DIVISION 2 ANNUAL REPORT 2016

Department of Natural Resources
Division of Water Resources
Division 2

April 18, 2017

COLORADO
Division of Water Resources
Department of Natural Resources

Version No.	Date	Version Description
x.x	Date	Description
1.0	April 17, 2017	Original Draft

This document is provided as an executive summary report of activities and accomplishments of Division 2 personnel during 2016 in partial fulfillment of the requirements of CRS 37-80-105.

Steven J. Witte, P.E.
Division Engineer

4/17/17
Date

CONTENTS

FIGURES

APPENDICES

1 2016 Water Supply and Administration Operations

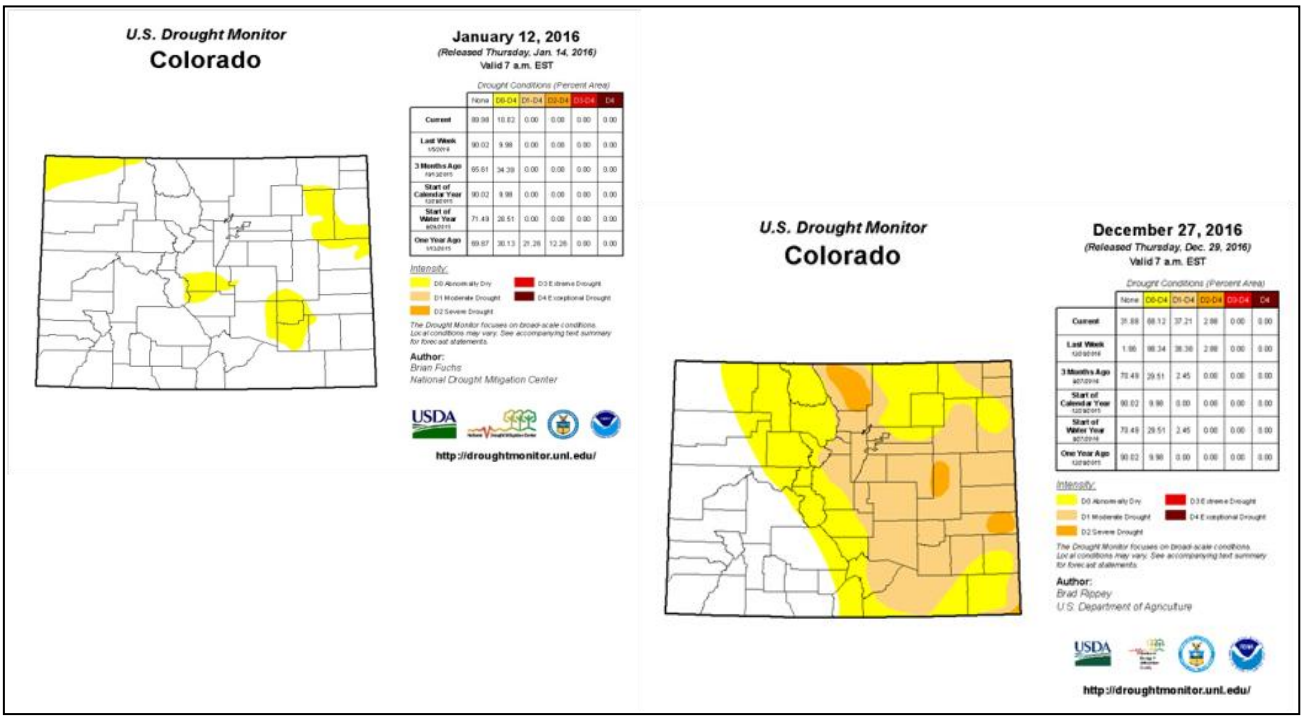
2016 was, in many respects, very much an average year within the Arkansas River basin. While it has often been noted that average conditions are only the mathematical result of extremes in reality; 2016 was in fact unusual due to hydrological conditions that approximated the average.

1.1 Water supply indicators

As noted in the Division 2 Annual Report for 2015, the January 2016 US Drought Monitor report indicated no areas of southeastern Colorado in a state of extreme drought for the first time since 2011. During 2016 conditions actually regressed back toward drought as show in Figure 1-1, below. As will be seen later, the snowpack was near "normal" but moderate drought returned as a consequence of very limited precipitation during the post-runoff period.

1.1.1 US Drought Monitor

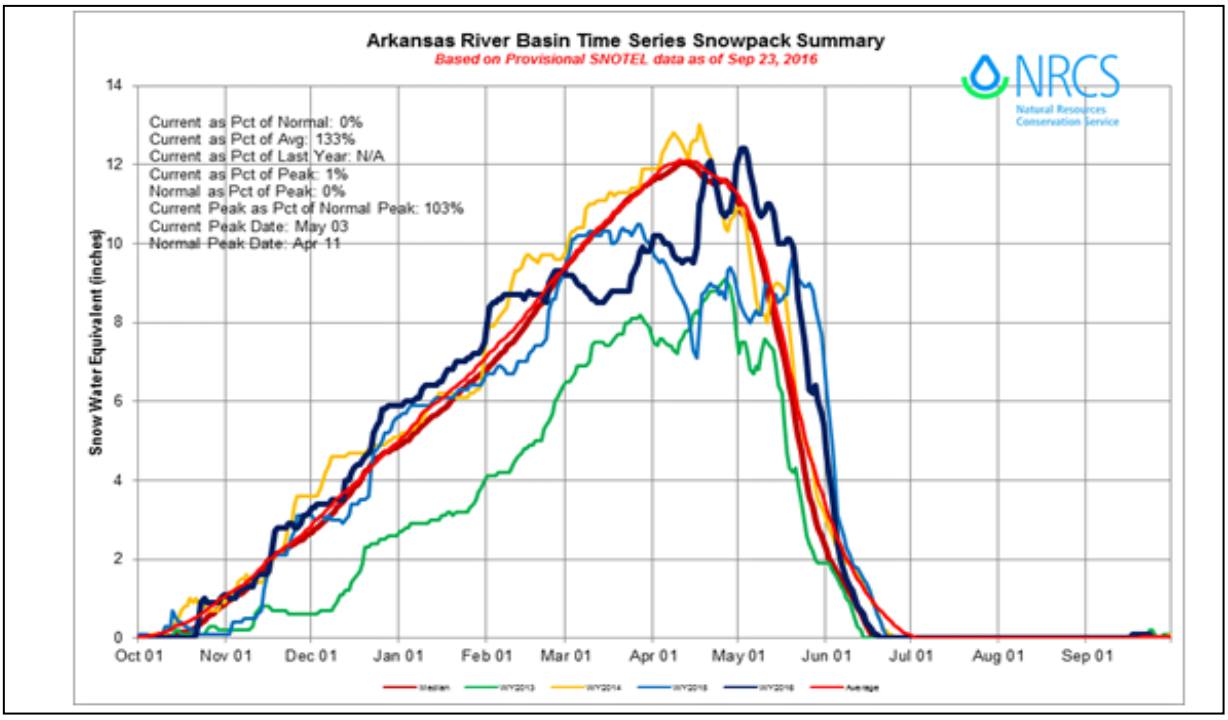
Figure 1: Comparison of January to December 2016 Drought Conditions



1.1.2 Snow Pack

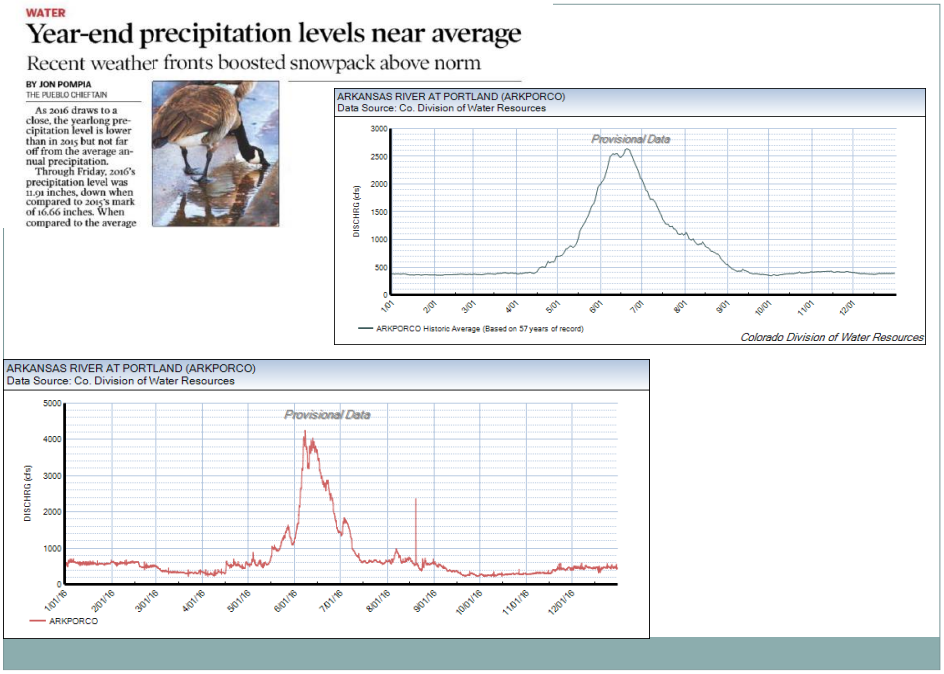
Although inspection of the Snow Water Equivalent (snow pack) plot developed by the NRCS, reproduced herein as Figure 1-2 shows that by the start of the runoff, the snow pack was slightly above normal, storms which occurred from mid April thru the first week of May improved the water supply for the year, significantly.

Figure 2: Snow Water Equivalent Time Series for the Arkansas Basin 2015-16



1.1.3 Precipitation and Stream flow

Figure 3: Average Streamflow at Portland compared to 2016 Streamflow


WATER

Year-end precipitation levels near average

Recent weather fronts boosted snowpack above norm

BY JON POMPIA
THE PUEBLO CHIEFTAIN

As 2016 draws to a close, the yearlong precipitation level is lower than in 2015 but not far off from the average annual precipitation.

Through Friday, 2016's precipitation level was 11.91 inches, down when compared to 2015's mark of 16.66 inches. When compared to the average

1.2 Administration Activities

1.2.1 Pueblo Winter Water Storage Program

The final report for the period November 15, 2015 through March 14, 2016 showed a system grand total of 151,734 af which was 22,631 af or 17.5% more than was stored in the previous year and 19,376 af or 14.6% greater than the previous 20 year average.

1.2.2 Transmountain Diversions

Table 1-1: WY 2016 Transmountain Water Imported to Div. 2

Diversion Structure	Receiving Stream	Acre-feet	Source Stream
COLUMBINE DITCH	ARKANSAS RIVER	1,840	EAGLE RIVER
EWING DITCH	TENNESSEE CREEK	925	EAGLE RIVER
WURTZ DITCH	TENNESSEE CREEK	2,390	EAGLE RIVER
HOMESTAKE TUNNEL	LAKE FORK CREEK	4,250	EAGLE RIVER
BOUSTEAD TUNNEL	LAKE FORK CREEK	62,210	FRYINGPAN RIVER
BUSK-IVANHOE TUNNEL	LAKE FORK CREEK	4,760	FRYINGPAN RIVER
TWIN LAKES TUNNEL	LAKE CREEK	35,330	ROARING FORK RIVER
LARKSPUR DITCH	PONCHA CREEK	352	TOMICHI CREEK
HUDSON DITCH	HUERFANO RIVER	286	MEDANO CREEK
MEDANO DITCH	HUERFANO RIVER	980	MEDANO CREEK
BLUE RIVER PIPELINE	FOUNTAIN CREEK	12,150	BLUE RIVER
TOTAL:		125,473	

1.2.3 Surface Water Administration

Following the droughts experienced in the Arkansas Basin since 2000, Pueblo Reservoir has been utilized differently. Municipal entities are holding on to project allocations and entering into long term storage contracts which have lower risk of being spilled when storage space is limited. As of April 1, 2016, the owners of water held in out-of-district and short term If&When contracts had 26,787 af in the seasonal joint use capacity which was at risk of being spilled if not evacuated before April 15th. Division staff worked diligently with water users to preserve the intended benefit of this water through recharge and leases to irrigation of reusable water from which return flow was reclaimed for augmentation and by repurposing for use in the John Martin Reservoir permanent pool.

In 2016 a procedure for water users to place orders for changes to reservoir releases and exchange operations affecting reservoir operations online was expanded to provide access by more clients and to include operations pertaining to John Martin Reservoir were implemented. The basic methodology was developed and first implemented in 2015 as a demonstration project by Leonard Rice Engineers under a contract with the Colorado Water Conservation Board. The principle advantages of such a system is that by providing a consistent methodology for placing operational

orders miscommunication is reduced and a verifiable documentation of operations is generated by all participants.

Improved systemization of diversion record procedures enabled incorporation of reservoir storage records for Pueblo Reservoir into the official diversion records for Division 2 for the first time, in 2016.

Additionally, with technical support and encouragement provided by John Van Oort, Division 2 water commissioner compiled completed diversion records in record time by having the final record published on March 24, 2017.

1.2.4 Ground Water Administration

Overall irrigation well pumping in 2016 was above average since Colorado's Amended Use Rules for well pumping went into effect in 1996.

For 2016 supplemental flood Rule 3 irrigation wells were assigned 35.5% presumptive depletion factors pursuant to Appendix A.4 of the Decree in Kansas v. Colorado. Rule 3 irrigation pumping delivered to fields via flood and furrow irrigation was assessed the 50% presumptive depletion factor unless flood irrigation of dry-up lands occurred under a Rule 6 temporary change of water rights. In this circumstance the presumptive depletion factor was increased to 65% for flood and furrow irrigation. Rule 3 irrigation wells supplying sprinkler systems were assigned a 75% presumptive depletion factor except for those wells irrigating dry-up lands per a Rule 6 temporary change of water rights. Under this circumstance the depletion factor was set at 85%. Rule 3 irrigation wells supplying drip irrigation systems were assigned a 100% depletion factor.

The 2016 calendar year actual pumping and stream depletions for AGUA, CWPDA and LAWMA were as follows:

Table 1-2:

	Actual 2016 Calendar Year Pumping (AF)	Actual 2016 Calendar Year Rule 3 Irrigation Pumping (AF)	Actual 2016 Calendar Year Stream Depletions (AF)
AGUA	6,675	5,154	4,585
CWPDA	25,081	18,783	15,431
LAWMA	35,463	47,600	15,543
TOTALS	67,218	71,537	35,559

Tabulations of the actual stream depletions and replacements for the three largest well associations as well as stream depletions for post-1985 depletions are included in the Annual Report to Kansas on the Operation of Rule 14 Replacement Plans for H-I Model Year 2016.

1.2.5 Administration of decreed plans for augmentation

21 new augmentation plans were decreed in 2016, with the current number actively administered shown here:

Table 1-3:

WD	2016
10	285
11	116
12	38
13	30
14	15
15	13
16	20
17	9
19	10
67	18
79	2
Total	556

These plans consist of 4,184 inventoried wells, and at least 821 domestic and household on-lot wells serving mostly subdivisions, and small municipalities.

The wells that are used for municipal systems are regulated by the health department, requiring measurement and recording of pumping and are maintained by a certified operator. These records are generally available to DWR either through the operator or a home-owners group.

Most of the subdivision wells in Water District 10 are in the Denver Basin, not-nontributary and non-tributary aquifers, and replacements are made with septic return flows. These subdivisions are cooperative in providing annual diversion records to the Water Commissioner.

In Districts 11, 12 and 13, use reports from individual on-lot wells is difficult to obtain. Owners and users of these wells are difficult to contact because of a high turnover in property and part-time occupancy. Many owners believe their private well is not subject to any type of regulation. There are still some that have not installed flow meters. The attempt to educate these individuals of state statutes pertaining to water administration, as well as the terms and conditions of the court decrees and permit conditions is having some success.

Last year 747 post cards, emails, and letters were sent out to property owners in March and October requesting meter readings and use reports, with 296 responding, a 40% response rate.

In order to determine annual uses for published diversion records we estimate a diversion amount for the entire subdivision by using the available actual uses, as reported, and adding the maximum decreed amounts for those lots or wells where actual uses are not known. So,

the actual user supplied data is integrated in the annual diversion record and seems to reduce the replacement obligation in some cases.

There are 97 augmentation plans that use replacement water from trans-mountain diversions via the Independence Pass Trans-mountain Diversion System (IPTDS) managed by the Twin Lakes Reservoir and Canal Company, totaling a decreed annual release amount of 151.87 acre feet. These plans dedicate their shares to the State Engineers account in Twin Lakes and the decrees allow the State or Division Engineer to administer that water. Last year the available replacement water ran short in comparison to our admittedly conservative estimate of actual depletions contemplated by the decreed plans for augmentation that rely on IPTDS Trans-Mountain water, requiring us to trade native water available to Twin Lakes shares for IPTDS water with Pueblo Board of Water Works in order to make the December release. Attempting to manage this issue will be a priority of the augmentation plan administrator in 2017.

Since many plans rely on dry-up acreage as the replacement source, the effort continued to have augmentation stations installed by the plans where it is deemed necessary. In 2016 construction was started on one station, and a request to have one installed was rescinded by the division engineer. Both of these instances involve plans for augmentation in district 12.

2 Compact Issues

2.1 Operations

The following is a summary of the operation of John Martin Reservoir for the 2016 compact year. During the period of Winter Compact storage from November 1, 2015 through March 31, 2016, 35,889.46 ac/ft (net) was stored as Compact Water. An additional 7,714.46 ac/ft was added to Conservation Storage during April 2016, prior to the end of winter storage. Distribution began on April 1, 2016 and continued at the prescribed rates until exhausted on April 21, 2015, resulting in 43,374.58 ac/ft having been transferred. During the 2016 Summer Compact Storage season there was one storage event that resulted in additions to Conservation Storage of 1,568.02 ac/ft.

Beginning on November 16, 2015, and pursuant to the provisions of Section III of the 1980 Operating Plan the storage of certain "other" inflow was credited to a winter water holding account. Sixty five percent of the total amount was detained in the winter water holding account. This detention in the winter water holding account continued through March 15, 2016, when the distribution of 8,288.73 ac/ft occurred. During June 2016, Amity was again entitled to store water under the Great Plains Storage right and 17,333.98 ac/ft (gross) was added to their Section III account.

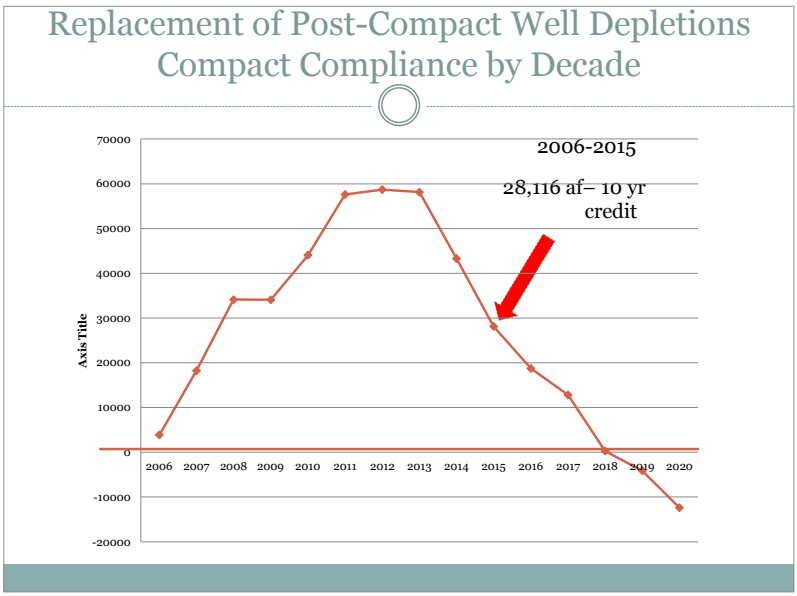
For additional details concerning the operation of John Martin Reservoir, the reader is referred to the Operations Secretary's Report for CY 2016 and the Report of the Colorado State Engineer to the Arkansas River Compact Administration concerning the Offset Accourt.

2.2 Compact Compliance

2.2.1 Post Compact Wells

The H-I Model is used for the purpose of determining depletions to usable stateline flow caused by well pumping of a ten year period, which is updated annually. The update made in 2016 was for the period 2006-2015. While this update showed a credit of 28,116 af, the following figure illustrates a projected decline assuming no future annual depletions.

Figure 4: H-I Model results and projections



2.2.2 Surface Water Irrigation Improvements

Administration of the Irrigation Improvement Rules began the sixth year of operations since the Rules were promulgated in 2011. For 2016 there four approved plans. Aurora continued with operations under a Rule 8 Plan to reuse the Rocky Ford Ditch water right previously changed in court cases 83CW018 and 99CW169 to continue to rehabilitate revegetated lands under the canal following drought damage.

Three Rule 10 Plans were approved for operation during 2016-17 including a plan by the Lower Arkansas Water Management Association (LAWMA) for sprinkler improvements under the Lamar Canal involving approximately 3,050 acres. The Lower Arkansas Valley Water Conservancy District (LAVWCD) applied for two Rule 10 Plans in 2016. The Fort Lyon LAVWCD Plan involved approximately 15,700 acres of sprinkler improvements under the Fort Lyon Canal while the Non-Fort Lyon LAVWCD Plan involved approximately 8,460 acres of sprinkler improvements, 340 acres of drip improvements and 542 acres of lateral improvements.

The LAWMA Rule 10 Plan operations included return flow maintenance water provided by LAWMA totaling approximately 130 acre-feet. The two LAVWCD Rule 10 Plans included return flow maintenance water provided by LAVWCD totaling approximately 1,300 acre-feet (significantly greater than the actual obligation due to the implementation of updated pond seepage rates).

Several farmers under the Southside Ditch in the Purgatoire River Water Conservancy District area near Trinidad have contemplated adding sprinklers and will likely submit a Rule 10 Plan for 2017-18.

2.3 Special Engineering Committee

The Arkansas River Compact Administration can only act by consensus. Furthermore, because the Administration generally only meets once per year and the meetings are conducted very formally, the format is not conducive to problem solving. Experience has shown that the most productive means of resolving interstate issues with Kansas is as the result of ad hoc negotiations conducted between the Kansas Chief Engineer and the Colorado State Engineer and their staff members. When agreement can be reached, the recommendations of these officials, jointly delivered to their respective Compact delegations, are generally sufficient to lead to formal actions by the Administration.

Two relatively minor issues were thus advanced to the Administration. Two resolutions were approved by the Administration in 2016, the first approved the continued practice of accounting water stored in John Martin under the Amity Canal Company's Great Plains Storage right separately, as if the states agree that Section III A of the 1980 Operating Resolution for John Martin Reservoir provides for an account for that purpose. The second merely provides formal approval of a discontinued practice of assessing transit losses on deliveries to John Martin Reservoir.

In 2016 the Special Engineering Committee met on three occasions, twice in person and once telephonically. The focus of these meetings were on the efforts of the Colorado Division of Parks and Wildlife in concert with the Lower Arkansas Water Conservancy District (LAWMA) to obtain permission to use the Highland Canal water rights as a source of water to maintain the Permanent Pool in John Martin Reservoir and to a lesser extent to resolve longstanding concerns held by Kansas related to terms of the LAWMA's change of water rights cases in 02CW181, 05CW52,10CW85 and 15CW3067.

The permanent pool source request was stalled as a result of Kansas' perspective that assurances contained in Appendix A-4 to the decree entered in KS v.CO regarding uses of Highland Canal water were not being respected. Ultimately, no resolution was reached on this issue in 2016.

A number of issues related to the LAWMA decrees were resolved, primarily as a result of demonstrating that the concerns were exaggerated. Bill Tyner compiled an extensive chronology of efforts that have been made dating back over more than a decade which helped focus the discussions and demonstrate the consistent good faith efforts that have been made to address Kansas' concerns. However, there are yet some concerns that remain to be resolved.

3 Problems Solved

3.1 Enforcement Actions

3.1.1 Cucharas #5

The State and Division Engineers filed complaints in the Division 2 Water Court and in Huerfano County District Court which were consolidated and referred to the Division 2 Water Court seeking enforcement of an order to breach Cucharas Dam #5. Cucharas Dam #5 partially failed in 1987 and the spillway was subsequently lowered and more recently subjected to a zero storage restriction. However, none of these actions proved to be sufficient to satisfactorily reduce the risk to public safety and necessary repairs do not appear to be forthcoming, which resulted in the breach order.

The owners of Cucharas #5 dam filed a counter suit alleging misadministration of the Huerfano has made repairs of the dam infeasible, however, those claims were dismissed and the only remaining claims allege that the Welton Ditch Company does not have a reasonably efficient means of diversion. The State was dismissed as a defendant in the counter suit, leaving the Welton Ditch Company as the sole defendant. The Welton has filed cross claims and successfully argued to join other necessary parties.

The consent decree entered between the State and Two Rivers Water and Farming Company regarding the enforcement cases provide:

(1) A compliance plan is to be submitted to SEO by September 1, 2016 outlining plans to…
(2) Remove the rockfill embankment of the dam across the entire width of the Dam above the grade of existing sedimentation
(3) Construct an open stabilized channel through the dam capable of allowing regular flows of at least 150 cfs
(4) Construct a “pilot channel” through the sedimented area of the existing reservoir bed capable of routing 150 cfs to the dam
(5) All work is to be completed within 180 days of written acceptance of the Compliance Plan
(6) Deferred $100k penalty for failure to comply with State Engineer’s order payable to Huerfano County upon failure to comply with the Consent Decree.

A compliance plan was prepared by Wenck Associates on August 31, 2016. The plan was accepted with conditions by the State Engineer in a letter dated October 4, 2017. Pursuant to the consent decree, the defendants then had 14 days to request all necessary permits and or approvals. As of the end of 2016, notification had not been received to indicate that such permits and approvals have been secured.

3.1.2 Riss Dams

Consent decrees were entered by the Division 2 Water Court in two cases involving three large dams constructed without outlets near Cripple Creek, CO on tributaries to Fourmile Creek. The owner of two of these structures was required to submit breach plans for review by February 29, 2016 and the other land owner, where the third structure is located, was allowed until March 31, 2016 to submit such a plan. The breaches were to be completed by October 1, 2016 barring delays stemming from

Figure 5: Breach of Riss Complete

trespass issues related the possible location of portions of these dams on BLM property. In the interim, the reservoir owners were required to pump from these reservoirs at the rate of inflow. Both owners employed the same engineer to prepare compliance plans and both owners hired the same construction supervisor, but different contractors. To complicate matters further, the owner of Riss North accepted a contract to purchase that was contingent upon acceptance of a plan to convert the Riss North dam from a jurisdictional dam to a nonjurisdictional livestock water tank embankment as an alternative breach plan. Ultimately, such a plan was conditionally accepted as an alternative to breaching Riss North dam and construction was completed accordingly.

Final compliance for Riss South was acknowledged December 6, 2016. For Riss East final compliance was documented as of January 12, 2017. The compliance letter for Riss North is dated February 27, 2017.

The breach / conversion of these structures concluded a very prolonged effort to cause these structures to be operated consistent with the priority system.

3.2 Regulation of Water Required by the Cannabis Industry

Water administration related to the cannabis industry continued to be time consuming and challenging area of administration for Division 2 in 2016, though substantial progress was made towards this effort. One major improvement was an update to Policy 2011-3 that sought to address many of the ongoing issues related to the unlicensed marijuana cultivation activities commonly occurring with the use of exempt wells. This update to the policy clarified “personal, non-commercial use” and provided that the need to obtain a license to cultivate a “crop” disqualified the structure from exempt “personal use” status. The only exception to this is that per the existing statute, Medical caretakers who have a licenses and

extended plant count may cultivate up to 99 plants per parcel for personal use. However, in early 2017 HB 17-1220 was introduced which seeks to limit all per parcel, residential plant count limits regardless of caretaker status to 16 plants per parcel. We continue to monitor this legislation and should it pass, we may seek to update Policy 2011-3 to reflect this change.

Another place for progress in 2016 was the inclusion of DWR via DNR at the Governor's Marijuana Working Group, which is a group of Department Directors whose agencies are affected by the marijuana industry where they can work through marijuana related issues. From this group, we have been able to work with the Marijuana Enforcement Division (MED) through the Department of Revenue (DOR) to provide documentation at the State licensing level to educate applicants of their requirement to have a legal source of water and whom to contact within our agency regarding questions, to work with DOR to set up a data sharing and cross-training opportunity to appraise each agency of the other's issues and to establish points of contact for enforcement issues. Once this is established we have also made contacts with Department of Agriculture staff to begin working on solutions for the hemp industry as well.

Finally, we also continue to work to improve our accounting, diversion record data and compliance with licensed and unlicensed marijuana cultivations currently operating in Division 2 and hope to have a crop consumptive use report available for reference in 2017.

3.3 Litigation

3.3.1 Division Role in Water Court

In 2016 Division 2 approached participation in Water Court with the intention of following the direction of the State Engineer to play a greater role in the consultation process and a lesser role as parties to a case unless an application was found to be unadministerable or presented a compact compliance issue. This approach has resulted in some benefit in that we become parties to fewer cases and in many cases this has helped us to work towards further reducing our backlog of cases. However, there have been some notable difficulties with the new process as well. For example, if we are not parties to a case, we are left to "consult" without having been sent the engineering associated with a court application and applicants often do not willingly provide engineering and proposed decrees without it being specifically requested by the Court. This has resulted in an inefficient use of time where the consultation process is used as an avenue to ask that the court request the engineering and related facts be supplied to us in the response to consultation so that we may review and comment in a supplemental consultation report, for which there is no clear deadline to respond.

3.3.2 Case Load Status

The 2016 case load summary is as follows:

- 137 new cases were filed.
- 1 filing of a Statement of Opposition in 16CW3022 Cucharas Sanitation and Water District (change of water right).
- 2 Motions to Intervene
    - 16CW3105 Yamasaki Ring, LLC.
    - 15CW3067 LAWMA.
- 15 cases we were parties to were decreed.
- 14 cases to which we are a party remain.

3.3.3 Busk-Ivanhoe Decision

At long last the Supreme Court issued the Busk-Ivanhoe decision regarding the change of trans-mountain water rights. The Opinion was written by Justice Marquez. The decision reversed the final decree issued by Judge Schwartz in 2014. For background purposes, the case dealt with a decree interpretation issue and what uses/non-uses should be included in the HCU calculation. Judge Schwartz found:

(1) Storage of the water rights on the eastern slope prior to use was lawful despite the underlying decree's silence on the issue, and, therefore, the HCU quantification of the subject rights should include water used for its decreed purpose after release from storage on the eastern slope.

(2) Volumes of exported water paid to rent storage on the eastern slope should also be included in the HCU quantification of the subject water rights.

(3) The 22-year period of undecreed use of the water rights for municipal purposes must be excluded from the representative study period when calculating the HCU of the subject water rights.

The Supreme Court disagreed with Judge Schwartz. It found:

(1) The water court erred when it concluded that storage of the Busk-Ivanhoe rights on the eastern slope prior to use was lawful. The Supreme Court disagreed with Judge Schwartz's interpretation of the underlying decree. The Court reasoned that if an asserted right exists, it must be found in the language of the decree or at least "implied from the express provisions of the decree." That was not the case here.

(2) Next, because storage of the subject water rights in the basin of import was unlawful, the water court erred in including the volumes of exported water paid as rental fees for storage on the eastern slope in its HCU quantification of the water rights.

(3) Finally, the water court erred in concluding that it was required to exclude the 22 years of undecreed use of the subject water rights from the representative study period. The Court found the unjustified non-use of a decreed right should be considered when quantifying the HCU. Specifically, "[b]y omitting years of unjustified non-use from a representative study period, the average annual historic use is artificially inflated, thereby effectively giving credit for the undecreed use in the quantification of the right." This holding affirms the Engineers' long-standing position, reflected in the Engineers' briefs before the Supreme Court.

In conclusion, the Supreme Court remanded the case back to the lower court to make the HCU quantification consistent with its findings. The remand will likely result in additional factual hearings before Judge Schwartz as to whether the prolonged non-use of the water right for its decreed purpose was justified and what the final HCU quantification should be.

Credit for the previous summary of the Supreme Court Ruling: Jeff Candrian

3.4 Internet Accessibility Enhancement (Smart Phones for W.C.)

The origins of this account actually date back to the fall of 2015 when River Operations Coordinator, John Van Oort submitted a proposal to the State Engineer intended to enhance the ability of our field staff to access the internet using cell phones with internet hotspot features and thus increase our ability to utilize available technology. The initial proposal suggested that among the benefits field staff will have the ability to log into DWR's network after they've logged into our VPN site. Having this access will allow them to lookup

documents in the field, which means quicker response time to the users and the public. This technology will also give our staff access to the river condition while in the field thus making quicker administrative decisions. The initial proposal estimated that the increased cost to convert from cell phones and home internet subsidies to hotspot equipped smart phones would be about $546 per month. Verification that cell coverage in Southeastern Colorado was adequate to replace the current internet service available in the locations where our field staff reside was a key consideration.

Initially we were authorized to purchase 4 smart phones with hotspot and 3 regular cell phones with hotspot. Following a successful period of testing, it was discovered that by utilizing three different cellular companies, depending on the location, adequate internet service could be acquired and provided to our employees throughout the Arkansas basin and a decision to convert the upgrade of service for all employees was made in May 2016. As staff members realize the potential represented by these enhancements the few remaining cell phone units that are not smart phones will soon be replaced.

4 Community Involvement

4.1. Colorado State Supreme Court Committee

Division Engineer, Steve Witte, continued to serve on the Colorado Supreme Court's Water Court Committee during 2016. At the October 2015 Committee meeting a Subcommittee was formed to draft a rule to add to the Uniform Local Rules for all State Water Court Divisions regarding the decennial abandonment list court procedure. Consensus was reached fairly quickly among the Committee members regarding most of the proposed rules, however, final resolution of a rule remained elusive regarding an efficient approach to resolving issues of ownership which may present in the context of an abandonment protest. By October a proposed rule was prepared for circulation and comment by Water Judges, throughout the state. Further discussion of this matter is scheduled for the April 2017 Committee meeting. This issue arose from experience which arose during the 2000 Abandonment Procedure in Division 2.

Also, during 2016, Steve Witte was assigned to a Subcommittee to explore the concept of convening a meeting, to which officials assigned responsibilities related to the water rights determination process by the Water Rights Determination and Administration Act of 1969 would be invited to share information regarding their experience and ideas regarding how the process might be improved. Witte authored a white paper which was presented to the Committee. As a result a Continuing Legal Education conference has been organized, which is scheduled to occur in May 2017.

4.2. CWCB Tour

The Colorado Water Conservation Board held there March 2016 meeting in LaJunta Colorado. In association with that meeting a field tour was conducted for Board members with assistance from DWR personnel. The main tour features included the Catlin Lease-Fallowing Pilot program recharge facilities, an overview of channel clearing activities to remove sand bars from the Arkansas River east of LaJunta and the recently completed Fort Lyon canal siphon over Horse Creek, which was partially financed with assistance from the CWCB. Although not included as part of the CWCB tour, a private inspection of replacement gates installed on the Fort Lyon main canal by Mr. John Stulp, the Special Policy Advisor to the Governor and the Division Engineer. These gates can be remotely regulated based on measurement readings from the canal flume or adjusted remotely by the Canal company superintendent through cell phone link.

Figure 6:Horse Creek Flume and Fort Lyon Replacement Gates

4.3. Arkansas Decision Support System (ARKDSS)

Important work began on the Arkansas River Decision Support System during the latter part of 2016. A Request for Proposals was posted on November 10, 2016 followed by a Pre-Proposal Conference held on November 22, 2016 for interested consultants.

Proposals were submitted by four consultants by December 21, 2016 followed by evaluation of the proposals from December 22, 2016 through January 17, 2016. The four firms were interviewed on January 18, 2016 by an interview panel including Andy Moore, CWCB, Kelley Thompson, DWR, Allen Hamel, CWCB Board and Bill Tyner, DWR.

The RFP had been divided into three primary task areas including completion of spatial data collection and GIS mapping of the Arkansas Basin over a series of historical years, development of a surface water model for the basin and development and enhancement of water administration tools for use by DWR and CWCB.

HRS Water Consultants was selected for the GIS portion of the project; Wilson Water Group was selected for the Surface Water Model development portion of the project and Leonard Rice Engineers, Inc. was selected for the Administrative Tools portion of the project. All three consultants are nearing completion of contracting documents to begin work in 2017. Brown and Caldwell was the single firm not selected to perform a portion of the work. Brown and Caldwell prepared a very good proposal and the decision process was a difficult one among the firms. Brown and Caldwell completed the original ArkDSS Feasibility Report and will still have a lasting influence on the ArkDSS Project.

4.4. Arkansas River Management Action Committee (ARMAC)

During 2016 work continued on the USDA-NIFA Arkansas River Management Action Committee (ARMAC). The work of this committee has been to assist Colorado State University (CSU) in exploring the potential best management practices that farmers may be willing to invest in to reduce water quality impacts due to salinity and nutrients.

A draft report was prepared by CSU in November 2016 following a survey of farmers and related water professionals. The report is entitled “The Economics of Irrigation in the Colorado LARV”. DWR provided review comments to the authors of this report in early 2017.

4.5. Arkansas River Farms / Fort Lyon Canal Hearings

During 2016 a major water right purchase occurred in the Arkansas River Basin when the Arkansas River Farms group purchased the Fort Lyon Canal shares previously owned by Pure Cycle (and prior to that High Plains A & M). The stated intent of Arkansas River Farms was to use the shares to create a more modern agricultural operation that involved retiring some lands and using the shares for well augmentation for various operations through the LAWMA Rule 14 Plan and associated decreed plan for augmentation.

Arkansas River Farms reportedly planned to replace outdated flood irrigation systems with sprinkler systems on the majority of the farms where shares were going to continue to be used for irrigation.

The operations involved in attempting to use the shares as Arkansas River Farms desired caused a significant stir among other Fort Lyon Canal shareholders and nearby water rights. Some of the operational changes involved in the use of the shares required Fort Lyon Canal Company approval. Ultimately the proposed changes to the shares and operations were reviewed in a hearing conducted by the Fort Lyon Canal Company during the Fall of 2016.

Temporary change of water rights for the Arkansas River Farms shares was submitted through the Rule 14 Plan review process in March 2017.

4.6. HCWCD Storage Collaborative

The Huerfano County Water Conservancy District began the Cucharas Collaborative Storage Study project during 2016 by contracting with Parsons Water Consulting in February 2016. A number of meetings were held throughout 2016 with participation by various DWR employees including Doug Brgoch, Mark Perry, Steve Witte and Bill Tyner. Comments on task memos were provided by DWR and significant input was provided at the various meetings by DWR attendees.

The ability to get a diverse group of water rights holders to truly "collaborate" had been challenging with each owner tending to migrate toward a position of defending their individual interests as a primary concern. Nevertheless work has continued to look at strategies for potentially investing in new storage facilities or rehabilitation of existing facilities for multi-user/multi-purpose benefits to the basin.

Work will continue in 2017 as further task memos and study reports are completed.

4.1.1 Outreach to Water Users

Alongside the activities described in the previous section on Community Involvement, there were two noteworthy examples where Division 2 personnel exhibited initiative in reaching out to water users in an effort to explain our perspective, to build relationships and to engage them in conversation regarding questions concerning our services.

Lonnie Spady, lead water commissioner for WD 17/67 invited the superintendents of all of the canals which divert from the mainstem in water districts 14, 17 and 67 to meet for a pre-season kickoff meeting held in early March 2016. Among the objectives for this meeting was to more fully implement a prototype ARKDSS system for water users to place orders to initiate reservoir releases or changes, including exchanges online. The primary advantage of such a system is that it enhances certainty that operational orders have been received and will be initiated and it provides documentation of water users' intentions.

Lenna Rauber, deputy water commissioner for WD 79, took a slightly different tack by inviting water users in the Gardner area to a Friday evening pre-season potluck / water discussion which she hosted at the Gardner community center. This was an excellent, somewhat intrepid, yet social means of engaging water users in discussion on a variety of variety of topics of current interest.

We have a tendency to migrate toward policies, rules and technology to solve problems and too often overlook the potential to prevent problems by developing relationships.

5 Highlights of 2016

5.1.1 Changing Role of DE in Consultation Process

Within the past year or so, the State Engineer has urged Division Engineers throughout the state to exercise the privilege of acting as an advisor to the court that has been afforded to those offices by statute, differently than in the past. The practical effect of this change is that as new cases are filed with the water court, we will file Statements of Opposition within the 60 day notice period only when there are issues presented that are directly related to Compact compliance. We strive to include all other issues that we can identify, along with our recommendations, in our consultations with the referee and in the summary report of those consultations that we are required by statute to file in all but the most simplistic cases. We are striving to prepare more robust summary reports than what you may have become accustomed to seeing in the past. Where critical information is lacking, such as engineering reports or draft decrees, (as is often the case), we seek to have the referee order that such additional information be provided to the Division Engineer, even though not a party to the case and that the referee request a supplemental written consultation from the Division Engineer pertaining to the information received, pursuant to Water Court Rule 6 n. In this manner we are now seeking to influence the outcomes of the adjudication process to address our concerns in a non-litigious fashion and instead foster the court's reliance on the State and Division Engineers concerning technical aspects of the case; importantly, including those that relate to injury without imposing this agency's value judgments related to non-technical or non-compact related issues. However, this approach is premised on the court's reliance on the State and Division Engineers as objective technical experts and during a transition period, we may find ourselves seeking party status in a case where the injury-related issues raised in our consultation reports are not adequately addressed by the court. And, of course, as the case progresses, if it appears that the parties to the case are migrating toward an unadministerable resolution, then we would also consider filing motions to intervene or a protest to the referee's ruling to become parties.

This represents a significant departure from the role assumed by this office in the past and some may perceive this as inequitable treatment, however, in explaining the measures we intend to take, it is my hope that the public will understand and be assured that we will be involved in the adjudication process and will be attempting to cause similar standards to be maintained in the final formulation of any decree entered. Furthermore, we remain hopeful that time will allow this revised process a chance to prove its potential merits.

5.1.2 Enforcement

See Section 3.1, pg. 14 above

5.1.3 ARKDSS

See Section 4.2, pg 20 above

6 Organizational Changes

The year 2016 held minimal staffing changes but we ended the year with a few vacancies in our ground water section.

Two retirements occurred during the year. Mike Reed retired on January 31, 2016 as the Deputy Water Commissioner in Water District 12. Julie Pearson retired as Litigation Assistant Division Engineer on April 30, 2016. Rebecca Biglow was the new hire replacing Reed on April 11, 2016. Rachel Zancanella was appointed to the Assistant Division Engineer position on July 11, 2016 replacing Pearson. This left the Water Resource Engineer position vacant in the ground water group which remained vacant at the close of the year.

Internal changes included Steve Stratman accepting the Water Districts 14/15 Water Commissioner position on February 1, 2016. Donna Smith reduced her position to half time on August 1, 2016. Stratman's move left the Ground Water Enforcement team with a vacancy but that was filled by Kaleb Dunn on May 2, 2016 (who was formerly a CDOT employee in Salida). The other half of Smith's position was filled by Kim Guerrero on August 1, 2016. The change occurred by a "job share" of Smith's fulltime FTE position.

Donnie Jones who assisted the Hydrography Team and Dam Safety Engineer in the Pueblo office was hired as an intern. His term was from May 16 to August 5. Austin Yost was also hired as an intern and assisted the Colorado Springs Dam Safety Engineer from May 23 to June 30.

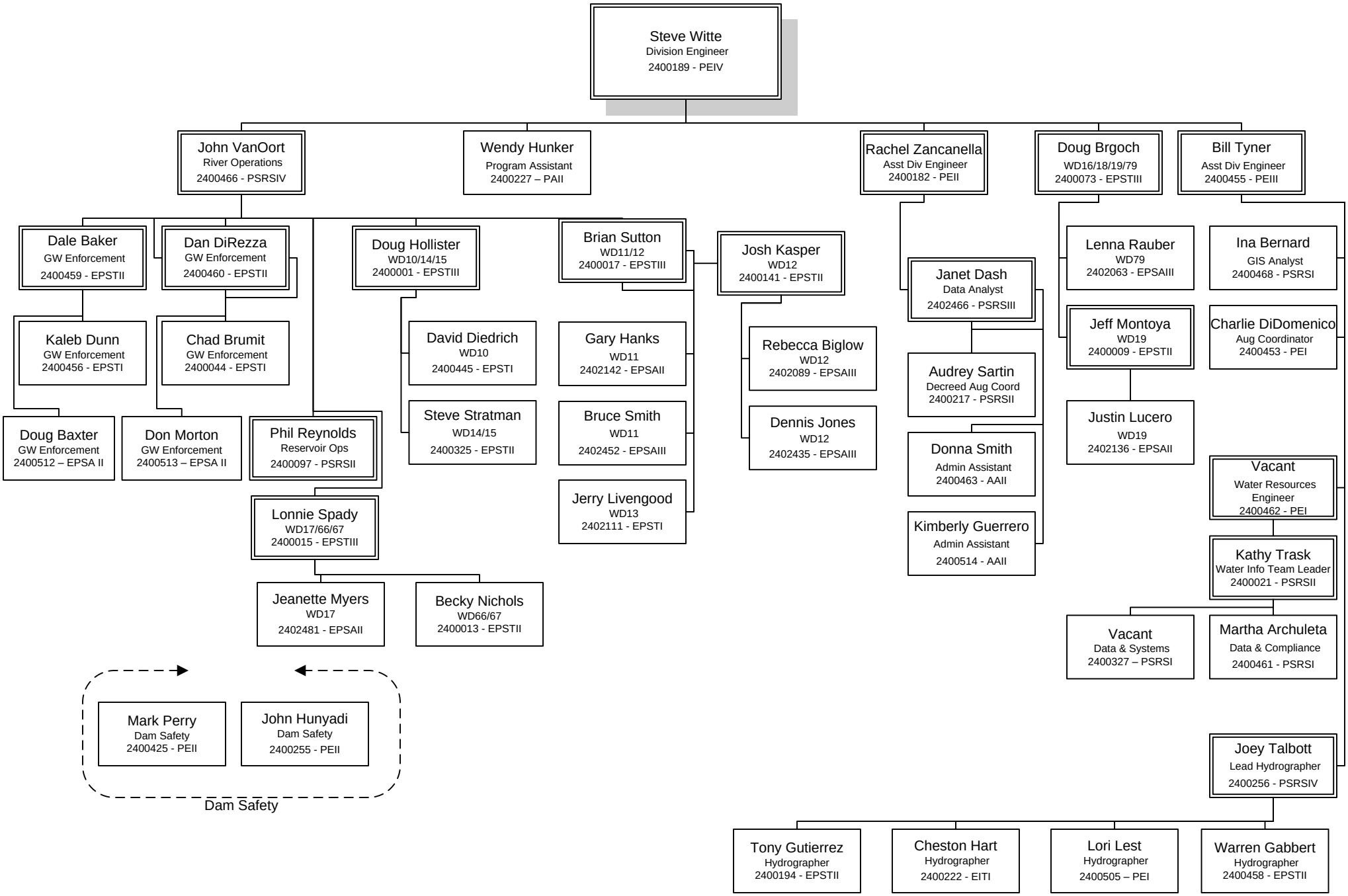
Trevor Birt resigned from the Ground Water team on December 31, 2016 with plans to continue his education in New Mexico.

Training/Staff Development

Those employees that participated in educational opportunities include:

- Colorado Water Congress, Jan 27-28, Steve Witte and Bill Tyner
- SEO Forum, March 3, Steve Witte, Bill Tyner and Julie Pearson
- DWR Technology Forum, March 22-23, John Van Oort and Dale Baker
- Access Level I, March 23, Martha Archuleta
- SDR training by Sutron, March 30, Our hydros and field staff
- Arkansas River Basin Forum, April 27-28, Bill Tyner and Brian Sutton
- Nuts & Bolts Supervisor training, May 4, Kathy Trask and Janet Dash
- ARC GIS Python online classes, May and June, Janet Dash and Ina Bernard
- HEC-RAS, May 9-10, Mark Perry and Lori Lest
- Swift Water training, May 13, Lori Lest, Joey Talbott, Warren Gabbert, David Diedrich and Justin Lucero
- Access Level I, June 22, Doug Hollister
- Pueblo Board of Water Works Mountain Tour, July 26-27, Steve Stratman
- Database Management, Fall 2016, Trevor Birt, Martha Archuleta and Phil Reynolds
- X-Map and Mapviewer training, Aug 23, for all staff
- Colorado Springs Tour, Sept 8-9, Rachel Zancanella
- Legislative Tour, Sept 12-13, Steve Witte, Rachel Zancanella and John Van Oort
- GIS in the Rockies, Sept 21-22, Janet Dash and Ina Bernard

Appendix A: Division 2 Organization Chart



C:data/personnel/OrgChart 122016