the power plant operated with only one turbine for normal maintenance. During this period, river flows were sufficient to satisfy demands and the water users operated under free river conditions. On May 2, the power plant was back to full operation, but by then spring runoff had commenced and free river conditions continued.

The Colorado Water Conservation Board did not place a division-wide call for their minimum streamflows in 2006. Administration of instream flows continue at many locations including Snowmass Creek, Ten Mile Creek, the Blue River above Dillon, and the Snake River. For the purposes of instream flow administration, negotiation for the construction and operation of two new gages for the Roaring Fork River above the confluence with the Fryingpan River and for the Crystal River above Carbondale was accomplished in 2006. The gages were constructed in the fall of 2006 including some initial current meter measurements to begin developing a stage-discharge relationship.

Releases for the endangered fish in the 15-Mile Reach were near normal and a four percent increase over last year. The endangered fish include the Colorado pike minnow, humpback chub, bonytail chub, and razorback sucker.

Yampa/White River Basins—Division 6

Water year 2006 started out with plentiful rain and snowfall, but by May the snowpack had dropped significantly. The high snowpack in December through March caused concern that spring runoff could be significant and potentially cause damage. As a result, monthly flood information updates were maintained which provided an overview of the basin-wide snowpack, a listing of specific gage/SNOTEL sites of interest or concern, preparation activities and meetings, high water and flooding observations, and any other information pertinent to present and predicted flood concerns. Though runoff flows were high in limited areas, very little damage occurred. Precipitation amounts varied widely across the Division. The water year started out with above average precipitation in all three basins (North Platte, White and Yampa Rivers). Water administration was slightly above average throughout irrigation year.

The Little Snake River is administered jointly with the State of Wyoming during times of shortage pursuant to Article XI of the Upper Colorado River Compact. There were no calls honored by the State of Colorado on the Little Snake River in 2006. Staff continued to work with the State of Wyoming on updating the combined administration list for the Little Snake River.

Under the North Platte River decree, Colorado is limited to a total of 145,000 acres of irrigation, no more than 17,000 acre-feet per year of storage for irrigation purposes and no more than 60,000 acre-feet of transmountain diversions in any period of ten consecutive years in the North Platte drainage of Colorado. The amount of irrigated acreage was down from 2005 by approximately 14,000 acres, reflecting the return to below normal water availability in the North Platte system.

Pot Creek is a small tributary to the Green River; the headwaters of which are in Utah and entering the Green River in Colorado. Pot Creek water is apportioned among the users of Utah and Colorado under a Memorandum of Understanding last updated and signed by the State Engineers of Utah and Colorado on March 1, 2005. For most years, little if any water is available for Colorado users; however, for the past two years the winter snowpack has been enough to provide water to the Colorado users. In 2006, all of the major reservoirs in Utah filled and spilled.

San Juan/Dolores River Basin—Division 7

The late fall and winter of the 2006 Irrigation Year experienced dryer than normal conditions, reminiscent of the record-setting drought years of 2002 and 2003. Many of the local ski areas delayed opening due to a lack of snow, and the December 1 snowpack for the San Juan and Dolores River Basins was a bleak 28 percent of normal. By March 1, the snowpack was still only at 48 percent of normal, which was very near the historic values for the same time period in 2002. Fortunately, the weather pattern shifted further south in mid-March and produced significant snowfall in the basin. The precipitation recorded in Durango for the month of March was 2.38 inches, which was 139 percent of average. By April 1, the snowpack in Division 7 was at 70 percent of normal, a significant improvement to the values recorded just one month earlier.

In general, the high and low temperatures recorded in Durango were warmer than the 30 year averages for nearly the entire year. The exceptions to this trend were the months of March, when the basin experienced cloudy conditions, and the July through September monsoon season, which kept high temperatures below normal. Streamflows were near average for most of the fall and winter months due to the early fall precipitation, and warmer than average temperatures which melted some of the lower level snow. Most of the rivers and streams dropped to below normal flows in March until the monsoon season began in July.

As is always the case, administration of the La Plata River was again a challenge this year. The lack of significant storage in this drainage, and the existence of an interstate compact that requires changing daily deliveries, makes managing a below normal snowpack difficult. New Mexico placed a call for their compact deliveries on April 10, and with the exception of the period of high precipitation in October, the river required compact administration through the end of November (end of the compact year).

The City of Durango filed an application for a kayak course (RICD) the end of February. The claim is for a year-round water right for five different structures located within a quarter mile reach of the Animas River just above the intake for the Animas-La Plata Project. The flows requested range from a high of 1400 cfs for a two-week period in June, to winter time flows of 185 cfs. The RICD flows are being requested for 12 hours during the day, 365 days a year. There are over 50 objectors in the case and include the Southwestern Water Conservation District, La Plata and San Juan Counties, Town of Silverton, Colorado Water Conservation Board, Division of Water Resources, Bureau of Reclamation, and numerous canal and ditch companies. The original trial dates of May 14 to 25 were vacated due to discovery difficulties, and the two week hearing has been set to begin on January 7, 2008.

Dam Safety Activities

A total of 816 dam safety inspections, 146 construction inspections and 125 follow-up inspections were conducted by Dam Safety Engineers for a total of 1,087. There were 178 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 117,510 acre-feet. Also last year, the State Engineer's Office approved five plans for new dams and 37 plans for alteration, modification, or enlargement of existing dams, along with four hydrology studies for the determination of the inflow design flood for spillway design. The estimated cost of construction for the submitted plans was over $60 million.

The Dam Safety Branch was successful in revising and issuing unprotested *Rules and Regulations for Dam Safety and Dam Construction*. Two major studies were completed to assist engineers and hydrologists in developing consistent and reasonable PMPs and guidelines to estimate basin parameters for use in Inflow Design Flood (IDF) Studies. The beta version of the state-of-the-practice in Extreme Precipitation Analysis Tool (EPAT) for the West Slope was released and implemented. Initial use of EPAT has demonstrated that the tool emulates site-specific and Hydrometeorological Report (HMR) PMP events. A draft of the *Guidelines and Procedures for Estimating Basin Response Factors in Colorado* was presented to the Branch in the fall. The final publication will be available for use in early 2007. The Dam Safety Branch implemented risk-based profiling tool to help evaluate the jurisdictional dams in Colorado and prioritize the use program resources more efficiently and effectively.

Failure of Gillett Reservoir Dam near Gillett, CO in Teller County, Division 2

A total of seven dam incidents occurred last year resulting in two dam failures and significant damage to the other dams. The downstream flooding from the dam failures caused only minor property damage and no loss of life occurred, showing the effectiveness of the Dam Safety Program. Two of the major incidents occurred at jurisdictional sized, non-roster dams.

Rio Grande Compact

The administration of the Rio Grande Compact was rather challenging in 2006. A snowpack worse than that of 2002 accumulated early in the year. Saved by a few precipitation events in March/April, the runoff was still dismal. Late rains in August, September, and finally in October contributed extensively to the final index values. In June, the projected annual index for the Rio Grande at Del Norte was 440,000 acre-feet. The precipitation events added approximately 130,000 acre-feet causing the Rio Grande to end the year with over 570,000 acre-feet indexed.

While appreciated, the precipitation caused such increases in index flows that curtailment percentages had to be altered on a constant basis to keep up with the impact on the indices. After the irrigation season was over, the Rio Grande and Conejos systems continued to have significant return flows below the upper index gages which contributed to an eventual credit situation for the state. The San Antonio and Los Pinos Rivers contributed particularly to the over-delivery as these upper index gages, which are not counted against Colorado during the winter months, flowed all winter long.

Overall, Colorado started the year with an accrued credit of 4,600 acre-feet as of January 1, and ended the year with a total accrued credit of 15,500 acre-feet. Diversions on the Rio Grande started April 1 and ended October 31, 2006. Diversions on the Conejos started mid-March and ended November 1, 2006. The release of water from Rio Grande Project Storage in 2006 totaled 435,100 acre-feet. This is approximately 55 percent of a normal release for the Project.

The Rio Grande Compact meeting was held on March 23, 2006, in El Paso, Texas. New Mexico did approve the accounting sheets for 2005 because the Rio Grande Compact Commissioners directed the USBR hold credit water constant during the year and calculate evaporation at the end of the year as Compact accounting originally occurred.

Republican River Basin Activities

Following several years of drought and below-average precipitation that exasperated the already bleak water scarcity issues in northeastern Colorado's Republican River basin, the Republican River Water Conservation District (RRWCD) aggressively sought to implement conservation practices and irrigation alternatives within the region. Among those conservation alternatives was the Colorado Republican River Conservation Reserve Enhancement Program (CREP). This effort was a successful federal-state-local collaboration, which was solidified by a Memorandum of Agreement between the U.S. Department of Agriculture (USDA) and the State of Colorado on April 21, 2006.

The RRWCD worked diligently with Division of Water Resources staff to procure federal funds through the USDA for the purpose of encouraging farmers in the Republican River Basin to enroll in a voluntary CREP. This program provided incentives and cost sharing to participants who offered their land into eligible conservation practices, such as native vegetation or wildlife conservation for a period of 14 or 15 years. In its proposal to the USDA, the RRWCD sought to voluntarily retire 30,000 irrigated acres of cropland and up to 5,000 acres of non-irrigated pivot corners throughout the basin area.

The RRWCD worked with various federal, state, and local agencies including the USDA-Farm Service Agency (FSA), the USDA-Natural Resource Conservation Service, the Division of Water Resources, the Colorado Division of Wildlife, The Nature Conservancy, and the Colorado State Extension Service to address various natural resource issues throughout the basin. Numerous public meetings and participation in community events were held on CREP in 2006. As a result of this promotion and effort, CREP proved to be a highly successful program for the basin. Continuous enrollments began on lottery basis on June 12, with additional offers accepted beginning on August 21. For the reporting period of April 21 through September 30, USDA-FSA received 180 offers for contracts totaling 31,712.2 irrigated acres into the Republican River CREP.

A full-time Republican River water commissioner was hired, whose responsibilities center around irrigation monitoring within the basin. The water commissioner will assist with execution of federal programs and respond to reports of illegally expanded acres throughout the basin. Based upon the initial success of the Republican River CREP, the RRWCD is actively pursuing an Amendment which would enroll additional irrigated acres into the program, targeting wells closest to the river.

The Environmental Quality Incentive Program (EQIP), through the Ground and Surface Water Conservation Program, identified the Republican River Basin as a priority area and has contributed approximately $1,000,000 per year toward an irrigation retirement program in the basin. The RRWCD, through its Water Activity Enterprise, matched these funds and the program was successful in retiring 2,060 irrigated acres, five-year retirement on 1,034 irrigated acres, and one year retirement of 1,034 irrigated acres. The USDA-NRCS also worked with the RRWCD and with Colorado State University to implement a Conservation Incentive Grant that will employ water-conserving crop rotational practices in the watershed.

Developments in Kansas v. Colorado

The Arkansas River litigation projects continued into the last year of the three-year project plan. These projects include the construction of large weighing lysimeters at Rocky Ford, Colorado, the upgrading and maintenance of weather stations in the Arkansas Valley, the conduct of irrigation management studies by CSU, and the review by outside experts of changes and improvements made by DWR to the Hydrologic-Institutional (H-I) Model. These projects were funded as a result of the $750,000 budget request approved by the Colorado Water Conservation Board. The project to design and build two lysimeters at Rocky Ford continued.

The entire year was devoted to compiling and working on a list of issues to be resolved with the Kansas representatives prior to the drafting of the final decree by the Special Master in the *Kansas v. Colorado* Arkansas River litigation. Most of this work was done through a special engineering committee established by the Arkansas River Compact Administration, which met periodically during the year in both Topeka, Kansas and Denver, Colorado. In addition, negotiations took place during most of the year to complete the draft final decree and its appendices. Work continued in an effort to produce a version of the H-I model to be used to determine Compact compliance for the period 1997-2006. An expert report and affidavit were completed and submitted to the Special Master in June 2006 in support of the Colorado calibration of the current version of the H-I model.

Hydrography and Satellite Monitoring Activities

The Division 4 hydrographer continued to use Acoustic Doppler Current Profiler (ADCP), which uses Doppler technology to determine the depth and velocity of a stream cross-section. The sensing unit is mounted to a small plastic boat and is moved back and forth in the measuring section from a bridge or bank-operated cableway. The measurement takes only a few minutes, so it can be taken numerous times and averaged.

A 600 KHz, broadband, Acoustic Doppler Velocity Meter was installed at the Redlands Canal in cooperation with the U.S. Bureau of Reclamation in the spring of 2006. The ADVM calculates velocity, temperature, water depth and correlates these to compute a total flow.

Several new gaging stations were added to the satellite monitoring system in 2006. Typically new gages are added as the result of the identification of a critical water administration need. Existing gaging stations, not previously on the SMS, are also often candidates for adding satellite equipment where water administration needs have increased. Gage cooperators pay the capital costs associated with these new or upgraded stations. Annual maintenance agreements with cooperators on these gages are also developed.

Over 3600 measurements were made in streams, rivers, canals and ditches. These measurements were used to check and update stage-discharge relationships at gaging stations and in canals and ditches in support of real-time water administration decision-making and in support of historic streamflow record development.

The Hydrographic Branch continues to refurbish and maintain existing gaging sites that are not designated as critical flood sites, but are extremely important for the Division's primary purpose of water administration. Gage refurbishment funds amounting to $55,000 were received from CWCB for this purpose. These funds along with a portion of our General Fund appropriations were used to carry out several refurbishment projects.

125th Anniversary of the State Engineer's Office

Governor Bill Owens proclaimed March 5, 2006 in recognition of the 125th anniversary of the creation of the position of State Engineer. The Colorado General Assembly, on March 5, 1881 created the position of State Engineer responsible for distribution of water and the measurement of water flow in streams and canals.

Colorado was the first state to establish such a position. Since that time, twenty-one State Engineers have served the State of Colorado. M.C. Hinderlider served the longest from 1923 to 1954, and was involved in the negotiation of several interstate compacts assisting Delph Carpenter. The role of the State Engineer has expanded over the 125 years and is now responsible for administration of nine interstate compacts and two federal apportionment decrees, the safety of all dams in the state, the permitting of the use of ground water and the safe construction of water wells, and maintenance of water data and information.

Hal Simpson, the current State Engineer, has served since August of 1992 and is the second longest serving State Engineer. The water users have been well served over the one hundred twenty-five years by the State Engineer's Office in the fair and impartial distribution of Colorado's limited and precious water resources.

Additional Accomplishments and Statistics

The Division of Water Resources reviewed and acted upon **249 general Substitute Water Supply Plans** (SWSPs) (including emergencies) and **63 SWSPs related to gravel pits**. This includes **thirteen Rule 14** replacement plans approved in Water Division 2 pursuant to the Arkansas Use Rules.

A total of **435 subdivision referrals** were received and acted upon by this office. This function requires perpetual information sharing and communication with all Colorado counties.

The **Designated Basins** staff issued 144 final permits, 536 small capacity well permits, 304 large capacity permits/ Determination of Water Rights, 76 change application approvals, and was involved in 47 enforcement actions. Staff conducted a multi-day field trip to the Southern High Plains that facilitated the collection of several hundred Statements of Beneficial Use in the basin for final permitting. Staff continued evaluation of Final Permits in the Kiowa Bijou and Southern High Plains Basins, participated in eight Ground Water Commission administrative hearings and/or court cases, and conducted two, day-long sessions in the Kiowa Bijou Basin to assist well owners in submitting Statements of Beneficial Use and for gathering information for final permitting.

The ground water evaluation staff received and acted upon **7,112 applications for well permits**. Of this total, 405 were emergency applications for replacement wells. The well permitting staff continued to process and analyze well permit applications, 670 Monitoring-Hole Notices, 5,976 Changes in Ownership/Address, 5,692 Well Construction and Test Reports, and 3,626 Pump Installation Reports.

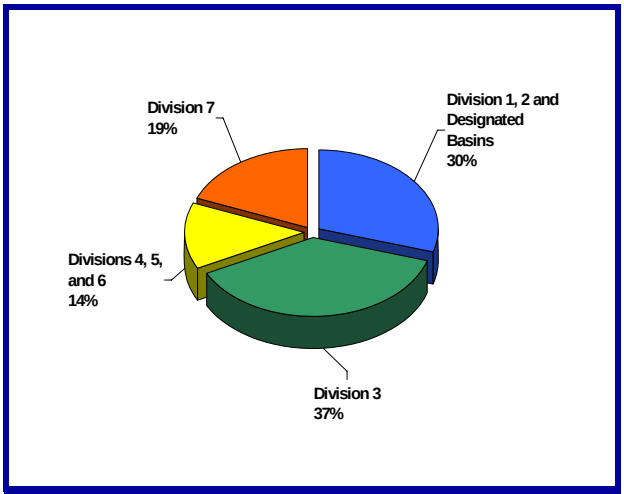
The Division of Water Resources is a **referral agency** for other state and federal agencies including the Colorado Division of Reclamation, Mining, and Safety, the Army Corps of Engineers, and the Colorado Department of Public Health and Environment and miscellaneous federal agencies regarding environmental assessments and environmental impact statements. Staff acted on **153 referrals** from these agencies.

Litigation continues to consume a significant amount of time, effort, and expense. In particular, staff continued to be actively involved in the adjudication of many large augmentation plans involving wells in Water Divisions 1 and 2. However, the State Engineer stipulated to all of the cases in which he was a party.

The **DWR Well Inspectors** conducted more than 2800 inspections during 2006. As in 2005, nearly half of the inspections were conducted in Division 3 (1083 inspections) which is fitting as the legislation that established funding and authority for the inspection program stemmed from the concerns of former Senator Entz who resides in the San Luis Valley.

The **Board of Examiners** licensed a total of 276 contractors in 2006, including 14 new contractors. License renewal for 2006 marks the second year that each contractor is required to obtain a minimum of eight hours of continuing education (CE) for license renewal.

The **South Platte Decision Support System (SPDSS)** completed Phase 3 and moved into Phase 4 of the 6-phase project. In Phase 3, most of the data collection, mapping of the Denver Basin bedrock aquifer system, mapping of the South Platte alluvium, collection and analysis of aquifer parameter, and water level data was completed.



Summary of well inspections by Division

Records Technicians scanned an average of 550 new well permit documents into the imaging system daily in 2006. All documents were checked for quality and indexing information and were filed and stored accordingly. In addition, the Records Technicians prepped the entire backlog of water court cases of approximately 180,000 documents. These documents were all made available electronically in the imaging system for customers and staff use.