

2006 ANNUAL REPORT



**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 2006. 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. 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 Division of Water Resources continues to also provide technical and water administration expertise relevant to Colorado River issues and activities.

REPUBLICAN RIVER BASIN

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.

During 2006, the RRWCD worked diligently with DWR 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.

In 2006, the RRWCD worked with various federal, state, and local agencies including the USDA-Farm Service Agency (FSA), the USDA-Natural Resource Conservation Service (NRCS), the DWR, the Colorado Division of Wildlife (DOW), The Nature Conservancy (TNC), and the Colorado State Extension Service (CSES) to address various natural resource issues throughout the basin. The USDA-FSA provided 80% of the necessary federal funding, which was matched by 20% of non-federal funding from the District (cash and in-kind expenditures). The influx of these federal monies enabled many producers to receive payment for idling cropland for 15 years and permanently retiring their water. 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, 2006, with additional offers accepted beginning on August 21, 2006. For the reporting period of April 21, 2006 through September 30, 2006, USDA-FSA received 180 offers for contracts totaling 31,712.2 irrigated acres into the Republican River CREP. The average irrigated rental rates for these offers were between \$150.00 and \$115.00 per acre.

Based upon the success from 2006, it is estimated that the Republican River CREP will reduce water use in the basin by 35,000 acre feet per year, while subsequently contributing to increased streamflow within the basin. This water savings will contribute to downstream benefits and compact compliance to Kansas and Nebraska, as set forth in the Republican River Compact. Additionally, the CREP will reduce soil erosion, rehabilitate degraded wetlands and riparian habitats, minimize agricultural use of the Ogallala Aquifer, reduce energy consumption, and improve water quality within the basin.

Further, the Republican River Water Conservation District, through its Water Activity Enterprise, provided for annual water leases to augment the water conservation objectives of CREP. Several producers have participated in contracts solely with the RRWCD based on annual and short-term water retirement programs. In 2006, the State Engineer hired a full-time Republican River Water Commissioner, whose responsibilities center around irrigation monitoring within the basin. The Water Commissioner will assist with execution of federal programs such as CREP and respond to reports of illegally expanded acres throughout the basin. In 2006, 28 enforcement letters were sent out and 1,035 illegally expanded acres were reported in the Northern High Plains Republican River Drainage Basin. Violators signed statements indicating they would cease to operate in breach of their permits.

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.

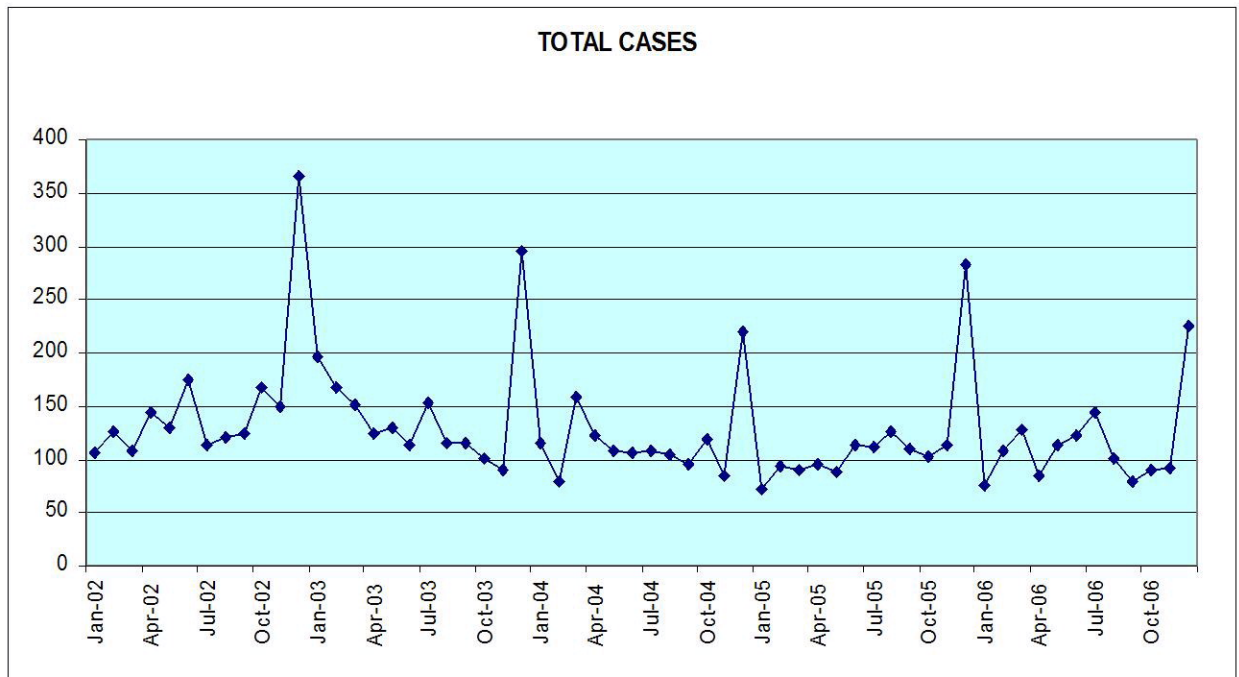
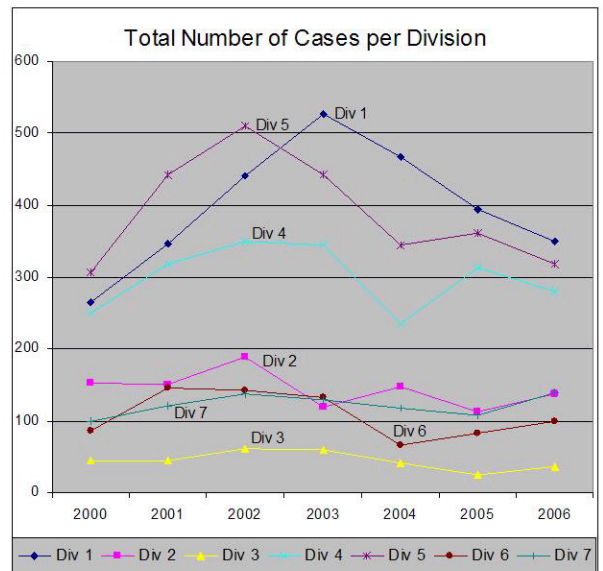
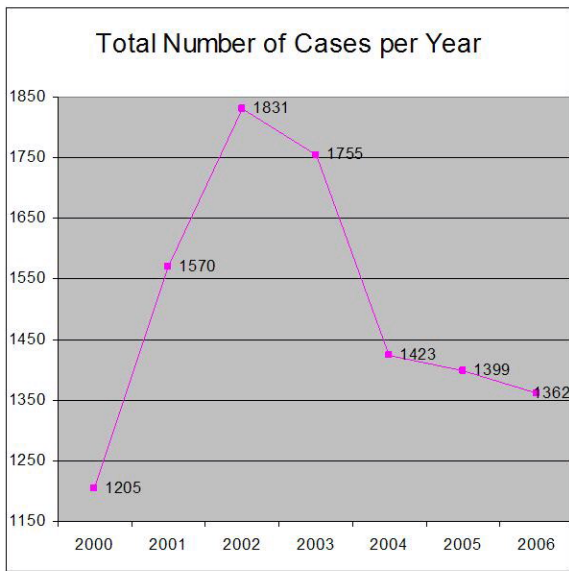
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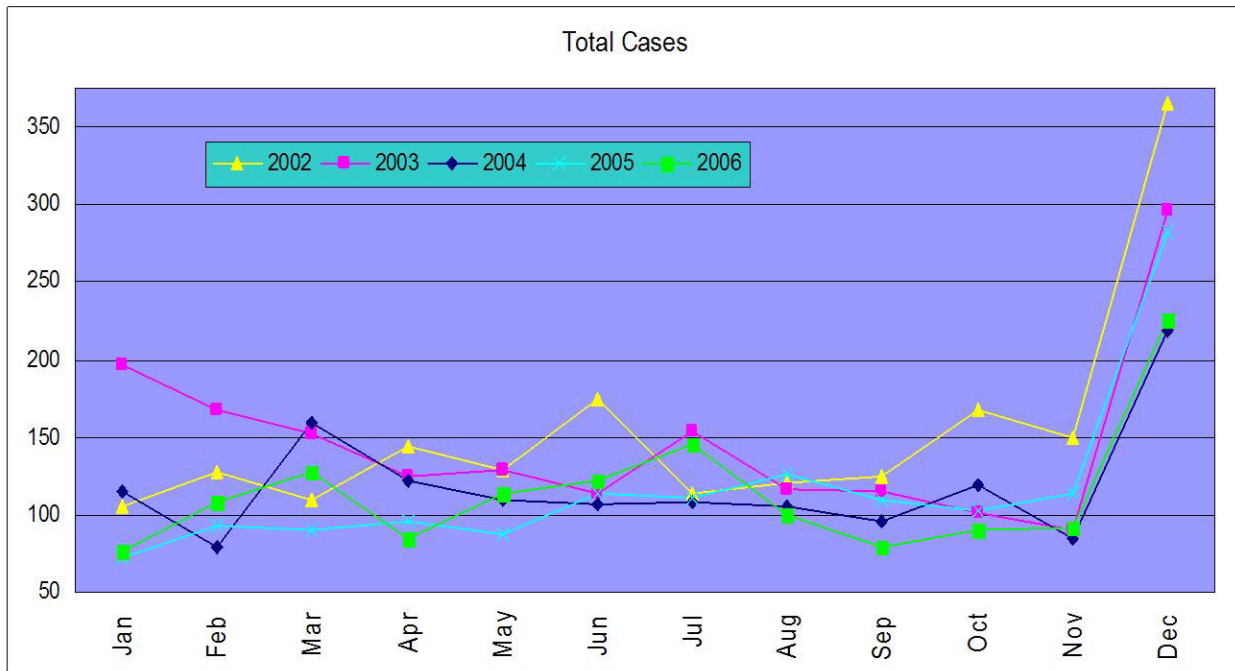
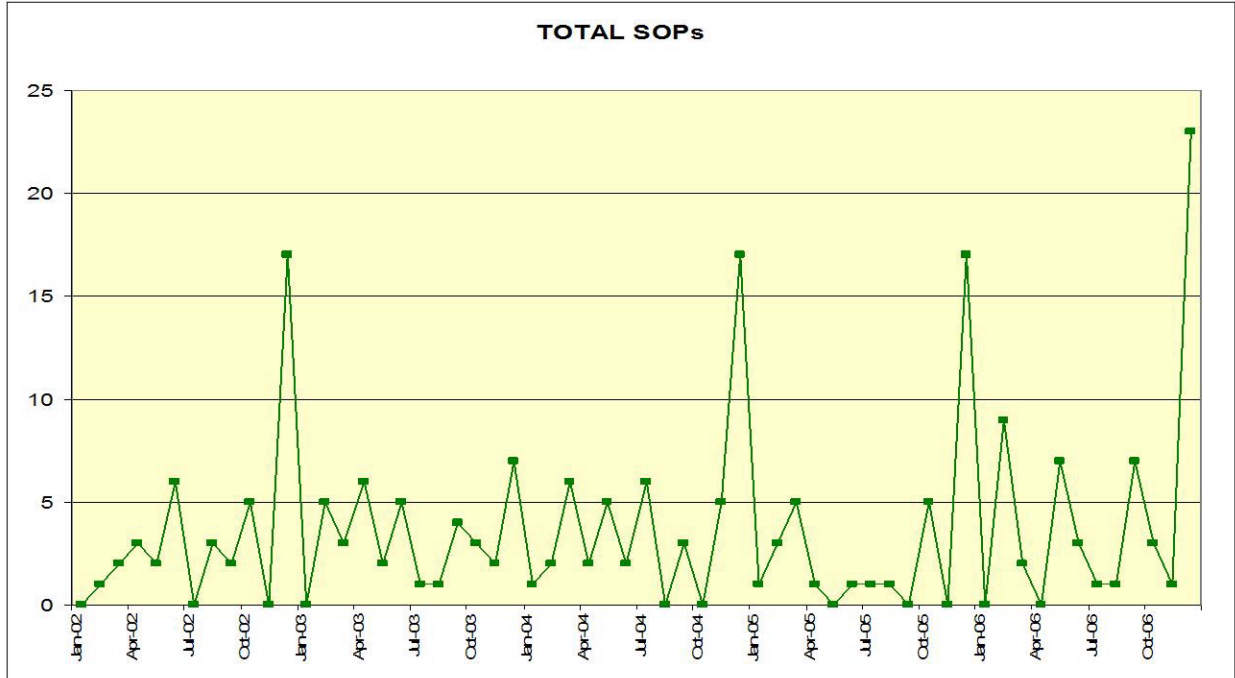
To perform our statutory responsibilities, litigation continues to consume a significant amount of time, effort, and expense for the Division of Water Resources (“DWR”). The following table describes the number of water court applications filed in 2006 and formal Statements of Opposition filed on behalf of the DWR:

Division	Applications in 2006	Statements of Opposition	Opposition Percentage
1	350	20	5.7%
2	138	14	10.1%
3	36	2	5.6%
4	280	1	0.4%
5	319	7	2.2%
6	99	5	5.1%
7	140	8	5.7%
Total	1,362	57	4.2%

Div	2000	2001	2002	2003	2004	2005	2006
1	265	346	441	527	468	394	350
2	153	151	189	119	148	113	138
3	44	45	61	60	41	25	36
4	250	318	349	345	236	314	280
5	307	443	510	443	345	362	319
6	86	146	143	132	67	83	99
7	100	121	138	129	118	108	140
Total	1205	1570	1831	1755	1423	1399	1362

When compared to previous years the sheer volume of cases has declined, especially since the peak of 1,831 applications in the year 2002. The numbers of statewide cases has been declining and leveling off since 2002, with annual application peaks typically occurring during the month of December.





Although the volume of cases is leveling off and may be declining, the complexity of these cases has required DWR to file more Statements of Opposition this year than in prior years (with the exception of Calendar Year 2000).

	Division 1			Division 2			Division 3			Division 4		
	Apps	SO	%	Apps	SO	%	Apps	SO	%	Apps	SO	%
2000	265	26	9.8	153	13	8.5	44	8	18.2	250	5	2.0
2001	346	18	5.2	151	9	6.0	45	4	8.9	318	1	0.3
2002	441	12	2.7	189	11	5.8	61	4	6.6	349	1	0.3
2003	527	23	4.4	119	12	10.1	60	7	11.7	345	0	0.0
2004	468	22	4.7	148	12	8.1	41	5	12.2	236	0	0.0
2005	394	21	5.3	113	7	6.2	25	1	4.0	314	0	0.0
2006	350	20	5.7	138	14	10.1	36	2	5.6	280	1	0.4

	Division 5			Division 6			Division 7			TOTAL		
	Apps	SO	%	Apps	SO	%	Apps	SO	%	Apps	SO	%
2000	307	18	5.9	86	1	1.2	100	1	1.0	1205	72	6.0
2001	443	5	1.1	146	3	2.1	121	0	0.0	1570	40	2.5
2002	510	8	1.6	143	3	2.1	138	2	1.4	1831	41	2.2
2003	443	6	1.4	132	2	1.5	129	1	0.8	1755	51	2.9
2004	345	6	1.7	67	0	0.0	118	4	3.4	1423	49	3.4
2005	362	5	1.4	83	1	1.2	108	0	0.0	1399	35	2.5
2006	319	7	2.2	99	5	5.1	140	8	5.7	1362	57	4.2

ABANDONMENT LIST

The protests to the 2000 Decennial Abandonment List, as provided in section 37-92-401, C.R.S., are nearly complete. Two cases in Division Five are in the process of being severed from the umbrella case, so that a final order can be entered. The Attorney General's Office submitted a proposed final decree in the umbrella case in Division Two on March 1, 2007. Final judgments have been decreed in all other divisions.

Statewide, 2,269 water rights were on the original abandonment lists. Following objections, the division engineers removed 16% of those rights, to create the final Revised Abandonment List. Of the remaining 1,898 rights, 128 protests were filed.

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	Settled					Trials					Removed from list by DWR					Protest Withdrawn				
	02	03	04	05	06	02	03	04	05	06	02	03	04	05	06	02	03	04	05	06
1	4	8	11	13	14	11	9	4	1	0	6	6	6	6	6	3	5	8	10	10
2	4	4	3	5	2	1	2	2	0	0	4	4	4	4	7	4	4	5	5	5
3	13	16	16	16	16	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1
4	6	7	7	7	7	2	0	0	0	0	0	0	0	0	0	0	1	1	1	1
5	17	21	25	23	24	4	1	0	0	0	4	3	3	4	3	0	1	2	3	3
6	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	17	17	17	17	17	1	0	0	0	0	1	1	1	1	1	1	2	2	2	2
Total	69	81	87	92	88	20	13	7	2	1	15	14	14	15	17	9	14	19	22	22

The majority of the protests settled: 88 cases representing 68.8% of all protests. Most settlements abandoned a portion of the water rights and require improvements to the structures or court-approved changes of location. As the cases resolved, the numbers have changed. Originally, DWR and Attorney General staff predicted 20 cases going to trial. Only one case eventually went to trial, and was appealed by the protestant in 2003, *Hammel v. Simpson*, 83 P.3d 1122 (Colo. 2004). The Supreme Court affirmed the abandonment.

The General Assembly allocated Legal Services funds for the Abandonment List for only FY 02-03 and FY 03-04. Through December 31, 2006, the DWR has absorbed almost \$110,000 in legal services expenses for the abandonment cases, as the chart below illustrates.

Cost of Abandonment

	Allocated		Spent		Difference	
	Dollars	Hours	Dollars	Hours	Dollars	Hours
FY 02-03	\$ 72,334	1260.0	\$ 132,421	2234.3	\$ (60,087)	(974.3)
FY 03-04	\$ 73,556	1210.0	\$ 67,706	1131.5	\$ 5,850	78.5
FY 04-05			\$ 24,050	406.1	\$ (24,050)	(406.1)
FY 05-06			\$ 14,158	221.3	\$ (14,158)	(221.3)
FY 06-07*			\$ 17,447	253.1	\$ (17,447)	(253.1)
TOTAL	\$ 145,890	2470.0	\$ 255,782	4246.2	\$ (109,892)	(1776.2)

* The FY 06-07 costs are only those incurred through December 31, 2006.

The staffs of the Attorney General's Office, the Division Engineers' Offices, and the Denver Office are commended for their diligence in managing and resolving these cases. Many of the protests required extensive research and field inspections. Resolution of the cases would not be possible without the extensive and irrefutable facts to counter the allegations of use.

2006 COLORADO SUPREME COURT OPINIONS

Application of the Governmental Immunity Act while driving a personal vehicle

Ceja v. Lemire, 143 P.3d 1093 (Colo. App. 2006), --- P.3d ---, 2007 WL 881167 (Colo. 2007)

A county employee (Lemire) was using his personal vehicle while acting in the course and scope of his employment when he caused an auto accident with Ceja. Ceja sued Lemire and the County-employer. The trial court dismissed the County as immune from liability under the Colorado Governmental Immunity Act (GIA), section 24-10-101, et seq., C.R.S. 2005. Lemire appealed the court's determination that he was not entitled to immunity¹.

Ceja asserted a negligence claim against Lemire and against the County, under the theory of *respondeat superior*. Asserting governmental immunity, the County moved to dismiss. It argued that its immunity was not waived under the portion of the GIA that waives a public entity's immunity for the operation of a motor vehicle "owned or leased by the public entity," because Lemire was using his own vehicle at the time of the accident. The County also argued that its payment of mileage reimbursement to Lemire did not constitute a lease of Lemire's vehicle for purposes of the GIA. Lemire joined the County's motion, asserting that he was entitled to immunity on the same basis.

Ceja asserted that, by reimbursing its employees for the use of their private vehicles, the County effectively leased those vehicles, resulting in a waiver of immunity under §24-10-106(1)(a). Ceja also argued that a public employee does not have immunity under the GIA while using his personal vehicle.

The trial court determined that the County was immune under the GIA because the payment of mileage reimbursement did not constitute a lease of Lemire's vehicle. Accordingly, it granted the County's motion to dismiss. However, it held that Lemire was not entitled to immunity under §24-10-106(1)(a) and denied his motion to dismiss. Lemire appealed the decision to the Colorado Court of Appeals.

The Court of Appeals held that the County had not leased Lemire's vehicle because "the common meaning of the term 'lease' contemplates the transfer or conveyance of an interest in, and the right to possession, control, and use of, the property subject to the lease. ... In our view, it would be anomalous to conclude that a 'lease' of a vehicle could be effective only during certain parts of the business day and not during others." The Court also relied on Attorney General Opinion AG Alpha No. 82 LO AD AGAGM, (Sept. 13, 1982).

The Court acknowledged the anomalous result. When a government employee driving a government vehicle injures a party, the victim may recover from the negligent employee. However, when the same government employee is driving his or her own vehicle in the same accident, the victim may not recover from the negligent employee.

The Colorado Supreme Court granted certiorari on the question, "Whether the court of appeals erred in holding that a public employee, driving the employee's own vehicle,

¹ This case is not a water case; therefore, the Colorado Court of Appeals heard the initial appeal.

within the scope of his employment, on public business, is immune from liability for the negligent operation of such vehicle under the Colorado Governmental Immunity Act, C.R.S. 24-10-106(1)(a).” It affirmed the Court of Appeals on March 26, 2007.

Interpreting a stipulation re: emergency and back-up at time of the stipulation

Cherokee Metropolitan Dist. v. Simpson, Colo. Ground Water Comm’n, Upper Black Squirrel Creek Ground Water Management Dist., and Witte, 148 P.3d 142 (Colo. 2006).

The Cherokee Metropolitan District and the Upper Black Squirrel Creek Ground Water Management District contested the meaning of a stipulated decree provision contained in a conditional water rights diligence decree. The provision concerns Cherokee’s use of two sets of wells in the Upper Black Squirrel Creek Designated Ground Water Basin; Cherokee Wells 18 in the northern part of the Designated Basin and Sweetwater Wells in the southern part of the Designated Basin.

Finding it to be ambiguous and hearing extrinsic evidence to assist in ascertaining the intent of the parties to the agreement, the water judge construed this stipulated decree provision to provide that Well No. 18 may be used to supply water outside of the Designated Basin only for emergency and backup purposes, when its Sweetwater Wells are unable to produce a sufficient supply of water to meet the commitments that existed at the time the parties entered into the stipulation. The Supreme Court agreed and affirmed the water court’s judgment.

Designated Groundwater and the Prior Appropriation System

Gallegos v. Colo. Ground Water Comm’n, 147 P.3d 20 (Colo. 2006)

This case presented questions regarding the Colorado Ground Water Commission’s jurisdiction over vested surface water rights within a designated ground water basin. The Supreme Court held that the Commission has jurisdiction over surface water rights only for the purpose of altering the boundaries of a designated ground water basin. A surface water right holder who believes that pumping within a designated ground water basin is causing injury to those surface rights, must prove to the Commission that the ground water alleged to cause the injury is hydrologically connected and causing injury to those rights. Upon such a showing, the Commission is statutorily required to alter the boundaries of the basin to exclude the surface water and the ground water shown to have been improperly designated. Once the boundaries are redrawn, jurisdiction vests in the State Engineer and the water courts to administrate and adjudicate the water rights according to prior appropriation.

Further, the Gallegos Family is not barred by claim preclusion or issue preclusion from making this factual showing, assuming they present to the Commission changed circumstances or new factual data unknown at the time the Basin was originally designated. The case was remanded for proceedings consistent with the opinion.

Issue preclusion, ditchwide vs. parcel-by-parcel analyses, and Jones Ditch

In the application Central Colo. WCD – GMS, 147 P.3d 9 (Colo. 2006)

This case involves the quantification of water rights held by the Central Colorado Water Conservancy District and its Ground Water Management Subdistrict (“Central”) on the Jones Ditch. To rule on Central’s application, the water court was required to determine (1) the historical use of the 1882 appropriation of the Jones Ditch Water Right, and (2) Central’s share of the consumptive use of that water right. The Supreme Court affirmed the finding of the water court that the historical use of the water right was limited to the volume of water sufficient to irrigate approximately 344 acres, of which Central owns 37 acres.

The water court further held that it could not order a ditchwide analysis to quantify the water rights because a portion of the ditch (not at issue here) had been quantified in a 1992 decree, therefore the court held that issue preclusion prevented it from using an analysis that would include that decreed right. The Supreme Court held that the 1992 decree cannot be disturbed, even if it is wrong, but that does not preclude a ditchwide analysis, which would be the basis for allocating Central’s portion of the ditch’s shares.

The Supreme Court remanded the case to the water court for further proceedings. The case is currently on hold in water court until a ditchwide analysis is completed.

Curtailment powers in an augmentation plan under section 37-92-305(8), C.R.S.

Harmony Ditch Company v. Central Colo. WCD – GMS, 136 P.3d 899 (Colo. 2006)

The Harmony Ditch Co. and various other opponents appealed the water court’s decree that imposed a duty of curtailment on the state engineer in the exact language of section 37-92-305(8), C.R.S. Harmony assigned error to the water court’s failure to construe the language of the statute and include in the decree that curtailment of out-of-priority diversions is authorized only when the augmentation plan is not being operated in compliance with the other terms and conditions of the decree. The Supreme Court ruled that quoting the statute is appropriate and, “should a party suffer injury as a result of the state engineer’s attempt to comply with his obligation, avenues exist to challenge the scope of his authority.”

Sedgwick County Well Users, 03CW209 div. 1, case no. 05SA368 (affirmed, Jan. 11, 2007) and Eagle Park Reservoir Company, 03CW211 div. 5, case no. 06SA201 (affirmed, January 11, 2007).

On January 11, 2007, the Supreme Court affirmed the Division 1 and Division 5 water courts’ inclusion of the curtailment mandate of section 37-92-305(8) in the decrees approving the augmentation plans for Sedgwick County Well Users, Inc. and the Eagle Park Reservoir Company.

Both opinions were one-paragraph, citing the Supreme Court’s 2006 opinion in *Harmony Ditch Co. v. Ground Water Management Subdist. of the Central Colo. WCD, 136 P.3d 899 (Colo. 2006)* where the Court found that reviewing section 37-92-305(8) would not be proper until the State Engineer actually exercises his authority against a party that then appeals.

In the Eagle Park decision, the Supreme Court added, "The District Court's discussion regarding the meaning of this statutory language, which the District Court included in section VII of its Order on Motions for Determination of Questions of Law dated May 16, 2005, is advisory in nature only and, under *Harmony*, is not ripe for review."

Well enforcement, define "person who diverts ground water"

Vaughn v. People, 135 P.3d 721 (Colo. 2006).

The state and division engineers brought a complaint in water court against well owner Michael Vaughn for pumping out of priority, contrary to a cease-and-desist order. The water court found a permanent injunction unnecessary but fined Vaughn \$1,400 for unauthorized pumping and awarded the State costs, including attorney fees.

The Supreme Court affirmed, holding that a ground water rights owner or user whose well is pumped with his authorization is a "person who diverts ground water" within the meaning of section 37-92-503(6)(a), C.R.S. (2003). Furthermore, the State presented sufficient evidence that either Vaughn or family members with his authorization continued pumping after ordered not to do so.

The water court held a one-day hearing on the amount of fees and costs due the State. On March 27, 2007, the court ordered Vaughn pay the State's attorney's fees and costs in the sum of \$65,285.75.

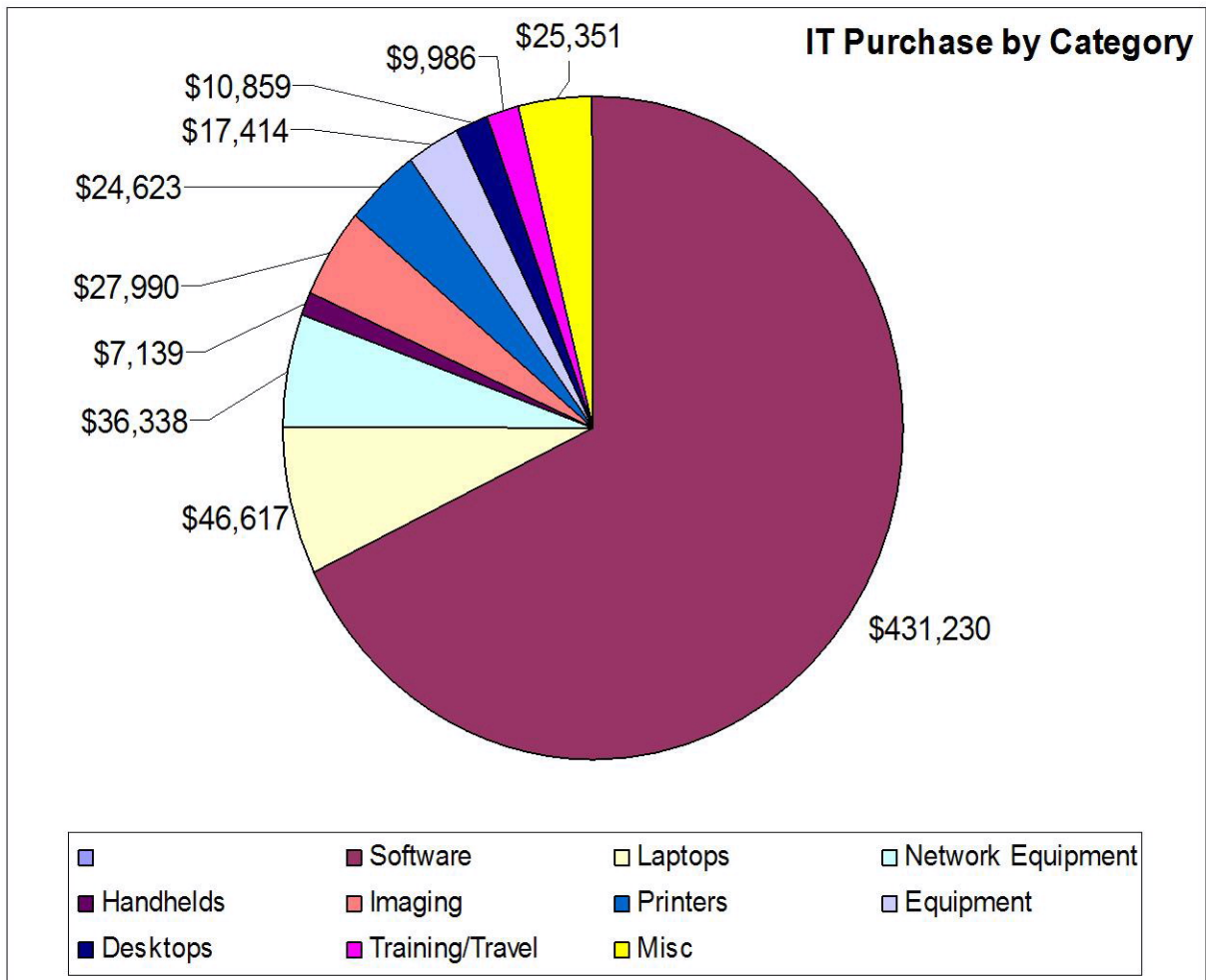
INFORMATION TECHNOLOGY

The year 2006 marked a significant shift in Information Technology. Our traditional methods of supporting and maintaining our own IT infrastructure was modified into an enterprise architecture, hosted and maintained by DNR as a shared resource between eight Divisions. In this model, all DNR employees use the same network and have a single email server. The benefits of this are that we can leverage our small IT staff, share equipment, software, and bandwidth. In addition, by combining five networks into one, we were able to bring the Department of Wildlife (DOW) into our Phone system and anticipate Parks scheduled to soon also take advantage of this technology.

The IT staff continues to provide excellent technical support, including the addition of new staff members to help with the Development Team projects. The Infrastructure Team continues to function at a high level of excellence, even with a vacant desktop support position for two years. In 2006, we had a fully operational GIS team despite staffing setbacks.

Summary of Information Technology Expenditures

This year has seen a significant increase in the expenditures on software as explained by the upgrade of all computers from Office2000 to Office2003. We continue to purchase more laptops than desktops, reflecting our commitment to our mobile workforce.



Imaging

During the year 2005, DWR implemented the new Laserfiche system for Water Court case files. By 2006, the implementation was complete, with all historical data obtained and integrated with the Lexis/Nexus system currently used by the water courts. In addition, we migrated several other data types to the Laserfiche system from the Content Manager.

Infrastructure/Networks/Desktop Support

The Division of Water Resources spent considerable time and effort this year to pass a Decision Item that would fund high-speed internet connections in Water Commissioner’s homes. Unfortunately, this measure was not approved. Nonetheless, many of the

divisions used their operating funds to pay for high speed connections for key positions. This allowed several of the most critical basins to accomplish water administration more efficiently.

All of our computers were migrated to the network NatureNet this year, which is shared by all DNR employees. As previously mentioned, we also upgraded all computers from Office2000 to Office2003 for more efficient use.

We purchased and deployed a total of 27 desktops, 23 laptops, five handheld computers, nine printers, six routers, and two servers this year.

The Record Section’s Cash Register System was replaced this year which greatly improved the efficiency of money collection and transfer.

Software Development/Database Administration

The tools DWR staff use daily include: HydroBase Data Entry Tools, Well Tools, Dam Safety Tools, and Satellite Monitoring System Tools. These programs, although going through minimal revisions and upgrades, have operated at a reliable rate.

The **CDSS Web Site** was completely re-written using “.Net” software to allow for dynamic data connections. The web site is now more user friendly and has received many accolades from the public. This site went live on October 1st, 2006 and during the first nine months, over 77,000 visitors frequented the site.

The Most popular pages on the new CDSS web site were:

Page	Requests
Home	26,503
Call Chronology	7,868
Water Rights	7,063
Structures (Diversions)	6,942
Map Viewer	5,088
View Data	4,185
Active Calls	3,893
Stations (Streamflow)	2,858
Overviews	2,667
South Platte	1,542
GIS	1,402

Other Data	796
Colorado	659
Water Information Sheets	658
Climate Data	576
Consumptive Use	478
Arkansas	445
Products	415
Surface Water Model	414
Groundwater (Water Levels)	392
Rio Grande	327
Groundwater (Other)	282
Ground Water Model	257
Advanced Product Search	228
Gunnison	186
DMI Utilities	174
Dolores / San Juan	167
Water Budget	149
Yampa / White	130

The ***Streamflow Web Site and Water Talk*** system continues to be a favorite with DWR employees and the public alike. Collectively, there were 1,288,472 hits on this site.

The Top 10 most popular stations on the Streamflow Web Site and Water Talk system are:

Station Abbreviation	# of Hits
BOCOROCO	62,605
ARKWELCO	47,600
PLACHECO	41,895
CONMOGCO	39,669
CONPLACO	25,969
CLAFTCCO	25,548
RIOWAGCO	24,137
PLAHARCO	24,025
CONCONCO	18,475
PLAGEOCO	17,492

Geographic Information Systems

The GIS Team focused on the AquaNet Team Project this year, in addition to helping with inter-state compact projects, field office support, and public support. GIS efforts in the field offices were focused on automating repetitive tasks, training on web mapping tools, and acquiring local data sets.

The AquaNet Team was created to bring more efficiency to the Well Permit Evaluators in the Denver Office. The focus of the AquaNet Team was on standardizing processes, cleaning up the shared drives, and possibly purchasing GIS software for all personnel. After careful analysis, it was determined that off-the-shelf GIS software was too expensive to purchase multiple copies. In its place, a web-based tool was created to allow all evaluators access to GIS tools. This GIS web site is now known as AquaMap. The goal of AquaMap is to eliminate the need for paper topographic maps and perform all mapping digitally. This task proved to be a large undertaking and continued throughout the year.

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, operating 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, historic consumptive use, and general characteristics of stream regime. The staff provides professional 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

The RGDSS ground water model and associated tools were an integral part of the Confined Aquifer New Use Rules for Division 3. Following six weeks of trial, a favorable ruling was obtained and new rules implemented. Miscellaneous maintenance activities continued in 2006, including the addition of new irrigated land coverage.

South Platte Decision Support System

In 2006, 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. The GIS team provided mapping of irrigated lands for four historic time periods (1950, 1976, 1987, and 2001) and analysis of both water supply and crop type to each irrigated parcel. The CU team completed water user interviews, reviewed diversion records, provided irrigated acreage estimates, and reported consumptive use data. The DB (database) team included numerous upgrades and enhancements to the CDSS software and tools. State IT personnel developed a new web server and enhanced HydroBase to include SPDSS data.

SPDSS Ground Water Model

The SPDSS GW team ("Team") completed data collection and mapping of the Denver Basin and South Platte Alluvial aquifers. The Team is cooperating with the USGS in the development of an enhanced Denver Basin ground water model. In 2006, the USGS nearly completed development of a full three dimensional, twelve layer, calibrated, transient ground water flow computer model of the Denver Basin aquifer system and surficial aquifers. The model will be completed with a full sensitivity analysis early in 2007 and a published report by October 1, 2007.

The USGS objectives in building the model are to provide a tool to:

- ◆ Enhance the understanding of the regional ground water flow and storage in the bedrock aquifers.
- ◆ Evaluate water level declines, changes in bedrock aquifer storage, stream flow depletions due to pumping Denver Basin bedrock aquifers, and prediction future conditions based on estimates of water use.

- ◆ Evaluate the existing water level monitoring network and recommend improvements. Provide engineering, accounting, and advisory support to the Colorado State Engineer for all interstate compacts and international treaties.

The Team has provided comprehensive data sets and GIS coverage as input data to the model with the intention of adopting the USGS model and incorporating the model into the SPDSS.

SPDSS Surface Water Model

The SPDSS surface water model, StateMod, underwent extensive enhancements to better accommodate water transfers, augmentation plans, and reuse of return flows in the South Platte.

Kansas v Colorado Litigation Support

In 2006, 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, 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 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, CO continued. The first soil monolith was acquired in January, 2006 and construction of the larger lysimeter was completed in July, 2006. Calibration of the lysimeter was performed in October, 2006 and data collection was initiated. The design work for the second smaller lysimeter was initiated in late 2006 with the production of draft plans and the design of a smaller scale system.

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, KS and Denver, CO. 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.

Dale Straw participated in NASA Water Management Program activities throughout 2006 as a member of the Advisory Panel to develop a cohesive FY07-FY11 Water Management Plan for NASA.

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, by e-mail, and on the telephone information line.

Duties performed by the Records Staff in 2006:

- ◆ Customer Walk-ins: Records Technicians assisted approximately 220 visitors monthly in person, a slight decline from 250 per month in 2005.
- ◆ Mail Items: The Records Section Staff received and processed approximately 45,500 pieces of mail in 2006, compared to approximately 55,500 pieces in 2005.
- ◆ Prepping, Scanning, and Filing: 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.
- ◆ Division Orders: Requests-for-information to be researched and sent to Division Offices have remained at about five requests monthly, comparable to the number in 2005. 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 copies of records received via fax, phone, and U.S. Mail have increased from 290 monthly in 2005 to 306 monthly in 2006.
- ◆ Customer Orders: Requests for CD Data and Email Requests for information averaged 31 per month in 2006.
- ◆ Information Phone Line: The Records Information Desk took an average of 735 calls per month in 2006 compared to 820 calls per month in 2005.

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. Multiple Imaging Databases are used to locate and provide copies of records to customers. Records Technicians are responsible for the day-forward scanning of oversized Dam Construction Drawings. In addition, they provide prepping, scanning, data transfer and quality assurance for all new water court records. Documents that are filed electronically in Lexis Nexis must be transferred into DWR's Imaging Database Laserfiche. Water Court Resumes are also transferred in the same manner to make the records easily accessible for all DWR personnel and customers. Records Technicians have played an integral 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 the imaging system. An additional benefit of imaged documents is that we've been able to locate and 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 2006 allows Optical Character Reader (OCR) searching, which makes 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 purchases are processed in accordance with state rules, bills are paid in a timely and accurate manner, correct accounting procedures are followed, and 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 2006 the accounting section took on extra work from some field offices due to vacancies in their accounting staff.