

COLORADO DIVISION OF WATER RESOURCES

DIVISION 2

ANNUAL REPORT 2005



Venable Trail
Photo taken by Wendy Bogard



Table of Contents

Topic	Page
<u>Activities and Accomplishments in Water Year 2005</u>	
Surface Water Administration	1
Water Supply	1
Increased the Number of Telemetered Administrative Gages	2
Rocky Ford Highline SWSP's Second Year	3
Improved Effectiveness of Administering Decreed Plans for Augmentation	4
Efforts to Revise Fountain Creek Transit Loss Model	4
Efforts to Improve Support Provided to Field Personnel Including the Standing Orders Committee	5
Fort Lyon Structure Rehabilitation Initiative	6
Water Bank Report	7
Smith Ranch Status	8
Ground Water Administration	8
Well Permits	8
Administration of Ground Water Use and Measurement Rules	8
Strategy to Deal with Apparent Deficits	13
Arkansas River Compact	14
Arkansas River Compact Administration	14
Developments in Kansas vs. Colorado	15
Legal and Litigation	17
Safety of Dams	18
Hydrography	19
Information Technology	21

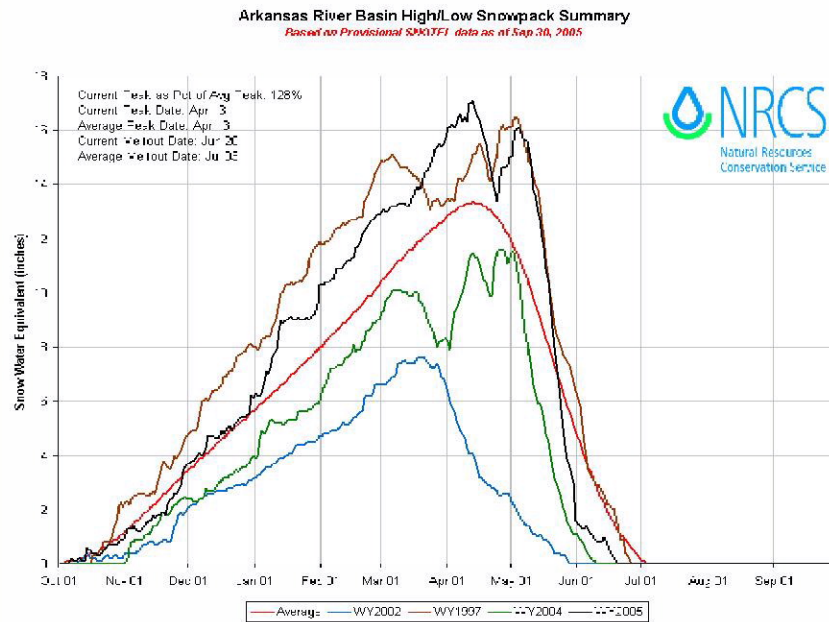
Organization/Personnel/Workload Issues	22
Personnel	22
Budget	23
Training	24
Pay for Performance.....	24
Innovative Administration Processes	24
Agency Meetings	25
Employee Recognition	25
Employee Council.....	25
Involvement in the Water Community	26
<u>Objectives for 2006.....</u>	27
Personnel Issues	27
Water Administration	27
Improve Information Systems.....	28
Special Projects	28
<u>Water Administration Data Summaries</u>	30
Transmountain Diversion Summary.....	30
Water Diversion Summary – Use Type by Water District	31
Water Diversion Summary – Various Statistics by Water District.....	32
Arkansas River Calls	33
Water Court Activity	41
<u>Organizational Chart.....</u>	42

ACTIVITIES and ACCOMPLISHMENTS in WATER YEAR 2005

Surface Water Administration

Water Supply

By most indicators, the water supply within the Arkansas River Basin of Colorado in 2005 was better than average, the supply was significantly better than in either of the two previous years. The following graphic produced by the Natural Resources Conservation Service compares last year's snowpack to that of previous years.



The following table shows additional comparative statistics of water supply.

Indices	2004-2005	% Last Year	% Average
Peak Snowpack (SWE)	17 in	145	128
Transmountain Diversions (all)	141,209 af	146	111 ¹
Winter Water (all)	116,465 af	143	80 ²
Winter Compact Storage	25,108 af	294	113 ³
Tributary Ground Water Pumping	80,729 af ⁴	174 ⁵	76 ⁶

Article submitted by Steve Witte

¹ Period 1980-2005

² Period 1991-2005

³ Period 1950-1975

⁴ YTD April 05-January 06

⁵ Period April 04-January 05

⁶ Period April 98-January 05, April-January only

Increased the Number of Telemetered Administrative Gauges

In response to an increasing need and demand for timely diversion data and more detailed streamflow data as water administration becomes more complex, Division 2 has increasingly turned to satellite monitored gauging stations as a solution. This increased demand is being driven by complex decrees and also advancing technologies being developed for tracking of water supplies by water users.

One example of advancing technology is the Fountain Creek transit loss model that was developed to route transmountain return flows from Colorado Springs' wastewater treatment plant to the Arkansas for exchange upstream. In its original form, this model relied on ditch diversion data inputs manually collected by the water commissioner visiting each diversion three times per week. At the time, these inputs were sufficient to ensure that the model operated correctly for the purposes it was designed to handle, and the administrative workload in District 10 was such that three trips per week down the Creek were possible.

Since then, there have been many changes and additions to the original design. The model is now used to route not only Colorado Springs' return flows, but also those belonging to Fountain, Widefield, Security and Stratmoor Hills and some additional routing of reservoir releases. A revision currently in progress (see page 4) will add the communities upstream of Colorado Springs to the routing of return flows, and detailed routing of augmentation to the point where depletions occur. These revisions will result in a need for additional input data.

As the District 10 administrative workload increased and metamorphosed from typical headgate-twisting administration to more office-based analytical-type duties, it was recognized that collection of data by field visits was an inefficient use of water commissioner resources. A plan was developed to equip as many as 11 of the diversions or streamflow reaches with satellite-monitored gages. It was correctly believed that by doing so, significant administration efficiency and increased accuracy would be realized resulting in better service.

In addition to 8 gages already installed on Fountain Creek, the 3 gages remaining to be installed in relation to the transit loss model improvement project, and the 5 other gages described in the Hydrography section (see page 19), Division 2 has firm commitments to install and maintain at least 13 more gages in the immediate future. Six of these new gages are to be installed on Purgatoire Project ditches, 3 as a result of the Fort Lyon Rehabilitation Initiative (see page 6), 3 on mainstem ditch augmentation stations (Holbrook, Highline and Ft. Bent) and 1 at Skaguay Reservoir for DOW.

While there is a demonstrable increase in administrative efficiency as these new gages go on-line, a significant impact is felt by the Hydrography staff. Even though station cooperators fund most of the construction and material costs of the new installations and typically pay a \$100 per month maintenance fee per station, the increase in the number of gages has stretched the resource of existing staff to maintain the gages.

The addition of these new gages, while certainly justified by the efficiencies they create and the service they provide, increase the workload of our hydrographic staff. As data is posted to the SMS system, water users and administrators come to depend on timely and accurate data. In order to provide this service, hydrographic staff members spend an increased amount of time and vehicle miles validating data posted and maintaining the system.

Division 2 is assigned 4 FTE's as Hydrographers. These 4 employees are responsible for maintenance of 80 existing stream gages and 7 reservoir gages (14 of the 29 gages mentioned above have already been installed and are operating and are included as existing gages). With the existing gages, Division 2 currently averages nearly 22 gages per Hydrographer FTE. With the addition of the 15 new gages, the Division 2 average will grow to 25.5 gages per FTE. Statewide, the average is 15 gages per FTE.

Article submitted by Joe Flory and Brian Boughton

Rocky Ford Highline SWSP's Second Year

On February 25, 2005 a Substitute Water Supply Plan was renewed pursuant to C.R.S. 37-92-308(5) that allowed the Cities of Aurora and Colorado Springs to utilize consumable water from dry-up of lands irrigated by 840 shares out of 2,250 shares of Rocky Ford Highline Canal Company to continue to supplement their municipal water supply which had been severely depleted during the drought years of 2002 and 2003. The plan involved the dry-up of 8,251 acres under the Highline Canal. The plan approval limited total consumptive use credits to be derived under the plan based on historic conditions to 18,838 acre-feet and limited the export of consumable water from the Arkansas River Basin to the South Platte Basin to 12,600 acre-feet.

The plan operated by determining the daily consumptive use total that was to be credited to Colorado Springs and Aurora by exchange into Pueblo Reservoir or by exchange into Holbrook Reservoir based on the amount of water the Highline Canal was in-priority to divert and physically did divert. The plan called for return flows to be quantified and either delivered back to the Arkansas River through an augmentation flume just down canal from the main Highline measuring flume or measured into unused reaches of the canal for recharge that would help create timing of return flows similar to the historical pattern. The plan included a requirement to exchange return flows into storage in Pueblo Reservoir or Holbrook Reservoir as necessary to build a stored volume to be release later to ensure historic amounts of return flows occurred in the correct locations to the extent that they were unable to recharge in unused canal sections.

The 8,251 acres of dry-up were specifically identified and mapped and Division of Water Resources staff (including Don Taylor and Doug Montgomery) visited and inspected fields with Kevin Salter from the Kansas Division of Water Resources to ensure proper dry-up occurred. Unacceptable parcels were identified and communicated to Aurora.

The execution of this plan was improved for 2005 by construction of a new primary augmentation flume that eliminated the flow measurement problems that occasionally occurred during the initial operation of the plan in 2004. Some problems still occurred on down ditch flumes measuring return flows resulting in some loss of return flow credit in operation of the plan.

The success of the plan was improved in terms of usable water in 2005. The cities received 8,732 acre-feet of consumable water yield from operation of the plan as measured at the augmentation station.

Article submitted by Bill Tyner

Improved Effectiveness Administering Decreed Plans for Augmentation

Construction of the road to effective administration of decreed plans for augmentation has begun, but the road remains gravel, not yet ready for the asphalt layer. The effort to obtain direction has included the evaluation of several projects previously begun by others but not completed due to other responsibilities. The creation of a full time augmentation coordinator position has changed that.

After a period of overlap of duties and indecisions on the route, a clear direction was found and the project begun in earnest. Owners of augmentation plans are being identified and systematically contacted with a reminder of decreed requirements for accounting and reporting. Those plans already reporting are being identified and reports received are being cataloged and distributed to water commissioners who were not already copied for inclusion in diversion records. At the same time, plans utilizing common sources of replacement water are being analyzed to create release schedules that more accurately match depletions.

Much work is left before our road is paved. A field visit to each plan is necessary to identify any discrepancies with terms of the decree. Database design is being discussed and mapped. While this effort will not be completed any time soon, the foundation is laid and the finished road will lead Division 2 to first-rate administration of augmentation plans.

Article submitted by Bill Richie

Efforts to Revise Fountain Transit Loss Model

During 2005 the USGS completed work on the first phase of the Fountain Creek Transit Loss Model extension and update. This phase included work to apply a stream-aquifer model along Fountain Creek from Nevada Street upstream to the confluence with Monument Creek and then along Monument Creek from the confluence upstream to about Palmer Lake (see map below, Figure 2). The draft report has gone through a technical review by CDWR and water users.

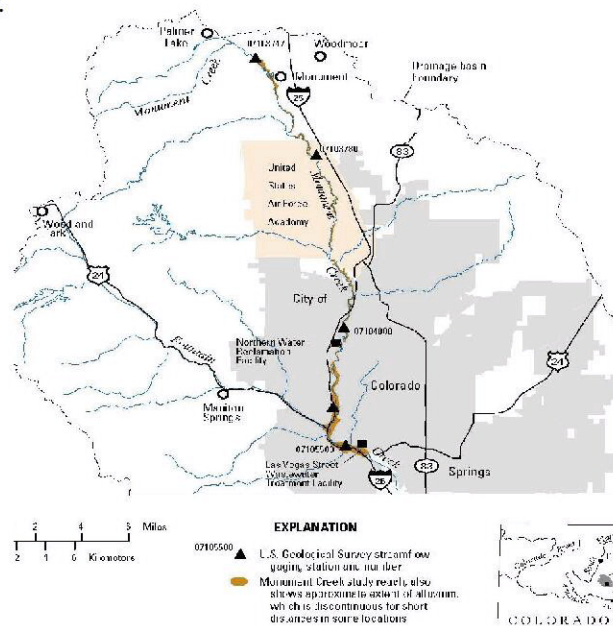


Figure 2. Monument Creek study reach and adjacent area used in application of stream-aquifer model to estimate transit losses for reusable water.

The following phased steps will be conducted during 2006 and 2007; (2) develop a streamflow and transit-loss accounting program for the reach described above that incorporates the results of the stream-aquifer model application and enables accounting of the transit losses on a daily basis; and (3) revise the existing transit-loss accounting program for Fountain Creek to enable accounting of transit losses for any number of flow-augmentation entities and to allow future modifications with a minimal expenditure of time and cost.

Considerable effort in 2005 also occurred among the participants in the study to establish pro-ration of costs for the study, division of ongoing operating costs among participants and policy on how new participants would be added to the model and incorporated in the cost structure.



Fountain Creek Near Confluence with Arkansas River

Flows are typically comprised of significant reusable water from cities upstream tracked by the Fountain Creek Transit Loss Model

Article submitted by Bill Tyner

Efforts to Improve Support Provided to Field Personnel Including Standing Orders Committee

Division 2 continued with efforts to improve and streamline the processing of orders dealing with surface diversion violations. The Functional Standards under development in the prior year were further improved and increased in scope to include standards for data loggers and telemetry. Changes were made to the DWR Typical Headgate/Flume Installation drawing, and further refinements to both are anticipated as they are seen as a continuing work in progress.

The suggested Standing Orders Committee concept has been adopted for the purpose of ensuring that orders issued are diligently pursued through to completion. This committee is comprised of Steve Witte, Bill Tyner, Steve Kastner, Joe Flory, Bill Richie and Wendy Bogard. An Orders Database has been set up to track progress of orders from the initial request through completion and filing. No orders are allowed to “die on the vine” without thorough discussion of the issue by the committee.

The Standing Orders Committee typically meets on the third Thursday of each month to discuss progress of each pending order. Water Commissioners needing orders to be issued or with

orders pending or wanting to be part of the process are encouraged to attend, and several have availed themselves of the opportunity. This Orders Committee has also offered a structured opportunity to discuss administrative issues whether or not they require enforcement orders. This provides a forum to tap the collective wisdom of the staff and encourages more consistent administrative practices across the Division.

A Water Commissioner training session was held to bring field personnel up to date on the progress of changes to the process. Processes and procedures from initial contact with the water user and follow-up documentation, to orders request, to compliance inspection and reporting, through the Orders Committee process were presented and explained.

Article submitted by Joe Flory

Fort Lyon Structure Rehabilitation Initiative

The initiative begun in October of 2004 to correct long-standing deficiencies in the Fort Lyon Canal system continued through 2005 and met with some fair amount of success. After a few fits and starts and arguments over the necessity and DWR's legal authority to order the work, considerable progress was made on several fronts. Structural deficiencies at the Horse Creek Feeder/Osborne Ditch were corrected to the point where the diversion structure is capable of preventing out-of-priority diversions. Fort Lyon has also agreed to install a two-stage measuring device on the Feeder Ditch and to not divert any water at this point until the device is installed.

An interim solution to the interception of Horse Creek at the Fort Lyon Storage Canal was hammered out whereby Fort Lyon installed a dirt plug in the Storage Canal just below the Horse Creek intercept. This plug is designed to force any overflow from the left bank to overtop the right bank and continue on down Horse Creek. The plug is to be removed only when the storage right coming into priority is eminent, and is to be promptly replaced at the end of a run. Fort Lyon is still exploring acceptable options for a permanent solution for this site at this time.

Solutions to problems associated with the uncontrollable diversion of Adobe Creek into Adobe Creek Reservoir have been somewhat more complex, but revolve around timely measurement and accounting for and prompt release of out of priority storage. In order to accomplish this, Fort Lyon has agreed to install and/or rehabilitate measurement devices and install telemetry at several critical points in their system. In conjunction with these measuring/recording devices, an accounting system and plan of administration will need to be developed to determine when out-of-priority storage occurs and when steps are necessary to route water to injured parties.

In developing this plan around measurement and accounting, a unique problem was encountered which required some innovative adaptation of existing technology to overcome. Within Adobe Creek Reservoir, there is a dead pool (portion of the storage capacity that is below the bottom of the outlet works and thus not able to be evacuated) that lies about a mile from the dam and outlet works. Since this dead pool with a capacity of several thousand acre-feet must be filled before any releases are possible, it is important to be able to track any storage in this pool for determination of injury to other water rights.

Typically, measuring devices and telemetry on a reservoir are mounted on the dam near the outlet works because this is typically the deepest part of the impoundment. These are fairly simple to install and only require short runs for the depth-sensing equipment. In this case, it was

determined that the best solution to the measurement problem was to use an Accu-Bubbler system, but both the hardware and software associated with the system required extensive reworking and re-programming to accommodate a nearly ½-mile run of orifice line from the lowest point in the reservoir to the sensor and telemetry equipment on shore.

Division 2 Lead Hydrographer Brian Boughton coordinated with Sutron Corporation engineers and programmers who will design and develop the modifications to the standard hardware and software to make this system work. The modified system is scheduled to be installed prior to June 1 of 2006.

Article submitted by Joe Flory

Water Bank Report

The Arkansas River Water Bank Pilot Program, authorized under Section 37-80.5-106, C.R.S. (2004), originated as a result of a recommendation made by Governor Bill Owens' Commission on Saving Farms, Ranches and Open Space in 2000. From that recommendation, legislation (HB01-1354) was passed that resulted in the Arkansas River Water Bank Pilot Program. This legislation became effective on June 5, 2001. The legislation required the State Engineer, in consultation with the Colorado Water Conservation Board, to develop a pilot water banking program in the Arkansas River Basin.

Draft rules and regulations were developed in December 2001 and public hearings were held resulting in the promulgation of the Arkansas River Pilot Water Banking Rules and Regulations (effective July 1, 2002).

As originally developed, the law allowing for the creation of the pilot water bank permitted the export of banked water outside of the basin of origin. Limitations to such export were part of the law and required the rules and regulations to set forth requirements favoring in-basin use over trans-basin development.

In May 2005, the District informed the State Engineer that they no longer wished to operate the bank. Limited interest by the water users and recently passed legislation concerning substitute water supply plans were reasons provided for relinquishing their sponsorship of the program. As a result, the Upper Arkansas River Water Conservancy District began negotiations with the State Engineer and amended rules and regulations have been initiated to streamline operations of the bank and meet the needs of the water users and the Upper Arkansas Water Conservancy District in future operations.

Report to the Governor
and Legislature
on the
Arkansas River Water
Bank
Pilot Program

Hal D. Simpson
State Engineer

November 1, 2005



Pursuant to Section 37-80.5-106(1), C.R.S., the State Engineer was required to submit a report to the legislature and the Governor on or before Nov. 1, 2005, which was to address the effectiveness of the program and, among other things, recommendations. With the assistance of Mr. Jody Grantham, this objective was accomplished. The reader is referred to that report for a more thorough treatment of the subject.

Article submitted by Steve Witte

Smith Ranch Status

Operation of the plan for administration for two reservoirs owned by Smith Cattle Company on Steele's Fork Creek, a tributary of Horse Creek in Water District 17 in Lincoln County, was successfully conducted in 2005 with some lingering disputes being resolved with the benefit of a legal review by John Cyran of the Attorney General's Office. A detailed accounting program became fully implemented in 2005 and operations were successfully administered by Don Taylor, Water Commissioner Water District 17, with minimal disputes between Smith Cattle Company and Reid Cattle Company (owner of downstream water rights). Issues related to the water rights involved have resulted in a long running legal battle that we now believe has been successfully resolved.

Article submitted by Bill Tyner

Ground Water Administration

Well Permits

Division 2 continues to assist the public with questions relating to re-permitting existing wells for expanded uses, new wells for new subdivisions and reinstatements of expired permits. A considerable amount of time is spent with realtors, county officials, and water users about laws impacting permit approval and changes to permits.

A total of 70 wells were approved for new lots and re-permitting existing wells under a blanket augmentation plan 92CW84 sponsored by the Upper Arkansas Water Conservancy District.

Article submitted by Janet Kuzmiak

Administration of Ground Water Use and Measurement Rules

Rule 14 Plans Approval, Administration, and Enforcement

Fourteen Plans were submitted for the 2005 Plan Year. Nine were submitted by the March 1st deadline and the remainder arrived by March 22nd. The AGUA and Booth Plans arrived on March 22nd so review and approval was delayed until April 18th. All other Plans were approved in accordance with the Amended Use Rules.

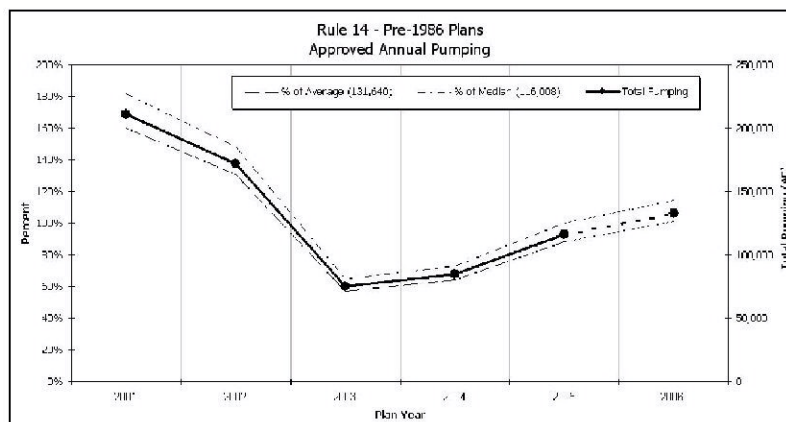
The total number of Plans under this program has decreased since the beginning of the drought. In 2001, before the drought, there were a total of 18 Plans. In 2005 there were fourteen Plans. For the most part, wells previously included in a Plan that became defunct merged into a larger Plan that could provide more reliable Replacement Sources. At this time, it is anticipated that two more Plans will cease operation with the 2006 Plan Year and merge into CWPDA.

Total Wells in Rule 14 (Pre-1986) Plans 2001 - 2005										
2001		2002		2003		2004		2005		Changes 2001 to 2005
Plans	No. of Wells	Plans	No. of Wells	Plans	No. of Wells	Plans	No. of Wells	Plans	No. of Wells	
AGUA	494	AGUA	476	AGUA	430	AGUA	337	AGUA	318	-35.63%
Booth	24	Booth	25	Booth	25	Booth	27	Booth	25	4.17%
Chico	10	Chico	10	Chico	10	Chico	10	Chico	10	0.00%
CWPDA	784	CWPDA	795	CWPDA	826	CWPDA	950	CWPDA	952	26.53%
EFC	1	EFC	1	EFC	1	EFC	1	EFC	1	0.00%
FNMC	34	FNMC	34	FNMC	34	FNMC	34	FNMC	12	64.71%
Ft.Lyon	72	Ft.Lyon	72	Ft.Lyon	46	Ft.Lyon	40	Ft.Lyon	38	-47.22%
FVS	1	FVS	1	FVS	1	FVS	1	FVS	1	0.00%
LAWMA	531	LAWMA	536	LAWMA	530	LAWMA	515	LAWMA	514	-3.20%
McComber	2	McComber	2	McComber	2	McComber	2	McComber	2	0.00%
MMGC	1	MMGC	1	MMGC	1	MMGC	1	MMGC	1	0.00%
Oxford	7	Oxford	7	Oxford	7	Oxford	7	Oxford	7	0.00%
Pueblo	3	Pueblo	3	Pueblo	3	Pueblo	3	Pueblo	3	0.00%
Round	4	Round	4	Round	7	Round	4	Round	4	0.00%
Sundance/KS	7	Sundance/KS	7	Sundance/KS	4	Sundance/KS	7	Sundance/KS	7	0.00%
UARule14	16	UARule14	15	UARule14	17	UARule14	17	UARule14	18	12.50%
Vineland	4	Merged into CWPDA								
Walsenberg	1	Developed SWSP								
18	2,004	16	1,997	17	1,980	14	1,957	14	1,947	-2.84%
Annual Changes:		-11.11%	-0.35%	5.25%	-0.85%	-17.65%	-1.16%	0.00%	-1.51%	
						Changes 2001 to 2005:				-2.84%

For the 2005 Plan Year, Ground Water Operations processed 42 revisions to the fourteen Plans above. In the past, most revisions involved simple Water Transfers between Farm Groups. In 2005, most of the revisions were more complex, requiring Emergency Inclusions (18). Revisions also included six Amendments and ten Water Transfers. In addition, six of the seasonal plans were able to “Roll Over” unused Summer Water into the Winter Season.

Significant advancement in data consistency with the CWPDA independent data system was made in 2005 when that association adopted Division 2’s standard reporting database for monthly readings.

Final Approved Pumping Estimates for 2005 increased above the past two years. It may be that the effects of the drought are subsiding, but it is unrealistic to assume that replacement water supply or soil moisture has returned to pre-drought conditions. The 2005 Plan Year Approved Pumping Estimates were approximately the same as the five-year average (2001 – 2005) but remained slightly below the median for the same period. If the trend continues for the coming Plan Year, Estimated Total Pumping will be approximately 15% higher than in 2005.



To date, Division 2 has identified 6,664 wells that either are or were thought to be Non-Exempt. Five thousand six hundred nineteen wells have been found and located, with the remaining 965 wells having never been drilled or having been “lost” over time. Four thousand four hundred seventy five wells are subject to either the Measurement Rules or the Use Rules or both: 381 are subject only to the Measurement Rules, 183 are subject only to the Use Rules and 3,911 are subject to both.

Wells subject to the Measurement Rules: For the 4,292 wells subject to the Measurement Rules, Ground Water Operations has 2,312 current Measurement Tests and 2,211 Inactive Notifications for a total of 4,523. The higher number of tests and notifications is reflective of multiple meters on some wells.

Wells subject to the Use Rules: Of the 4,094 wells subject to the Use Rules, 2,692 wells are in Augmentation Plans and/or are designated as APODs or CPODs. This represents 1,986 meters that are tested every four-years and monitored by Ground Operations for compliance with both the Measurement and Use Rules. An additional 940 wells are only required to measure monthly usage and report annually.

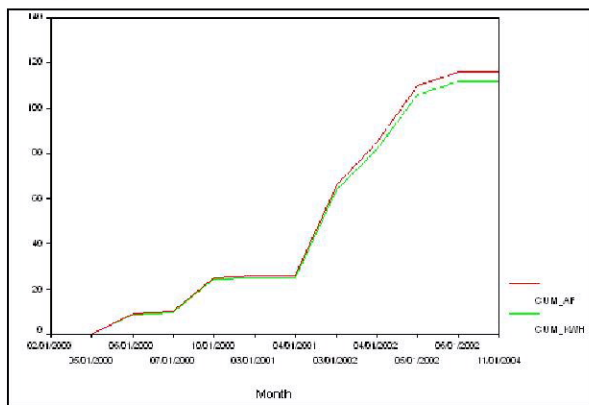
Plan Type	Wells			PlanType	Meters		
	Total	Monthly Reporters	Annual Reporters		Total	Monthly Reporters	Annual Reporters
Rule 14 Pre-1986	1,864	1,866	0	Rule 14 Pre-1986	1,480	1,898	0
SWSP	316	309	2	SWSP	221	221	0
Decreed Augmentation Plan	462	460	30	Decreed Augmentation Plan	246	246	0
APOD	36	36	1	APOD	26	26	0
COPD	14	14	0	COPD	13	13	0
Multiple_Plans	6	6	0	Measure Only Wells	940		940

Enforcement

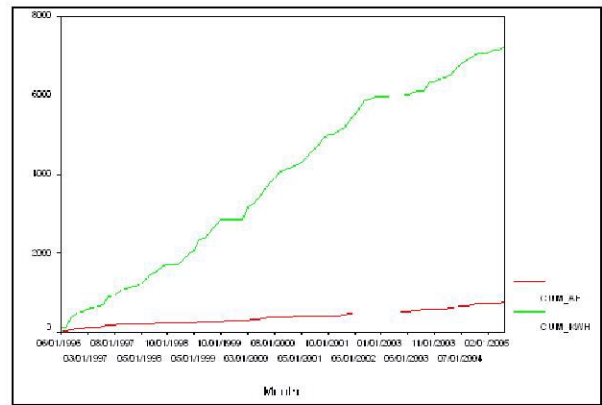
Field Inspections and Enforcement Actions in 2005 include 5,443 wells inspected and 1,474 Field Orders placed. (In many cases, a specific well would have been inspected more than once, particularly if a Field Order was placed.)

Ground Water Operations processed 368 written Enforcement Actions in 2005. The vast majority of these were written orders (360) with eight Violations forwarded to the State Attorney General’s office with the request to file a Complaint.

An innovative enforcement technique was adopted in 2005 to evaluate the accuracy of monthly reporting. For those wells for which both user supplied readings and power company readings were available, a comparison was made between the two data sets. Comparing cumulative power usage to cumulative pumping reports from the well owner/user revealed significant discrepancies for some of the wells.



Power-Pumping Comparison with Consistent Relationship



Power-Pumping Comparison with Inconsistent Relationship

The Ground Water Enforcement Team visited approximately 30 wells that had discrepancies in the power-pumping comparison. While most Totalizing Flow Meters (TFM) were found to be functioning properly, two sites had irregularities that required immediate correction. One TFM was registering only 30% of the discharge as measured by a certified test meter. It was also noted that the pump was producing considerably less discharge than it had when last tested in 2002. The well owner met the division staff at the site and agreed to replace the meter as soon as possible. The replacement meter was found to be accurate through a test conducted by an independent Well Tester. Another TFM was found to be totally inoperable. Division staff disassembled the meter and found that a metal rod was obstructing the propeller. While this meter was later tested by a certified tester for accuracy and found to be measuring water accurately, enforcement action was taken with the operator of the well.



The majority of the wells that had shown increasing inconsistencies in the power-pumping relationships were found to have accurate TFMs. Power Consumption Coefficient Tests conducted on two of the wells found that the well production had dropped significantly since the previous test. This change is considered to be a consequence of the drop in water table due to the drought.

Division 2 staff is working to improve coordination with well owners because allowable pumping continues to be restricted due to limited replacement sources. Enforcement efforts are quite critical during times of restrictions. Ground Water Operations continues to work closely with the regulated community to assure compliance without creating hardship for the well owners/users. Personal contact is made whenever possible and, if that is not feasible, calls are made to advise well owners/users of potential overpumping.

Field staff post informal notices, either at the wellhead or at the residence of the well owner/user notifying them of the remaining pumping allowed for the Farm Group. Copies of the calculations of allowable pumping and pumping-to-date are provided to the well owner/user whenever possible.

Measurement Rule Amendment and Policy Changes

The Amended Rules Governing the Measurement of Tributary Ground Water Diversions Located in the Arkansas River Basin (Amended Measurement Rules), adopted in 1986, state that the Power Consumption Coefficient measurement method cannot be used on Complex or Compound Systems. (See Rules 2, 3.3 and 3.6 for additional detail.) However, DWR also has the authority to grant variances when "... the strict application of any provisions of these rules would cause unusual hardship ..." (see Rule 11). Over time, Division 2 issued several Measurement Rule Policies that standardized variances for those conditions that were considered to cause unjustifiable hardship for well owners/users.

One such circumstance involved the use of the PCC method on Complex Systems. At the request of the regulated community, testing procedures were developed that would allow a simpler and less costly method of applying a PCC rating to a Complex System. The core principal of this method was that testing at the point of Lowest Total Dynamic Head (Lowest TDH) would provide a conservative PCC that would not *underestimate* pumping. This method was in place throughout Division 2, particularly for agricultural wells in the alluvial aquifer of the Arkansas Valley.

However, there were concerns about the accuracy and reliability of the PCC approach as compared to the TFM. The State of Kansas believed the PCC method to be faulty and requested that the method either not be allowed or be monitored more closely. These concerns were addressed by a two-year cooperative study (1998-2000) between the U.S. Geological Survey, the Colorado Division of Water Resources, and the Colorado Water Conservation Board. The results of this study showed a 95 percent probability that total network pumpage estimated using the PCC method to be within -3.41% to +1.59% of pumpage measured with a TFM in any given year.

Further concerns about potential errors in applying the PCC approach forward in time, especially during times of unstable hydrologic conditions, were addressed in a continuation of the original study through 2002 to evaluate the variability in differences in pumpage between the PCC and TFM methods, including the effects of time trends. The result of the extended study found that a potential difference in pumpage amounts calculated using the PCC approach and those measured with a TFM to vary by 2.2% per year. The study also estimated total network pumpage for 1,000 wells using the two approaches and found the calculated PCC pumpage to be 8.4 - 11.3% greater than the measured TFM pumpage for a four-year lag time.

Another important area of concern examined by the USGS study included the extreme variability in pumpage estimates on Complex Systems when using the PCC method. For Complex Systems it was found that pumpage estimated by a PCC rating made at the point of Lowest TDH was 6 - 7% higher than the pumpage measured by a TFM.

In order to maintain an acceptable degree of accuracy, DWR determined to eliminate the Measurement Rule Policy that allowed Complex Systems to be rated for a PCC using one test at the point of Lowest TDH and to revise the testing frequency for all PCCs to two years. This frequency could be expected to limit deviation to an average of 4.4%. Both of these changes in practice were presented to Kansas as part of the negotiations to resolve the lawsuit against Colorado. The first change was immediately implemented by revocation of the former Measurement Policy that allowed use of the Lowest TDH for Complex Systems. The revocation

was issued in September 2005 and sent to all approved Well Testers and Well Users Associations. Two deadlines were stated: 1) no tests using the Lowest TDH method would be allowed as of November 1, 2005 and 2) all Complex Systems must comply with the Amended Measurement Rules as originally written (i.e. either reconfigure the system to not have varying TDH conditions or install TFMs) by June 1, 2006.

To implement the second change, DWR developed revisions to the Amended Measurement Rules and filed with Water Court in late November of 2005. It is expected that this change to a two-year testing frequency for all systems using the PCC Method will be approved and implemented in the 2006 Plan Year.

The number of wells that are part of Complex Systems currently using the PCC Method is estimated to be 200. Notices to the well owners were sent in October 2005 advising them of the change in policy and the steps they must take to comply with the deadlines.

As a consequence of the change in Rules and Policies related to use of the PCC Method, Ground Water Operations also began an evaluation of all previously-issued Measurement Rule Policies. The intent of the evaluation was to replace the multiple documents issued over the past ten-years with new policies to summarize and clarify previous policies and also update them for recent changes in procedures. This project is expected to be completed before the beginning of the next Plan Year.

Ground Water Data Management System (GWDMS)

Throughout 2005, Ground Water Operations and Division 2's IT Professional continued the work to develop a new GWDMS that would better serve the needs of Ground Water Operations. Several meetings were held with all members of Ground Water Operations and with other Division Staff that use the data managed by the GWDMS. While a great deal of progress was made, efforts were hampered by the workloads of the principal parties. As a result the project is expected to continue into 2006. (See the Information Technology Section for more detail.)

Article submitted by Chris Lytle

Strategy to Deal with Apparent Deficits

In the Special Master's Fourth Report, he recommended the use of the H-I Model over a ten-year period for the purpose of determining Compact compliance and he noted the testimony of Colorado State Engineer Simpson that Colorado would "have to make some adjustment" if a "series of years" of depletions were observed in the model results.

The result of a preliminary analysis using a version of the H-I Model in November 2004 indicated that over the six-year period 1997 through 2002, indicated an un-replaced depletion to usable Stateline flows of 11, 600 a.f. In response to this information, Colorado well users subject to the Amended Use Rules were told that a condition of approval to pump during the 2005-2006 year would be to either make up their portion of this estimated deficit or reduce their portion of this estimated deficit by at least 50% and accept an increased depletion factor for pumping water for flood irrigation uses. In March 2005 another preliminary analysis was made using a slightly revised version of the H-I Model and extending the period to include the eight-year period 1997 through 2004. This produced a revised estimated depletion to usable Stateline flow of 6,824 a.f.

The Division Engineer appealed to the Lower Arkansas Water Conservancy District and the Pueblo Board of Water Works for assistance in helping well owners address this deficit. The Board of Water Works agreed to lease fully consumable water at the same price as Fryingpan Arkansas Project water to the District, who in-turn assigned the water to well users within the District to meet this obligation. The District was then able to secure an Agricultural Emergency Drought Response Grant to recoup their costs.

With the assistance and cooperation of the Pueblo Board of Water Works and the Lower Arkansas Valley Water Conservancy District, well users were able to deliver a total of 5,050 a.f of fully consumable water to the Offset Account specifically for the purposes of reducing the estimated deficit and associated storage charges. Consequently, the estimated deficit was reduced by 74 %.



Additional changes to the H-I model are being made or will be made to conform to directives from the Special Master, results of arbitration and agreements reached between the States. As the remaining changes are made, other preliminary analysis will be conducted; first, for the same period (1997 through 2004) and then later, for the period 1997 through 2005. Further updated runs of the H-I Model are pending for the period 1997-2005 and are expected to be completed by mid-March 2006.

The Colorado State Engineer has told the Special Master that by the end of 2005, with the agreements that had been signed that affect both the model and the method of determining credits for delivery of water from the Offset Account, he believes Colorado will be about even, with no depletions or accretions to usable Stateline flows. However, a final determination as to whether additional “adjustments” are needed during 2006, the final year of the initial compliance period, will be reserved until the results analysis updated through 2005 can be reviewed.

Article submitted by Steve Witte

Arkansas River Compact

Arkansas River Compact Administration

There were no interim meetings of the Compact Administration or of any of the standing committees following the December 2004 meeting of the Administration. However, pursuant to the directives of the Operations Committee related to processes agreed upon to address interstate administrative issues, two meetings between the Division Engineer, in his capacity as Operations Secretary to the Compact Administration, and the Assistant Operations Secretary were held. Neither of these meetings produced any tangible results in terms of resolving administrative issues that have been raised by Kansas.

In November 2005, Governor Owens appointed Mr. Matt Heimerich and Mr. Colin Thompson as representatives of Colorado on the Arkansas River Compact Administration replacing Mr. Tom Pointon and Mr. Jim Rogers, respectively.

At the Annual Meeting of the Administration in December, the Administration authorized Mr. Russ Livingston to conduct an investigation of the transit losses and travel times of reservoir releases along the Arkansas River from John Martin Reservoir to the Colorado-Kansas Stateline with the assistance of personnel from both states. It is planned to complete this study with the distribution of a report by July 1, 2007.



Article submitted by Steve Witte

Developments in Kansas vs. Colorado

A status conference was held on February 4, 2005 between the Special Master and the attorneys for Kansas and Colorado. The Special Master ordered the states to submit a schedule within 30 days, for expert meetings to resolve the remaining issues in dispute. The attorneys and experts agreed on a schedule for meetings that occurred from April through September to attempt to resolve remaining disputes. Intensive meetings between the Colorado State Engineer (Hal Simpson) and the Kansas Chief Engineer (David Pope) and their staff began on August 15, 2005 and continued through September 23, 2005 with a total of eleven days of negotiations taking place at locations in Colorado and Kansas. The meetings of experts and negotiation meetings resulted in the following issues being resolved:

- Final determination of damages owed by Colorado (payment of \$34,615,146 was made on April 29, 2005).
- A Phase 2 final report of the USGS study related to the power conversion coefficient method of measuring well discharges and whether or not Colorado needs to amend the Arkansas Measurement Rules for wells was completed on May 3, 2005. Colorado and Kansas agreed on amendments to the well measurement rules that would implement the findings of the USGS to improve accuracy associated with power conversion and totalizing flow meter measurement methods.
- Agreement was reached on acreage figures from Colorado's acreage verification program and assessment of satellite imagery and aerial photography.
- Agreement was reached on proper representation in the model of the various Replacement Plan water sources and acceptance or rejection of credits from various sources.
- Agreement was reached on a number of model calibration issues.
- Improvements in monitoring and documentation of dry-up and feedback from Kansas were agreed to.
- Methodology for determining credits for Offset Account deliveries to the Stateline and return flow obligations and representation of transit losses and evaporation in the H-I Model were agreed to.

One issue, related to the Graham Ditch water right, was not resolved by meetings of the experts or negotiations and was submitted to arbitration. Arbitration hearings were conducted in Omaha, Nebraska by Roger K. Patterson (former Nebraska State Engineer) from November 15th through 17th of 2005. Arguments by Colorado and Kansas were presented by experts from each state. A ruling regarding the issue was handed down in December 2005 in favor of Colorado.

Design, Installation, and Operation of Weighing Lysimeters at the Arkansas Valley Research Center, Rocky Ford, Colorado

Accurate estimates of actual crop water use (evapotranspiration, or ET) are needed in order to best manage the water resources of the State of Colorado. Measurements of ET can be made accurately with a device called a weighing lysimeter, installed and operated in a cropped field. Measurements of ET are made in conjunction with the collection of on-site meteorological data that are used in calculation of reference evapotranspiration (ET_0). Together, these data allow estimation of crop coefficients for use in predicting ET of production crops at other representative locations using meteorological data.

Construction began in late 2005 on the lysimeters and is expected to be substantially complete by the 2006 irrigation season in order to plant a test crop to calibrate the equipment prior to establishing an alfalfa crop in 2007.



Weighing Lysimeter Construction at Rocky Ford, Colorado February 2006



Similar Weighing Lysimeter as installed at Bushland, Texas

Enhancement of the CoAgMet Electronic Weather Station Network

The tasks and activities listed below were conducted during 2005 and greatly improved weather data availability for the Arkansas River Valley in southeastern Colorado to more accurately estimate evapotranspiration and crop consumptive use.

- Bret Schafer was employed, in collaboration with the CSU Arkansas Valley Research Center, to conduct systematic twice-annual site visits and sensor calibration checks at all

stations. Bret performs this work part-time and also works on other CSU research work including the lysimeter installation and study.

- A routine site maintenance schedule was performed by Division 2 hydrographic staff including periodic trimming of vegetation beneath each station. Periodic equipment calibration and maintenance was scheduled and performed by Bret Schafer.
- A new station was established near Fowler.
- Two new CoAgMet weather stations were installed under the Fort Lyon Canal in the irrigated area along Highway 194 between La Junta and Las Animas and in the irrigated area between Las Animas and Lamar near McClave.



COAGMET Weather Station Site in the Arkansas Valley

Article submitted by Bill Tyner

Legal and Litigation

Division 2 Water Court Activity

One hundred and seven applications were filed with the court during calendar year 2005. The court decreed a total of one hundred and fifty five new water rights in 2005. A summary of this activity by application and decree type can be found on page 41 (Water Administration Data Summary section). Written consultations are made to the court for new applications and as appropriate for amended applications. The Division Engineers Office was not a party in any trials during 2005 but did participate in virtually all referee hearings including water commissioners whenever possible. The Division Engineer additionally testified in at least one trial, Empire Lodge Plan for Augmentation.

Cases of Interest

Lower Arkansas Water Management Association (LAWMA)

LAWMA is an organization formed to replace or augment a large number of non-exempt wells generally located between John Martin Reservoir and the Kansas Stateline. Since 1996 LAWMA's member wells have been augmented (or replaced) with surface irrigation water rights through annual Replacement Plans approved under the State Engineers well use rules for Water Division Two. Nearing the 2006 ten year deadline under these rules for replacement temporarily utilizing water rights not decreed for such augmentation uses, LAWMA filed a change of water right and plan for augmentation application in 2002. The application sought to change several surface irrigation rights and additional storage waters in John Martin Reservoir to allow for their use as the augmentation source for the LAWMA member wells. Originally

designed to augment all of their member wells, the application was amended in 2005 to only include member wells with post-1985 depletions. Member wells with 1985 or earlier rights will continue to be replaced under LAWMA's annual Replacement Plans using the newly changed water rights.

The State and Division Engineers Office participated as a party in this case. After many revisions and thorough reviews the SEO/DEO stipulated in February 2006 to a proposed decree. This proposed decree has additionally been forwarded to the State of Kansas for comment. One objector remains in case, High Plains A&M. A trial is currently scheduled for two weeks in April 2006.

High Plains A&M LLC et al

High Plains and two other entities filed a change of water rights application requesting the Water Court to approve new types and places of use for approximately 30 percent of the shares of the Fort Lyon Canal Company water rights. This number of shares equated to an amount of water historically used to irrigate approximately 30,000 acres. The requested new types of uses total approximately 50 and the new places of use involved undefined locations anywhere within 28 counties, mostly in Water Division One. As the applicant had no contracted end users for these waters and no precise plan of use, the Division Two Water Court in July of 2004 dismissed the application deeming this proposed change of water right to be too nebulous and, therefore, speculative.

Upon appeal by the applicants, the Supreme Court heard this case and in September 2005 affirmed the Water Court's decision. Prior to this decision it was uncertain as to whether the doctrine of speculation applied to changes of absolute water rights as well as to conditional water rights.

2000 Abandonment Status

The Division Two Year 2000 Revised Abandonment List has not yet been decreed by the Water Court. Four protest cases still remain to be settled or set for trials. A compromise settlement appears likely in one of the four cases. The remaining three parties were recently offered stipulations whereby the three involved water rights would be removed from the abandonment list in exchange for the parties agreeing to adjudicate change of water right cases. If such change cases are not filed by a certain deadline, the parties agree to not oppose a motion by the State Engineer for the rights to be ordered abandoned per the stipulation. The goal for 2006 is to conclude the 2000 Abandonment procedures with a final decree within the year.

Article submitted by Steve Kastner

Safety of Dams

Following is a table summarizing the Division 2 Dam Safety Program activities. Mike Graber and Bill McCormick divide the workload geographically with Bill having dam safety responsibilities for the northern portion of Division 2 and also the southern portions of Division 1 while Mike has responsibilities for the southern portion of Division 2. The prime objectives for 2005 were to complete all scheduled dam safety evaluations and determine the safe storage level for each dam evaluated, perform timely design reviews of designs, plans and

specifications for dam repairs and rehabilitation and to assist owners with the safe operation and maintenance of dams and reservoirs.

The emphasis for 2006 will be towards using a new risk based profiling tool to evaluate the condition of each high and significant hazard dam and then use this information to better utilize limited resources towards focusing on those dams that are more at risk for unsafe operation or failure. Use of this tool may move the dam safety evaluation and inspection program from a presently deterministic one towards a program more probabilistic in basis.

**Dam Safety Engineer's
04-05 Summary**

Dam Safety Engineer:
Division: 2

Month/Year: 2005

Activity	Dam Hazard Classification					Total
	Class 1	Class 2	Class 3	Class 4	Other	
Inspections/Site Visits						
Dam Safety	42	30	54	1	7	134
Interim Dam Safety	0	17	1	0	0	18
Construction	30	10	18	0	0	58
Follow-up	9	0	3	0	0	12
Outlet Works	3	0	1	0	0	4
Federal Dams (non-FERC)	0	0	1	0	0	1
FERC Dams	1	0	0	0	0	1
Other	2	0	0	0	2	4
Reviews						
Hydrologic Studies	1	1	1	0	0	3
Stability Analyses	0	0	0	0	0	-
Design (new/enlarge)	0	0	0	0	0	-
Design (repair/modification)	0	2	1	0	0	3
NJ Dam Applications	2	0	1	6	0	9
Outlet Inspection Reports	0	0	0	0	0	-
Federal Reports	0	0	0	0	0	-
FERC Reports	0	0	0	0	0	-
Monitoring Reports	12	2	0	0	0	14
Monitoring Data Evaluations	12	1	0	0	0	13
EPP's (new and updated)	1	2	0	0	0	3
Construction Change Orders	0	0	0	0	0	-
Final Construction Acceptance	0	1	1	0	0	2
Other	0	0	0	0	0	-
Hazard Classification Evaluation	0	1	0	0	0	1

Dam Safety Incidents:	(give name of dam, classification, description of incident, and how incident was resolved)
Reservoir Restrictions Imposed:	(give name of reservoir, classification, reason for restriction, and volume in AF lost due to restriction)
Jordan No. 1, Class 3, Separated drop inlet manhole sections within the embankment, 16 AF lost	
Reservoir Restrictions Lifted:	(give name of reservoir, classification, reason for lifting restriction, and restored volume in AF)
Training Attended:	(give name, location, and dates of training)
HEC-RAS / HEC-HMS training with Art Miller, Denver, Nov 15-17 ASCE Earthquake Induced Ground Motion, Washington, D.C., March 24-26 ASDSO Advanced Technical Seminar on Dam Failure Analysis, Salt Lake City, UT, Oct 25-28	
Other Activities:	

Article submitted by Mike Graber and Bill McCormick

Hydrography

Assistant Division Engineer, Bill Tyner, PE III, provided overall program leadership of the Division 2 Hydrographic Program during 2005. He was supported by Lead Hydrographer, Brian Boughton, PE I; Hydrographic Engineer, Lou Schultz, EIT; and Hydrographic Technicians, Anthony Gutierrez and Adam Adame. Tom Ley was appointed Chief Hydrographer on June 29, 2004. He continued to act as Division 2 Lead Hydrographer until Dec 1, 2004 when Brain Boughton was appointed to that position. Bill Tyner provided overall coordination of the records preparation and review schedule for DWR.

Each of the Division 2 hydrographers continued their assigned work with specific gaging stations and geographic areas. Routine work includes responsibility for regular streamflow measurements, gaging station operation and maintenance, satellite monitoring equipment operation and maintenance and the complete development and computation of streamflow records for specific gaging stations. Lou Schultz is responsible for gaging stations in WD 11. Tony Gutierrez and Brian Boughton are responsible for gages in WD's 10, 12, 14, 15, 16, 79, 18 and 19. Tom Ley is responsible for gages in WD 13 and provided support for WD's 11, 12, 14, 15, 16 and 79. Adam Adame is responsible for WD's 17 and 67. Additionally, hydrographers respond to requests of water commissioners for water measurement assistance in their respective districts.

Streamflow Records and Measurements

Division 2 hydrographic staff will complete 49 streamflow records for WY2005 for publication in the DWR Annual Streamflow report. Eight of these streamflow records are also published by the US Geological Survey in their Annual Water Resources for Colorado Data Report.

During 2005, Division 2 hydrographers made 591 discharge measurements at stream gages and 28 discharge measurements on canals and diversion structures.

Stream Gage Improvements

During the water year, Division 2 hydrographers completed the following stream gage projects:

Stream Gage Refurbishment

- Horse Creek at Highway 194: installed a compound Cipolletti/broad-crested weir.
- Upper District 10 gages on Fountain Creek: Finished the installation of satellite monitoring equipment on Fountain Creek in District 10. Satellite monitoring equipment was installed at the 8 sites over the winter of 2004 and spring of 2005.
- Muddy Creek below Muddy Creek Dam near Toonerville, CO: Channel work to remove earth and vegetation around stilling well.
- Arkansas River at Granite: Installed handrails to gage equipment shelter.
- Consolidated Ditch: Replaced the satellite monitoring equipment shelter.
- Pueblo Reservoir: Reattach antenna for satellite monitoring equipment.
- Several stream gage shelters received a new coat of paint

New Stream Gages

- Purgatoire River at Thatcher: The Army Corps of Engineers provided funding to the USGS for the operation of the gage. In 2005 the Corps was unable to fund the operation of the gage and the USGS had to drop the gage from their program. In April 2005 Division 2 took over the operation of the gaging station as required by decree. In October 2005 the USBR and ACE agreed to be cooperators and the USGS is currently operating the gage.
- Huerfano River at Badito: In May 2005 Division 2 entered into an agreement with the Huerfano Water Conservancy District to monitor stream flows on the Huerfano River at Badito.
- Buffalo Ditch: In May 2005 satellite-monitoring equipment was installed on Buffalo Ditch in an effort to ensure Colorado's compliance with the Colorado/Kansas Compact.
- Center Farm Augmentation Station: Division 2 designed and provided construction oversight of the Center Farm Augmentation Station. Lower Arkansas Water Management

Association (LAWMA) and the Colorado Division of Wildlife cooperated in the construction of the new 5 ft Parshall Flume and satellite monitoring equipment. The existing flume was abandoned as a measuring device and the new Parshall Flume will be used to measure and record augmentation water from the Lamar Canal and to ensure Colorado's compliance with the Colorado/Kansas Compact.

- Cascade Creek near Cascade: In November 2005 Division 2 entered into an agreement with the Cascade Metropolitan District to monitor stream flows through a 2-ft Parshall Flume on Cascade Creek.

High Data Rate DCPs

- Six gaging stations in Division 2 were upgraded with SatLink DCPs and high data rate GOES radio transmitters (300 baud rate, hourly transmissions). These gages are now updated hourly on the DWR real-time streamflow web site.
- The upgrades at all of these sites required installation of SDI shaft encoders and upgraded grounding equipment.

Other activities conducted by Division 2 hydrographic staff during WY2005 include:

- Inspection of three cableways in Division 5 as part of the DWR Hydrographic Program Cableway Safety and Inspection Program.
- Inspection and flow measurement checks on several augmentation stations in Water Districts 11, 38, 17 and 67.
- Routine coordination of stream and reservoir gaging activities with the USGS Pueblo Subdistrict office, the US Bureau of Reclamation, and the US Army Corps of Engineers and other State and federal agencies during WY2005.
- Participation in lysimeter construction at the CSU Rocky Ford Experiment station;
- Operation and maintenance of 7 CoAgMet weather stations.
- Provide a new rating curve of an existing 8-ft Parshall Flume for the City of Colorado Springs sewer treatment plant.
- NOAA provided 13 rain gage sensors to Division 2. Seven were installed at existing stream gage locations in 2005. The remaining six will be installed in 2006.

Brian Boughton completed a course provided by the USGS. Course SW1321, Streamflow Measurements using ADCP's in Louisville, KY.

Article submitted by Brian Boughton

Information Technology

Hardware

A total of 17 new computers were purchased for Division 2 in 2005. Denver IT purchased 9 PC's that were distributed to Bruce Smith, Charlie Judge, Dave Jones, Jerry Livengood, Dan Neuhold, Dan Marques, Jeff Montoya, Doug Brgoch and Rich Snyder. Denver IT also purchased 2 laptops that were distributed to Dan DiRezza and Dale Baker. Division 2 purchased 2 laptops that were distributed to John Van Oort and Lloyd Wadleigh. The Hydro branch provided new laptops to Brian Boughton and Bill Tyner. The Dam Safety group purchased 2 new laptops for Mike Graber and Bill McCormick.

Flat Panel monitors were purchased for Wendy Bogard, Joe Flory, Monique Morey, Janet Kuzmiak, Audrey Sartin, Bill Richie and Vivian Beal.

Flash sticks were purchased by Division 2 and distributed to all water commissioners and most office personnel. The intent of the flash sticks is for porting files to/from the office and quick backups of diversion record data or other important files.

Software

Two copies of AutoDesk (an AutoCAD application) and one copy of Adobe Acrobat Reader 7.0 were purchased for general staff use.

Ground Water Database Management System

Kathy Trask built the new inventory package that will interface with the DWR Hydrobase tables for a monthly synchronization of actual Rights and Permits data. Kathy also redesigned the Inspection application. Vivian Beal worked on other aspects which included the rebuilding of the Rolodex application to allow for better viewing of owners, reporters, association member owners, users, etc. She consolidated the three Association Pumping applications, Well Measurement Reporting application (blue cards) and Horse Creek Water Users Association application by incorporating them into one application for better maintainability. She also built a front-end form for the Power application to help the user with the step-by-step processing each month. The database tables were restructured to include a master meter table. The legacy system is based upon wells, but more and more emphasis is being placed upon individual meter readings.

Articles submitted by Vivian Beal

Tabulation Status

One of the primary goals for the Division 2 tabulation during 2005 was to remove the 2002-2004 three-year backlog of decrees to be entered for Water District 10. This was accomplished during the winter of 2005/2006. New water rights have now been entered into the Hydrobase water rights database for decrees issued by the court through 2004 for all Division Two water districts. The only known exception to this are some relatively complicated exchange decrees.

The goal for the Division 2 tabulation during 2006 is to enter these few remaining exchange decrees and all of the 155 new water rights decreed during 2005 prior to the summer deadline for publishing the 2006 Tabulation.

Article submitted by Steve Kastner

Organization/Personnel/Workload Issues

Personnel

2005 was an eventful year for personnel actions. The result was an almost fully staffed division by the end of the year! With the legislative approval to create a new deputy water commissioner position in Water District 17, Doug Montgomery was hired on March 14, 2005 and works from our La Junta office. Two previously vacated deputy water commissioners in Water District 12 and Water District 13 were filled with permanent part-time employees, Mike Reed (hired April 2005 for WD12) and Jerry Livengood (hired March 2005 for WD13). Both gentlemen had worked as temporary employees in these water districts in the previous water

year. Brian Sutton was hired as our deputy water commissioner in Water District 10 and works from our Colorado Springs office. In the groundwater group, several changes occurred. Cheston Hart joined our staff on February 22, 2005 for groundwater enforcement. For professional advancement reasons, Cheston accepted a transfer to Division 7 in May 2005. This position was then filled by Kalsoum Abbasi on June 1, 2005. Also for career advancement opportunities, Kalsoum transferred into our Augmentation Coordinator position on August 25, 2005. This groundwater position is still vacant. Dale Baker was hired on May 1, 2005 also in groundwater enforcement. The division's administrative support position was vacant as of July 1, 2005 when Kelli Segura accepted a position with the Department of Corrections. Kim Pulis was appointed to that position on December 1, 2005. Other personnel actions during the year were the hiring of temporary employees for special projects or assistance in groundwater enforcement and administrative support. Listed in this respective order are Rob Hickman (special project), Jeanette Bryan, Aron Jones and Larry Fancher (groundwater enforcement) and Jackie Gold and Christy Belore (admin support). Ina Bernard began maternity leave in October after giving birth to a little girl on October 8, 2005. One other significant personnel action during the year was the promotion of Don Taylor (water commissioner in Water District 17) to Engineering Physical Science Technician III. He is our first water commissioner to be classified as a Tech III in Division 2. Moving into 2006, there is great hope that the current vacant groundwater enforcement position will be filled timely and the division will remain fully staffed in the coming year. Organization Chart on page 42.

Article submitted by Wendy Bogard & Steve Witte

Budget

The most significant budget change during the year was the cost of operating State Leased vehicles. In July 2005 Fleet Management imposed an increase to address rising fuel costs. For the Department of Natural Resources, the overall increase was about 24.7%. Unfortunately the personal mileage reimbursement rate did not increase and the reimbursement rates were inadequate in paying the cost to drive personal vehicles for work purposes. The drivers of State vehicles were asked to voluntarily reduce the miles they drove. There was also a voluntary decrease in miles driven by those using their own vehicles. In Spring 2005 the Division of Water Resources received a supplemental for operating budgets intended to alleviate budget constraints made necessary because of mileage rate increases. This supplemental was proportionally distributed to the division offices. Due to the reduction in miles driven and careful management of operating funds, Division 2 found themselves in a good budget situation and there were some unallocated funds available toward the end of the fiscal year. We were able to offer each employee in the division an opportunity to request and receive an item of their choice based on "does it make your job easier, better". Many employees took advantage of this offer and items purchased were digital cameras, GPS units, flash sticks, flat panel monitors, office chairs, laptop racks, and truck toolboxes. The careful management and use of our fiscal resources resulted in spending not exceeding our allocation.

Voter passage of Referendum C in the November 2005 election was a great relief for budgeting purposes. Programs were allowed to operate as normal without threat of elimination. Had the outcome of Referendum C been different, the future of DWR programs would have been uncertain.

The overtime budget for Division 2 was significantly reduced in Fiscal Year 2004-2005. This cut resulted in closer monitoring of overtime use and allocating less overtime hours for surface

water administration. It also reduced our ability to convert these overtime hours into additional straight-time hours for use by our deputy water commissioners to either start earlier in their season or keep longer at the end of the season. These early starts or late ends have been very helpful in early water season water administration and preparation of diversion records in the fall.

Our Colorado Springs office is part of the Department of Natural Resources regional office. During the year, Bill McCormick (Dam Safety Engineer) relocated his working space from Pueblo to the Colorado Springs location. With the increase in office space utilized by DWR staff, a new 10-year lease was negotiated and finalized. This brings relief to our concerns of increasing lease rates, funding availability and DNR's long-term commitment to allow our staff to work from this location.

Article submitted by Wendy Bogard

Training

The Training Committee continues to be active in efforts to provide quality continuing education opportunities to Division 2 staff. During the year five "In-House" training sessions were provided. These include hands-on training using Excel, a demonstration on DeLorme software provided by a DeLorme company representative, Hydrobase training (by Doug Stenzel), and several GPS and mapping classes. Wendy Bogard chairs the committee. Vivian Beal and Joe Flory are technical and management team representatives. New members were appointed in the Fall 2005 and they are Brian Sutton, Dale Baker and Kalsoum Abbasi.

Article submitted by Wendy Bogard

Pay for Performance

Pay for Performance funds were not available this year. Instead, every employee received a 2.5% increase. The continued lack of funding creates resentment that the process is time consuming without valid purpose. Despite the issue of money, our employees are high achievers. We had 23 employees that received an "Outstanding" rating and 13 employees that received a "Commendable" rating.

Article submitted by Wendy Bogard

Innovative Administration Processes (see highlights from above)

- Negotiations with Kansas (see Arkansas River Compact, page 14)
- Coordination to Secure Offset Deliveries (see Ground Water Administration, Strategy to Deal with Apparent Deficits, page 13)
- Standing Orders Committee (see Surface Water Administration, Efforts to Improve Support Provided to Field Personnel Including the Standing Orders Committee, page 5)
- Training (see Organization, page 24-above)
- Use of Power data to detect possible mis-reporting of metered pumping (see Ground Water Administration-Enforcement page 10)
- Groundwater Data Management System (see Ground Water Administration, page 13 and Information Technology, page 22)
- Improved Decreed Augmentation Plan Enforcement (see Surface Water, Improved Effectiveness of Administering Decreed Plans for Augmentation, page 4)

Agency Meetings

The staff of Division 2 are involved in a variety of agency meetings. These include the Program Assistants' annual meeting, the Dam Safety Engineers' annual meeting, the Hydrographers' annual meeting, and two State Engineer's meetings. Also, Steve Witte attended the scheduled Leadership Team meetings either in person or by teleconference. Division 2's Spring Meeting was held May 3, 2005 and the Fall Meeting was held October 26, 2005. No monthly staff meetings were held during the year. The division engineer's "senior staff" meetings were held 4 times throughout the year and the groundwater team met monthly.

Article submitted by Wendy Bogard

Employee Recognition

Bruce Smith received our Water Commissioner of the Year award. Bruce is the water commissioner in Water District 11 (Salida area). Hal Simpson and Steve Witte presented to Bruce the usual Water Commissioner of the Year awards plus the traditional Division 2 "W/C of the Year" jacket. Bill Tyner received a Special Recognition award for his dedication, significant contributions, and countless hours of work that he provides to Division 2. Both men were recognized at the Fall Staff Meeting on October 26, 2005. The awards luncheon and Fall Meeting was held at the El Pueblo History Museum.



Article submitted by Wendy Bogard

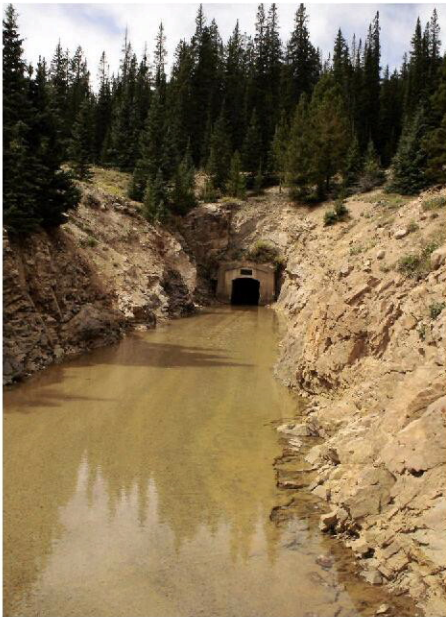
Employee Council

The Employee Council surveys were sent out prior to the Fall Meeting. The percentage of returned surveys was 42%, less than last year's 72%. The survey questions covered motivation, trust, decision-making and communication. There was a new format for the survey this year. Some questions were the same as last year for continuity but there were new questions as well. In addition to the comment section there were nine questions that required essay answers. The survey results for Division 2 were a disappointment this year. Unlike last year when the responses were above the State average across the board, Division 2 was between 0.1 to 1.4 points below the State average on every question this year. The response on the essay questions covered the whole range of feelings from—"everything is wonderful" to "we need help!".

Article submitted by Bruce Smith

Involvement in the Water Community

Division 2 employees continue to be involved in the water community in a variety of ways. Our staff members attend meetings held by the groundwater associations (Arkansas Groundwater Users Association, Colorado Water Protective Development Association and Lower Arkansas Water Management Association). We send representatives to the meetings held by Upper Arkansas Water Conservancy District, Southeastern Colorado Water Conservancy District, Lower Arkansas Water Conservancy District, and Purgatoire Water Conservancy District. We have representation at meetings held by Water District 67 Water Users Group, Upper Water District 10 Users Association, ditch company board meetings and annual meetings, homeowners association meetings, and real estate groups. Kathy Trask, Steve Kastner, and Cheston Hart volunteered at the annual 5th grade education program (DWIP) on May 10, 2005. We were able to send Bill Richie and Kathy Trask as representatives on the Fry-Ark tour sponsored by Southeastern Colorado Water Conservancy and Joe Flory and Bill Richie attended a tour of Twin Lakes. Our staff assisted the Well Inspector program's staff in providing continuing education training for well drillers on March 1, 2005. Joe Flory, Don Taylor and Doug Montgomery provided Chris Woodka (news reporter with the Pueblo Chieftain newspaper) a tour of the lower Arkansas Basin to describe and demonstrate water administration duties in the "life of a water commissioner".



Twin Lakes Tour (East Portal)



Twin Lakes Tour (going into the tunnel)

Article submitted by Wendy Bogard

OBJECTIVES FOR 2006

Personnel Issues

In order to have an effective organization, among our top priorities in 2006 must be to improve upon the way in which our people interact with one another. Civil and respectful communication, consideration for the need of others to be informed regarding matters that affect them, appreciation for the contribution of others, fairness, accountability...these are all factors that require constant attention and in some cases significant improvement in order to improve morale.

One factor that seems to be beyond the control of this agency is the timeliness with which personnel actions are executed. In 2005 a slight improvement was noted in that the average time to fill Division 2 vacancies was 6 months, down from 8 months the previous year.

A decision item proposal should be considered to address the increased hydrographic workload associated with increasing numbers of administrative telemetered gauging stations.

In recognition of the ever increasing number of functions that are now performed using web-based systems and the apparent assumption that broadband internet access is available to everyone, we intend to take steps to facilitate high-speed internet access for all Division 2 personnel by establishing a Division wide policy to reimburse the cost in most cases, or at least subsidize the cost up to a comparable level for those employees that do not have any other broadband option other than satellite dish technology.

It is our intention to strive to improve the skills and job related knowledge of our employees through training in the areas of developing information coding and retrieval, tours, and improving supervisor accessibility to staff.

Water Administration

Work with the Natural Resource Conservation Service (NRCS) to develop a process to evaluate the effect of proposed measures to improve irrigation efficiency measures so that the Division of Water Resources can regulate such practices as necessary to prevent violations of Article IV D of the Arkansas River Compact.

Continue to improve our effectiveness in administering decreed plans for augmentation, including establishing contacts, data capture, processing and storage, coordination of release operations and documentation.

Investigate modern data capture technologies and adopt a new standard to replace the antiquated chart recorder technology.

Continue to motivate and assist the Fort Lyon Canal Company in their commitment to repair or replace numerous water measurement and control structures within their system as listed in a letter dated October 14, 2004 to facilitate proper administration.

Continue to pursue improvements to Fountain Transit Loss Model, while also implementing interim expedient measures to account for various sources of replacement water.

Effectively administer and enforce Ground Water Measurement and Use Rules as necessary to achieve compliance with the Arkansas River Compact at the end of the first compliance period in 2006.

Amend the Ground Water Measurement Rules to address issues noted in the USGS evaluation of the Power Consumption Coefficient method and to conform with commitments made to the State of Kansas.

Conduct the reviews and compile the tabulations and summaries of replacement plans as described in Rules 4.3 and 16 of the Amended Ground Water Use Rules.

Improve Information Systems

Reassess the progress made thus far toward completion of the Ground Water Data Management System redesign and other available resources in cooperation with Denver IT development staff to determine the best means of producing and maintaining a functional redesigned system by April 1, 2007.

Develop and implement some of the components envisioned to be incorporated in an Arkansas River Accounting System (ARAS) by spring 2006 and continue to develop components as time and resources permit.

Perform activities to improve the quality and content of information maintained within Hydrobase databases including adding diversions made in conjunction with decreed plans for augmentation, review of historical surface diversions for accuracy and reasonableness, and incorporating un-decreed wells in structure files to complete the in-house objective commonly referred to as "Correcto-fest".

Special Projects

Participate in continued negotiations with Kansas in an effort to resolve issues pertaining to the conduct of operations pursuant to the 1980 Operating Resolution for John Martin Reservoir through the Special Engineering Committee authorized by the Arkansas River Compact Administration in December 2005.

Support the investigation of transit losses between John Martin Reservoir and the Colorado-Kansas Stateline being conducted by Mr. Russell Livingston for the Arkansas River Compact Administration.

Dispose of the 2000 Abandonment proceeding and develop a 2006 Tabulation of water rights for Division 2.

Participate in the ongoing 10-year review of the Trinidad Project.

Work with the Upper Arkansas Water Conservancy District to help them reach a decision as to whether to assume the operation of the Arkansas River Water Bank and if so, to make the necessary amendments to the existing Rules in order to comply with the current statute.

Continue to participate in Phase 2 of the Statewide Water Supply Initiative through the Alternatives to Agricultural Transfers Technical Roundtable and the Conservation/Efficiency Technical Roundtable.

Article submitted by Steve Witte

Transmountain Diversion Summary

WY 2005 TRANSMOUNTAIN DIVERSION SUMMARY - INFLOWS

RECIPIENT					SOURCE	
DIV/WD	DIVERSION STRUCTURE	STREAM	ACRE-FEET	DAYS	DIV/WD	STREAM
2/11	COLUMBINE DITCH	ARKANSAS RIVER	1,530	90	5/37	EAGLE RIVER
2/11	EWING DITCH	TENNESSEE CREEK	784	125	5/37	EAGLE RIVER
2/11	WURTZ DITCH	TENNESSEE CREEK	2,300	114	5/37	EAGLE RIVER
2/11	HOMESTAKE TUNNEL	LAKE FORK CREEK	23,920	59	5/37	EAGLE RIVER
2/11	BOUSTEAD TUNNEL	LAKE FORK CREEK	55,810	365	5/38	FRYINGPAN RIVER
2/11	BUSK-IVANHOE TUNNEL	LAKE FORK CREEK	5,170	365	5/38	FRYINGPAN RIVER
2/11	TWIN LAKES TUNNEL	LAKE CREEK	50,160	365	5/38	ROARING FORK RIVER
2/11	LARKSPUR DITCH	PONCHA CREEK	171	131	4/28	TOMICHI CREEK
2/79	HUDSON DITCH	HUERFANO RIVER	879	245	3/35	MEDANO CREEK
2/79	MEDANO DITCH	HUERFANO RIVER	845	60	3/35	MEDANO CREEK
2/10	BLUE RIVER PIPELINE	FOUNTAIN CREEK	12,978	335	5/36	BLUE RIVER
	TOTAL:		154,547			

WY 2005 TRANSMOUNTAIN DIVERSION SUMMARY - OUTFLOWS

RECIPIENT					SOURCE	
DIV/WD	DIVERSION STRUCTURE	STREAM	ACRE-FEET	DAYS	DIV/WD	STREAM
5/36&37	STEVENS-LEITER WELL	BLUE/EAGLE RIVERS	157	365	2/11	GROUNDWATER
	(AKA ARKANSAS WELL)					
	TOTAL:		157			

Water Diversion Summary Use Type by Water District

IRRIGATION YEAR 2005
(reported in ACRE-FEET)

USE TYPE	WD10	WD11	WD12	WD13	WD14	WD15	WD16	WD17	WD18	WD19	WD66	WD67	WD79	TOTAL
IRRIGATION	39,903	130,197	155,102	52,532	77,467	13,446	15,558	552,202	8,355	61,340	0	183,390	21,736	1,311,228
STORAGE	6,583	300,765	3,254	3,272	120,368	245	2,439	79,368	15	18,863	0	105,265	2,767	643,204
MUNICIPAL	95,678	4,633	4,166	193	37,268	1,682	4,295	0	191	1,157	0	3,090	18	152,371
COMMERCIAL	23	129	17	20	66	0	2	0	0	9	0	1,486	0	1,752
DOMESTIC	0	117	0	0	0	74	0	0	0	0	0	288	0	479
STOCK	5	0	18	0	0	0	0	0	0	430	0	0	0	453
INDUSTRIAL	2,623	18,599	54,365	494	23,666	9,136	0	0	0	0	0	310	0	109,193
RECREATIONAL	0	0	206	0	0	0	0	0	0	0	0	0	0	206
FISHERY	0	3,758	0	0	0	0	0	0	0	0	0	0	0	3,758
AUGMENTATION	2,560	0	0	85	74	0	0	0	0	0	0	7,062	0	9,781
RECHARGE	0	0	0	0	692	0	0	0	0	0	0	1,894	0	2,586
OTHER	23,406	3,163	55	0	4,398	0	0	1,012	0	80	0	0	0	32,114
														0
TOTAL	170,781	461,361	217,183	56,596	263,999	24,583	22,294	632,582	8,561	81,879	0	302,785	24,521	2,267,125

Water Diversion Summary Various Statistics by Water District

WD	STRUCTURES WITH RECORD			STRUCTURES WITHOUT RECORD			ESTIMATED STRUCTURE VISITS	DIVERSIONS				
	WITH RECORD	NO WATER AVAILABLE	NO WATER TAKEN	NO INFO AVAILABLE	WITH NO RECORD	TOTAL (AF)		SURFACE (AF)	GROUNDWATER (AF)	TO STORAGE (AF)	TO IRRIGATION (AF)	
10	602	3	67	9	1272	3418	170784	52058	19073	6583	39903	
11	275	30	26	22	1066	3225	461495	155926	242	300661	130131	
12	283	18	6	104	1365	3820	214126	208687	750	3254	155102	
13	588	30	16	56	380	971	56603	53034	297	3272	52532	
14	106	9	4	7	1226	1705	264076	110948	10787	120368	77467	
15	206	7	17	11	473	1135	25019	24583	433	245	24583	
16	186	16	6	0	729	5689	22592	22296	30	2439	22296	
17	153	37	1	3	1790	3616	633373	507360	39007	79368	513195	
18	31	3	9	0	303	1372	8563	8370	191	15	8355	
19	141	110	0	1	460	3141	81879	63076	28	20020	61340	
66	16	1	0	9	176	0	0	0	0	0	0	
67	125	11	0	28	2008	1367	302785	113128	42897	105265	183390	
79	152	79	17	2	545	4135	24521	21019	18	2767	21736	
TOTAL	2864	354	169	252	11793	33594	2265816	1340485	113753	644257	1290030	

Arkansas River Calls

Date	ArkansasRiverCall	PriorityDate
01-Nov-04	FORT LYON	03/01/1887
02-Nov-04	FORT LYON	03/01/1887
03-Nov-04	FORT LYON	03/01/1887
04-Nov-04	FORT LYON	03/01/1887
05-Nov-04	FORT LYON	03/01/1887
06-Nov-04	FORT LYON	03/01/1887
07-Nov-04	FORT LYON	03/01/1887
08-Nov-04	FORT LYON	03/01/1887
09-Nov-04	FORT LYON	03/01/1887
10-Nov-04	FORT LYON	03/01/1887
11-Nov-04	FORT LYON	03/01/1887
12-Nov-04	FORT LYON	03/01/1887
13-Nov-04	FORT LYON	03/01/1887
14-Nov-04	FORT LYON	03/01/1887
15-Nov-04	WINTER WATER	03/01/1910
16-Nov-04	WINTER WATER	03/01/1910
17-Nov-04	WINTER WATER	03/01/1910
18-Nov-04	WINTER WATER	03/01/1910
19-Nov-04	WINTER WATER	03/01/1910
20-Nov-04	WINTER WATER	03/01/1910
21-Nov-04	WINTER WATER	03/01/1910
22-Nov-04	WINTER WATER	03/01/1910
23-Nov-04	WINTER WATER	03/01/1910
24-Nov-04	WINTER WATER	03/01/1910
25-Nov-04	WINTER WATER	03/01/1910
26-Nov-04	WINTER WATER	03/01/1910
27-Nov-04	WINTER WATER	03/01/1910
28-Nov-04	WINTER WATER	03/01/1910
29-Nov-04	WINTER WATER	03/01/1910
30-Nov-04	WINTER WATER	03/01/1910
01-Dec-04	WINTER WATER	03/01/1910
02-Dec-04	WINTER WATER	03/01/1910
03-Dec-04	WINTER WATER	03/01/1910
04-Dec-04	WINTER WATER	03/01/1910
05-Dec-04	WINTER WATER	03/01/1910
06-Dec-04	WINTER WATER	03/01/1910
07-Dec-04	WINTER WATER	03/01/1910
08-Dec-04	WINTER WATER	03/01/1910
09-Dec-04	WINTER WATER	03/01/1910
10-Dec-04	WINTER WATER	03/01/1910
11-Dec-04	WINTER WATER	03/01/1910
12-Dec-04	WINTER WATER	03/01/1910
13-Dec-04	WINTER WATER	03/01/1910

14-Dec-04	WINTER WATER	03/01/1910
15-Dec-04	WINTER WATER	03/01/1910
16-Dec-04	WINTER WATER	03/01/1910
17-Dec-04	WINTER WATER	03/01/1910
18-Dec-04	WINTER WATER	03/01/1910
19-Dec-04	WINTER WATER	03/01/1910
20-Dec-04	WINTER WATER	03/01/1910
21-Dec-04	WINTER WATER	03/01/1910
22-Dec-04	WINTER WATER	03/01/1910
23-Dec-04	WINTER WATER	03/01/1910
24-Dec-04	WINTER WATER	03/01/1910
25-Dec-04	WINTER WATER	03/01/1910
26-Dec-04	WINTER WATER	03/01/1910
27-Dec-04	WINTER WATER	03/01/1910
28-Dec-04	WINTER WATER	03/01/1910
29-Dec-04	WINTER WATER	03/01/1910
30-Dec-04	WINTER WATER	03/01/1910
31-Dec-04	WINTER WATER	03/01/1910
01-Jan-05	WINTER WATER	03/01/1910
02-Jan-05	WINTER WATER	03/01/1910
03-Jan-05	WINTER WATER	03/01/1910
04-Jan-05	WINTER WATER	03/01/1910
05-Jan-05	WINTER WATER	03/01/1910
06-Jan-05	WINTER WATER	03/01/1910
07-Jan-05	WINTER WATER	03/01/1910
08-Jan-05	WINTER WATER	03/01/1910
09-Jan-05	WINTER WATER	03/01/1910
10-Jan-05	WINTER WATER	03/01/1910
11-Jan-05	WINTER WATER	03/01/1910
12-Jan-05	WINTER WATER	03/01/1910
13-Jan-05	WINTER WATER	03/01/1910
14-Jan-05	WINTER WATER	03/01/1910
15-Jan-05	WINTER WATER	03/01/1910
16-Jan-05	WINTER WATER	03/01/1910
17-Jan-05	WINTER WATER	03/01/1910
18-Jan-05	WINTER WATER	03/01/1910
19-Jan-05	WINTER WATER	03/01/1910
20-Jan-05	WINTER WATER	03/01/1910
21-Jan-05	WINTER WATER	03/01/1910
22-Jan-05	WINTER WATER	03/01/1910
23-Jan-05	WINTER WATER	03/01/1910
24-Jan-05	WINTER WATER	03/01/1910
25-Jan-05	WINTER WATER	03/01/1910
26-Jan-05	WINTER WATER	03/01/1910
27-Jan-05	WINTER WATER	03/01/1910
28-Jan-05	WINTER WATER	03/01/1910

29-Jan-05	WINTER WATER	03/01/1910
30-Jan-05	WINTER WATER	03/01/1910
31-Jan-05	WINTER WATER	03/01/1910
01-Feb-05	WINTER WATER	03/01/1910
02-Feb-05	WINTER WATER	03/01/1910
03-Feb-05	WINTER WATER	03/01/1910
04-Feb-05	WINTER WATER	03/01/1910
05-Feb-05	WINTER WATER	03/01/1910
06-Feb-05	WINTER WATER	03/01/1910
07-Feb-05	WINTER WATER	03/01/1910
08-Feb-05	WINTER WATER	03/01/1910
09-Feb-05	WINTER WATER	03/01/1910
10-Feb-05	WINTER WATER	03/01/1910
11-Feb-05	WINTER WATER	03/01/1910
12-Feb-05	WINTER WATER	03/01/1910
13-Feb-05	WINTER WATER	03/01/1910
14-Feb-05	WINTER WATER	03/01/1910
15-Feb-05	WINTER WATER	03/01/1910
16-Feb-05	WINTER WATER	03/01/1910
17-Feb-05	WINTER WATER	03/01/1910
18-Feb-05	WINTER WATER	03/01/1910
19-Feb-05	WINTER WATER	03/01/1910
20-Feb-05	WINTER WATER	03/01/1910
21-Feb-05	WINTER WATER	03/01/1910
22-Feb-05	WINTER WATER	03/01/1910
23-Feb-05	WINTER WATER	03/01/1910
24-Feb-05	WINTER WATER	03/01/1910
25-Feb-05	WINTER WATER	03/01/1910
26-Feb-05	WINTER WATER	03/01/1910
27-Feb-05	WINTER WATER	03/01/1910
28-Feb-05	WINTER WATER	03/01/1910
01-Mar-05	WINTER WATER	03/01/1910
02-Mar-05	WINTER WATER	03/01/1910
03-Mar-05	WINTER WATER	03/01/1910
04-Mar-05	WINTER WATER	03/01/1910
05-Mar-05	WINTER WATER	03/01/1910
06-Mar-05	WINTER WATER	03/01/1910
07-Mar-05	WINTER WATER	03/01/1910
08-Mar-05	WINTER WATER	03/01/1910
09-Mar-05	WINTER WATER	03/01/1910
10-Mar-05	WINTER WATER	03/01/1910
11-Mar-05	WINTER WATER	03/01/1910
12-Mar-05	WINTER WATER	03/01/1910
13-Mar-05	WINTER WATER	03/01/1910
14-Mar-05	WINTER WATER	03/01/1910
15-Mar-05	FORT LYON	04/15/1884

16-Mar-05	FORT LYON	04/15/1884
17-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
18-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
19-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
20-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
21-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
22-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
23-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
24-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
25-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
26-Mar-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
27-Mar-05	ROCKY FORD HIGHLINE	06/30/1885
28-Mar-05	ROCKY FORD HIGHLINE	03/11/1886
29-Mar-05	FORT LYON	03/01/1887
30-Mar-05	FORT LYON	03/01/1887
31-Mar-05	FORT LYON	03/01/1887
01-Apr-05	FORT LYON	03/01/1887
02-Apr-05	FORT LYON	03/01/1887
03-Apr-05	ROCKY FORD HIGHLINE	03/11/1886
04-Apr-05	ROCKY FORD HIGHLINE	03/11/1886
05-Apr-05	ROCKY FORD HIGHLINE	03/11/1886
06-Apr-05	ROCKY FORD HIGHLINE/EXCELSIOR	01/06/1890
07-Apr-05	FORT LYON	03/01/1887
08-Apr-05	FORT LYON	03/01/1887
09-Apr-05	FORT LYON	03/01/1887
10-Apr-05	FORT LYON	03/01/1887
11-Apr-05	FORT LYON	03/01/1887
12-Apr-05	FORT LYON	03/01/1887
13-Apr-05	FORT LYON	03/01/1887
14-Apr-05	FORT LYON	03/01/1887
15-Apr-05	FORT LYON	03/01/1887
16-Apr-05	FORT LYON	03/01/1887
17-Apr-05	FORT LYON	03/01/1887
18-Apr-05	FORT LYON	03/01/1887
19-Apr-05	FORT LYON	03/01/1887
20-Apr-05	FORT LYON	03/01/1887
21-Apr-05	FORT LYON	03/01/1887
22-Apr-05	FORT LYON	03/01/1887
23-Apr-05	FORT LYON	03/01/1887
24-Apr-05	FORT LYON	03/01/1887
25-Apr-05	FORT LYON	03/01/1887
26-Apr-05	HOLBROOK	09/25/1889
27-Apr-05	SPLIT CALL: HOLBROOK / FORT LYON #2	09/25/1889; 03/01/1887
28-Apr-05	FORT LYON	03/01/1887
29-Apr-05	FORT LYON	03/01/1887
30-Apr-05	FORT LYON	03/01/1887

01-May-05	FORT LYON	03/01/1887
02-May-05	FORT LYON	03/01/1887
03-May-05	FORT LYON	03/01/1887
04-May-05	FORT LYON	03/01/1887
05-May-05	FORT LYON	03/01/1887
06-May-05	FORT LYON	03/01/1887
07-May-05	FORT LYON	03/01/1887
08-May-05	FORT LYON	03/01/1887
09-May-05	FORT LYON	03/01/1887
10-May-05	FORT LYON	03/01/1887
11-May-05	FORT LYON	03/01/1887
12-May-05	FORT LYON	03/01/1887
13-May-05	FORT LYON	03/01/1887
14-May-05	FORT LYON	03/01/1887
15-May-05	FORT LYON	03/01/1887
16-May-05	FORT LYON	03/01/1887
17-May-05	FORT LYON	03/01/1887
18-May-05	FORT LYON	03/01/1887
19-May-05	FORT LYON	03/01/1887
20-May-05	FORT LYON	03/01/1887
21-May-05	FORT LYON	03/01/1887
22-May-05	FORT LYON	03/01/1887
23-May-05	BESSEMER/EXCELSIOR/COLLIER	05/01/1887
24-May-05	ROCKY FORD HIGHLINE/EXCELSIOR	01/06/1890
25-May-05	COLORADO CANAL	06/09/1890
26-May-05	AMITY	04/01/1893
27-May-05	HOLBROOK RESERVOIR	03/02/1892
28-May-05	HOLBROOK RESERVOIR	03/02/1892
29-May-05	HOLBROOK RESERVOIR	03/02/1892
30-May-05	HOLBROOK RESERVOIR	03/02/1892
31-May-05	GREAT PLAINS RESERVOIRS	08/01/1896
01-Jun-05	GREAT PLAINS RESERVOIRS	08/01/1896
02-Jun-05	GREAT PLAINS RESERVOIRS	08/01/1896
03-Jun-05	FORT LYON	08/31/1893
04-Jun-05	HOLBROOK	08/30/1893
05-Jun-05	COLORADO CANAL	06/09/1890
06-Jun-05	COLORADO CANAL	06/09/1890
07-Jun-05	ROCKY FORD HIGHLINE/EXCELSIOR	01/06/1890
08-Jun-05	FORT LYON	03/01/1887
09-Jun-05	FORT LYON	03/01/1887
10-Jun-05	FORT LYON	03/01/1887
11-Jun-05	FORT LYON	03/01/1887
12-Jun-05	FORT LYON	03/01/1887
13-Jun-05	FORT LYON	03/01/1887
14-Jun-05	FORT LYON	03/01/1887
15-Jun-05	FORT LYON	03/01/1910

16-Jun-05	FORT LYON	03/01/1887
17-Jun-05	FORT LYON	03/01/1887
18-Jun-05	FORT LYON	03/01/1887
19-Jun-05	FORT LYON	03/01/1887
20-Jun-05	FORT LYON	03/01/1887
21-Jun-05	BESSEMER/EXCELSIOR/COLLIER	05/01/1887
22-Jun-05	COLORADO CANAL	06/09/1890
23-Jun-05	COLORADO CANAL	06/09/1890
24-Jun-05	HOLBROOK	09/25/1889
25-Jun-05	CATLIN	11/14/1887
26-Jun-05	CATLIN	11/14/1887
27-Jun-05	BESSEMER/EXCELSIOR/COLLIER	05/01/1887
28-Jun-05	FORT LYON	03/01/1887
29-Jun-05	FORT LYON	03/01/1887
30-Jun-05	FORT LYON	03/01/1887
01-Jul-05	FORT LYON	03/01/1887
02-Jul-05	FORT LYON	03/01/1887
03-Jul-05	FORT LYON	03/01/1887
04-Jul-05	FORT LYON	03/01/1887
05-Jul-05	FORT LYON	03/01/1887
06-Jul-05	FORT LYON	03/01/1887
07-Jul-05	FORT LYON	03/01/1887
08-Jul-05	OXFORD	02/26/1887
09-Jul-05	AMITY	02/21/1887
10-Jul-05	AMITY	02/21/1887
11-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
12-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
13-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
14-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
15-Jul-05	AMITY	02/21/1887
16-Jul-05	AMITY	02/21/1887
17-Jul-05	AMITY	02/21/1887
18-Jul-05	AMITY	02/21/1887
19-Jul-05	AMITY	02/21/1887
20-Jul-05	AMITY	02/21/1887
21-Jul-05	AMITY	02/21/1887
22-Jul-05	BUFFALO	01/29/1885
23-Jul-05	BUFFALO	01/29/1885
24-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
25-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
26-Jul-05	FORT LYON	04/15/1884
27-Jul-05	FORT LYON	04/15/1884
28-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
29-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
30-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
31-Jul-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884

01-Aug-05	FORT LYON	04/15/1884
02-Aug-05	FORT LYON	04/15/1884
03-Aug-05	FORT LYON	04/15/1884
04-Aug-05	FORT LYON	04/15/1884
05-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
06-Aug-05	ROCKY FORD HIGHLINE	03/11/1886
07-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
08-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
09-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
10-Aug-05	FORT LYON	04/15/1884
11-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
12-Aug-05	ROCKY FORD HIGHLINE	03/11/1886
13-Aug-05	LAMAR	11/04/1886
14-Aug-05	LAMAR	11/04/1886
15-Aug-05	FORT LYON	03/01/1887
16-Aug-05	AMITY	02/21/1887
17-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
18-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
19-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
20-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
21-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
22-Aug-05	AMITY	02/21/1887
23-Aug-05	AMITY	02/21/1887
24-Aug-05	AMITY	02/21/1887
25-Aug-05	AMITY	02/21/1887
26-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
27-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
28-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
29-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
30-Aug-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
31-Aug-05	FORT LYON	04/15/1884
01-Sep-05	FORT LYON	04/15/1884
02-Sep-05	FORT LYON	04/15/1884
03-Sep-05	FORT LYON	04/15/1884
04-Sep-05	FORT LYON	04/15/1884
05-Sep-05	FORT LYON	04/15/1884
06-Sep-05	FORT LYON	04/15/1884
07-Sep-05	FORT LYON	04/15/1884
08-Sep-05	FORT LYON	04/15/1884
09-Sep-05	FORT LYON	04/15/1884
10-Sep-05	FORT LYON	04/15/1884
11-Sep-05	FORT LYON	04/15/1884
12-Sep-05	FORT LYON	04/15/1884
13-Sep-05	FORT LYON	04/15/1884
14-Sep-05	FORT LYON	04/15/1884
15-Sep-05	KEESEE	12/31/1883

16-Sep-05	KEESEE	12/31/1883
17-Sep-05	KEESEE	12/31/1883
18-Sep-05	KEESEE	12/31/1883
19-Sep-05	SOUTH CANON DITCH	05/31/1882
20-Sep-05	SOUTH CANON DITCH	05/31/1882
21-Sep-05	SOUTH CANON DITCH	05/31/1882
22-Sep-05	SOUTH CANON DITCH	05/31/1882
23-Sep-05	SOUTH CANON DITCH	05/31/1882
24-Sep-05	SOUTH CANON DITCH	05/31/1882
25-Sep-05	SOUTH CANON DITCH	05/31/1882
26-Sep-05	SOUTH CANON DITCH	05/31/1882
27-Sep-05	SOUTH CANON DITCH	05/31/1882
28-Sep-05	SOUTH CANON DITCH	05/31/1882
29-Sep-05	SOUTH CANON DITCH	05/31/1882
30-Sep-05	FORT LYON	04/15/1884
01-Oct-05	FORT LYON	04/15/1884
02-Oct-05	FORT LYON	04/15/1884
03-Oct-05	FORT LYON	04/15/1884
04-Oct-05	FORT LYON	04/15/1884
05-Oct-05	FORT LYON	04/15/1884
06-Oct-05	FORT LYON	04/15/1884
07-Oct-05	FORT LYON	04/15/1884
08-Oct-05	FORT LYON	04/15/1884
09-Oct-05	FORT LYON	04/15/1884
10-Oct-05	FORT LYON	04/15/1884
11-Oct-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
12-Oct-05	AMITY	02/21/1887
13-Oct-05	AMITY	02/21/1887
14-Oct-05	AMITY	02/21/1887
15-Oct-05	LAMAR	11/04/1886
16-Oct-05	BUFFALO	01/29/1885
17-Oct-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
18-Oct-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
19-Oct-05	CATLIN/LAS ANIMAS CONSOLIDATED	12/03/1884
20-Oct-05	AMITY	02/21/1887
21-Oct-05	AMITY	02/21/1887
22-Oct-05	LAMAR	11/04/1886
23-Oct-05	LAMAR	11/04/1886
24-Oct-05	LAMAR	11/04/1886
25-Oct-05	LAMAR	11/04/1886
26-Oct-05	AMITY	02/21/1887
27-Oct-05	AMITY	02/21/1887
28-Oct-05	AMITY	02/21/1887
29-Oct-05	AMITY	02/21/1887
30-Oct-05	AMITY	02/21/1887
31-Oct-05	FORT LYON	03/01/1887

Water Court Activity

TYPE	NUMBER OF APPLICATIONS *	NUMBER OF STRUCTURES INVOLVED	NUMBER OF DECREES *
ALTERNATE POINT OF DIVERSION	0	0	2
AUGMENTATION PLAN	28	55	30
CHANGE OF EXISTING RIGHT	19	29	22
COMPLAINT/INJUNCTION	8	20	0
NEW SURFACE RIGHT	18	62	35
NEW STORAGE RIGHT	3	9	16
NEW UNDERGROUND RIGHT	23	93	32
CONTINUING DILIGENCE/ABSOLUTE	33	68	12
EXCHANGE	6	42	6
PROTEST TO ABANDONMENT LIST	0	0	0
OTHER	1	1	0
TOTAL	139	379	155
* SOME APPLICATIONS OR DECREES ARE OF MULTIPLE TYPES, 107 INDIVIDUAL CASES WERE FILED.			

Organizational Chart

Colorado Division of Water Resources Interim Division 2 Organizational Chart December 31, 2005

