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COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES


Quarterly Newsletter of the Office of the State Engineer

# My Tenure as State Engineer — A Retrospective and Look Ahead

**Hal D. Simpson, State Engineer**

My tenure as State Engineer began in 1992 with the dismissal of both the State Engineer and Director of Colorado Water Conservation Board (CWCB) on February 14, 1992 for failure to work together. This is referred to as the Valentine's Day Massacre. I was appointed as Acting State Engineer by Governor Romer on that date, and was formally appointed as State Engineer on August 7, 1992, along with Daries "Chuck" Lile as the Director of the Colorado Water Conservation Board. Chuck, the former Division Engineer from Division 7, and I were able to work together in many cooperative ways until his untimely death from brain cancer on February 8, 1999.

## Inside this issue:



COLORADO DEPARTMENT OF NATURAL RESOURCES

My career began with the State Engineer's Office (SEO) in December of 1972 after three years of duty as an officer with the Army Corps of Engineers and nine months at Wright-McLaughlin Engineers.

## Changes over the Past 34 Years

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.

*Role of Women in the Workplace*

In 1972, women were primarily in clerical positions with one woman professional engineer (P.E.) and one woman water commissioner. The cultural attitude toward and treatment of women were not acceptable by today's standards. Currently, the SEO has women in leadership, management, professional and technical positions. We now have the first woman Division Engineer (Erin Light in Division 6), ten other women P.E.'s, three as engineers-in-training, many women water commissioners, and many in technical positions. I am proud of the increased diversity and the cultural attitude toward women in the SEO.

*Use of Technology to Work more Efficiently*

In 1972, we had access to one computer at CSU for the Colorado Water Data Bank. The clerical staff were excited to have new IBM Selectric typewriters, and copies were made with carbon paper and not copy machines. Over the years, we were able to expand the use of computers and software so that now all staff have PC's and Windows XP operating programs. We have over 20 servers to support our many data, modeling, and internet applications including Hydrobase which supports our River Decision Support Systems (RDSS's) and related models and programs.

In 1988, the Sutron Corporation with the assistance of SEO staff piloted the Satellite- Linked Water Resources Monitoring System (SMS) in the Arkansas River basin. In 1985, the

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## My Tenure as State Engineer *(cont.)*

Water Resources and Power Development Authority granted to the SEO a complete SMS system with a computer, programs, and 150 Data Collection Platforms (DCP's) at key stream gaging stations throughout the state. The SMS has grown to over 420 DCP's at all major stream gages and canals. The current server and software are much more robust now and the public can access this data at no cost on our newly improved website. Colorado is the only state to have such a large statewide program owned and operated by its talented SEO staff. The support of the CWCB to provide funds for annual replacement of DCP's and maintenance is greatly appreciated.

In 1992, Colorado sought and obtained the support of the Legislature to begin development of the first RDSS by a state. 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. Again, the ongoing cooperation of the SEO and CWCB personnel has made these RDSS's successful.

*Dam Safety Program*

In 1972, the SEO Dam Safety Program consisted of three P.E.'s and now it consists of 14 P.E.'s with 11 engineers located in field offices throughout the state inspecting dams on a regular schedule. Under the direction of Jack Byers, Deputy State Engineer, 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. These were incorporated in the comprehensive 2006 amendments to the dam safety rules that did not have one objecting party.

*Hydrographic Program*

The SEO began its hydrographic program in the 1880's shortly after the office was established in 1881. It was recognized that in order to properly distribute water in over appropriated basins, such as the Poudre River basin, that streamflow data was needed and gaging stations were installed at critical locations. The program has grown to over 420 stations all equipped with DCP's supported by a staff of twenty-one engineers and technicians. Colorado is the only state to have its own complete program and does not have to rely on the USGS. The program is nationally recognized as the best state program thanks to Chief Hydrographer, Dr. Thomas Ley. Colorado also operates its program at about one-half the per station cost of the USGS. Other states are looking at the Colorado model to reduce costs of obtaining stream flow information.

*Water Rights Administration*

The SEO has always had the strongest on-the-river water rights administration program in the West due to the demand of water users for accurate and timely distribution of water. The program has expanded since the 1990's with the addition of 14 staff in the Arkansas River basin to support ground water measurement and use rules implemented to assure compliance with the Arkansas River Compact. We added staff in the Rio Grande basin (7 FTE) and South Platte basin (4 FTE) in 2006. Since 1992, we have been fortunate to increase the staff for primarily water rights administration and compact compliance from 220 to 265. We are fortunate that the Legislature has recognized this need. With the addition of the SMS, PC's, and programs developed by our excellent IT staff, we are able with much more accuracy and timeliness to distribute water to water users on our many over-appropriated river basins. No other state has this capability and it is a credit to our water users who have supported our efforts to expand and improve the program.

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## My Tenure as State Engineer *(cont.)*

*Safe Construction of Water Wells*

In 1972, we had three well inspectors whose positions were eliminated by budget cuts in 1983. In 2003, with the support of the Board of Examiners and Jack Byers (Deputy State Engineer), 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. This same legislation modernized Article 91 of Title 37 to allow the Board of Examiners to fine contractors up to $1,000 per violation and to implement a continuing education program for contractors requiring 8 credits per year. All of these changes have resulted in much better quality well construction and pump installation.

### Major Issues and Challenges

I have been involved in many major issues and challenges during my tenure as State Engineer and I have highlighted some of the more important ones below.

*Leadership Development*

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. We have relied on many sources of information and our favorite is Dr. Stephen Covey who states, "Leadership can be learned but not taught." Through utilization of principles in Covey's books, including the expectations of honesty, personal integrity, trustworthiness, we have improved leadership and trust within the organization. I believe in shared leadership and established a Leadership Team consisting of program managers in Denver and the seven Division Engineers. Shared leadership is not a new concept. King Solomon, one of the wisest men ever, wrote in Proverbs 15:22, "Plans fail for lack of counsel but with many advisors they succeed." 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.

*Conjunctive Administration of Ground Water and Surface Water Rights*

The implementation of the 1969 Water Rights Determination and Administration Act, which for the first time required the administration of tributary ground water rights with the much more senior surface water rights, was difficult to implement for my predecessors, State Engineers Kuiper and Danielson as well as myself. State Engineer Kuiper was able to promulgate ground water use rules for the South Platte River basin in 1974 but was not successful in the Arkansas River basin or the Rio Grande basin.

In 1996, I was able to promulgate ground water use rules for the Arkansas River basin which require well owners to replace out-of-priority depletions and depletions to usable stateline flow or not pump. The augmentation must be provided in accordance with plans approved annually by the State Engineer or by a Water Court approved plan for augmentation.

In 2001, the Supreme Court decision on Empire Lodge v. Moyers, found that the State Engineer did not have the statutory authority to annually approve substitute water supply plans (SWSP's) for replacing out-of-priority depletions as had been the situation since 1972. This resulted in a series of events to attempt to address the problem created by this decision in the South Platte River basin. The Legislature responded in HB02-1414 by giving the State Engineer authority to approve SWSP's under limited conditions (Section 37-92-308, C.R.S.). I attempted to amend the 1974 South Platte River basin ground water use rules in May 2002 to operate very nearly identical to the successfully promulgated Arkansas River basin ground water use rules. These would have allowed several organizations to continue to operate in a manner similar to the process

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## My Tenure as State Engineer *(cont.)*

that had been followed in the basin since 1972 without filing for a Water Court approved plan until the organization had acquired sufficient water rights to incorporate into a plan for augmentation. These rules were protested and a legal challenge was filed to the concept of allowing the State Engineer to annually approve a replacement plan. The Colorado Supreme Court found in March 2003 (Bijou v. Simpson), that the State Engineer did not have such authority and the rules were rejected. However, the Supreme Court allowed the Arkansas River basin ground water use rules to continue to operate.

The Legislature at the same time approved SB03-73 which allowed those organizations relying on the annual approval of a SWSP such as the Groundwater Appropriators of the South Platte (GASP) and the Central Colorado Water Conservancy District (CCWCD) three years to file for a plan for augmentation with the Water Court and to obtain annual approval by the State Engineer in the interim. GASP filed a plan for 2003 but went out of business after 2003. CCWCD filed for a plan for augmentation pursuant to HB02-1414. Members of GASP either filed their own plans for augmentation, about 1,000 wells, or were unable to pump due to a lack of replacement water resulting from the drought of 2001 to 2006, the competition for water driving up the price beyond the economic capability of farmers, and the loss of the long-term cooperation that had existed prior to this time. As a result, about 2,000 wells were shut down and the owners are facing difficult times. I deeply regret that the state could not help in preventing this disaster from happening.

*Arkansas River Compact Litigation*

My participation began in 1985 when Kansas filed suit in the U.S. Supreme Court alleging three violations of the compact dealing with post-compact (1948) water development. I was in charge of the engineering components of the defense until 1992, and then as State Engineer testifying over 20 days on Colorado's efforts to comply with the compact and with the Special Master's findings. After 12 years and 270 days of trial before Special Master Arthur Littleworth, we have been able to allow post-compact wells to continue to operate if in accordance with the 1996 ground water use rules. The Special Master found in his fourth report in 2004 that Colorado was in compliance beginning in 1997 and that he would evaluate Colorado's compliance after the first ten-year period was completed, which is 1997 to 2006. I am pleased to state that Colorado is in a credit status after this first ten-year period. The exact amount is still under review, but it is at least approximately 3,000 acre-feet.

Many of the undecided technical issues remaining in his fourth report had to be resolved by negotiation or arbitration because the Special Master was not going to conduct any additional trial. At my suggestion to David Pope, Chief Engineer for Kansas, we began in 2005 to negotiate without attorneys present to attempt to resolve as many of these issues as possible. After several intense sessions in Denver and Topeka, we were able to sign nine agreements in September, 2005 in the historic Mission Inn in Riverside, California and present them the same day to the Special Master at his office in Riverside. One issue went to arbitration and Colorado won on this issue.

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## 2007 General Palmer Award

**Hal Simpson was selected to receive the 2007 General Palmer Award by the Board of Directors of the American Council of Engineering Companies of Colorado. This award was presented to Hal Simpson as an outstanding engineer in industry in recognition of his contributions to the advancement and well being of the state or region. The criteria for the awards are recognition in the community, contribution to the State of Colorado, advancement of the engineering profession, and impact of the contribution on future generations.**

***The award is named after William J. Palmer, founder of Colorado Springs, one of Colorado's greatest "empire builders".***

## My Tenure as State Engineer

*Republican River Compact Litigation*

In 1998, Kansas filed suit in the U.S. Supreme Court alleging that Nebraska was violating the Republican River Compact by not limiting new well development and regulating post-compact wells. No allegations were made against Colorado. After Special Master Vincent McKusick found that all well pumping in the basin, if it impacted flows of the Republican River, were subject to the allocations of the compact, Nebraska countersued Colorado in 2000. This placed Colorado in a difficult position as it was now in a major interstate lawsuit, but with a two-year delay in trial preparation. Colorado Attorney General Ken Salazar and Governor Bill Owens agreed to attempt to mediate the litigation in the fall of 2001 using a professional mediator. After a year of intense efforts and many meetings, the states reached agreement and the Settlement Agreement was signed in December of 2002. The Colorado negotiation team consisted of Dr. Ken Knox, Chief Deputy State Engineer, Carol Angel and Pete Ampe of the Attorney General's Office and I. We were able to negotiate several conditions to improve our ability to comply with the compact. The most favorable was a five-year moving average for determining compact compliance rather than a single year.

*Working with Outstanding Staff*

The greatest reward of my tenure has been working with the staff of the SEO, who are without question, the most professional and dedicated public servants working in a government agency anywhere. I truly 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. The Water Commissioners have my highest respect as they are our "water cops" who have to regulate water rights in a fair and consistent manner while at times placing themselves in difficult and contentious situations.

### Looking Ahead for the Next State Engineer

The next State Engineer will have to address some recent issues that have come into focus. These are intra-state issues but are also interstate compact related.

*San Luis Valley Aquifer Management*

The State Engineer must continue to encourage the Rio Grande Water Conservation District to implement the provisions of SB04-222, which provides an alternative to the traditional method of augmenting for out-of-priority well depletions through the use of a water management plan approved by State Engineer and Water Court. The first step is to create a ground water management subdistrict and then to develop a water management plan. The plan must also address long-term sustainability of the aquifers in the valley and protect compact deliveries. Progress has been slow and difficult with one subdistrict created and a management plan ready to submit. If sufficient progress is not made in the rest of the valley, then I believe rules should be promulgated in late 2007 requiring that a management plan be filed with the Water Court by the end of 2008 and, if not, wells could not pump in 2009.

*Republican River Compact Compliance*

The issues in the Republican River basin are complex, not only dealing with the requirements of the Settlement Agreement made more difficult by the four consecutive dry years, 2003 to 2006, but also responding to the petition by the Pioneer Irrigation District to undesignate a portion of the Northern High Plains Ground Water Basin established in 1966 by the Ground Water Commission (GWC). If the GWC does undesignate some of the basin using the guidance in *Gallegos v. Colorado Ground Water Commission (2006),* then the State Engineer may have to promulgate ground water use rules for wells that would become tributary and thus, requiring them to augment for out-of-priority depletions or not pump. The on-going efforts of the Republican River Water Conservation District to provide an alternative to pumping through an additional CREP program for 30,000 acres of dry-up and other actions must be supported by the State Engineer.

*Arkansas River Compact Compliance*

The State Engineer must implement the final order of the Special

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## My Tenure as State Engineer *(cont.)*

Master expected in the next few months. It may be necessary to adjust the presumptive depletion factors in the 1996 ground water use rules to assure that the state remains in a credit status for the next ten-year moving period.

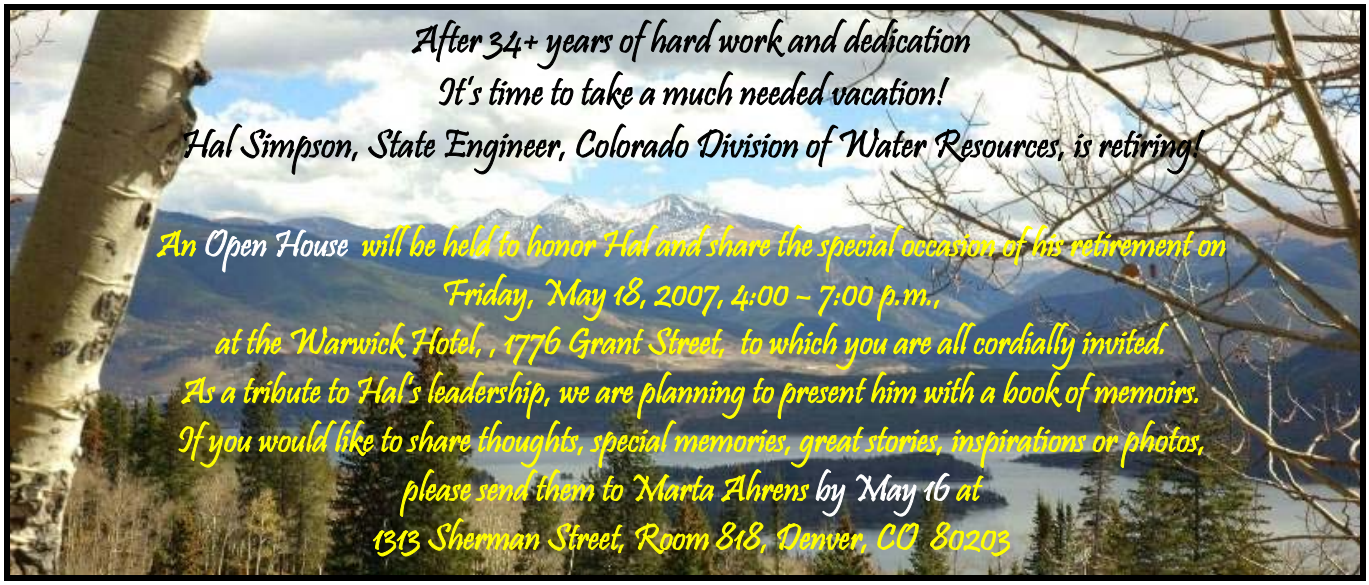
An additional issue has surfaced in recent years resulting from the conversion of flood irrigated lands under some of the canals in the valley to center-pivot sprinkler irrigation. This could result in a violation of Article IV D of the compact which states, "improved or prolonged functioning of existing works shall not materially deplete the usable quantity or availability of the waters of the Arkansas River for users in Colorado or Kansas." It is evident for the water short systems that exist in the valley that increased irrigation efficiency will decrease return flows and could result in a violation of Article IV D. I believe rules will need to be promulgated that require the owners of these sprinkler systems to provide proof they are not altering return flows and, if they do, provide a plan to alter irrigation practices to maintain historical return flows. Staff have drafted these rules and they will be available for public comment this summer.

*Colorado River Basin Rules on Administration of a Compact Curtailment Request*

Depending on future hydrology including the impacts of climate change, a long-term drought could result in a curtailment request from the Upper Colorado River Compact Commission to insure a delivery to the Lower Basin of the 75 million acre-feet over a ten-year moving total, or 82.5 million acre feet if a shortage is determined It is advisable that the State Engineer promulgate rules in advance on how post-compact water rights would be curtailed in the Colorado River basin and its tributaries in Colorado. Without these rules being in place, Colorado could be subject to litigation or an injunction from the Lower Basin states. It is important to proceed with these rules as it will take time to get them approved due to the probability that they will be challenged and appealed to the Colorado Supreme Court which could take several years to resolve. We have been anticipating this and have sought legal guidance from the Attorney General's Office on the legal aspects of this complex rule-making.

### Conclusion

Finally, I leave office 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. I leave in place a great dedicated staff and a Leadership Team with a Vision, Mission, Guiding Principles and Strategic Plan ready to support the next State Engineer. Water is their passion and they are strong leaders ready to move forward. I have been truly blessed and fortunate to serve as State Engineer for over fifteen years.



# Human Resources

## *New Employees*

**Eugene Brienza** was hired as a full-time Deputy Commissioner for Clear Creek and Well Enforcement Deputy Commissioner November 1, 2006. Gene comes to us with a wealth of knowledge having grown-up in the Clear Creek basin and worked as the Superintendent of the United Ditch Company for eleven years as well as filling the Clear Creek Deputy Water Commissioner position on a temporary basis during the 2006 irrigation season. Gene's sense of humor, strong work ethic and can-do attitude should make him very successful in his new position.

**Michael Hein** started as the Division 1 Ground Water Engineer on January 31, 2007. Mike's previous work experience included being a project manager with a local consulting engineering firm involved in both land development and irrigation ditch company work. When he was going to CSU, Mike also worked for Division 1 on the well location program during the summer of 1997.

**Diane Butler** joined the Division 5 staff in Glenwood Springs in February 2007 as Program Assistant. Diane comes to the Division from Cedaredge, where past experience included work with the Delta County School District as a Resource Consultant and the Delta County Sheriff's Office as an emergency dispatcher, among many other jobs. The Glenwood Springs office welcomes Diane to the DWR team and is excited to have her on board.

**Melissa Schneider** was hired the beginning of April to fill the Program Assistant position for Water Division 7 in Durango. Melissa grew up in the San Luis Valley, and is a graduate of Adams State College. She obtained B.S. degrees in Business Administration with a double emphasis in Management and Marketing. Her past employment includes bookkeeping and secretarial duties, with her most recent employment being with the San Luis Valley Regional Medical Center in Alamosa. Her duties at the hospital included collection coordinator, client billing and accounts receivable, and emergency room admissions clerk.

**Debra Gonzales** began working with the Division of Water Resources on April 16, 2007 as a Technician I in the Records Section. Her duties will consist of taking phone calls on the Records Information Telephone Line, assisting customers at the front desk, handling mail and payments, prepping, scanning, quality assurance and filing paperwork. Her previous work included 16 years of public service at the Denver Public Library as an Administrative Assistant, which included various filing systems for materials and upkeep of related databases.

**Geoffrey Davis** began working with the Division of Water Resources on April 16, 2007 as a Technician I in the Records Section. His duties will consist of taking phone calls on the Records Information Telephone Line, assisting customers at the front desk, handling mail and payments, prepping, scanning, quality assurance and filing paperwork. His previous work experience included customer service, administrative duties, mail processing, and database work. He has a B.A. in Geography and five years experience as an Associate Land Surveyor. He has knowledge of topographic mapping, legal descriptions and database management.

**James Martin** began working with the Division of Water Resources on April 9, 2007 as a Technician I in the Records Section. His duties will consist of taking phone calls on the Records Information Telephone Line, assisting customers at the front desk, handling mail and payments, prepping, scanning, quality assurance and filing paperwork. His background includes forestry management, customer service, records research, and records keeping. His education is in Forestry, Cartography and Terrain Analysis.

**Kathryn (Katie) Radke** was hired as a permanent employee in the Denver office on April 10, 2007, after working four months as a temporary employee. She is responsible for the Conservation Reserve Enhancement Programs (CREP) for the Republican River and Rio Grande Basins, providing fiscal, policy, and analytical support in administering interstate compacts, as well as providing assistance to the budget analyst. Katie graduated from the University of New Hampshire with an Environmental Conservation degree and will complete a Master's degree in Environmental Policy from the University of Denver in the fall of 2007. Prior to coming to DWR, Katie worked as a certified paralegal in Massachusetts and Colorado law firms, as well as with an environmental consulting firm.

**Dan Garner** was hired as the Deputy Water Commissioner for Districts 8 (Cherry and Plum Creeks), 9 (Bear and Turkey Creeks), and 80 (North Fork of the South Platte River) in May 2006. Dan comes to us with a wide variety of work experience including spending five years working as the irrigator and water system operator at a camp in the mountains near Grant, Colorado. Dan has already proven to be a very capable hand and we expect he will continue to be a great employee.

## *Retirements*

**Mike Cola** retired on April 30, 2007 after 23 years of service as a Dam Safety Engineer in the Division 1 office in Greeley. His commitment and dedication to the mission of the Dam Safety Program was deeply appreciated.

## CALENDAR OF EVENTS

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| **May 18** | Colorado Ground Water Commission Meeting, 1313 Sherman Street, #318, Denver, Colorado; for more information, contact Marta Ahrens at 303-866-3581 |
| **May 22-23** | Colorado Water Conservation Board Meeting, Montrose, Colorado; for more information, contact Dena Crist at 303-866-3441 |
| **June 5** | Colorado Board of Examiners of Water Well Construction and Pump Installation Contractors Meeting, Denver, Colorado; for more information, contact Gina DeArcos at 303-866-3581 |


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