

**INTERSTATE COMPACTS, LITIGATION, INFORMATION TECHNOLOGY,
MODELING AND DECISION SUPPORT SYSTEMS, PERSONNEL,
ACCOUNTING, AND PUBLIC RECORDS**

2005 ANNUAL REPORT



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INTERSTATE COMPACTS, LITIGATION, INFORMATION TECHNOLOGY, MODELING AND DECISION SUPPORT SYSTEMS, PERSONNEL, ACCOUNTING, AND PUBLIC RECORDS

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INTRODUCTION

The protection of Colorado's water resources is a complex and vital challenge to the employees that serve in the Division of Water Resources. Recognizing the importance and value of our responsibilities, the ensuing text illuminates some of the activities, highlights, and accomplishments achieved by our dedicated and professional staff during 2005. The administrative and functional responsibilities performed by Division of Water Resources staff in this branch include:

- ◆ Provide engineering, accounting, and advisory support to the Colorado State Engineer for all interstate compacts and international treaties.
- ◆ Perform litigation management for our involvement within the judicial and water court processes and expert witness testimony. Coordinate activities with the seven Water Divisions, the seven Water Courts, and legal counsel provided through the Colorado Attorney General's Office.
- ◆ Provide Information Technology technical expertise, management, and support for computational and communication functions to the Division of Water Resources.
- ◆ Perform computational modeling and management of the decision support systems used by the State of Colorado to provide technical analyses into all facets of water resource engineering, planning, and administration.
- ◆ Serve the public and internal staff through management and availability of data, information, and records maintained by the Division of Water Resources.
- ◆ Manage the accounting and personnel functions for the agency, including collaboration with the seven Division offices.

The following narrative is a synopsis of our activities in each of these major areas of responsibilities and our anticipated goals for the next year.

INTERSTATE COMPACTS

The State Engineer and Engineer Advisers for all the interstate river compacts actively continue to assure Colorado meets her compact obligations while simultaneously protecting Colorado's internal interests and water allocations. The State Engineer also administers interstate waters in accordance with two United States Supreme Court decrees and two interstate agreements (Pot Creek and Sand Creek). Litigation, water administration/ accounting, and engineering analyses are requisite and perpetual activities on the Arkansas River, Rio Grande River, Costilla Creek, Republican River, North Platte River, La Plata River, and South Platte River. The following narrative

provides a synopsis of activities relevant to the Republican River Compact and Pot Creek Agreement (detailed information regarding other compact administration activities is available through the relevant Water Division Report):

Republican River

The United States Supreme Court adoption of the Republican River Final Settlement Stipulation and dismissal of the case *Kansas v. Nebraska and Colorado*, No. 126 Original in 2003 signaled a new era of water administration in the 24,900 square-mile Republican River watershed that encompasses portions of northeastern Colorado, southwestern Nebraska, and northwestern Kansas.

The settlement permits each state to choose the actions it deems necessary to achieve compliance. In Colorado, Senate Bill 04-235 established the Republican River Water Conservation District (RRWCD) in Phillips and Yuma counties, and those portions of Kit Carson, Lincoln, Logan, Sedgwick, and Washington counties within the basin. The legislation empowers the district to take such actions as are necessary to cooperate with and assist the state of Colorado to carry out the state's duty to comply with the compact.

Division of Water Resources staff continues to work collaboratively with the RRWCD and water users in the Republican River Basin. The primary target of these activities was development and participation in federal irrigated land retirement programs such as the Conservation Reserve Enhancement Program (CREP) and the Surface and Ground Water Conservation Program contained within the Environmental Quality Incentives Program (EQIP). Another year of below-average precipitation on Colorado's Republican River basin, coupled with rising energy costs, has forced producers throughout northeast Colorado to seriously consider an array of conservation practices and alternatives to irrigation. The intent of these programs is to provide an overall reduction in ground water pumping, thereby reducing the draft upon the Ogallala aquifer while also providing a vegetative cover to reduce soil erosion and induce wildlife habitat. The agriculture producer is compensated for the retirement of irrigated lands at fair-market value. These programs are funded by an approximate 80% federal monetary contribution and 20% state, or in-kind contribution. The Republican River Water Conservation District worked with DWR staff to develop a \$60 million Conservation Reserve Enhancement Program that seeks to voluntarily retire 30,000 irrigated acres throughout the basin. With the Farm Service Agency providing 80% of the necessary funding, many producers will have the opportunity to receive payment for idling cropland for 15 years and permanently retiring their water.

In 2005, the Natural Resource Conservation Service conducted its second annual sign up under the Environmental Quality Incentive Program and anticipates retiring another 3,000 irrigated acres in 2006. NRCS also worked with the District and with Colorado State University to implement a Conservation Incentive Grant that will employ water-conserving crop rotational practices in the watershed.

The Division of Water Resources also works with RRWCD staff in the review of irrigated acreage in perspective of well permit conditions and local County assessed irrigated acreage. The purpose of this cross-checking is to assure that irrigated acreage is limited to those lands that are lawfully entitled to irrigate the quantity and location of lands specified by the relevant ground water well permit. If necessary, enforcement actions are pursued in cooperation with the Colorado Attorney General's Office.

Pot Creek

In March 2005, State Engineer Hal Simpson accepted and signed a Revised Memorandum of Understanding and Agreement for Pot Creek with his counterpart, Utah State Engineer Jerry Olds. The major purposes of this Memorandum of Understanding and Agreement are to provide a definitive and mutually accepted mechanism to provide for the equitable distribution of the waters from Pot Creek, to remove all causes of present and future controversy, to promote interstate comity and to establish the obligations of each State with respect to the delivery and administration of waters in the Pot Creek Basin.

The headwaters of Pot Creek rise in the high Uinta Mountains at an elevation of approximately 8,520 feet above mean sea level. The main stem of Pot Creek flows approximately five miles in the eastern portions of Daggett and Uintah Counties in Utah from its headwaters to the inlet of Matt Warner Reservoir. Pot Creek continues in a generally southeastern direction for another 20 miles to the Utah-Colorado state line and then for another eight miles within Colorado before reaching the confluence with the Green River in Moffat County, Colorado at an elevation of 5,210 feet above mean sea level. The major tributaries to Pot Creek are Kettle Creek, Simons Creek, and Cow Creek. There are streamflow diversions from Pot Creek, storage in reservoirs, and application of water to beneficial use in the Pot Creek Basin in both Utah and Colorado. The Pot Creek watershed encompasses approximately 153 square miles, of which 108 square miles are in the State of Utah and 45 square miles are located within the State of Colorado.

The State Engineer of Utah and the State Engineer of Colorado, in consultation with the water users of their respective States, shall administer the waters of Pot Creek in conformance with applicable State laws and shall distribute the waters of Pot Creek under the Doctrine of Prior Appropriation. The Revised Pot Creek Memorandum of Understanding and Agreement, and all actions appurtenant thereto, are subject to the provisions and limitations contained in the Colorado River Compact, 42 Stat. 171 (1922) and the Upper Colorado River Compact, 63 Stat. 31 (1948).

The State Engineer of Utah and the State Engineer of Colorado are vested with exclusive authority to administer the terms of this Memorandum of Understanding and Agreement and all other ancillary documents necessary to equitably apportion the waters of Pot Creek. The State Engineer of Utah and the State Engineer of Colorado shall make and enforce such regulations within their respective States with respect to the delivery of interstate waters in Pot Creek to enable compliance with this commitment. In those cases where the Memorandum of Understanding and Agreement or other applicable documents are deficient in establishing standards for the administration of Pot Creek within Utah to meet the terms for delivery, the State Engineer of Utah shall take such actions as will be legal to regulate the distribution of water among the appropriators in Utah, including curtailment, to meet the lawful obligations under this Memorandum.

To administer the interstate waters of Pot Creek, the States of Utah and Colorado recognize the need, value, and utility of an interstate priority list that incorporates the name, location, priority date, season of use, and beneficial use(s) for permitted and decreed water rights within the Pot Creek Basin. The States jointly developed the Combined Administration List with an effective date of March 1, 2005 as the controlling

priority list to regulate, distribute, and administer water within the Pot Creek Basin during the 2005 irrigation season and for all successive years until such time as it may be mutually revised and accepted by the States of Utah and Colorado.

Daily operations under the Memorandum of Understanding and Agreement will be performed in accordance with the Pot Creek Operations Manual that outlines the duties of the Pot Creek Water Commissioner and describes the documentation and general procedures that are mutually accepted and adopted by the States of Utah and Colorado. The Memorandum also includes a formal dispute resolution process to address any matter of dispute relating to Pot Creek administration, including, but not limited to, administration and enforcement of this Memorandum of Understanding and Agreement.

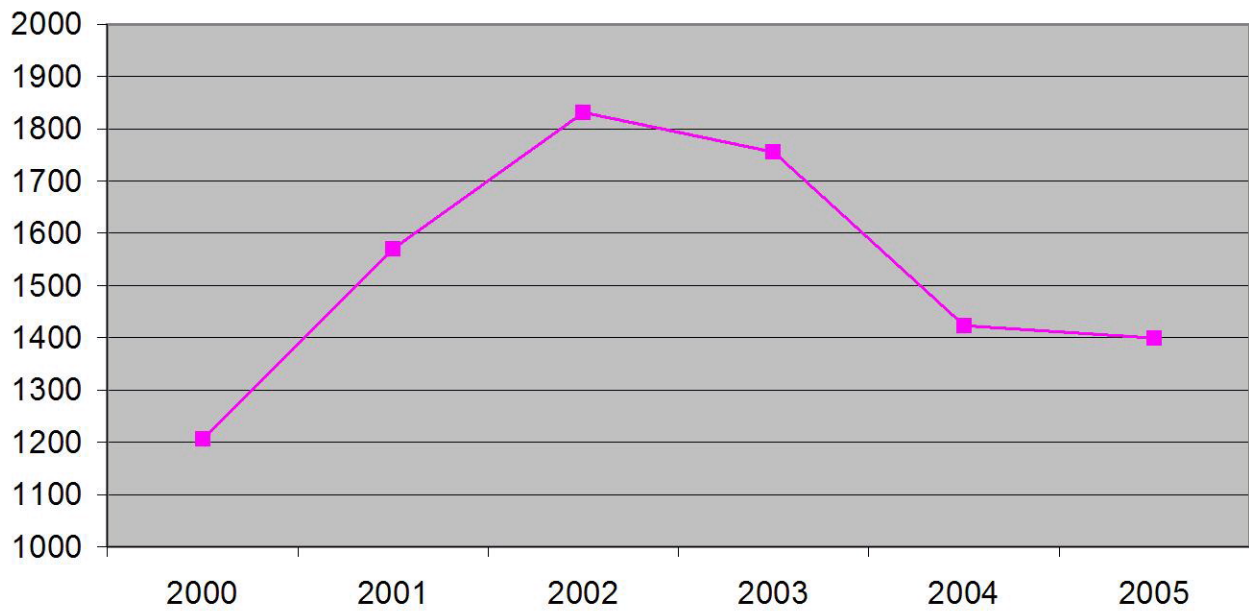
LITIGATION

To perform our statutory responsibilities, litigation continues to consume a significant amount of time, effort, and expense for the Division of Water Resources. The following table describes the number of water court applications filed in 2005 and formal Statements of Opposition filed on behalf of the DWR:

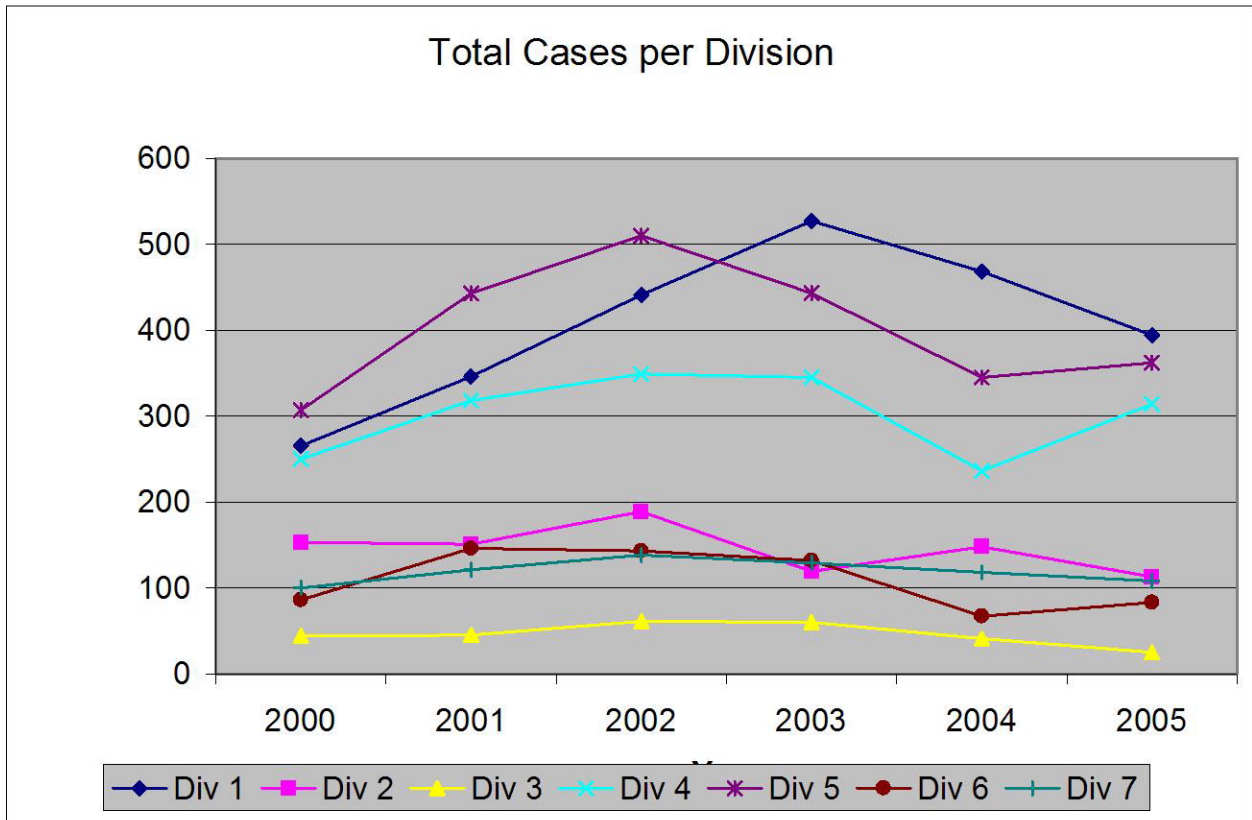
Division	Applications	Statements of Opposition	Opposition %
1	394	21	5.3%
2	113	7	6.2%
3	25	1	4.0%
4	314	-	0.0%
5	362	5	1.4%
6	83	1	1.2%
7	108	-	0.0%
Total	1,399	35	2.5%

Cases	2000	2001	2002	2003	2004	2005
1	265	346	441	527	468	394
2	153	151	189	119	148	113
3	44	45	61	60	41	25
4	250	318	349	345	236	314
5	307	443	510	443	345	362
6	86	146	143	132	67	83
7	100	121	138	129	118	108
Total	1205	1570	1831	1755	1423	1,399

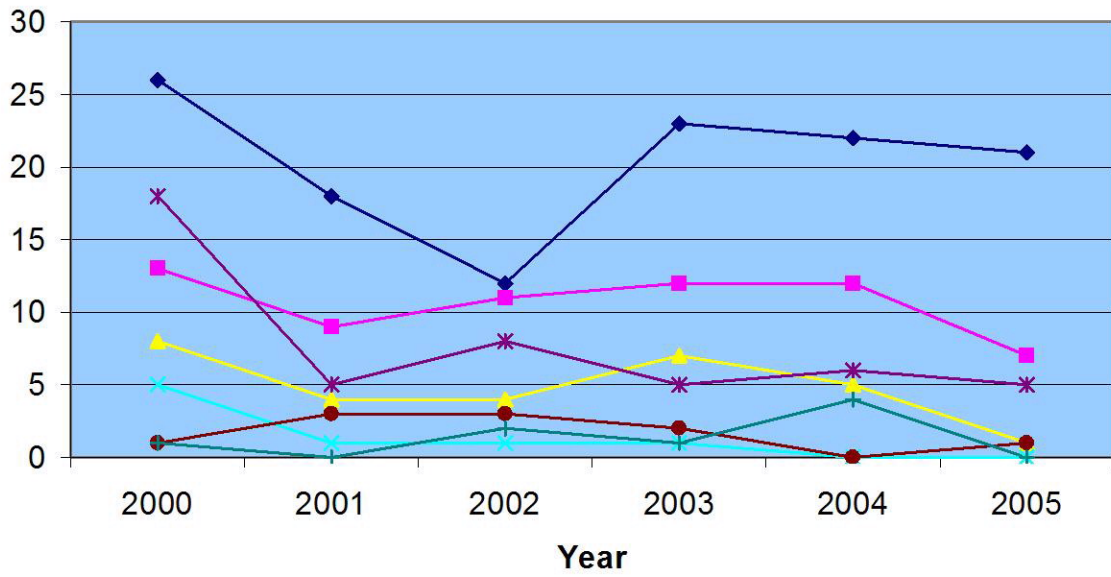
Total Number of Cases per Year



Total Cases per Division

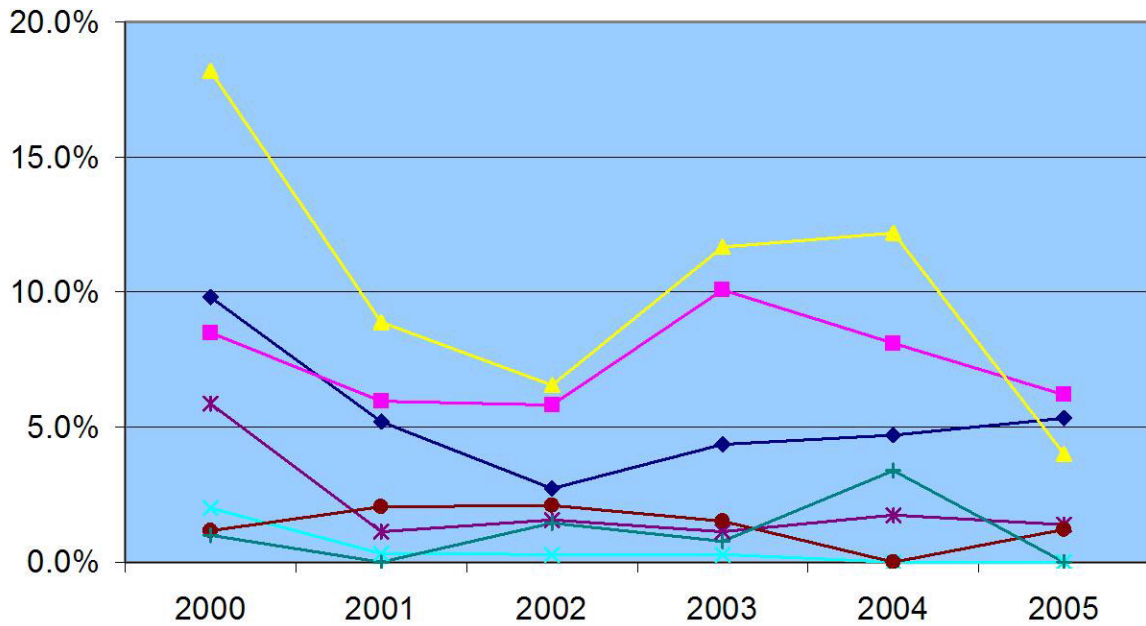


Number of SOPs per Division



◆ Div 1 ■ Div 2 ▲ Div 3 × Div 4 * Div 5 ● Div 6 + Div 7

Percentage of SOPs to Applications



◆ Div 1 ■ Div 2 ▲ Div 3 × Div 4 * Div 5 ● Div 6 + Div 7

ABANDONMENT LIST

Litigation continues on the protests to the 2000 Decennial Abandonment List, as provided in section 37-92-401, C.R.S. The nine open cases are more complicated and involve parallel change applications and ownership issues. The cases that remain open are:

Div	Protestant	Case No.	Structure
1	Thomas, Richard F.	02CW402	Great Western Seep
2	Eggleston and Chambers	02CW095	Davis Ditch
2	Powers, Michael F.	02CW094	Mexican Ditch
2	Thornsteinson, Nolan and Margie	02CW189	Mexican Ditch
2	Walsenburg, City of	02CW088	John George Ditch No. 48, Priority No. 56
3	Hathorn, Shirley	02CW018	Quinlavan Ditch
3	Carl Shinn	01CW037	Quinlavan Ditch
3	Halliburton, Steige, Steward	01CW037	Quinlavan Ditch
5	Pitkin Exchange Holdings of Aspen	05CW096	Syphon Ditch (at Redstone Castle)

Statewide, 2269 water rights were on the original lists. Following objections, the Division Engineers removed 16% of those rights, to create the final Revised Abandonment List. Of the remaining 1898 rights, 115 protests were originally filed and an additional 13 were filed late.

Div	Orig. Aban. List	Revised Aban. List	orig vs. revised lists	Number of Protests	% of Revised List protested
1	673	542	-19%	30	6%
2	671	617	-8%	14	2%
3	72	61	-15%	18	30%
4	155	136	-12%	8	6%
5	201	157	-22%	30	19%
6*	110	88	-20%	8	9%
7	387	297	-23%	20	7%
Total	2269	1898	-16%	128	7%

*The Division 6 totals include the WD 43 cases.

Most of the cases have been resolved and the remaining protests are close to resolution. This table represents the results, and anticipated results, of the protests.

Div	Removed from list by DWR				Protest Withdrawn				Settled				Trials			
	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005	2002	2003	2004	2005
1	6	6	6	6	3	5	8	10	4	8	11	13	11	9	4	1
2	4	4	4	4	4	4	5	5	4	4	3	5	1	2	2	0
3	0	0	0	0	1	1	1	1	13	16	16	16	1	1	1	1
4	0	0	0	0	0	1	1	1	6	7	7	7	2	0	0	0
5	4	3	3	4	0	1	2	3	17	21	25	23	4	1	0	0
6	0	0	0	0	0	0	0	0	8	8	8	8	0	0	0	0
7	1	1	1	1	1	2	2	2	17	17	17	17	1	0	0	0
Total	15	14	14	15	9	14	19	22	69	81	87	92	20	13	7	2

Seventy-two percent (92) of the protests have or will settle for a partial abandonment, some requiring court-approved changes or improvements to the structures. Only two cases might be headed for trial.

The General Assembly allocated Legal Services funds for the Abandonment List for FY 02-03 and FY 03-04, only. In FY 04-05, DWR's regular legal services line absorbed \$24,050 (406.1 hours) for the outstanding abandonment cases. As of January 31, 2006, DWR's regular legal services line has absorbed \$7,834 for (124.9 hours) for the outstanding abandonment cases.

The staffs of the Attorney General's Office, the Division Engineers' Offices, and the Denver Office should be commended for their diligence in managing and resolving these cases. Many of the protests require extensive research and field inspections. Resolution of the cases would not be possible had we not had the extensive and irrefutable facts to counter the allegations of use.

Complaint re: Administration of Coalbed Methane Wells

William S. Vance, Jr., Elizabeth S. Vance, James G. Fitzgerald, and Mary Theresa Fitzgerald, v. State Engineer and Division Engineer, 05CW63 Div. 7

On November 21, 2005, four ranchers from near the Fruitland Outcrop in Division 7 filed a Complaint for Declaratory Judgment, asking the court to require the State and Division Engineers to permit and administer coalbed methane wells as water wells. On December 12, 2005, the Engineers filed their Answer and Motion to Dismiss, asserting that the water court does not have jurisdiction to hear the matter; only the Oil and Gas Conservation Commission has jurisdiction over gas wells, including CBM wells. See sections 34-60-105 and 106(2), C.R.S. (2005). On January 30, 2006, BP America Production Co., an oil and gas producer, moved to intervene in the case in support of the Engineers' position. To date, the Court has ruled on neither BP America's intervention nor the State's Motion to Dismiss.

Selective Subordinations and Administrative Authority under §37-92-305(8), C.R.S.

Ground Water Management Subdistrict of the Central Colorado Water Conservancy District, 02CW335 Div. 1 and 05SA205

In response to the opinions in *Empire Lodge*¹ and *Thornton v. Bijou*,² the Central Colorado Water Conservancy District created its Ground Water Management Subdistrict and filed for one of the largest irrigation-well augmentation plans in the South Platte Basin. Fifty parties filed statements of opposition. Eventually, the parties proposed a complex decree and Judge Klein signed it on June 30, 2005. The decree left two legal issues outstanding that the Engineers have appealed to the Supreme Court. They are:

1. The Engineers' authority to curtail out-of-priority diversions that are replaced pursuant to a decreed augmentation plan, yet do not appropriately replace the depletions in time, location, and amount. This is an interpretation of section 37-92-305(8), C.R.S.

¹ *Empire Lodge Homeowners' Association v. Moyer, et al.*, 39 P.2d 1139 (Colo. 2001).

² *City of Thornton v. Bijou Irrigation Co., et al.* 926 P.2d 1 (Colo. 2002).

2. The process by which an senior user may place a call for junior water rights, but choose to exempt some junior rights from that call (a.k.a., selective subordination). To date, the parties have fully briefed the matter and oral argument has been requested, but not set.

Standards of Evidence in Enforcement Actions

Simpson and Hall v. Michael Vaughn, 03CW431 Div. 1 and 04SA381

The Vaughn farm had a contract with the Groundwater Appropriators of the South Platte River Basin, Inc. to replace the depletions from pumping its out-of-priority irrigation well. When GASP dissolved, Michael Vaughn failed to find another augmentation source, yet continued to pump. In 2003, the Division Engineer issued a cease-and-desist order and tagged the well. Power records showed that the well continued to pump. On behalf of the State and Division Engineers, the Attorney General's Office filed a Complaint for Injunctive Relief, Costs, and Penalty on December 31, 2003. On October 19, 2004, Judge Klein ruled against Vaughn. In his order clarifying his verbal ruling, Judge Klein wrote, "The evidence established that it was more probably true than not that Defendant Michael Vaughn either on his own or by others acting under his authority and control and on Defendant's behalf unlawfully diverted water contrary to an order of the State Engineer issued pursuant to §37-92-502, C.R.S."

Vaughn appealed the matter to the Supreme Court, which heard oral argument on September 13, 2005. To date, an opinion has not been issued. Vaughn argued that section 37-92-503, C.R.S. requires the State to prosecute the person who diverted the water, not the owner or user of the water right.

37-92-503(1)(a). In the event an order of a division engineer or the state engineer issued pursuant to section 37-92-502 is not complied with, the state engineer and the particular division engineer in the name of the people of the state of Colorado, through the attorney general, shall apply to the water judge of the particular division for an injunction enjoining the **person** to whom such order was directed from continuing to violate same...."

Administering Wells in the Designated Basins

Gallegos v. Simpson, 03CV1335, Weld County Dist. Ct. and 05SA253

On September 26, 2003, the Gallegos Family (Reinaldo, Marianne, Harold L., Ellen and Gene J. Gallegos) filed a Notice of Appeal and Complaint for *de novo* review and for Declaratory Judgment against the Colorado Ground Water Commission and the State Engineer. The Family has water right on a ditch off Crow Creek, within the boundaries of the Upper Crow Creek Designated Ground Water Basin. The Family appealed the orders of the hearing officer and the Ground Water Commission, which held that the Commission does not have jurisdiction to administer wells withdrawing designated ground water for the benefit of surface water rights.

The Family moved for a Determination of Questions of Law regarding the State and the Commission's authority to authorize or allow junior wells to injure senior surface rights. The motion was denied, but the issue was remanded to the Commission to determine

whether Upper Crow Creek Basin designated ground water impacts Plaintiffs' surface rights. Judge Klein further wrote:

- a. If the Commission determines that designated ground water withdrawals impact Plaintiffs' surface rights, the Commission has jurisdiction over the complaint and must determine if Plaintiffs are entitled to any relief as prescribed by the modified prior appropriation system.
- b. If the Commission determines that designated ground water withdrawals do not impact Plaintiffs' surface rights and instead find that tributary ground water withdrawals affect Plaintiffs' surface rights, the Commission has no authority to act and this court will regain jurisdiction over this matter. This court does not have jurisdiction over this matter unless and until the Commission determines that designated ground water withdrawals are not impacting Plaintiffs' surface rights.

The parties have filed appeals and cross-appeals to the Supreme Court. No opinion has been issued to date.

2005 COLORADO SUPREME COURT OPINIONS

Change Application Reopens HCU Calculation in Coffin Nontributary Decree

Ready Mixed Concrete Co. v. FRICO, et al., 115 P.3d 638 (Colo. 2005).

Ready Mixed Concrete, applying for a change of the McCanne Ditch water right, claimed 900 acre-feet annually of fully consumable, developed water for use by augmentation or replacement, free from the river's call. The water court ruled that the 1918 decree for the McCanne Ditch right was for tributary water, not developed water, and return flows from the decreed irrigation use belong to the river system for use by other appropriators.

The Supreme Court upheld the water court decision, and held that the plain language of the 1918 decree, and the accompanying referee's report, demonstrated that the McCanne Ditch water right was for the use of native South Platte Basin seepage water to irrigate 300 acres of land, limited to no more than 900 acre-feet per year as a condition to prohibit wasteful irrigation.

The Supreme Court stated that Judge Coffin's irrigation right decrees that erroneously classified tributary waters as "nontributary" or "independent of other priorities," are protected by *res judicata*, so long as the water is used in conformity with the decree. However, Ready Mixed Concrete's change of water right application reopened the McCanne Ditch decree for determination of the true measure of the historical consumptive use. Because Ready Mixed Concrete failed to demonstrate the water right's historical beneficial use over a representative period of time, the Supreme Court agreed with the water court that Ready Mixed Concrete failed to meet its burden of proof and affirms the water court's judgment dismissing the change of water right application.

Park County Sportsmen's Ranch Attorneys' Fees

City of Aurora; Park County Sportsmen's Ranch; and Kenneth Burke v. State Engineer, et al., 105 P.3d 595 (Colo. 2005).

The water court dismissed PCSR's augmentation plan and awarded attorney fees and costs to the opposers. The water court also determined that Aurora was vicariously liable for PCSR's action, and joined Aurora as a party for purposes of determining the amount of attorney fees to award. The Division of Water Resources settled its portion of the attorneys' fees question and was not an active party in this appeal.

The Supreme Court affirmed in part, reversed in part, and remanded. As a preliminary matter, the Court held that, because PCSR failed to prove the timing of depletions and failed to present evidence of return flows, PCSR must replace 100% of its withdrawals. Without a decreed augmentation plan, PCSR failed to produce evidence at trial sufficient to support a decree for any of its remaining claimed surface appropriations. In conclusion, the Court affirmed the dismissal of PCSR's application and augmentation plan.

With respect to the water court's award of attorney fees, the Supreme Court reversed the award in its entirety as an abuse of discretion, except for those fees that Opposers incurred in defending PCSR's claims for precipitation and irrigation runoff, which were frivolous from inception. The Court remanded to the water court for a determination of these amounts. The Court also ruled that Aurora is vicariously liable for attorney fees because PCSR, as Aurora's agent, pursued a frivolous claim.

Gunnison RICD and Interpretation of SB 01-216

CWCB v. Upper Gunnison River Water Conservancy Dist., et al., 109 P.3d 585 (Colo. 2005)

In 2002, the Upper Gunnison River Water Conservancy District applied for a recreational in-channel diversion on the Gunnison River. This was the first application since the General Assembly passed SB 01-216 and defined the CWCB's role in reviewing the applications. The water court judge did not uphold the limitations that the CWCB had recommended and granted the District's application as written.

As with the previous RICD cases, Justice Hobbs was asked to recuse himself, due to the involvement of his former firm in the early RICD legislation. In Golden, Breckenridge and Eagle, his recusal resulted in a 3-3 split of the other justices and, therefore, no opinion. His decision to hear the Gunnison case allowed the Court to issue an opinion.

In an opinion authored by Justice Rice, the Supreme Court held that the SB 01-216 established a procedure for adjudicating RICDs by local government entities. Specifically, the CWCB was granted initial, limited fact-finding authority on enumerated factors as applied strictly to the claimed stream flow and intended recreation experience; stream flows or recreation experiences not intended by the applicant cannot be considered. When adjudicating the RICD, the water court must consider the five statutory factors and treat the CWCB's findings of fact on these factors presumptively. To rebut the findings, the water court must weigh the evidence before it under a preponderance-of-the-evidence standard.

In addition to the five factors, as well as all applicable pre-SB 01-216 statutory standards for adjudication of conditional water rights, the water court must determine whether an application is limited to the minimum stream flow necessary for an objectively reasonable

recreation experience in and on the water. Any appropriation in excess of the minimum stream flow for a reasonable recreation experience in and on the water does not put water to a beneficial use.

The Supreme Court held that both the CWCB and the water court erred. Because the CWCB considered flows other than those intended by Applicant, it exceeded its review authority and gave the water court no guidance regarding how the applicant's specific plans might affect the five factors under consideration. The water court failed to consider whether Applicant's intended in-channel recreational diversion was in fact a RICD as defined by SB 216 and erred when it awarded Applicant a decree in the claimed stream flow amounts.

Therefore, the Supreme Court reversed the water court and remanded, directing the water court to remand the case to the CWCB. Subsequent to the Supreme Court's opinion, the parties reached a compromise and settled the case for lower flow rates than originally requested.

Central City Exchange Past an In-Stream Flow

CWCB v. City of Central, et al., 125 P.3d 424 (Colo. 2005).

Central City sought approval of a change of water rights, plan for augmentation, and an appropriative right of substitution and exchange that diverted water out of the creek upstream of a CWCB instream flow and replaced it below the instream flow right. The priority dates for the water the City proposed to change are senior to the CWCB's 1987 instream flow. The water court held that Central City was not required to protect the Board's junior instream flow right from diminished flows resulting from Central City's operation of the augmentation plan.

The Supreme Court held that section 37-92-305, C.R.S. (2005), requires Central City to include terms and conditions in its augmentation plan decree that protects the CWCB's instream flow right from injury caused by out-of-priority diversions, including diversions made from points associated with senior water rights. In reversing the water court's determination of law, the Supreme Court concluded that the General Assembly plainly intended that the CWCB is entitled to impose terms and conditions to protect a junior instream flow right from injury under a plan for augmentation or a plan for augmentation including an exchange.

Anti-Speculation Doctrine Not For Non-Tributary, Non-Denver-Basin, Groundwater

East Cherry Creek Valley Water and Sanitation Dist. v. Rangeview Metropolitan Dist., 109 P.3d 154 (Colo. 2005).

ECCV appealed an order of the water court, construing and modifying a 1985 decree that adjudicated use rights to nontributary Arapahoe aquifer ground water. In its order, the water court authorized Rangeview to construct additional wells as necessary to withdraw the full, decreed entitlement, and it removed the volumetric limits of the original decree on individual wells. The court reasoned that statutory and rules changes subsequent to the decree would permit Rangeview greater flexibility in exercising the water right than was contemplated by the decree, and that absent a showing of injury, there was no impediment to modifying the prior decree.

The Supreme Court affirmed the water court's order because Rangeview was entitled to use the full amount of available nontributary ground water underlying its lands, without making a

threshold showing of a non-speculative, beneficial use, and because it complied with the procedural requirements for such an adjudication (e.g., well permits).

Anti-Speculation Doctrine in Change Cases

High Plains A&M and Wollert Enterprises v. Southeastern Colo. Water Conservancy Dist., and *High Plains A&M v. Southeastern Colo. Water Conservancy District*, 120 P.3d 710 (Colo. 2005) *ISG, LLC v. Arkansas Valley Ditch Association*, 120 P.3d 724 (Colo. 2005)

In three different applications, High Plains A&M, Wollert Enterprises, and ISG, LLC applied to change Fort Lyon Canal Company water that had been historically used for irrigation to any of over fifty proposed new uses in any of twenty-eight Colorado counties. The water court found the change applications “so expansive and nebulous” that there was no way to determine whether vested water rights would be injured by the changes or to determine if there would actually be a new beneficial use made of the water. The water court found the proposed change to be overly speculative and granted the objectors’ motion for summary judgment. (In ISG, the court dismissed the application on its own motion.)

The Supreme Court concluded that, in defining “change of water right” to include “a change in the type, place, or time of use” and “a change in the point of diversion” in section 37-92-103(5), C.R.S., and in defining “appropriation” in section 37-92-103(3)(a)(I) and (II), the Water Right Determination and Administration Act anticipated that an applicant for a change will sufficiently demonstrate an actual beneficial use that will be made at an identified location under the change decree, if issued.

Because the applicants failed to identify a particular location or locations where the appropriation will be put to actual beneficial under the change decree, the Supreme Court affirmed the water court’s judgment dismissing applications without prejudice to refile when actual places of beneficial use can be identified.

The applicants subsequently petitioned for remand for a water-court consumptive-use determination to ascertain the amount of water they may use for augmentation and replacement under the water banking statute, section 37-80.5-104.5(1)(c), C.R.S. (2005). The Supreme Court denied the remand because Rule 8 of the Arkansas River Water Bank Pilot Program Rules provides an administrative mechanism for calculating historic consumptive use for purposes of the water-banking program.

INFORMATION TECHNOLOGY

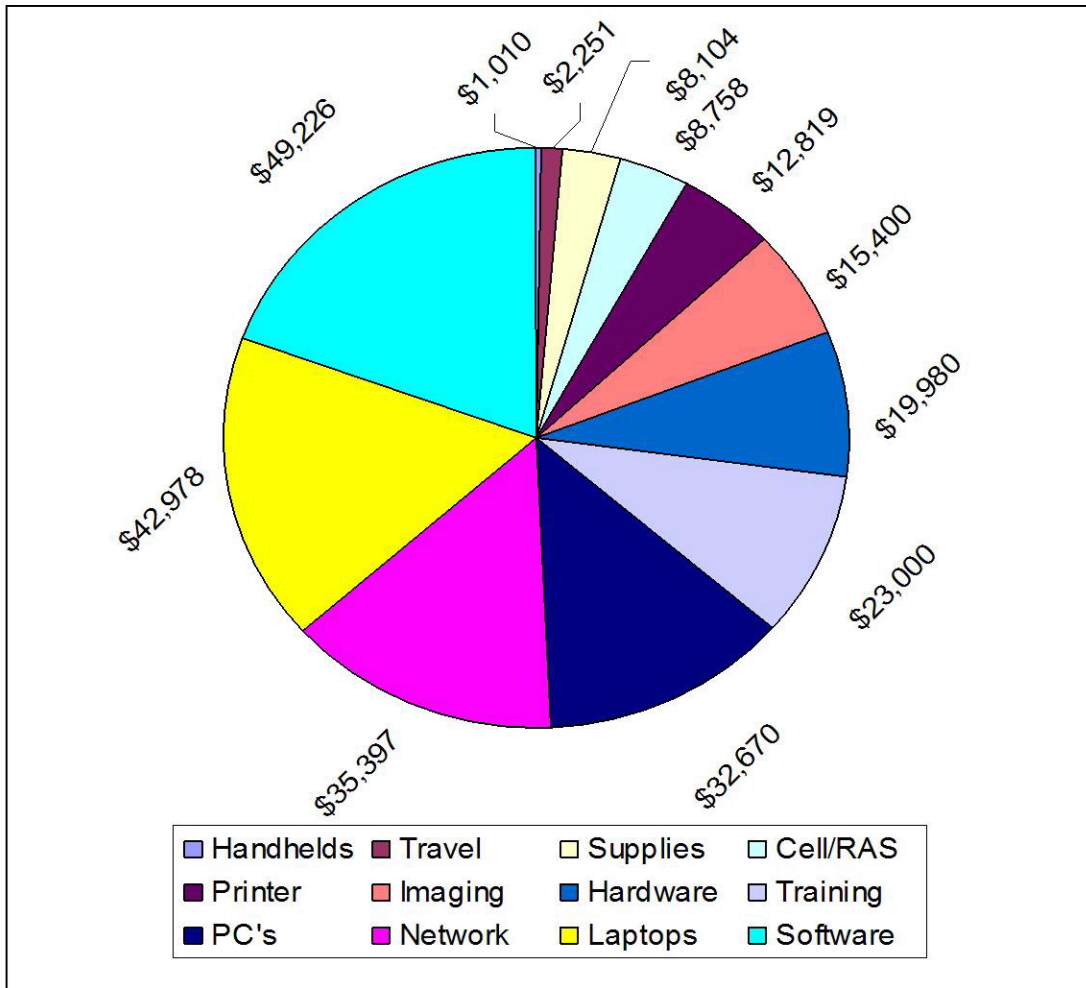
Information Technology in DWR has reached a level of maturity and reliability unmatched in the past. The achievements of 2005 include a new and improved public web site interactive mapping on the web, and an increased ability to handle complex augmentation plan data. Our DWR work force is becoming ever more adept at mobile computing and is taking full advantage of technology advancements.

The IT Staff continues to perform excellently. Of the eleven FTE we have managed to provide outstanding service despite having 3 of them vacant for most of the year. Our Network Team continues to improve the speed and reliability of the network despite

being short 1 FTE. Our GIS team only has 2 FTE, yet we managed to hold 27 training sessions statewide and train many Well Drillers in the use of GPS.

Summary of Information Technology Expenditures

This year has seen a significant decrease in the expenditures on handhelds and over a 200% increase on training, reflecting our commitment to educating our workforce.



Imaging

Imaging in DWR continues to be successful. We successfully implemented a new imaging system called Laserfiche enabling us to provide water court documents to all employees via the web. This change in software allowed us to significantly reduced costs because we do not have to rely on outside consultants to maintain the system, or purchase expensive software maintenance.

Infrastructure/Networks/Desktop Support

The network speed has increased and reliability held to over 99% uptime this year. Virus protection has kept DWR from any significant outbreaks. Strict controls and firewalls have protected us from intrusion and hacking. A new appliance to reduce

SPAM was deployed and has had much success. However the changing nature of SPAM has forced constant maintenance to keep up levels of protection.

Our staff continues to support and lead departmental efforts to coordinate, share resources, and improve efficiencies. We successfully connected a high-speed line between the DOW campus and ours, allowing for offsite backups and sharing of resources. We spent much of the year designing and preparing for next year's consolidation of all DNR networks into a single Active Directory and email service.

The VOIP telephone system installed in 2003 was refined and improved this year. Much effort has gone into improving the quality of sound and the ability of the network to handle more simultaneous calls. This marked the first full year of realized savings estimated at \$119,000.

We deployed a total of 36 desktops, 9 laptops, 3 handhelds, 9 printers and 2 servers this year, and began replacing all operating systems with XP Professional. We continue to support 26 servers, and 280 desktops/laptops in 14 offices state-wide. A new FTP server was deployed to aid in large file transfer.

Software Development/Database Administration

All of the tools DWR staff use daily including; HydroBase Data Entry Tools, Well Tools, Dam Safety Tools, and Satellite Monitoring System Tools have been reliable this year and have undergone some revisions and upgrades. In Division 1 Augmentation Plan Enforcement was added to their set of tools. Diversion record printing was added to the HydroBase Editor. Well Tools, GeoTech Editor, and HydroBase Editor were all migrated to a clustered server environment to mitigate the risk of downtime.

Many changes were made to the CDSS tools to ensure reliability and ease of use. All software was migrated to a clustered environment and the web site was significantly upgraded. The SPDSS data new this year, was incorporated into HydroBase.

The Satellite Monitoring system had significant upgrades to the Alert System. The system was extremely reliable, logging an uptime of more than 99%. A new server was purchased and installed last year. We now have two systems running simultaneously. The new "clustered" server is available in case of an emergency; however the formal roll-over is not scheduled until the fall of 2005, when the water season slows down.

The intranet received a new look-n-feel this year, a significant improvement over the past versions. Much effort has gone into revising the Internet site which is scheduled to debut in the spring of 2005. It should be more user-friendly and contain much more content than its predecessors.

Geographic Information Systems

The GIS team focused primarily on training this year. They conducted 27 training sessions; 8 in Denver, 8 for Well Drillers state-wide, 3 in Greeley, 1 in Pueblo, 1 in Alamosa, 1 in Montrose, 2 in Glenwood, 2 in Steamboat and 1 in Durango. To meet demand, we purchased and installed 5 more floating licenses for the central server.

The new data sets brought into the system included; the Denver Basin Atlases, the 2005 1 meter color aerial photos, and Property Parcels from 15 different counties. All published maps are now available for sale on the web site, and the CDSS web site built an IMS instance to enhance the free web mapping tools for the public.

MODELING BRANCH

The Modeling Branch exists to provide technical expertise to the DWR and other agencies through review, development, analysis and execution of complex hydrologic computer models. The branch consists of four professional engineers (Brian Ahrens, Ray Bennett, Dale Straw and Chunming Yu) who independently, or as a team, conduct investigations and analysis of computer models designed to simulate surface and ground water systems. The investigations and analysis are conducted to forecast streamflow, determine stream depletions due to pumping ground water, determine diversion requirements, transmission losses, evaporation losses, determine historic consumptive use, and general characteristics of stream regime. The staff provides expert advice to other agencies, provides expert testimony in water court, and recommends plans for water use and development within Colorado through the use of computer modeling.

Rio Grande Decision Support System

In 2005, the Rio Grande Decision Support System (RGDSS) project moved into Phase 5, the maintenance phase. The Modeling Branch worked cooperatively with Principia Mathematica, Inc. (Principia) the consultant for the Rio Grande Water Conservation District to provide support for the Rules and Regulations promulgated for new wells from the confined aquifer of the San Luis Valley. Peer review of the ground water model was also provided by Jim Slattery for the Rio Grande Water Users Association and Jim Brannon and David Harrison for the Conejos Water Conservation District, among others.

South Platte Decision Support System

In 2005, the South Platte Decision Support System (SPDSS) wrapped up Phase 2 and moved into Phase 3 (6 phases planned). Phase 2 focused mainly on data collection, mapping of the Denver Basin aquifer system and the South Platte alluvium, and collection and analysis of aquifer parameter and water level data. The GIS team provided mapping of irrigated lands in the lower basin (Water Districts 1, 2, 3 and 64) and analysis of both water supply and crop type to each irrigated parcel. The CU team provided consumptive use data and conducted interviews with all lead water commissioners and several major water users. The database team included numerous upgrades and enhancements to the CDSS software and tools. State personnel worked on installation of a new surface water gage at Atwood, conversion of all GIS coverages to the NAD 83 standard, and miscellaneous upgrades to the CDSS database, HydroBase.

The Modeling Branch is cooperating with the USGS in the development of the Denver Basin ground water model. The USGS is developing a computer model of ground water

flow of the Denver Basin aquifer system to assess the affects of well pumping on water levels, aquifer storage, and stream flow. The USGS also intends to make predictions of future system behavior and to evaluate and guide further data collection efforts. The SPDSS is providing comprehensive data sets to provide input data to the model with the intention of adopting the USGS model and incorporating the model into the SPDSS.

Kansas v Colorado Litigation Support

During 2005, the major tasks that were accomplished are:

- The Arkansas River litigation projects funded as a result of the \$750,000 budget request approved by the Colorado Water Conservation Board continued into the second year of the three-year project plan. These projects include the construction of large weighing lysimeters at Rocky Ford, CO, 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/improvements made by DWR to the Hydrologic-Institutional (H-I) Model.
- The project to design and build two lysimeters at Rocky Ford, CO continued with finalizing the design of the larger lysimeter (3m x 3m x 2.4m deep). Fabrication of all steel parts began in August 2005 and construction work began at the Rocky Ford site in November 2005 with the drilling of helical anchors for the foundation and soil monolith acquisition sites. The soil monolith was acquired in January 2006 and final construction tasks currently being performed to prepare for placement of the monolith on the scale in the lysimeter housing/shelter.
- 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 KS v CO Arkansas River litigation. Areas where agreement was reached were formalized in a set of written agreements referred to as the "Mission Inn Agreements" by the Special Master, which were signed in September 2005. To date, one of the issues where agreement could not be reached has gone through an arbitration process with a hearing in Omaha, NE during the week of November 14-18, 2005 and the decision of the arbiter provided on December 12, 2005. Currently negotiations are continuing in an effort to produce a version of the H-I model to be used to determine Compact compliance for the period 1997-2006.

Republican River Compact Litigation Support

During 2005, the Modeling Branch participated in activities to prepare to assume more responsibilities in the running of the model used to support the settlement agreement in Kansas v Nebraska and Colorado concerning the Republican River Compact.

Denver Basin Rules

An investigation is underway for a "Proposal for Revision of the Denver Basin Rules". The current rules were developed and instituted in the mid-1980's with no further revisions to date. Over this period of time, our knowledge of the geology and physical characteristics of the basin has greatly increased as has technology, which today enables us to produce better contour maps and build larger refined groundwater models.

While the geology of the basin has not changed, our understanding of the physical elements of the basin such as specific yield has increased. Recent investigations provide evidence that the specific yield values in the current rules are too high and that they vary across the basin from the west to the east. This new evidence could significantly move the non-tributary line derived through application of the SB-5 groundwater models and the modeling branch is evaluating the information.

PUBLIC RECORDS

Records Technicians continue to provide professional and diligent service on a daily basis to the public and fellow Division of Water Resources staff through the reception desk, daily mail processing, document prepping, scanning, filing, filling orders, and providing customer assistance in person and on the telephone information line.

Duties performed by the Records Staff in 2005:

- ◆ Customer Walk-ins: Records Technicians assisted approximately 250 visitors monthly, roughly the same volume as in 2004.
- ◆ Mail Items: The records section staff received and processed 55,500 pieces of mail in 2005 compared to approximately 55,000 in 2004.
- ◆ Prepping, Scanning, Filing: An average of 750 new well permit documents are scanned into the imaging system each day by Records Technicians. All documents are checked for quality and indexing information and are filed and stored accordingly. Daily prepping and scanning has expanded in the final months of 2005 to include imaging of court case documents as well.
- ◆ Division Orders: Requests for information to be researched and sent to Division Offices have remained at 5-7 requests monthly, comparable to the number in 2004. Division Offices now access files through imaging and therefore have better access to all records available in the State Engineer's Office.
- ◆ Customer Orders: Requests for data and copies of records received via fax, phone, email and US Mail have increased slightly from 275 monthly in 2004 to an average of 290 monthly in 2005.
- ◆ Information Phone Line: The Records Information Desk took an average of 820 calls per month in 2005, up from about 800 calls monthly in 2004.

Additional duties of the Records Technicians include processing and reconciling credit card purchases, reconciling the daily cash register receipts, and completing COFRS for the daily deposit to the State Treasury. When filling customer orders, Records staff may create data disks, copy microfilm records, copy oversized maps and documents, or certify records for customers. Duties have increased to include the day-forward scanning of oversized Dam Construction Drawings and prepping, scanning and quality assurance of all new water court records. Records Technicians have been a part of the conversion efforts to make former historical and fragile paper documents available by electronic imaging. Their customer assistance duties have shifted from physically retrieving paper documents in a file room, to instructing and assisting customers on electronic retrieval methods, interpreting data and serving as educators to the public.

Customers and staff alike have responded positively to having records available in imaging and to our new imaging database. An additional benefit of imaged documents is that we've been able to locate and data enter missing records into our well database, clear up data discrepancies, and ultimately provide a more accurate and complete set of records. The new imaging program implemented in 2005 will allow Optical Character Reader (OCR) searching, which will make locating missing files and entering them into the well database an easier process. By imaging files we are now able to provide approximately five percent more documents to the public and the engineering staff. Hardcopies might have been misfiled, torn, lost, delayed at a physical location, or not input into the system immediately.

ACCOUNTING

The conscientious work of the DWR accounting section ensures that purchases are processed in accordance with state rules, that bills are paid in a timely and accurate manner, that correct accounting procedures are followed and that accurate records are kept. This excellent work ensures that the Division of Water Resources receives good reports when audited, while at the same time, maintaining smooth working relationships with DNR accounting and the DWR field offices. In 2005 the accounting group took on more delegated approval responsibility from the department's accounting office.