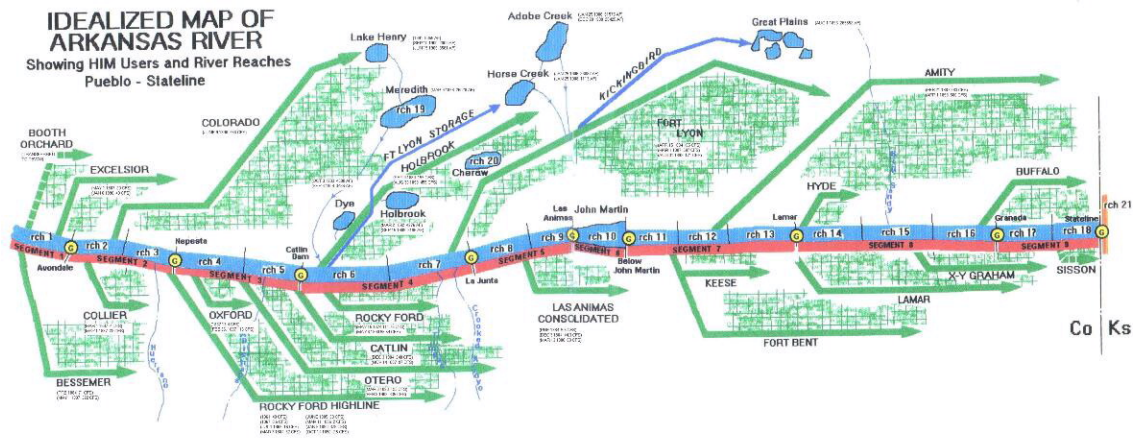


State of Colorado  
Division of Water Resources

# Division 2 2003 Annual Report



**DIVISION ENGINEER'S  
ANNUAL REPORT**

**Water Division 2**

**2003**

April 24, 2004

Mr. Hal Simpson  
State Engineer  
Division of Water Resources  
1313 Sherman Street, Room 818  
Denver, CO 80203

Dear Hal,

I submit the 2003 Annual Report for Division 2 summarizing our division's activities for Water Year 2003.

Also, I express my sincere gratitude to my Division 2 employees for their diligent work and efforts during this past year and to you and your staff for providing the support that has allowed us to accomplish our responsibilities and duties.

Respectfully submitted,

Steven J. Witte  
Division Engineer, Division 2

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## **ACTIVITIES and ACCOMPLISHMENTS—2003 WATER YEAR**

### **A. Surface Water Administration**

#### **1. Ongoing Drought Administration**

Impacts from the extended drought continued in 2003 even though snowpack and runoff exhibited some periods that approached average in the Arkansas River Basin. Challenges for 2003 included higher than average transit losses on reservoir deliveries and administration of exchanges under tight river conditions.

Southeastern Water Conservancy District boosted early season irrigation between Pueblo Reservoir and John Martin Reservoir by revamping their allocation policy for 2003 to include an early allocation of Fryngpan Arkansas Project water for agriculture. This was done at the suggestion of the Division Engineer. In order to make the early allocation work the Fountain Valley Authority (Colorado Springs, Widefield, Security, Fountain and Stratmoor Hills) "loaned" some of their stored municipal water in Pueblo Reservoir to the SECWCD in exchange for repayment from the first imports of Project water in 2003. This swap gave the FVA a few months without evaporation charges on that portion of stored water, while allowing mainstem ditches to have utilize early Project water deliveries to get crops started. This also resulted in FryArk Return Flows being available sooner for well augmentation allowing farmers with wells to start early season crops. This proved to be an excellent example of cooperative management.

#### **2. Conversion of Senior Surface Rights to Replacement Sources**

Due to the ongoing drought conditions farmers in cooperation with their well associations developed some very creative responses. Among these creative solutions was a plan by well owners under the Catlin Canal working through the Colorado Water Protective and Development Association and the Arkansas Groundwater Users Association, to ensure ground water would be available as a reliable source of supply for critical high dollar crops. A number of the Catlin Canal farmers had invested in drip irrigation systems to supply crops such as watermelons, cantaloupe, pumpkins and vegetables with water from their irrigation wells. On these lands there was no ability to use surface water available to the Catlin Canal for irrigation so the owners worked with their well associations to use the water represented by their shares for augmentation of their well depletions.

In order to make the augmentation scheme work the water available to the Catlin Canal had to be diverted from the Arkansas River and then routed through the ditch to two key points along the canal where shares



used for augmentation were measured back through flumes to quantify the credits from historic consumptive use of the surface water and to maintain historic return flow patterns off of the Catlin irrigated acreage.

Although pumping amounts were limited based on the amounts of water available in-priority for the Catlin Canal coupled with the amount of water stored Pueblo Reservoir, the Catlin well owners were able to have a dependable supply to crops through the critical summer months and generally had good harvests that reduced some of the economic impact of the drought.

### 3. Conversion of Senior Surface Rights for Municipal Drought Relief

During 2003 the first significant interruptible supply agreement was developed by City of Aurora and the Highline Canal Company to provide a mechanism for farmers to lease their surface water rights on a one to two year basis in order to allow the utilization of the consumable portion of the water right as a source of supply to help refill Aurora's depleted storage vessels. The plan appears to be set to operate during 2004 for the first time, but a considerable amount of background work had to be conducted in 2003 in order for the plan to fall in place.

An important element in the process was achieved by the signing of an Inter Governmental Agreement between Aurora, the Southeastern Water Conservancy District and other parties that eliminated some of the objections and impediments to exchange of the consumable water from the point of historic use to locations further upstream that would allow Aurora to ultimately divert the fully consumable water out of the Arkansas River Basin.

Technical review of the Substitute Water Supply plan required to operate the temporary change of water right involved considerable effort by all parties during the latter part of 2003 and on into early 2004. Ultimately a plan was approved with numerous conditions designed to protect other water rights that would allow Aurora to import over 12,000 acre-feet of consumable water for replenishment of their municipal stored supplies.

### 4. Water Administration Fee Program

The 2003 Legislative session brought about a fundamental change in how our agency was to be funded beginning with the 2003-2004 Fiscal Year. A substantial reduction in General Funds was legislated to be offset by fees collected for administration of water rights. In preparation for the rule making process and in conjunction with some of the efforts associated with the Core Efficiency study concurrently being conducted by Department of Natural Resources, input from division staff was solicited by the State Engineer's Office.

While staff from the State Engineer’s Office worked to plan and conduct public meetings and hearings on the Water Administration Fee rules, water commissioners and staff from the Division Offices began the research work necessary to identify an owner and appropriate mailing address for each water right for which a fee was to be assessed.

In Division 2 the effort to identify ownership ultimately resulted in 4,519 of the 4,552 SB 278 water rights being linked to owners prior to the first billing on February 1, 2004 with some additional information provided by water commissioners on into February 2004.

Although there are pros and cons associated with this work effort, the resulting improvement in ownership data will be a positive benefit in terms of future use of Hydrobase and in terms of proactive administration of water rights.

**B. Ground Water Administration**

**1. Exempt Wells**

2002 drought effects continues in 2003 for well owners. Replacement permits issued remain 37% higher than the average of the three years before the 2002 drought. The average number of replacement permits was 1075 for the period of 1999 to 2001. Highest effects of the drought were in 2002, with 1889 issued statewide. In 2003, 1468 were issued statewide.

Breakdown(of replacement permits issued) per county for many counties in Division 2 are as follows:

| County     | 1999 | 2000 | 2001 | 2002 | 2003 |
|------------|------|------|------|------|------|
| Baca       | 3    | 6    | 7    | 10   | 12   |
| Bent       | 8    | 8    | 11   | 16   | 15   |
| Chaffee    | 23   | 21   | 25   | 74   | 84   |
| Crowley    | 3    | 3    | 1    | 6    | 11   |
| El Paso    | 86   | 72   | 78   | 88   | 69   |
| Fremont    | 22   | 12   | 25   | 41   | 33   |
| Huerfano   | 7    | 13   | 10   | 21   | 6    |
| Kiowa      | 1    | 4    | 4    | 8    | 5    |
| Lake       | 0    | 8    | 6    | 6    | 4    |
| Las Animas | 10   | 11   | 7    | 10   | 5    |
| Otero      | 11   | 7    | 9    | 24   | 21   |
| Pueblo     | 24   | 19   | 35   | 43   | 35   |

**2. Non-exempt Wells**

Wells in the Arkansas River Basin are subject to the AMENDED MEASUREMENT RULES AND AMENDED USE RULES. Wells subject to the USE RULES may only divert water pursuant to a qualifying plan to replace stream depletions. Most irrigation wells and many wells for other uses participate in plans developed in accordance with Rule 14 of



those USE RULES. Those plans are approved for a period of April 1 to March 31 of the succeeding year (plan year).

Prior to the 2002 plan year, Division 2 had met with ground water associations to discuss strategies to deal with a drought year. These meetings between the major associations and Division 2 led to public meetings to inform water users of the situation. During the course of both the 2001 and 2002 plan years, water users, well user associations and Division 2 continued to learn more about operating under drought conditions and to refine their practices to maximize beneficial use of the limited water available to replacement stream depletions caused by well use while maintaining compliance with the Arkansas River Compact.

As in the preceding plan year, drought conditions were extreme in the Arkansas River Basin. The soil moisture remained extremely low, return flow from surface irrigation was much reduced from normal conditions and many sources of replacement water were no longer available. In part because of the reduced surface flows in the preceding plan year, the return flows used by many of the augmentation plans as a primary if not sole source of replacement water was even less than in 2002. In 2002, pumping was still 93% of the preceding five years' average. However, in 2003, pumping has been only about half of the 2002 levels and only 44% of the 1997-2001 average. These conditions resulted in numerous revisions to several the augmentation plans as well users revised their irrigation use to adapt to the severe conditions. A total of 63 revisions were made over the course of 2003. Even with more efficient irrigation methods, changes in crops and many fallow acres, many irrigators continued to suffer significant losses.

Seasonal limits were established with in the 2002 plan year with April-October designated as "summer" and November-March designated as "winter." The purpose of seasonal limits is to avoid higher than estimated pumping during those times when replacement water is particularly limited. Other changes to pumping accounting procedures included allowing power company readings from early in the month to be applied to the preceding month rather the month in which the meter was read so that pumping was applied to the actual month of use, allowing the summer irrigation season to be accounted for as summer pumping, not winter use.

Seventeen Rule 14 plans were submitted for Plan Year 2002. One plan, High Line Canal Company, withdrew its submittal due to delays in bringing pumps up to operational condition. Another plan, High Plains, was not received until January 2004. Fifteen plans were approved for part or all of 2003.

By far, the greatest difficulty encountered this year was the on-going drought. The extremely dry conditions led to a much higher than usual work load in reviewing and processing Water Transfers and Amendments; in assisting the Associations as well as individuals in locating and evaluating alternative replacement sources; and in explaining our normal processes to people not normally involved in acquiring well permits, developing augmentation plans, etc. In addition, because of the effect of drought on the yield of their pre-Compact direct flow water rights, there was a real concern for the viability of the LAWMA Plan.



Another problem encountered in 2003 was the upgrade in software. Many of the applications used to manage the groundwater data had to be modified to repair problems that did not exist in the older version of the software. This was very time-consuming and frustrating for all parties. These problems led to developing a comprehensive review and revision of the entire groundwater data management system. The revisions will resolve any outstanding operational.

Monthly augmentation coordination meetings were held at the Southeastern Colorado Water Conservancy District (SECWCD) beginning in April 2003 and continuing through November 2003. Representatives from the larger associations attended the meetings on a regular basis. Pumping, stream depletions and replacement operations were presented at the meeting. Additionally the meetings were used to communicate other Rule 14 operations such as problems with "over-pumpers", plan amendments, water transfers and to forecast accounting operations for the following month.

In the 2003-04 plan year, all associations that operated a Rule 14 plan were able to provide sufficient replacement water. Associations that did not have sufficient replacement water were able to curtail pumping by their members in order to reduce stream depletions to within allowable replacement supplies.

### **C. Arkansas River Compact**

Special Master Arthur L. Littleworth completed his Fourth Report in October of 2003. The following were the key issues addressed in the report.

1. Whether there were additional depletions to usable stateline flows for the period 1997-99.
2. Whether Colorado's Measurement Rules for the determination of groundwater pumping are sufficient, considering a 1999 USGS report.
3. Whether numerous changes proposed by both states to the H-I Model should be made.
4. Whether Colorado's Use Rules, as implemented, are sufficient to ensure compact compliance.
5. How to utilize the H-I model in the future in order to determine compact compliance.
6. Whether a River Master should be recommended in order to monitor and enforce future compact compliance.
7. Calculation of damages for 1950-1994 in accordance with the Court's Opinion of June 11, 2002 and determining monetary damages for the additional 7935 acre-feet of depletions that occurred in 1995-96.

Key recommendations from the Special Master on the above issues included the following:

1. That prejudgment interest be calculated as set forth in the Special Master's previous Order dated December 2, 2002, which



essentially meant that Colorado owed just over \$28 million dollars rather than the \$53 million dollars that Kansas sought.

2. That the Court approve the Special Master's Order of July 25, 2001 rejecting Kansas' proposed evidence on the Winter Water Storage Program.
3. That the Court approve the Special Master's finding that Colorado's Use Rules, and the replacement water provided thereunder, brought Colorado into compliance with its obligations under the Arkansas River Compact for the period 1997-99.
4. That the Court approve the Special Master's finding that Colorado's Measurement Rules, subject to possible revision following completion of Phase 2 of the USGS study, are adequate to determine well pumping amounts for use in the H-I model, and that it is not necessary to require installation of totalizing flow meters on all of the wells within the H-I model domain.
5. That the results of Colorado's irrigated acreage and well studies be used in the H-I model.
6. That in the H-I model, potential evapotranspiration (PET) be determined through the use of the Penman-Monteith methodology; that the adjustments recommended by Colorado experts are not sufficiently supported by the evidence and should not be made; that as more information may be developed on conditions in the Arkansas River Valley, adjustments made in accordance with recognized professional procedures may be appropriate.
7. That the Court approve the Special Master's findings and conclusions with regard to various changes in the H-I model.
8. That the final amounts of replacement credits to be applied toward Colorado's compact obligations be the amounts determined by the Colorado Water Court, and any appeals therefrom with Kansas retaining the right to seek relief under the Court's original jurisdiction.
9. That the Court approve the Special Master's findings that the Kansas prospective compliance analysis is not sufficient to show that the Colorado Use Rules will not assure future compact compliance, and that Colorado should not be required to place water in the Offset Account in the amount of 15% of its pumping, or that its pumping be limited.
10. That the Court approve the Special Master's conclusions concerning use of the H-I model over a ten-year period to measure compact compliance, and to make up any depletions as testified to by the Colorado State Engineer.
11. That the Court deny the Kansas request to appoint a River Master to administer the final decree in this case, but that it retain jurisdiction for a limited period of time.



Kansas filed exceptions to recommendations 1, 3, 8, 10, and 11 above. Oral arguments before the United States Supreme Court are anticipated to be scheduled after October 2004.

Subsequent to the Special Master's Fourth Report Division 2 staff are working closely with legal counsel and SEO staff to develop plans for further studies and improvements to ensure Colorado's compact compliance on into the future. A number of these studies will be initiated during 2004.

Apart from the interstate litigation, at their meeting on May 23, 2003, the Arkansas River Compact Administration directed the Division 2 Engineer, in his capacity as Operations Secretary to prepare a report describing each of the outstanding operational issues that have been raised as concerns by the state of Kansas and to include a description of both state's positions on these issues. Additionally, the report was to include an analysis of the feasibility of periodically alternating the office and associated duties of the Operations Secretary between the Division Engineer for Division 2, Colorado Division of Water Resources and the Water Commissioner of the Garden City Field Office, Division of Water Resources, Kansas Department of Agriculture. This report, entitled "Special Report of the Operations Secretary Concerning Processes to Resolve Administrative Issues, the Status of Issues, and a Proposal to Alternate the Offices of Operations Secretary and Assistant Operations Secretary", was dated and submitted to the Operations Committee on December 8, 2003.

The "Annual Report of the Operations Secretary Concerning the Operation of John Martin Reservoir-Compact Year 2003" and the "Report of the Colorado State Engineer, Concerning Accounting and the Operations of an Offset Account in John Martin Reservoir for Colorado Pumping 2003" were prepared and submitted to the Arkansas River Compact Administration's Operations Committee on December 8, 2003. Special recognition is given to Mr. Bill Tyner for his efforts to produce the Offset Account report.

#### **D. Legal and Litigation**

##### **1. Water Court Activity**

One hundred twenty-two applications were filed with the court during calendar year 2003. Fifteen of these were decreed with a further ninety-three decrees being granted from previous years applications. A summary of this activity is included as Appendix D. Written consultations are made to the court for all new applications and as appropriate for amended applications. Additionally Division staff participate in virtually all referee hearings including water commissioners whenever possible. Relationships between the court and the Division are considered very good with much communication back and forth all directed at producing administrable and non-injurious decrees. No trials in Water Court involving the Division occurred during 2003.



## 2. Other significant legal events

The City of Aurora's 1999 application for a change of use and an alternate point of diversion for the majority of the remaining shares of the Rocky Ford Ditch was decreed in December. The applicant's did present their case before the judge at the scheduled trial date but at that time all parties had either stipulated or agreed to stipulate. The Division was significantly involved with other objectors in this case. Several significant events occurred during negotiations such as, an opinion by the court that increased transit losses to other parties resultant from decreased streamflows caused by exchanges of the applicant are injurious, a reopening and modification of the 1983 change case to the Rock Ford Ditch by Aurora, and an agreement by Aurora for no more permanent transfers of water from the Arkansas River Basin for forty years.

Three applications have now been filed to change nearly one half of the shares in the Fort Lyon Canal Company water rights to allow for all beneficial uses and a change in location to essentially all of eastern Colorado including Water Division One. A motion is currently before the court as to whether a change of absolute water rights to other uses without a defined end user and location is speculative or not.

## **E. Hydrobase Consistency Project**

Steve Kastner acted as the division representative in the DWR project, chaired by Bob Plaska, to update and redesign how water right, diversion structure, and diversion record information is recorded. Other goals are to provide increased capabilities for manipulating and presenting such data in light of current and future complicated water right adjudications.

The first statewide meeting was held in Salida during November with a single representative from each division and the Denver office plus the chair. As of March 2003 two meetings have been held with a third planned for April. With this third meeting a general redesign of diversion structure and water right information should be accomplished with diversion record aspects yet to be addressed.

In addition to the correction of 1970-85 era electronic diversion data noted as an objective for 2003 in last year's report a concerted effort was made to correct data coding problems that pose incompatibility problems and have thus prevented the upload of historical diversion data into the Hydrobase system. This record cleanup was completed in early 2004 to allow records to be incorporated in Hydrobase upon the completion of data capture for the 2003 season. The effort of Joe Flory, Bill Tyner, Steve Kastner, Janet Dash, Monique Morey, Vivian Bea, Doug Stenzel and others who took on this necessary but unsavory task and relentlessly pursued it to completion despite other priorities and distractions, is noted and sincerely appreciated.



## **F. Water Banking Pilot Program**

Pursuant to C.R.S. 37-80.5-104 The Arkansas River Basin Water Bank became operational in January 2003 with the Southeastern Colorado Water Conservancy District in the role of operator with the Division Office in the role of evaluating any applications for suitability under the conditions and proposing terms of non-injury for the proposed banking operation.

Four applications to place water in the Water Bank totaling 340 acre-feet were accepted during the year. Although there were also registered entities interested in leasing such water the combination of other alternatives to available to water users, the price requested for the banked water, and the relatively small amounts of water banked produced no completed leases of banked water during the year.

The Division and SEO staff are currently amending the existing Water Bank rules and regulations as a result of the now existing statewide water banking statute (C.R.S. 37-80.5-104.5).

## **G. Safety of Dams**

Dam Safety activities for Division 2 summarized:

- Safety inspections, including a new and additional work load in Division 1, were conducted for Class I, II and III dams in accordance with the 1, 2 and 6 year interval policy. An FTE Dam safety vacancy necessitated deviations from this schedule which were approved by the Deputy State Engineer.
- Nee Noshe Dam, WD 67, had a total outlet replacement, including new valves, as well as extensive internal drainage and stability improvements which will allow full reservoir storage. The dam has had a storage restriction imposed since 1987.
- Rampart Dam, WD 10, had extensive seepage control and stability improvements completed on the downstream slope.
- Woodmoor Lake, WD 10, had a new pump station and outlet works constructed.
- DeWeese Dam, WD 13, had a spillway raise constructed to increase reservoir storage.
- Spring Run #2, WD 10, had designs, plans and specifications approved for a new primary and emergency spillway.
- Glen Eyre #3, WD 10, had designs, plans and specifications approved for slope repairs necessitated by stability problems. The reservoir is primarily used for irrigating a golf course.
- Monument Lake, WD 19, had designs, plans and specifications approved for a new outlet discharge and energy dissipation structure. The new structure will allow safe emergency releases from the reservoir and will allow water to be supplied to the Trinidad water treatment plant. The reservoir had been unable to supply water to the treatment plant in the past.
- Lake Henry, WD 17, had designs, plans and specifications approved for a new service and emergency spillway. Lake Henry has never had a functional spillway.
- Karval Dam, WD 17, had designs, plans, and specifications approved for internal drainage and stability improvements necessitated by a slope stability failure.



- Skagway Dam, WD 12, had designs, plans and specifications approved for an outlet works repair.
- St. Charles Mesa Dam, WD 15, had designs, plans and specifications approved for a major reservoir expansion that roughly increases their raw water storage by a factor of five.
- In addition to the numerous construction projects and regular safety inspections, work on extensive revisions to the new risk based inspection program was accomplished. A beta version of the evaluation software has just been completed in early 2004.
- A week long FEMA sponsored training course was attended on dam site security.
- The biggest accomplishment for 2003 is the fact that a significant number of dam safety improvements were approved and constructed and the normal inspection workload was accomplished while having a Dam Safety Engineer vacancy for the busiest six months of the year.

## **H. Hydrography**

Assistant Division Engineer, Bill Tyner, PE II , provided overall program leadership of the Division 2 Hydrographic Program WY2003. He was supported by Lead Hydrographer, Thomas Ley, PE I; Hydrographic Engineer, Lou Schultz, EIT; and Hydrographic Technicians, Anthony Gutierrez and Adam Adame. Bill Tyner also had oversight responsibilities for hydrographic streamflow record preparation in Division 5 during the water year, and 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 and provides support in WD's 12 and 13. Tony Gutierrez and Tom Ley are responsible for gages in WD's 12, 13, 10, 14, 15, 16, 79, 18 and 19. 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.

Division 2 hydrographic staff completed 43 streamflow records for WY2003 for publication in the DWR Annual Streamflow report. Seven of these streamflow records are also published by the US Geological Survey in their Annual Water Resources for Colorado Data Report.

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

### Flood Hardening:

- Completed installation of flood hardening equipment and facilities at five gages:

- Arkansas River near Wellsville: flood block and new orifice lines,
  - Purgatoire River below Highland Dam near Las Animas: flood block and new orifice line,
  - Arkansas River near Rocky Ford: flood block, new orifice lines, and installation of new wire weight gage,
  - Arkansas River at Nepesta Bridge near Nepesta: installation and armoring of new conduit and orifice lines to high water orifice located in flood block below shelter,
  - Raton Creek above Starkville: installation of a new gaging station for flood warning and monitoring,
- Completed contract with E&H, Inc. to develop and/or extend ratings for high flows at the new Raton Creek above Starkville gage, the Cucharas River at Harrison Bridge near La Veta gage, and the Arkansas River below Catlin Dam near Fowler gage. Extended ratings have been reviewed and implemented.

Stream Gage Refurbishment:

- Refurbished the concrete control at the Lake Fork Creek below Sugarloaf Dam gage by adding a 6-inch thick concrete apron (5 ft x 38 ft) on the upstream side of the control with a 1 ft x 1ft x 38 ft monolith key way poured at the upstream end of the apron.
- Several stream gage shelters received a new coat of paint

High Data Rate DCPs:

- 16 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 14 of these sites required installation of SDI shaft encoders and upgraded grounding equipment.
- At two sites SatLink DCPs were installed to replace SDI Radio Bridges which have proven to have operational reliability issues.

Other activities conducted by Div. 2 hydrographic staff during WY2003 include:

- Intensive measurement and monitoring of the Fountain Creek at the Mouth stream gage and comparison with Fountain Creek at Pueblo stream gage;
- inspection of two cableways in Division 2 as part of the DWR Hydrographic Program Cableway Safety and Inspection Program;
- programming of DCPs and addition of ten stream gages and one reservoir gage to the new DWR stream and reservoir gage ALERT system (automated alerting of various individuals for threshold high and/or low stage conditions);



- inspection and flow measurement checks on several augmentation stations in Water Districts 11, 17 and 67;
- design and implementation of a transit loss estimation study on Trout Creek Ditch in WD 11 involving a total of 33 measurements at ten locations along the Ditch over a two day period;
- inventory and analysis of Arkansas River Basin stream gages in cooperation with the USGS and presentation of results at the 2003 Streamgaging Symposium;
- receipt of and training in the use of AquaCalc stream flow computers and magnetic head Pygmy current meters;
- preparation and delivery of a report describing the results of analyses of 67 historical releases and deliveries of water from John Martin Reservoir to the Colorado-Kansas Stateline, the purpose of which was to evaluate transit losses occurring during delivery of water to Kansas;
- preparation and delivery of a presentation on the DWR satellite monitoring system and hydrographic program to the NOAA GOES user group meeting hosted by CO DWR in June in Frisco;
- led the development of two new standard operating procedures and equipment use policies for DWR hydrographers regarding the use of AquaCalc Streamflow Computers and magnetic head Pygmy current meters;
- 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 WY2003.

## **I. Information Technology Highlights for 2003**

The Voice Over Internet Protocol (VOIP) phone system was implemented during the summer of 2003. Instead of having disparate phone systems in each DWR office throughout the state, it was decided to use the high speed Multi-Use Network (MNT) for all DWR phone systems. In this manner, a person calling Denver from Pueblo would not incur a long distance charge when the VOIP line was used. Although some basic functions were lost with the implementation of this system, it has certainly streamlined phone calls to other DWR employees through the use of the 4-digit extension.

Doug Stenzel introduced Division 2 to the Hydrobase Tools for entering diversion records for water year 2003. Many of the water commissioners abandoned their Wisp program and used the Hydrobase Tools this year for data entry purposes.

Division 2 upgraded all computers to Windows 2000 and Office 2000. Initially, it was assumed that the upgrade to Access 2000 would not impact our databases applications adversely. However, the upgrade caused numerous problems for the groundwater staff during the early months of conversion. We still suffer from frequent database corruptions, the causes of which seems to be network related and cannot be identified easily.



Kathy Trask, Chris Lytle, Keith Kepler and Vivian Beal began the process of documenting the current Groundwater Database Management System (GDMS). Data flow diagramming was introduced to the groundwater group. The groundwater staff then developed data flow diagrams of their current process flows such as Power, Association Use, Inventory, etc. Once completed, the entire ground water group attended several meetings in which the data flow diagrams (DFD's) were presented. The group was encouraged to understand all data flows and make suggestions for future enhancements. Revisions to the DFD's are still a work in progress.

The GDMS team is also reviewing the current groundwater database tables and applications for future streamlining and improvements. This effort was to be done by the end of March 2004, but other priorities (SB278, Water Rights Cleanup, etc) keep affecting the schedule for this effort.

AllPlans is an application developed by Division 2 that will track the progress of Substitute Water Supply Plans (SWSP's), augmentation plans, gravel pits, etc. on a year-by-year basis. The Division 2 group would like to use the application not only for definition and tracking of plans, but for the annual operation of the plans as well. The AllPlans database application is currently being reviewed in the Denver office for use statewide. Brian Boughton and Vivian Beal met with Dick Wolfe's group on two occasions to start the process of cleaning up the data set and determining user requirements for the AllPlans application. The group of Denver people helping with this endeavor included Joanna Williams, Kevin Rein, Don West, Heidi Frey, Craig Lis and Dick Wolfe. Division 2 is greatly appreciative for the help and input given by this group regarding the AllPlans application development effort.

Several Division 2 training sessions have been dedicated to the GPS software TopoTools by DeLorme. This software seems to be catching on in the Division 2 water commissioner community. One of the problems with the training is that we have 4 or 5 different versions of the Delorme TopoTools software. Larry Hakes, our GPS expert, is in the process of inventorying the software. Hopefully, within the next year, all users will be upgraded to the same version of the TopoTools software. Benefits of this upgrade to the user would include enhanced functionality of the software tools and training would be more consistent.

GIS capabilities within the Division 2 office continue to justify the expense of investments in software and training. Such information is an invaluable aid in evaluating proposed conversions of senior surface rights to replacement sources, in monitoring compliance (e.g., through verification of lands removed from surface irrigation), and increasingly in making decisions in support of court consultation and litigation activities.



## **J. Organization/Personnel/Workload Issues**

### **1. Budgetary Issues**

The state continued to suffer from fiscal difficulties, which impacted Division 2 in many ways. Although many State agencies anticipated and experienced lay-offs and personnel reduction, Division of Water Resources was able to maintain current staffing levels in Division 2. No employee received either the annual salary survey pay increase or performance awards. These actions were viewed realistically by staff but did affect morale.

The CORE Mission Project (Efficiency and Effectiveness Study) was Department of Natural Resources attempt at a pro-active approach to determine cost savings and improvement of processes. This project was coordinated by Alta Ventures and mostly utilized DNR staff. Several Division 2 employees were involved in analysis, including Steve Witte who was charged with performing the analysis of the potential savings associated with those ideas related to Water Administration and in generating ideas. The result was only 4 ideas of the 600 originally generated, were deemed worthy of final consideration and expected to possibly save \$89,000 per year, not considering the costs of manpower throughout the organization.

Due to budget constraints and shortfalls at the State level, the funding supplied to Division of Water Resources by the General Fund was reduced. The agency's response was to implement Water Administration Fees (SB-278). Again, this program development involved many Division 2 staff's input and time in generating ideas, meeting with the public, gathering ownership data (and related data entry), and various other research. The funds to be generated are yet to be realized in the 2004 year (Feb. 2004 billing for the previous water year and Oct. 2004 billing for the current water year).

Another impact of the state fiscal situation prevented DWR from acquiring new vehicles. The Division 2 fleet is starting to age and those vehicles are showing high mileage. Repairs are more frequent and reliability is becoming an issue. Fortunately Division 2 did not lose any vehicles during the turn-in period, which cause some re-allocation of assigned vehicles from one division to another one.

Mileage rates for State lease vehicles increased approximately 23%. State agencies received a mandate to decrease mileage by 5%. This mandated reduction was not enough to overcome the increased rate increase with relationship to historical driving practices. Therefore, all Division 2 drivers were requested to reduce mileage by 17% starting in September 2003 and effective through June 2004. This reduction of mileage impacted our ability to offer public service at the level expected (by both staff and the public). It also affected the number of training programs and Division 2 sponsored events that staff attended due to the justification of driving those additional miles.

A new phone system was installed in Denver and all Division offices (VoIP). Division 2's system was complete in the of Fall 2003. This system is beneficial in many ways. The use of pre-paid phone cards for long distance calling was discontinued. So far there has been an increase in long distance charges but not as significant as anticipated.

## 2. Personnel

Division 2 experienced a few personnel actions involving permanent employees and temporary employees during 2003. In addition to normal hiring, resignation and retirement actions, Division 2's Administrative Assistant II position was abolished in May 2003. Changes that occurred during 2003 include:

George Ridenour, EPSA I, Temporary employee (WD 19 Deputy Water Commissioner), 5/1/03 to 10/30/03 (*Passed away 10/29/2003*)

Daniel Garcia EPSA I, Temporary employee (Groundwater enforcement for the Pueblo area), 5/19/03 to 10/10/03

Jeanette Bryan, EPSA I, Temporary employee (Groundwater enforcement for the La Junta area), 5/19/03 to 10/6/03

David Kelly, EPSA I, Temporary employee (WD11 Deputy Water Commissioner), 5/19/03 to 10/17/03

Garrett Jackson, PE II, Position #249, Transferred to Water Division 5 (Grand Junction), effective 7/1/03

Bill McCormick, PE II, Position #255, replaced Garrett Jackson as Dam Safety Engineer, hired 10/27/03

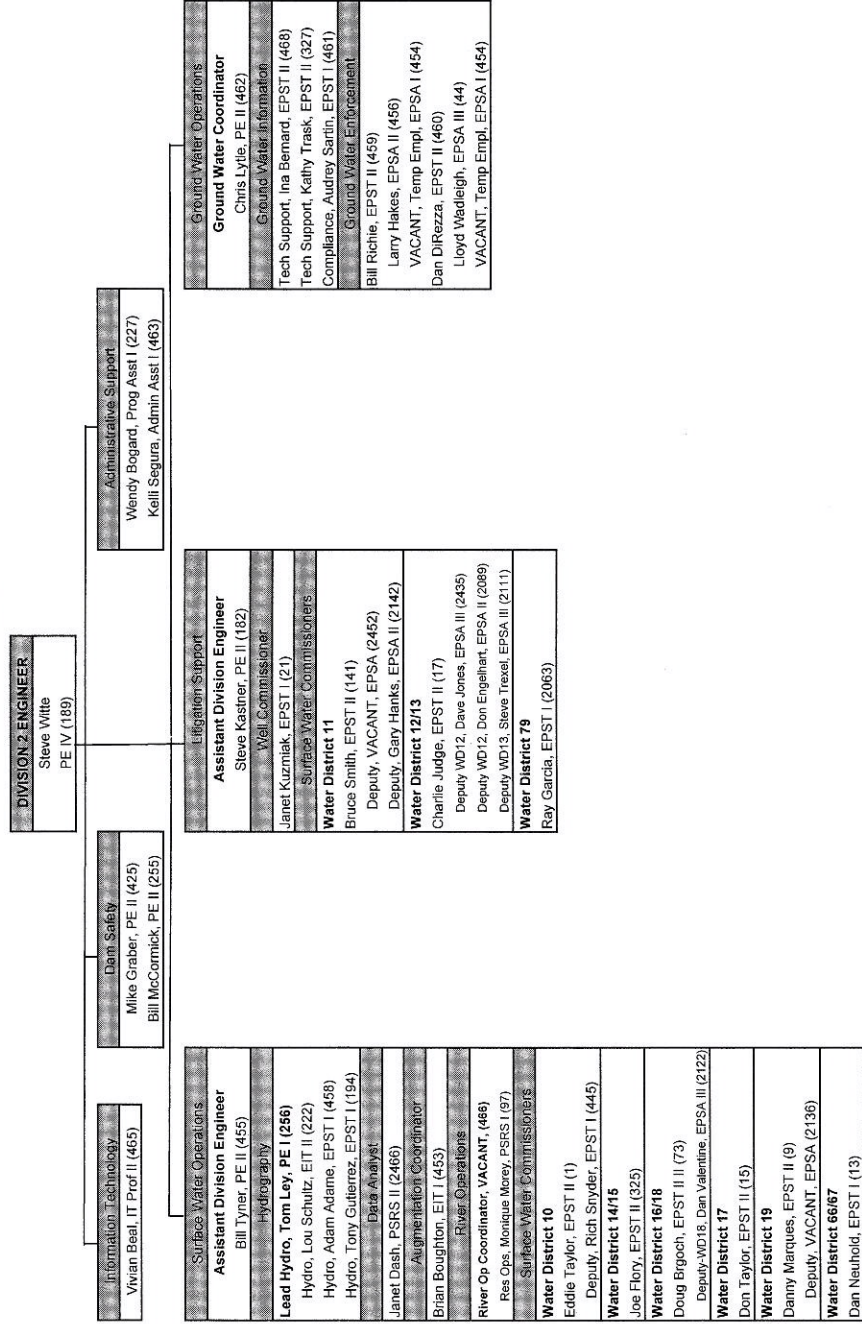
Charlie DiDomenico, PE I, Position #466, resigned effective 10/31/03

Keith Kepler, PE III, Position #217, retired effective 12/31/03

**Organizational Diagram—on the following page**



**Colorado Division of Water Resources  
Interim Division 2 Organizational Chart  
January 13, 2004**



### 3. Training

The Division 2 training program assisted a number of employees in work related skills and technical opportunities. The Training Committee (consisting of Keith Kepler, Vivian Beal, Monique Morey, Dan DiRezza, Joe Flory and Wendy Bogard) planned and hosted three In-House sessions. These internal programs continue to be useful and well received by the Division 2 staff. The Training Committee also attended a class sponsored by the Department of Human Services titled "Basics of Training". It was hoped this class would provide new ideas in promoting improved In-house sessions. Five employees were able to attend computer classes sponsored by Pueblo County's IT Department. These were cost effective classes, well planned and professionally taught. Computer classes at Dept. of Human Services or via CD's benefited two other employees. Mike Graber attended Dam Safety & Security training in Maryland (Feb 2003); Ina Bernard attend GIS training in March 2003; and Chris Lytle attended STAR (Supervisory Training and Review). Training funds were used to purchase copies of the book entitled "Enlightened Leadership-Getting to the Heart of Change" by Ed Oakley and Doug Krug, for members of Division 2 Senior Staff. Small group discussion classes provided a forum to study Enlightened Leadership principles. Additionally, Chris Lytle attended an Enlightened Leadership seminar. Wendy Bogard attended training in August 2003 through the Program Assistant's meeting. Bill Tyner, Tom Ley, Adam Adame, Tony Gutierrez, and Lou Schultz participated in the Hydrographer's Annual meeting and training in September 2003. Three employees were able to attend the Arkansas River Basin Forum and numerous employees attended Colorado Water Officials annual meeting. Additionally, Denver Records staff (Laura Nelson and Jen McKinney) were able to train Division 2 personnel during their 2 visits to the Pueblo office on Content Manager and records research programs. Funding to Division 2 was \$1500 and the little remained of that allocation. Many other funding sources allowed staff to participate in the numerous programs listed above.

### 4. Agency Meetings

The State Engineer Spring Meeting was called by Hal Simpson and held April 14-16, 2003. This meeting was held in Denver and attended by Steve Witte, Keith Kepler, Steve Kastner, Bill Tyner, and Tom Ley.

Leadership Team Meetings were held almost monthly in the State Engineer's office or through telephone conferences. There were 2 meeting held outside the Denver area. These were in May 2003 (Silverthorne) and July 2003 (Glenwood). Steve Witte participated in these Leadership meetings.



Division 2 held the traditional two General Staff meetings. The Spring Meeting was held April 23, 2003 in Pueblo West at the offices of Colorado Rural Water Association. The Fall Meeting was held in the Board Room at the Division 2 office in Pueblo and followed by an awards luncheon and a specially planned speaking presentation by David Robbins at the La Renaissance on October 15, 2003.

Division 2 Senior Staff meetings were held 4 times during the year. Attendees at these meetings were Steve Witte, Keith Kepler, Steve Kastner, Bill Tyner, Vivian Beal, and Wendy Bogard.

The Groundwater Group met throughout the year bi-weekly. These meetings were conducted by Chris Lytle and Keith Kepler and involved both the groundwater work group and the enforcement group.

Steve Witte also planned and conducted two informal staff meetings (September and November) in the Pueblo office.

Ken Knox visited the Division 2 office in January 2003. He met with numerous employees to understand and to address issues related to IT duties, expectations, differences, etc.

Vivian Beal attended the IT meetings held in February 2003 (Canon City) and October 2003 (Durango).

Steve Kastner participated in Hydrobase planning/meeting in November 2003 (Salida).

## 5. Employee Recognition

Bill Richie, Groundwater Enforcement, was selected as Technical Person of the Year 2002. He attended the State Engineer Recognition Luncheon during the SEO Spring Meeting (April 2003) to receive this award.

Keith Kepler, Assistant Division Engineer, was recognized as Manager of the Year for 2002. This award was presented during the April 2003 SEO Annual meeting and awards luncheon.

Bill Tyner, Assistant Division Engineer, received a special award during the Spring SEO Annual Meeting for his involvement in the Arkansas River Compact Litigation.

Doug Brgoch, Water Commissioner in Water Districts 16 & 18 received the Water Commissioner of the Year award in October 2003.

Larry Hakes, Groundwater Enforcement, received a Special Recognition Award at the Division 2 Fall Meeting.

6. Employee Council  
Bruce Smith, Water District 11 Water Commissioner, remained the Division 2 representative to Employee Council. Surveys were distributed to all employees electronically and collected at the October 15, 2003 Fall Meeting.
7. Colorado Water Officials Association  
Representatives were voted for at the Spring Meeting. Joe Flory was elected President and Bill Richie was selected as Secretary/Treasurer. The CWOA Annual meeting (held in Pagosa Springs and hosted by Division 3) was attended by Steve Witte, Wendy Bogard, Janet Kuzmiak, Ina Bernard, Audrey Sartin, Vivian Beal, Steve Kastner, Steve Trexel, Eddie Taylor, and Joe Flory.

## **K. Involvement in the Water Community**

Employees of Division 2 were involved in numerous meetings with the conservancy districts, ditch companies, water user groups, and participated in many public outreach events.

Conservancy Districts include Southeastern Colorado Water Conservancy District, Purgatorie Water Conservancy District and Upper Arkansas Water Conservancy District.

Groundwater Associations include Arkansas Groundwater Users Association, Colorado Water Protective Association and Lower Arkansas Water Management Association.

Ditch and Canal Companies include Amity Canal, Bessemer Ditch, Catlin Canal, Colorado Canal, Fort Bent Canal, Fort Lyon Canal, High Line Canal, Highland Canal, Holbrook Canal, Otero Ditch, Oxford Farmers Ditch, Rocky Ford Ditch, and Welton Ditch.

Other involvement include:

Augmentation Allocation meetings (monthly)

Division 3's Conservancy District's conference in January 2003 (Steve Witte)

Well Measurement presentation at Colorado Water Well Contractors' Association meeting (Dan DiRezza)

Colorado Branch of Holistic Management (Joe Flory)

Meeting to resolve issues related to beaver dams in Custer County (Steve Witte, Steve Kastner, Steve Trexel)

Well Tester class

Well Tester Re-certification class

Wet Mountain Valley Users Association

Winter Water Storage

DNR's Colorado State Fair exhibit

Public meetings regarding SB-278 (Water Administration fees) owners/operators



## **OBJECTIVES FOR 2004**

- A.** Continued Improvement of Diversion Record Quantity / Quality and Implementation of Hydrobase System Data Entry Tools
- Ensure consistency of structure ID / Ident between Hydrobase and Ground Water Data Management System (aka. Correcto-fest)
  - Additional quality control work on records added to Hydrobase should be accomplished throughout 2004. This should include evaluation of apparently unreasonable data values.
  - Work with all Division 2 water commissioners who chose to not use Hydrobase data entry tools for diversion record entry in 2003 so that they are prepared to transition to the Hydrobase tool for 2004 diversion records.
- B.** Improve Relations with Supervision of Field Personnel
- Due to changes in personnel in key positions it will be necessary to build new working relationships with field personnel throughout 2004. One thing we need to strive to do is to support them better by being accessible to them and by reaching out through supervisors to better understand their problems and thus be better able to advise and assist them in the performance of their jobs. Such efforts will make supervisors more knowledgeable of circumstances in the field as well.
  - Implement procedures to improve the timeliness and effectiveness of surface water orders and enforcement.
  - Develop use of PDA's if that technology becomes available in 2004.
- C.** Conduct key studies and projects such as the irrigated acreage update for the lower river basin and lysimeter and irrigation management studies in cooperation with other agencies.
- D.** Properly administer the substitute water supply plan associated with Aurora's interruptible supply agreement on the Highline Canal.
- E.** Accomplish re-staffing and reorganization and increase competency in administration of decreed plans for augmentation.
- F.** Accomplish the purposes of the Ground Water Data Management System Upgrade Project.
- G.** Resolve Chronic Surface Water Administration Issues
- Seek to resolve and/or narrow issues raised by the Assistant Operations Secretary through appropriate processes of the Arkansas River Compact Administration.

- Evaluate reasonable means of assessing transit losses for Article II deliveries.
- Institute effective administration on Steels Fork
- Improve communication and procedures related to responsibilities for maintaining streams clear of unnecessary obstructions, i.e., problem beaver dams.

## APPENDIX A

### Transmountain Diversion Summary

#### WY 2003 TRANSMOUNTAIN DIVERSION SUMMARY - INFLOWS

| RECIPIENT |                     |                 |           |      | SOURCE |                    |
|-----------|---------------------|-----------------|-----------|------|--------|--------------------|
| DIV/WD    | DIVERSION STRUCTURE | STREAM          | ACRE-FEET | DAYS | DIV/WD | STREAM             |
| 2/11      | COLUMBINE DITCH     | ARKANSAS RIVER  | 1,940     | 92   | 5/37   | EAGLE RIVER        |
| 2/11      | EWING DITCH         | TENNESSEE CREEK | 1,030     | 141  | 5/37   | EAGLE RIVER        |
| 2/11      | WURTZ DITCH         | TENNESSEE CREEK | 2,400     | 110  | 5/37   | EAGLE RIVER        |
| 2/11      | HOMESTAKE TUNNEL    | LAKE FORK CREEK | 9,930     | 21   | 5/37   | EAGLE RIVER        |
| 2/11      | BOUSTEAD TUNNEL     | LAKE FORK CREEK | 57,990    | 365  | 5/38   | FRYINGPAN RIVER    |
| 2/11      | BUSK-IVANHOE TUNNEL | LAKE FORK CREEK | 5,090     | 218  | 5/38   | FRYINGPAN RIVER    |
| 2/11      | TWIN LAKES TUNNEL   | LAKE CREEK      | 45,240    | 365  | 5/38   | ROARING FORK RIVER |
| 2/11      | LARKSPUR DITCH      | PONCHA CREEK    | 0         | 0    | 4/28   | TOMICHI CREEK      |
| 2/79      | HUDSON DITCH        | HUERFANO RIVER  | 356       | 48   | 3/35   | MEDANO CREEK       |
| 2/79      | MEDANO DITCH        | HUERFANO RIVER  | 444       | 40   | 3/35   | MEDANO CREEK       |
|           | TOTAL:              |                 | 124,420   |      |        |                    |

#### WY 2003 TRANSMOUNTAIN DIVERSION SUMMARY - OUTFLOWS

| RECIPIENT |  |                   |           |      | SOURCE |             |
|-----------|--|-------------------|-----------|------|--------|-------------|
| DIV/WD    | DIVERSION STRUCTURE                        | STREAM            | ACRE-FEET | DAYS | DIV/WD | STREAM      |
| 5/36&37   | STEVENS-LEITER WELL<br>(AKA ARKANSAS WELL) | BLUE/EAGLE RIVERS | 284       | 365  | 2/11   | GROUNDWATER |
|           | TOTAL:                                     |                   | 284       |      |        |             |

## APPENDIX B

### Water Diversion Summary

IRRIGATION YEAR 2003 WATER DIVERSION SUMMARY  
WATER DIVISION TWO  
(ACRE-FEET)

| USE TYPE     | WD10           | WD11           | WD12           | WD13          | WD14           | WD15          | WD16          | WD17           | WD18         | WD19          | WD66         | WD67           | WD79          | TOTAL            |
|--------------|----------------|----------------|----------------|---------------|----------------|---------------|---------------|----------------|--------------|---------------|--------------|----------------|---------------|------------------|
| IRRIGATION   | 35,801         | 107,795        | 115,343        | 29,357        | 67,380         | 12,255        | 13,161        | 379,140        | 5,066        | 47,397        | 1,448        | 113,947        | 21,303        | 949,413          |
| STORAGE      | 9,823          | 295,963        | 276            | 3,082         | 334,507        |               | 5,663         | 35,713         | 9,521        |               |              | 32,584         | 385           | 727,517          |
| MUNICIPAL    | 105,891        | 3,791          | 8,325          | 151           | 35,045         | 2,394         | 4,624         | 4,669          | 105          | 3,111         |              | 3,399          | 23            | 171,528          |
| COMMERCIAL   | 60             | 72             | 16             | 10            | 89             | 16            | 10            | 135            |              | 9             |              | 1,719          |               | 2,146            |
| DOMESTIC     | 9              |                | 1              |               |                | 81            |               | 2              |              |               |              | 430            |               | 523              |
| STOCK        | 5              |                | 21             |               | 5              |               |               |                |              | 498           |              |                |               | 530              |
| INDUSTRIAL   | 1              |                | 81,242         |               | 9,422          | 11,056        |               |                |              |               |              | 3,902          |               | 105,623          |
| RECREATIONAL |                |                | 196            |               |                | 3             | 2             |                |              |               |              |                |               | 201              |
| FISHERY      |                | 2,829          |                |               | 113            |               |               | 425            |              |               |              |                |               | 3,367            |
| AUGMENTATION | 2,669          |                |                |               | 276            |               |               |                |              |               |              | 1,932          |               | 4,877            |
| RECHARGE     |                |                |                |               | 1,205          |               |               | 4,535          |              |               |              | 1,293          |               | 7,033            |
| OTHER        | 19,178         |                | 2,198          |               |                |               |               |                |              |               |              |                |               | 21,376           |
| <b>TOTAL</b> | <b>173,437</b> | <b>410,450</b> | <b>207,618</b> | <b>32,600</b> | <b>448,052</b> | <b>25,806</b> | <b>23,460</b> | <b>424,619</b> | <b>5,191</b> | <b>60,536</b> | <b>1,448</b> | <b>159,206</b> | <b>21,711</b> | <b>1,994,134</b> |



## **APPENDIX C**

### **Arkansas River Calls**

| <b>Date</b> | <b>Priority Date</b> | <b>Arkansas River Call</b> |
|-------------|----------------------|----------------------------|
| 11/1/2002   | 04/15/1884           | FORT LYON                  |
| 11/2/2002   | 04/15/1884           | FORT LYON                  |
| 11/3/2002   | 04/15/1884           | FORT LYON                  |
| 11/4/2002   | 04/15/1884           | FORT LYON                  |
| 11/5/2002   | 04/15/1884           | FORT LYON                  |
| 11/6/2002   | 12/03/1884           | CATLIN                     |
| 11/7/2002   | 12/03/1884           | CATLIN                     |
| 11/8/2002   | 12/03/1884           | CATLIN                     |
| 11/9/2002   | 12/03/1884           | CATLIN                     |
| 11/10/2002  | 12/03/1884           | CATLIN                     |
| 11/11/2002  | 12/03/1884           | CATLIN                     |
| 11/12/2002  | 12/03/1884           | CATLIN                     |
| 11/13/2002  | 12/03/1884           | CATLIN                     |
| 11/14/2002  | 12/03/1884           | CATLIN                     |
| 11/15/2002  | 03/01/1910           | WINTER WATER               |
| 11/16/2002  | 03/01/1910           | WINTER WATER               |
| 11/17/2002  | 03/01/1910           | WINTER WATER               |
| 11/18/2002  | 03/01/1910           | WINTER WATER               |
| 11/19/2002  | 03/01/1910           | WINTER WATER               |
| 11/20/2002  | 03/01/1910           | WINTER WATER               |
| 11/21/2002  | 03/01/1910           | WINTER WATER               |
| 11/22/2002  | 03/01/1910           | WINTER WATER               |
| 11/23/2002  | 03/01/1910           | WINTER WATER               |
| 11/24/2002  | 03/01/1910           | WINTER WATER               |
| 11/25/2002  | 03/01/1910           | WINTER WATER               |
| 11/26/2002  | 03/01/1910           | WINTER WATER               |
| 11/27/2002  | 03/01/1910           | WINTER WATER               |
| 11/28/2002  | 03/01/1910           | WINTER WATER               |
| 11/29/2002  | 03/01/1910           | WINTER WATER               |
| 11/30/2002  | 03/01/1910           | WINTER WATER               |
| 12/1/2002   | 03/01/1910           | WINTER WATER               |
| 12/2/2002   | 03/01/1910           | WINTER WATER               |
| 12/3/2002   | 03/01/1910           | WINTER WATER               |
| 12/4/2002   | 03/01/1910           | WINTER WATER               |
| 12/5/2002   | 03/01/1910           | WINTER WATER               |
| 12/6/2002   | 03/01/1910           | WINTER WATER               |
| 12/7/2002   | 03/01/1910           | WINTER WATER               |
| 12/8/2002   | 03/01/1910           | WINTER WATER               |

|            |              |              |
|------------|--------------|--------------|
| 12/9/2002  | 03/01/1910   | WINTER WATER |
| 12/10/2002 | 03/01/1910   | WINTER WATER |
| 12/11/2002 | 03/01/1910   | WINTER WATER |
| 12/12/2002 | 03/01/1910   | WINTER WATER |
| 12/13/2002 | 03/01/1910   | WINTER WATER |
| 12/14/2002 | 03/01/1910   | WINTER WATER |
| 12/15/2002 | 03/01/1910   | WINTER WATER |
| 12/16/2002 | 03/01/1910   | WINTER WATER |
| 12/17/2002 | 03/01/1910   | WINTER WATER |
| 12/18/2002 | 03/01/1910   | WINTER WATER |
| 12/19/2002 | 03/01/1910   | WINTER WATER |
| 12/20/2002 | 03/01/1910   | WINTER WATER |
| 12/21/2002 | 03/01/1910   | WINTER WATER |
| 12/22/2002 | 03/01/1910   | WINTER WATER |
| 12/23/2002 | 03/01/1910   | WINTER WATER |
| 12/24/2002 | 03/01/1910   | WINTER WATER |
| 12/25/2002 | 03/01/1910   | WINTER WATER |
| 12/26/2002 | 03/01/1910   | WINTER WATER |
| 12/27/2002 | 03/01/1910   | WINTER WATER |
| 12/28/2002 | 03/01/1910   | WINTER WATER |
| 12/29/2002 | 03/01/1910   | WINTER WATER |
| 12/30/2002 | 03/01/1910   | WINTER WATER |
| 12/31/2002 | 03/01/1910   | WINTER WATER |
| 1/1/2003   | Winter Water | 03/01/1910   |
| 1/2/2003   | 03/01/1910   | WINTER WATER |
| 1/3/2003   | 03/01/1910   | WINTER WATER |
| 1/4/2003   | 03/01/1910   | WINTER WATER |
| 1/5/2003   | 03/01/1910   | WINTER WATER |
| 1/6/2003   | 03/01/1910   | WINTER WATER |
| 1/7/2003   | 03/01/1910   | WINTER WATER |
| 1/8/2003   | 03/01/1910   | WINTER WATER |
| 1/9/2003   | 03/01/1910   | WINTER WATER |
| 1/10/2003  | 03/01/1910   | WINTER WATER |
| 1/11/2003  | 03/01/1910   | WINTER WATER |
| 1/12/2003  | 03/01/1910   | WINTER WATER |
| 1/13/2003  | 03/01/1910   | WINTER WATER |
| 1/14/2003  | 03/01/1910   | WINTER WATER |
| 1/15/2003  | 03/01/1910   | WINTER WATER |
| 1/16/2003  | 03/01/1910   | WINTER WATER |
| 1/17/2003  | 03/01/1910   | WINTER WATER |
| 1/18/2003  | 03/01/1910   | WINTER WATER |
| 1/19/2003  | 03/01/1910   | WINTER WATER |
| 1/20/2003  | 03/01/1910   | WINTER WATER |
| 1/21/2003  | 03/01/1910   | WINTER WATER |
| 1/22/2003  | 03/01/1910   | WINTER WATER |
| 1/23/2003  | 03/01/1910   | WINTER WATER |
| 1/24/2003  | 03/01/1910   | WINTER WATER |

|           |            |              |
|-----------|------------|--------------|
| 1/25/2003 | 03/01/1910 | WINTER WATER |
| 1/26/2003 | 03/01/1910 | WINTER WATER |
| 1/27/2003 | 03/01/1910 | WINTER WATER |
| 1/28/2003 | 03/01/1910 | WINTER WATER |
| 1/29/2003 | 03/01/1910 | WINTER WATER |
| 1/30/2003 | 03/01/1910 | WINTER WATER |
| 1/31/2003 | 03/01/1910 | WINTER WATER |
| 2/1/2003  | 03/01/1910 | WINTER WATER |
| 2/2/2003  | 03/01/1910 | WINTER WATER |
| 2/3/2003  | 03/01/1910 | WINTER WATER |
| 2/4/2003  | 03/01/1910 | WINTER WATER |
| 2/5/2003  | 03/01/1910 | WINTER WATER |
| 2/6/2003  | 03/01/1910 | WINTER WATER |
| 2/7/2003  | 03/01/1910 | WINTER WATER |
| 2/8/2003  | 03/01/1910 | WINTER WATER |
| 2/9/2003  | 03/01/1910 | WINTER WATER |
| 2/10/2003 | 03/01/1910 | WINTER WATER |
| 2/11/2003 | 03/01/1910 | WINTER WATER |
| 2/12/2003 | 03/01/1910 | WINTER WATER |
| 2/13/2003 | 3/1/1910   | WINTER WATER |
| 2/14/2003 | 03/01/1910 | WINTER WATER |
| 2/15/2003 | 3/1/1910   | WINTER WATER |
| 2/16/2003 | 3/1/1910   | WINTER WATER |
| 2/17/2003 | 3/1/1910   | WINTER WATER |
| 2/18/2003 | 3/1/1910   | WINTER WATER |
| 2/19/2003 | 3/1/1910   | WINTER WATER |
| 2/20/2003 | 3/1/1910   | WINTER WATER |
| 2/21/2003 | 3/1/1910   | WINTER WATER |
| 2/22/2003 | 03/01/1910 | WINTER WATER |
| 2/23/2003 | 03/01/1910 | WINTER WATER |
| 2/24/2003 | 03/01/1910 | WINTER WATER |
| 2/25/2003 | 03/01/1910 | WINTER WATER |
| 2/26/2003 | 03/01/1910 | WINTER WATER |
| 2/27/2003 | 03/01/1910 | WINTER WATER |
| 2/28/2003 | 03/01/1910 | WINTER WATER |
| 3/1/2003  | 03/01/1910 | WINTER WATER |
| 3/2/2003  | 03/01/1910 | WINTER WATER |
| 3/3/2003  | 03/01/1910 | WINTER WATER |
| 3/4/2003  | 03/01/1910 | WINTER WATER |
| 3/5/2003  | 03/01/1910 | WINTER WATER |
| 3/6/2003  | 03/01/1910 | WINTER WATER |
| 3/7/2003  | 03/01/1910 | WINTER WATER |
| 3/8/2003  | 03/01/1910 | WINTER WATER |
| 3/9/2003  | 03/01/1910 | WINTER WATER |
| 3/10/2003 | 03/01/1910 | WINTER WATER |
| 3/11/2003 | 03/01/1910 | WINTER WATER |
| 3/12/2003 | 03/01/1910 | WINTER WATER |



|           |                      |                      |
|-----------|----------------------|----------------------|
| 3/13/2003 | 03/01/1910           | WINTER WATER         |
| 3/14/2003 | 03/01/1910           | WINTER WATER         |
| 3/15/2003 | 4/15/1884            | FORT LYON            |
| 3/16/2003 | 4/15/1884            | FORT LYON            |
| 3/17/2003 | 4/15/1884            | FORT LYON            |
| 3/18/2003 | 4/15/1884            | FORT LYON            |
| 3/19/2003 | 12/03/1884           | CATLIN               |
| 3/20/2003 | 12/03/1884           | CATLIN               |
| 3/21/2003 | 12/03/1884           | CATLIN               |
| 3/22/2003 | 12/03/1884           | CATLIN               |
| 3/23/2003 | 12/03/1884           | CATLIN               |
| 3/24/2003 | 12/03/1884           | CATLIN               |
| 3/25/2003 | 12/03/1884           | CATLIN               |
| 3/26/2003 | 2/26/1887            | OXFORD               |
| 3/27/2003 | 12/03/1884           | CATLIN               |
| 3/28/2003 | 12/03/1884           | CATLIN               |
| 3/29/2003 | 12/03/1884           | CATLIN               |
| 3/30/2003 | 12/03/1884           | CATLIN               |
| 3/31/2003 | 12/03/1884           | CATLIN               |
| 4/1/2003  | 12/03/1884           | CATLIN               |
| 4/2/2003  | 12/03/1884           | CATLIN               |
| 4/3/2003  | 4/15/1884            | FORT LYON            |
| 4/4/2003  | 4/15/1884            | FORT LYON            |
| 4/5/2003  | 4/15/1884            | FORT LYON            |
| 4/6/2003  | 4/15/1884            | FORT LYON            |
| 4/7/2003  | 4/15/1884            | FORT LYON            |
| 4/8/2003  | 12/03/1884           | CATLIN               |
| 4/9/2003  | 12/03/1884           | CATLIN               |
| 4/10/2003 | 12/03/1884           | CATLIN               |
| 4/11/2003 | 4/15/1884            | FORT LYON            |
| 4/12/2003 | 4/15/1884            | FORT LYON            |
| 4/13/2003 | 4/15/1884            | FORT LYON            |
| 4/14/2003 | 4/15/1884            | FORT LYON            |
| 4/15/2003 | 4/15/1884            | FORT LYON            |
| 4/16/2003 | 4/15/1884            | FORT LYON            |
| 4/17/2003 | 4/15/1884            | FORT LYON            |
| 4/18/2003 | 4/15/1884            | FORT LYON            |
| 4/19/2003 | 12/31/1884           | CATLIN @ 1500 HRS    |
| 4/20/2003 | 12/31/1884           | CATLIN               |
| 4/21/2003 | 12/31/1884           | CATLIN               |
| 4/22/2003 | 4/15/1884            | FORT LYON            |
| 4/23/2003 | 4/15/1884            | FORT LYON            |
| 4/24/2003 | 4/15/1884            | FORT LYON            |
| 4/25/2003 | 4/15/1884            | FORT LYON            |
| 4/26/2003 | 5/4/1881 - 4/15/1884 | BESSEMER - FORT LYON |
| 4/27/2003 | 5/4/1881 - 4/15/1884 | BESSEMER / FT.LYON   |
| 4/28/2003 | 5/4/1881 - 4/15/1884 | BESSEMER / FT.LYON   |



|           |                       |                      |
|-----------|-----------------------|----------------------|
| 4/29/2003 | 5/4/1881 - 4/15/1884  | BESSEMER/FT.LYON     |
| 4/30/2003 | 4/15/1884             | FORT LYON            |
| 5/1/2003  | 4/15/1884             | FORT LYON            |
| 5/2/2003  | 4/15/1884             | FORT LYON            |
| 5/3/2003  | 4/15/1884             | FORT LYON            |
| 5/4/2003  | 4/15/1884             | FORT LYON            |
| 5/5/2003  | 4/15/1884             | FORT LYON            |
| 5/6/2003  | 4/15/1884             | FORT LYON            |
| 5/7/2003  | 4/15/1884             | FORT LYON            |
| 5/8/2003  | 4/15/1884             | FORT LYON            |
| 5/9/2003  | 4/15/1884             | FORT LYON            |
| 5/10/2003 | 4/15/1884             | FORT LYON            |
| 5/11/2003 | 4/15/1884             | FORT LYON            |
| 5/12/2003 | 4/15/1884             | FORT LYON            |
| 5/13/2003 | 3/31/1882 - 4/15/1884 | BESSEMER / FT.LYON   |
| 5/14/2003 | 4/15/1884             | FORT LYON            |
| 5/15/2003 | 03/07/1884            | HIGHLINE             |
| 5/16/2003 | 03/07/1884            | HIGHLINE             |
| 5/17/2003 | 03/07/1884            | HIGHLINE             |
| 5/18/2003 | 12/03/1884            | CATLIN               |
| 5/19/2003 | 4/15/1884             | FORT LYON            |
| 5/20/2003 | 12/03/1884            | CATLIN               |
| 5/21/2003 | 12/03/1884            | CATLIN               |
| 5/22/2003 | 03/11/1886            | HIGHLINE             |
| 5/23/2003 | 03/11/1886            | HIGHLINE             |
| 5/24/2003 | 3/11/1886             | HIGHLINE             |
| 5/25/2003 | 2/26/1887             | OXFORD               |
| 5/26/2003 | 3/1/1887              | FORT LYON            |
| 5/27/2003 | 11/14/1887            | CATLIN               |
| 5/28/2003 | 9/25/1889             | HOLBROOK             |
| 5/29/2003 | 9/25/1889             | HOLBROOK             |
| 5/30/2003 | 1/6/1890              | Excelsior / Highline |
| 5/31/2003 | 06/09/1890            | COLORADO CANAL       |
| 6/1/2003  | 06/09/1890            | COLORADO CANAL       |
| 6/2/2003  | 08/31/1893            | FORT LYON            |
| 6/3/2003  | 08/01/1896            | Great Plains         |
| 6/4/2003  | 08/01/1896            | Great Plains         |
| 6/5/2003  | 8/1/1896              | Great Plains         |
| 6/6/2003  | 8/31/1893             | FORT LYON            |
| 6/7/2003  | 04/01/1893            | AMITY                |
| 6/8/2003  | 09/25/1889            | HOLBROOK             |
| 6/9/2003  | 03/01/1887            | Fort Lyon # 2        |
| 6/10/2003 | 3/1/1887              | FORT LYON            |
| 6/11/2003 | 3/1/1887              | FORT LYON            |
| 6/12/2003 | 3/1/1887              | FORT LYON            |
| 6/13/2003 | 5/1/1887              | BESSEMER             |
| 6/14/2003 | 5/1/1887              | BESSEMER             |

|           |            |                    |
|-----------|------------|--------------------|
| 6/15/2003 | 03/13/1888 | CONSOLIDATED       |
| 6/16/2003 | 03/13/1888 | CONSOLIDATED       |
| 6/17/2003 | 09/25/1889 | HOLBROOK           |
| 6/18/2003 | 01/06/1890 | HIGHLINE/EXCELSIOR |
| 6/19/2003 | 08/31/1893 | FORT LYON #3       |
| 6/20/2003 | 03/03/1890 | OTERO              |
| 6/21/2003 | 03/03/1890 | OTERO              |
| 6/22/2003 | 01/06/1890 | HIGHLINE/EXCELSIOR |
| 6/23/2003 | 01/06/1890 | HIGHLINE/EXCELSIOR |
| 6/24/2003 | 05/01/1887 | BESSEMER/EXCELSIOR |
| 6/25/2003 | 03/01/1887 | FORT LYON #2       |
| 6/26/2003 | 03/01/1887 | FORT LYON #2       |
| 6/27/2003 | 03/01/1887 | FORT LYON #2       |
| 6/28/2003 | 02/21/1887 | AMITY              |
| 6/29/2003 | 02/21/1887 | AMITY              |
| 6/30/2003 | 02/21/1887 | AMITY              |
| 7/1/2003  | 02/21/1887 | AMITY              |
| 7/2/2003  | 02/21/1887 | AMITY              |
| 7/3/2003  | 02/21/1887 | AMITY              |
| 7/4/2003  | 02/21/1887 | AMITY              |
| 7/5/2003  | 12/03/1884 | CATLIN             |
| 7/6/2003  | 12/03/1884 | CATLIN             |
| 7/7/2003  | 12/03/1884 | CATLIN             |
| 7/8/2003  | 12/03/1884 | CATLIN             |
| 7/9/2003  | 12/03/1884 | CATLIN             |
| 7/10/2003 | 12/03/1884 | CATLIN             |
| 7/11/2003 | 12/03/1884 | CATLIN             |
| 7/12/2003 | 12/03/1884 | CATLIN             |
| 7/13/2003 | 12/03/1884 | CATLIN             |
| 7/14/2003 | 12/03/1884 | CATLIN             |
| 7/15/2003 | 12/03/1884 | CATLIN             |
| 7/16/2003 | 12/03/1884 | CATLIN             |
| 7/17/2003 | 12/03/1884 | CATLIN             |
| 7/18/2003 | 12/03/1884 | CATLIN             |
| 7/19/2003 | 12/03/1884 | CATLIN             |
| 7/20/2003 | 04/15/1884 | FORT LYON          |
| 7/21/2003 | 04/15/1884 | FORT LYON          |
| 7/22/2003 | 04/15/1884 | FORT LYON          |
| 7/23/2003 | 04/15/1884 | FORT LYON          |
| 7/24/2003 | 04/15/1884 | FORT LYON          |
| 7/25/2003 | 04/15/1884 | FORT LYON          |
| 7/26/2003 | 04/15/1884 | FORT LYON          |
| 7/27/2003 | 04/15/1884 | FORT LYON          |
| 7/28/2003 | 04/15/1884 | FORT LYON          |
| 7/29/2003 | 04/15/1884 | FORT LYON          |
| 7/30/2003 | 04/15/1884 | FORT LYON          |
| 7/31/2003 | 04/15/1884 | FORT LYON          |



|           |            |                     |
|-----------|------------|---------------------|
| 8/1/2003  | 04/15/1884 | FORT LYON           |
| 8/2/2003  | 04/15/1884 | FORT LYON           |
| 8/3/2003  | 04/15/1884 | FORT LYON           |
| 8/4/2003  | 04/15/1884 | FORT LYON           |
| 8/5/2003  | 04/15/1884 | FORT LYON           |
| 8/6/2003  | 03/07/1884 | HIGHLINE TOWN DITCH |
| 8/7/2003  | 03/07/1884 | HIGHLINE TOWN DITCH |
| 8/8/2003  | 03/31/1882 | BESSEMER            |
| 8/9/2003  | 03/31/1882 | BESSEMER            |
| 8/10/2003 | 03/31/1882 | BESSEMER            |
| 8/11/2003 | 03/31/1882 | BESSEMER            |
| 8/12/2003 | 03/31/1882 | BESSEMER            |
| 8/13/2003 | 03/31/1882 | BESSEMER            |
| 8/14/2003 | 03/31/1882 | BESSEMER            |
| 8/15/2003 | 05/04/1881 | BESSEMER            |
| 8/16/2003 | 05/15/1874 | ROCKY FORD          |
| 8/17/2003 | 05/15/1874 | ROCKY FORD          |
| 8/18/2003 | 05/15/1874 | ROCKY FORD          |
| 8/19/2003 | 05/15/1874 | ROCKY FORD          |
| 8/20/2003 | 5/15/1874  | ROCKY FORD          |
| 8/21/2003 | 05/15/1874 | ROCKY FORD          |
| 8/22/2003 | 05/15/1874 | ROCKY FORD          |
| 8/23/2003 | 05/15/1874 | ROCKY FORD          |
| 8/24/2003 | 05/15/1874 | ROCKY FORD          |
| 8/25/2003 | 05/15/1874 | ROCKY FORD          |
| 8/26/2003 | 05/15/1874 | ROCKY FORD          |
| 8/27/2003 | 12/31/1878 | BESSEMER            |
| 8/28/2003 | 03/31/1882 | BESSEMER            |
| 8/29/2003 | 03/07/1884 | Highline            |
| 8/30/2003 | 04/15/1884 | FORT LYON           |
| 8/31/2003 | 04/15/1884 | FORT LYON           |
| 9/1/2003  | 03/11/1886 | HIGHLINE            |
| 9/2/2003  | 12/03/1884 | CATLIN              |
| 9/3/2003  | 12/03/1884 | CATLIN              |
| 9/4/2003  | 04/15/1884 | FORT LYON           |
| 9/5/2003  | 04/15/1884 | FORT LYON           |
| 9/6/2003  | 04/15/1884 | FORT LYON           |
| 9/7/2003  | 04/15/1884 | FORT LYON           |
| 9/8/2003  | 04/15/1884 | FORT LYON           |
| 9/9/2003  | 04/15/1884 | FORT LYON           |
| 9/10/2003 | 04/15/1884 | FORT LYON           |
| 9/11/2003 | 04/15/1884 | FORT LYON           |
| 9/12/2003 | 04/15/1884 | FORT LYON           |
| 9/13/2003 | 04/15/1884 | FORT LYON           |
| 9/14/2003 | 12/03/1884 | CATLIN              |
| 9/15/2003 | 12/03/1884 | CATLIN              |
| 9/16/2003 | 12/03/1884 | CATLIN              |

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|------------|------------|-----------|
| 9/17/2003  | 12/03/1884 | CATLIN    |
| 9/18/2003  | 04/15/1884 | FORT LYON |
| 9/19/2003  | 04/15/1884 | FORT LYON |
| 9/20/2003  | 04/15/1884 | FORT LYON |
| 9/21/2003  | 04/15/1884 | FORT LYON |
| 9/22/2003  | 04/15/1884 | FORT LYON |
| 9/23/2003  | 04/15/1884 | FORT LYON |
| 9/24/2003  | 04/15/1884 | FORT LYON |
| 9/25/2003  | 04/15/1884 | FORT LYON |
| 9/26/2003  | 04/15/1884 | FORT LYON |
| 9/27/2003  | 04/15/1884 | FORT LYON |
| 9/28/2003  | 04/15/1884 | FORT LYON |
| 9/29/2003  | 04/15/1884 | FORT LYON |
| 9/30/2003  | 03/07/1884 | HIGHLINE  |
| 10/1/2003  | 03/07/1884 | HIGHLINE  |
| 10/2/2003  | 03/07/1884 | HIGHLINE  |
| 10/3/2003  | 03/07/1884 | HIGHLINE  |
| 10/4/2003  | 03/07/1884 | HIGHLINE  |
| 10/5/2003  | 04/15/1884 | FORT LYON |
| 10/6/2003  | 04/15/1884 | FORT LYON |
| 10/7/2003  | 04/15/1884 | FORT LYON |
| 10/8/2003  | 04/15/1884 | FORT LYON |
| 10/9/2003  | 04/15/1884 | FORT LYON |
| 10/10/2003 | 04/15/1884 | FORT LYON |
| 10/11/2003 | 04/15/1884 | FORT LYON |
| 10/12/2003 | 04/15/1884 | FORT LYON |
| 10/13/2003 | 04/15/1884 | FORT LYON |
| 10/14/2003 | 04/15/1884 | FORT LYON |
| 10/15/2003 | 04/15/1884 | FORT LYON |
| 10/16/2003 | 04/15/1884 | FORT LYON |
| 10/17/2003 | 04/15/1884 | FORT LYON |
| 10/18/2003 | 04/15/1884 | FORT LYON |
| 10/19/2003 | 04/15/1884 | FORT LYON |
| 10/20/2003 | 04/15/1884 | FORT LYON |
| 10/21/2003 | 04/15/1884 | FORT LYON |
| 10/22/2003 | 04/15/1884 | FORT LYON |
| 10/23/2003 | 04/15/1884 | FORT LYON |
| 10/24/2003 | 04/15/1884 | FORT LYON |
| 10/25/2003 | 04/15/1884 | FORT LYON |
| 10/26/2003 | 04/15/1884 | FORT LYON |
| 10/27/2003 | 04/15/1884 | FORT LYON |
| 10/28/2003 | 04/15/1884 | FORT LYON |
| 10/29/2003 | 04/15/1884 | FORT LYON |
| 10/30/2003 | 04/15/1884 | FORT LYON |
| 10/31/2003 | 04/15/1884 | FORT LYON |



## **APPENDIX D**

### **2003 Water Court Activity**

| TYPE OF APPLICATION   | TYPES OF CLAIMS APPLIED FOR IN 2003 | TYPES OF RIGHTS DECREED IN 2003 |
|---|-------------------------------------|---------------------------------|
| ALTERNATE POINT OF DIVERSION  | 2                                   | 2                               |
| AUGMENTATION PLAN   | 28                                  | 19                              |
| CHANGE OF EXISTING RIGHT  | 24                                  | 7                               |
| COMPLAINT   | 10                                  | 1                               |
| NEW SURFACE RIGHT   | 26                                  | 34                              |
| NEW STORAGE RIGHT   | 11                                  | 4                               |
| NEW GROUNDWATER RIGHT   | 37                                  | 35                              |
| CONTINUING DILIGENCE/ABSOLUTE   | 13                                  | 23                              |
| EXCHANGE  | 3                                   | 2                               |
| PROTEST TO ABANDONMENT LIST   | 0                                   | 0                               |
| OTHER   | 0                                   | 0                               |
| TOTAL   | 154*                                | 127**                           |
| * ACTUAL NUMBER OF APPLICATIONS WAS 122. MANY HAVE SEVERAL TYPES OF CLAIMS. |                                     |                                 |
| ** ACTUAL NUMBER OF DECREES WAS 108. MANY HAVE SEVERAL RIGHTS DECREED.      |                                     |                                 |