

ARKANSAS RIVER COMPACT ADMINISTRATION

COMPACT YEAR 2017

ANNUAL MEETING

December 7, 2017

HELD AT THE

LAMAR COMMUNITY COLLEGE

BOWMAN BUILDING - ROOM 139

2401 SOUTH MAIN STREET

LAMAR, COLORADO

James G. R. 334
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Reported By:

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APPEARANCES

CHAIRMAN:

Jim Rizzuto

COLORADO:

Rebecca Mitchell

Lane Malone

Scott Brazil

KANSAS:

David Barfield

Randy Hayzlett

Hal Scheuerman

P R O C E E D I N G S

MR. RIZZUTO: At this point in time, I will call the meeting to order, and some basic instructions so we can make sure the minutes are recorded appropriately.

First, an attendance sheet will be handed around so everyone will have the opportunity to sign in. That will become Exhibit A of today's meeting. I would ask you when you speak, speak loudly, not too loud, but loudly enough so people can hear you, and come to the podium if at all possible. Where is the podium?

MR. SALTER: (Indicating.)

MR. RIZZUTO: Right there, okay, where Kevin is standing, and then when you come to present, if you'll announce your name, give the court reporter a card, business card, so we can record it appropriately, and if you have any presentations, make sure Kevin has them, especially for the projected presentations; and then as far as reports, we need four reports or copies of those reports, if you'll make sure those are presented to Brent and Eric, and Brent is there (indicating), Eric (indicating), so that's who you need to give

1 the reports to.

2 First order, review and revision of the
3 agenda. Today, are there any revisions to the
4 agenda that was initially submitted? None? Okay.
5 So we need a motion to adopt the agenda.

6 MR. HAYZLETT: Move we adopt the agenda.

7 MR. RIZZUTO: Second?

8 MS. MITCHELL: Second.

9 MR. RIZZUTO: How does Kansas vote?

10 MR. HAYZLETT: Aye.

11 MR. RIZZUTO: Colorado?

12 MS. MITCHELL: Aye.

13 MR. RIZZUTO: And I've learned over time
14 I've got to call on each state and one person will
15 vote. My first meeting, I asked everyone to vote
16 and Kevin scolded me.

17 Okay. The agenda will become Exhibit B for
18 today's meetings.

19 Next, report of officers. As Chairman, I have
20 no reports. Randy, any reports on your side?

21 MR. HAYZLETT: I do not have any.

22 MR. RIZZUTO: No reports, and we'll defer
23 on reports from Stephanie, Steve Witte and Kevin
24 until later in the agenda.

25 First reports that we will take up today, U.S.

1 Army Corps of Engineers, (USACE, or Corps),
2 Lieutenant Colonel James Booth.

3 LT. COL. BOOTH: Can everybody hear me
4 okay? So trying to brief off of a written text and
5 hold the mic, I'm just going to try and do this
6 verbally without the mic, so if I start to talk a
7 little too low, if you raise your hand and I'll grab
8 the mic.

9 Good morning, Mr. Chairman and members. My
10 name is Lieutenant Colonel Jamie Booth. I'm the
11 District Commander for the United States Army Corps
12 of Engineers, Albuquerque District. I thank you for
13 the opportunity to come and brief a few of our key
14 topics from last year's report and I'd like to
15 introduce a few of our team members, and since we've
16 already gone around, I just want to point out a few
17 changes, and so many of you know Ryan Gronewold was
18 serving as our Chief of Reservoir Control. He has
19 taken on a new position with us and will be serving
20 as our Chief of Planning Branch, and Mr. Nabil
21 Shafike has taken on the position of Reservoir
22 Control Chief, and Amy Louise is now the Basin
23 Coordinator for the ARCA, (Arkansas River Compact
24 Administration), or for the District, and also,
25 Mr. Van Truan is here from our Regulatory Team in

1 Pueblo.

2 I'll briefly cover -- I will briefly cover our
3 operations over the last year, as well as operations
4 at Trinidad, John Martin, a few of our civil works
5 efforts over the last year, and then I'll briefly
6 cover some of our overseas contingencies operations
7 and the USACE support to natural disasters here over
8 the last year, which have been fairly significant.

9 In 2017, the Ark Basin snowmelt runoff was
10 above average throughout the entire basin. As of
11 May 1st, basin-wide snowpack was above average at
12 115% of the median, with the Upper Ark Basin
13 reporting 130% of median and the Purgatoire River
14 Basin at 110% of median. At Trinidad Dam, the
15 storage peaked on the 1st of May -- excuse me -- on
16 11 May at 44,424 Acre Feet, which is 600 --
17 6,211 feet. The maximum release at that time was
18 around 2,000 cubic feet per second between the
19 11th and the 15th of May. The release caused our
20 gabion basket bank protection just downstream of the
21 flip bucket to fail, but that did not impact the
22 integrity of the outward structure. However,
23 releases were constrained at 2,000 cubic feet per
24 second, due to our intent to protect the structure
25 from potential back -- excuse me -- backwater

1 effects of the failed gabion baskets if we increased
2 the flow above 2,000. The Corps is removing the
3 gabion baskets to ensure that the future releases
4 meet downstream safe channel capacity in the future.

5 At John Martin Dam, storage peaked at 265,939
6 Acre Feet which is approximately 3,845 feet in
7 elevation, on the 27th of June. The maximum release
8 was about 1,478 cubic feet per second on the 16th of
9 June. USACE did not operate for flood control at
10 Trinidad, John Martin, or Pueblo Reservoirs in 2017.

11 As always, operation and maintenance -- excuse
12 me. As always, operation and maintenance at our
13 own -- our facilities we own and operate on the Ark
14 River Basin is an ongoing effort. In addition to
15 the day-to-day work performed at both Trinidad and
16 John Martin Dams, more notable efforts are
17 periodically undertaken to ensure the continued safe
18 operations of our facilities.

19 At Trinidad Dam, the bulkhead was inspected
20 and the generator at the control tower, which was
21 the original generator, was replaced this past year.
22 During high flow releases in May of 2017, it was
23 clear that the existing gages were not functioning
24 properly above 800 cubic feet per second. The new
25 auxiliary stream gage will be installed by the USGS,

(United States Geological Survey), appreciate it, in December -- on December 15th, about a thousand feet further downstream, to accurately measure high flows above the 800 cubic feet per second, where our current gage is not functioning properly. The primary gage will continue to be used for lower releases. A conduit inspection was conducted at the facility from the 14th to the 15th of November, which included conduit, emergency and service gates for both -- for both conduits in the facility.

At John Martin for 2018, we are working on major projects on the downstream side of the facility. The stilling basin and the foundation will be inspected this year after we get it dewatered. This will be the first time that we've inspected that structure since the construction of the dam. This project will include the removal of sediment upstream of the facility in the vicinity of the bulkheads, or the bulkhead gates, so they can be placed to dewater the conduits. That allows us to inspect the conduits, gates, and the stilling basin.

A bathymetric survey for John Martin was begun on the 28th of November this year. The data will be finalized and the Area-Capacity curves will be developed in 2018. The purpose of the survey is to

1 measure the accumulation of sedimentation in the
2 lake since the last survey was completed in 2009,
3 and this will better allow us to calculate water
4 storage.

5 Over the last years, the 16 spillways and
6 Tainter gates were cleaned of vegetation. We
7 pressure washed them and patched them to make sure
8 they're fully functional.

9 We also conducted repairs at the Visitor's
10 Center. We had a bit of an uneven floor in there,
11 so we got that tore out and are working to get it
12 leveled off and replace it with wood flooring, as
13 well as putting a couple of windows in there, and a
14 new desk or counter will be installed as well.

15 I want to talk about some of our other
16 operations over the last year. The USACE, the
17 District periodically reviews reservoir operations
18 to include new hydrologic information. In 2016, the
19 Trinidad Lake Water Control Manual was reviewed and
20 updated to include hydrologic -- hydrologic data,
21 operating and reporting procedures, and general
22 project information such as the recreation and
23 watershed characteristics. There were no changes
24 made to the water control plan. The draft is
25 currently undergoing Agency review and the

1 implementation of the new manual is expected
2 sometime in 2018.

3 At John Martin Reservoir in 2017, the Corps
4 continued to work on the Master Plan update. The
5 Master Plan is the strategic land use document that
6 guides our comprehensive management of all
7 recreational, natural or cultural resources at the
8 project site. In general, it defines how the
9 resources will be utilized by the public. The
10 Master Plan does not address technical operating
11 aspects of the lake in respect to flood risk
12 management, and the Master Plan focuses on all USACE
13 fee-owned lands, to include easements, licenses, and
14 leases at the John Martin Reservoir.

15 The process started with a public meeting held
16 on the 22nd of October, 2016 in Lamar, and the
17 intent was to describe the Master Plan and its
18 purpose. The second meeting was held on the 16th of
19 February to discuss the overall goals and the
20 resources, or goals for our resources, review the
21 current and future land classifications, and the
22 public and agency comments with respect to our
23 goals. Once the plan is complete, an Environmental
24 Assessment will be completed and prepared for public
25 review.

1 We held a table -- a joint table top exercise
2 for the Trinidad and John Martin facilities from the
3 24th to the 26th of 2017 to evaluate the Dam Safety
4 Emergency Action Plan, current emergency response
5 plans, and to test the internal and external
6 capabilities of responding to emergency and flood
7 scenarios at both John Martin and Trinidad.

8 Some of the objectives of the exercise were to
9 identify priorities for key decision makers; assess
10 the warning procedures as described in the Emergency
11 Action Plans; exercise communication at command and
12 control with local emergency managers; and, finally,
13 to determine the areas of potential inundation
14 requiring evacuation.

15 I want to talk one quick civil works project
16 other than our operation and maintenance. We -- we
17 have one active stream bank protection project, we
18 call that a Section 14, in the Ark River Basin this
19 year. It's along Fountain Creek in El Paso County.
20 The project is -- the objective of the project is to
21 protect both of the stream banks from further
22 erosion that are threatening Highway 85/87 bridge at
23 the Fountain Creek Regional Trail.

24 I'll talk about some wildfire support that
25 we've provided over the last year in the watershed.

1 The Hayden Pass, Junkins, and the Beulah fires have
2 created new burn scars, which have potential
3 long-term impacts to the watershed. The flood
4 threat potential from the burn scars have been
5 significantly increased from the pre-event to the
6 post-event situation, as a result of the denuded
7 watershed with reduced infiltration and increased
8 runoff. The National Flood Risk Management funds
9 were used by the District post-wildfire to support
10 Hayden Pass and Junkins wildfire assessments.
11 Support then was offered in the form of technical
12 assistance related to hydrology and hydraulics, as
13 well as training on sandbag -- use of sandbags for
14 the impacted communities.

15 Quickly talk about overseas contingency
16 operations. I think we generally give an update
17 each year, and I'd like to highlight some of the
18 contributions that we've provided. The Corps
19 delivers engineering solutions for the nation's
20 toughest challenges, at home and abroad. This year,
21 in Fiscal Year 17, we deployed five of our employees
22 to Afghanistan in support of operations there.
23 Currently on the ground right now are three
24 employees in harm's way, serving alongside of our
25 soldiers, and we're very proud of that.

1 For natural disasters, the Corps has a
2 responsibility under Emergency Support Function 3 to
3 support FEMA, (Federal Emergency Management Agency),
4 as effectively as the nation's engineers
5 post-operations. The Albuquerque District maintains
6 a team of trained and medically qualified volunteers
7 who, at a moment's notice, can deploy to these
8 disasters that occur within the nation's boundaries.
9 This year, we deployed volunteers to support recent
10 disasters created by Hurricane Harvey, Irma and
11 Maria. Members supported hurricane recovery efforts
12 in Texas, Florida and Puerto Rico. 22 members of
13 our emergency power team placed approximately 432
14 generators in about 45 days in Puerto Rico in
15 support of major infrastructure needs.

16 At the same time, the Corps is responding to
17 the California wildfires, and we've got right now
18 about five folks deployed with the pre-removal
19 missions in support of that operation. At any given
20 time our District, over the next year, is probably
21 going to have about 10% of our work force deployed,
22 on top of our regular work load, trying to provide
23 support for disaster recovery, and we may end up in
24 Southern California here real soon. We'll see.

25 And on top of that, I think I just want to --

1 we talk about all the Corps civil works and
2 operations in our dams and reservoirs, but the Corps
3 also maintains a mission at -- for our District at
4 the three military installations or Air Force
5 installations in New Mexico, so we provide
6 construction support for the Air Force for any
7 service facilities that they need to support
8 operations for training, and we actually construct
9 the facility they're conducting combat operations on
10 a day-to-day basis out of New Mexico.

11 This concludes my report and I thank you for
12 having us here again. I'm happy to take any
13 questions. I would just -- will reserve the right
14 to phone a friend or poll the audience. You just
15 got to give me four options to pick from and we'll
16 see how we do. All right. Thank you very much.

17 MR. RIZZUTO: Questions? No questions?
18 And we need a copy of your report. Oh, who had a
19 question? Oh, Steve?

20 MR. WITTE: I missed the date for the
21 replacement of the gage below the movement of the
22 auxiliary gage below Trinidad. When is the
23 replacement date?

24 LT. COL. BOOTH: It's planned for 15
25 December.

1 MR. WITTE: Thank you.

2 LT. COL. BOOTH: Any other questions?

3 All right. Thank you very much.

4 MR. RIZZUTO: Thank you, Lieutenant
5 Colonel Booth.

6 MR. SALTER: I would note that they have
7 submitted four copies of their written report. Do
8 you want to make those exhibits?

9 MR. RIZZUTO: Yes. That would be Exhibit
10 C. Okay. Thank you again, and thank you for your
11 service in light of all the issues we've had of
12 late, so pass that on to your troops as well.

13 LT. COL. BOOTH: Yes, sir. I appreciate
14 it and humbly accept it on behalf of the District.
15 Thank you, sir.

16 MR. RIZZUTO: Great. Next, US Geological
17 Survey, Bob Kimbrough. Does anyone have any
18 problems hearing without the mic? Okay.

19 MR. KIMBROUGH: All right. Good morning,
20 everybody. Once again, my name is Bob Kimbrough.
21 I'm an Associate Director with the USGS Colorado
22 Water Science Center and I sit on the Denver Federal
23 Center in Lakewood, Colorado.

24 I just want to spend a few minutes this
25 morning talking about some of the activities that

1 USGS conducts through a cooperative agreement that
2 we have with ARCA, and we heard a little bit about
3 that yesterday, for those of you who were in
4 attendance. Essentially what we're doing is we're
5 operating a network of streamgages and producing
6 annual records of the streamflow, which we then
7 publish and make readily available to anybody on our
8 public web page, and then I'm also going to just
9 review some streamflow conditions for Water Year 17
10 from those streamgages.

11 So through our cooperative agreement with
12 ARCA, we operate 11 streamgages, and here is a map
13 showing the location of those gages. This is a
14 reach of the Arkansas River from extending from
15 Fowler down to Coolidge, Kansas, about a 110-mile
16 reach of the river. You can see John Martin
17 Reservoir in the middle. We have five gages on the
18 mainstem. We have the Arkansas River at Las Animas
19 and then below John Martin at Lamar near Granada and
20 near Coolidge. We also have four continuous
21 recording gages on tributaries, two that enter from
22 the south and upstream from John Martin. We have
23 the Apishapa near Fowler and then we're monitoring
24 the Purgatoire near its mouth. Then we have a
25 couple of trips downstream at John Martin that flow

1 in from the north, Big Sandy Creek near Lamar, and
2 Wild Horse Creek. We also have a recording gage on
3 Frontier Ditch. We heard a lot of discussion about
4 Frontier Ditch yesterday, and then we have one
5 nonrecording gage, we refer to them as CSGs or
6 crest-stage gages, that just record on peak stage or
7 high water mark, if one were to occur, and we have
8 one upstream on Big Sandy, but I didn't put it on
9 the map.

10 So our activities really revolve around field
11 work. We visit all these sites up to 18 times per
12 year and we make discharge measurements to ensure
13 that our state's discharge relation remains
14 calibrated, so that we're providing provisional data
15 on the web that is as accurate as possible, and so
16 what I'm going to -- oh, and then we do some
17 additional activities associated with the ARCA
18 partnership, and that has to do with making
19 additional measurements when there are releases from
20 John Martin. For example, if Kansas were to place a
21 call for a release from John Martin, we can get a
22 call from Colorado or Kansas requesting us to make
23 discharge measurements at our stations, really any
24 station of the 11, and when it's released from John
25 Martin, we're making measurements at those

1 downstream streamgages and we -- we typically
2 respond within a day, but we definitely try to get
3 out there within 72 hours. Once we make those
4 measurements, we want to update the web data as soon
5 as possible, and that happens no later than 24
6 hours, but usually well within the working day that
7 we obtain those measurements. We are willing to
8 work any day of the week, off hours or weekends at
9 the request, if we get a request from Kansas or
10 Colorado.

11 All right. I'll just run through some -- some
12 data for Water Year 2017 for a couple of our sites.
13 I'm going to run through the five mainstem sites
14 upstream to downstream. Here's some data from the
15 Ark at Las Animas. Total flow or total runoff for
16 the Water Year was about 314,000 Acre Feet, and that
17 was substantially higher than Water Year 16, which
18 was 138,600 Acre Feet. In fact, 2017 was about
19 220% -- 227% of '16, and then 2017 was 163% of the
20 long-term average, so it was a relatively high flow
21 year in the Ark upstream at John Martin.

22 Then we can look at the hydrograph to look at
23 when those high flows occurred. This is a
24 hydrograph showing the seven-day average streamflow
25 for Water Year 17. Note that discharge is on an

1 analog scale, and the black line is Water Year 2017
2 data. It's plotted against the percentile
3 distribution of historic flows for the period of
4 record, so flows that occurred within the 25th and
5 75th percentile are considered to be flows in the
6 normal range, and they're shown in green. Flows in
7 that upper quartile are considered to be above
8 average and they're shown in the blue colors, and
9 then flows in the lower quartile are considered to
10 be below normal and are shown in the oranges and
11 reds.

12 So for the first half of the Water Year, Ark
13 at LA flows were within the normal range, and then
14 you could see the spikes that occurred in May and
15 June and again in August, where we had flows much
16 above normal, and really resulting in that high
17 average streamflow for the Water Year.

18 Similar data for Ark below John Martin. Total
19 flow for the Water Year 17, about 25,000 Acre Feet,
20 less than '16; however, about 107% of the long-term
21 average, so essentially an average year downstream
22 of the reservoir.

23 If we look at the hydrograph, we can see
24 throughout the winter, flows were maintained around
25 1 to 2 CFS. That's considered to be below normal,

1 but really, the normal range is still less than 5 or
2 6 CFS. So put that into perspective and you can see
3 the releases were managed within the normal range
4 for most of the Water Year, with the exception of
5 that short duration dip in August where flows
6 momentarily looked like they touched that much below
7 normal range.

8 Moving downstream at Lamar, total flow for the
9 Water Year, about 82,000 Acre Feet. Slightly less
10 than '16; however, also, right about average, 102%
11 of average. Flows throughout the winter were
12 maintained slightly above normal, but then
13 throughout the rest of the Water Year, primarily in
14 the normal range. High flows in June and July,
15 slightly above normal, and we'll see similar pattern
16 at the next gages downstream.

17 Ark River near Granada, 114,000 Acre Feet for
18 Water Year 17, slightly larger than '16, just under
19 average, at 97% of average. And again, if you look
20 at the hydrograph, you can see flows in the normal
21 range, with the exception of that peak in May and,
22 again, high flows in June and July.

23 And then lastly, for the mainstem sites,
24 Arkansas River at Coolidge, total flow for the Water
25 Year, 154,000 Acre Feet, essentially the same as '16

1 and Water Year 17, about 105% of the long-term
2 average, and again, we see the hydrograph shows very
3 flows really essentially in that normal range all
4 year except for that peak in May, and then high
5 flows again in June and July.

6 I've got two more of these types of graphs for
7 the tributaries upstream of John Martin. This is
8 for the Apishapa near Fowler. Total for the Water
9 Year, 33,000 Acre Feet. That was substantially
10 higher than '16 and about 186% of average, so
11 similar to the Ark above John Martin, we saw high
12 flows in some of the tributaries, and if you can see
13 where those high flows occurred, we had record high
14 seven-day average flows in May and then essentially
15 stayed above average for most of the remaining Water
16 Year after May.

17 Similar story for the Purgatoire near Las
18 Animas. Total flow for the Water Year, about 83,000
19 Acre Feet, much higher than '16. 190% of the
20 long-term average, and again, we see -- you know,
21 started out the year below normal, but by May, flows
22 were again at a record high flows for the seven-day
23 average for the period of record, and then flows
24 remained essentially above normal for most of the
25 Water Year.

1 The remaining sites, I don't have hydrographs.
2 I just have a table of data for the Big Sandy Creek
3 near Lamar. Total flow for the Water Year was about
4 15,000 Acre Feet. That's about 154% of the
5 long-term average. For this particular station, we
6 do calculations to determine an estimate of baseflow
7 at this site, and the results for Water Year 17 were
8 baseflow was about 11,000 Acre Feet and the residual
9 being above baseflow about 4,200 Acre Feet.

10 Wildhorse Creek above Holly, this is a
11 seasonal gage. We run it in October and then we
12 shut it down for the winter and we don't start it up
13 till April, so we total streamflow for the periods
14 that is run the entire Water Year and then just
15 the -- just the summer months, and you can see for
16 '17, flows were about 8,300 and 7,700 Acre Feet
17 respectively for those two periods. But if you look
18 at the last column, flows were significantly high in
19 Wildhorse, over 250 -- around 250 to 300% of the
20 long-term average.

21 And then lastly, Frontier Ditch, total flow
22 for the Water Year about 6,800 Acre Feet, slightly
23 larger than '16 and about 79% of the long-term
24 average, and we have a really long period of record
25 at this site, so we've had some high flow years in

1 the past.

2 So in summary, streamflow was above average at
3 eight of 10 streamgages, with the exceptions being
4 Granada and Frontier Ditch, but they were not
5 drastically below average. In the mainstem, Water
6 Year flows ranged from 97% to 163%, with that 163%
7 being above John Martin where the high flows
8 occurred in the tribs and the mainstem, and then
9 that below average flow, even though it's not
10 drastically below, 97% in the Ark near Granada.

11 Streamflow for the Water Year 17 was greater
12 than 16 flows at eight of the 10 sites where we have
13 continuous recording gages; exceptions being below
14 John Martin and at Lamar. And then I will note that
15 at the request of Colorado, we did obtain additional
16 measurements at our streamgages on the mainstem
17 downstream of John Martin on June 16th, and that was
18 in response to a call from Kansas for a release of
19 water from the reservoir, and that's all I have.
20 More than happy to take any questions.

21 MR. RIZZUTO: Any questions from the
22 board? None?

23 MR. KIMBROUGH: All right. Thank you.

24 MR. RIZZUTO: Thank you, and you've
25 submitted your reports?

1 MR. KIMBROUGH: I did, and you have my
2 PowerPoint electronically. Let me know if you would
3 like a hard copy.

4 MR. RIZZUTO: Okay. And if there's no
5 objection, we'll make that Exhibit D.

6 MR. KIMBROUGH: Then I provided a hard
7 copy of all the numbers that I just gave you in 10
8 minutes, so I --

9 MR. RIZZUTO: Okay. Thank you very much,
10 Bob. U.S. Bureau of Reclamation, Roy Vaughan.

11 MR. VAUGHAN: Good morning. My name is
12 Roy Vaughan from the Bureau of Reclamation. I'm the
13 Facility Manager at Pueblo Dam. I also am
14 responsible for the East Slope Reservoir Operations,
15 as well as the collection system.

16 So this is the 2017 Water Year for Fry-Ark.
17 I'm sure you guys are going to see a lot of this
18 information over and over again, so I'll kind of go
19 quickly.

20 MR. SALTER: Roy, they're not hearing you
21 at the back of the room.

22 MR. VAUGHAN: All right. So imports to
23 date were about 67,000 through the Boustead Tunnel
24 from the West Slope. That's 116% of our 40-year
25 average. This is about the fourth year above

1 average imports from the West Slope.

2 As the Corps talked about earlier, the
3 snowpack in the collection system was well above
4 average for most of the winter. The collection
5 system opened up April 14th, runoff peaked in June,
6 and we continued through the end of August.

7 So the silver line is 2016 column. I'm sorry.
8 The blue column is 2017 and the -- what's that
9 showing up? That's Turquoise lake. That's
10 probably -- that's this year's Water Year, so you
11 can see the black line is average. We were
12 currently above average most of the year, right
13 around where we were in Turquoise for the -- for the
14 previous year.

15 Twin Lakes, we were about above average and a
16 little bit below in 2017. Pueblo, we continued to
17 be above average for most of the year -- well, for
18 all of the year. The summary of where we're at
19 right now: Turquoise is 98% of average; Twin Lakes
20 is 102% of average; Pueblo is 123% of average.

21 Our forecast for what we were going to import,
22 February 1st was about 77,000; March 1st was a
23 little over 72,000; April was 78,000; and our final
24 forecast on May 1st was 77,700.

25 This is the way the water came in from

1 Boustead. The cumulative is the red line, the blue
2 line is the daily average, and it summarizes what I
3 mentioned earlier, and the blue line is 2017 and
4 this is in the Arkansas Basin. The red line is
5 average, so you can kind of see how it melted off.
6 We had a lot of snow. Then it came off pretty hard.
7 Then we had another snow at the end of April.

8 This is the Upper Arkansas where we import
9 from. As we talked about earlier, we were well
10 above average most of the year. We started to lose
11 some snowpack and then we had some late snows that
12 helped us out, as far as trying to meet our
13 forecast. Right now, we're currently operating.
14 We're moving water down to Pueblo from Twin Lakes,
15 about 115 CFS. We're going to make enough space for
16 our average yield, which is about 60,000 in the
17 upper reservoirs, but we'll adjust that, depending
18 on the snowpack. It's not looking too shiny right
19 now.

20 I think probably Southeast Gage, some of these
21 updates, but I'm going to touch briefly on them. We
22 finalized the Lease of Power Privilege with the
23 Southeast, we approved the design and specifications
24 for Phase 1 and 2, and we're currently reviewing the
25 final Phase 3.

1 They began work in 2017. This is directly
2 below Pueblo. Here's some of the work in the river
3 channel. We did some blasting to make -- make some
4 excavation possible for the foundation.

5 AVC (Arkansas Valley Conduit), and Master
6 Contract, we touched on this the last couple years.
7 The Record of Decision was signed. The Primary
8 Feasibility Design Report for AVC and two
9 supplemental FDRs are complete. The Master Contract
10 was executed in December of 2016 and, if you have
11 any specific questions, you can call our Loveland
12 office and ask for Patrick.

13 Trinidad Review: The Draft Review Report was
14 posted October 18th, 2017. Initial comments were
15 due by November 20th, 2017. Comment period was
16 extended -- excuse me -- period was extended to
17 December 22nd. That ended up being about 65 days.
18 There's a web site that you can contact if you want
19 more information. Comments will be incorporated
20 into the report and posted as Final Draft by
21 December 31st. The Final Report will be realized by
22 January 16, 2018, and Chris is with us if you guys
23 have any questions. He's the one that's doing this.
24 We appreciate that, because it's finally up to date.

25 Southern Delivery System, we talked about this

1 last year. It's a \$1.1 billion project, a pipeline,
2 62-mile pipeline, capacity of 96 million gallons a
3 day. Phase 1 is completed. They started deliveries
4 April of 2016. The Fountain Creek Diversion and
5 Pinello Ranch Mitigation Projects were completed in
6 2017. Land acquisitions for the Gary Bostrom
7 Reservoir, was formerly known as Williams Creek
8 Reservoir, is ongoing and will be completed by 2018,
9 with construction to begin in 2029, and that's the
10 second phase of SDS. No schedule has been discussed
11 for the construction of the Williams Creek
12 Reservoir.

13 Mussels: Facility assessments for the Fry-Ark
14 are complete. The action response plans are
15 complete. To date, we have found no adults on
16 substrate samples and we were negative this year for
17 larvae in Pueblo, and Pat McCusker out of our
18 Loveland office is the contact for that. That's all
19 I have.

20 MR. RIZZUTO: Okay. Any questions for
21 Roy by the Board? None? Any questions at all?

22 MR. VAUGHAN: Thank you.

23 MR. RIZZUTO: Okay. Thank you so much,
24 and you submitted your reports.

25 MR. VAUGHAN: Yes.

1 MR. SALTER: We can make the presentation
2 the exhibit to the --

3 MR. RIZZUTO: Okay. So that would be an
4 exhibit, which would be E, if I'm following along
5 correctly. Okay. National Weather Service, Tony
6 Anderson. Welcome.

7 MR. ANDERSON: Thank you.

8 MR. RIZZUTO: And if when someone's
9 presenting, if you're having difficulty hearing in
10 the back, if you'll just kind of wave your hand,
11 I'll make sure they enhance their voice.

12 MR. ANDERSON: I'm far more likely to not
13 be seen than not be heard. At least that's what my
14 mother always told me, so if -- please do, if you
15 can't hear me, please raise your hand, but
16 otherwise, I'll try this without the microphone.

17 Thank you, everyone. Thank you, Mr. Chairman.
18 My name is Tony Anderson. I'm the service
19 hydrologist with the National Weather Service office
20 in Pueblo. I've been in the job about two
21 and-a-half years. This is my second ARCA meeting
22 and the first time we've presented here. I don't
23 have a formal report because we're actually not
24 actually a party to the agreement, but Kevin thought
25 some of the information we've collected over the

1 year and some of our forecasting might be of
2 interest to the committee and to the audience.

3 I will warn you, if you see differences
4 between the numbers I'm using and the numbers you
5 just saw from the USGS, trust the USGS. We'll have
6 to see what -- why my numbers differ, but there's
7 one or two numbers that do differ rather
8 dramatically, and theirs are official and I actually
9 steal my data from them.

10 So the National Weather Service forecasts
11 water supply for the runoff season, April through
12 September, for nine sites in Colorado in the
13 Arkansas system. They are -- it is a native -- we
14 try to forecast a native runoff, so we take out all
15 of the diversions and transbasin diversions to try
16 and get a feel for what the basin would produce
17 without human intervention.

18 The exception to that are the two at the
19 bottom, the two Las Animas forecasts. Those are
20 actually forecasts of observed flow that we've
21 started those about three years ago at the request
22 of Kevin and the State of Kansas, and it's proven to
23 be rather challenging and you'll see some of the
24 results here in a minute, but we're giving it a
25 whirl and we're trying to give -- we do the forecast

1 the first week of the month from January through
2 June, and the forecast is for April through
3 September runoff.

4 One other thing is if I hopefully retire in 10
5 years and I could get the USGS, the National Weather
6 Service and the DWR all to identify gages by the
7 same ID, I would consider myself a success.

8 Okay. I covered some of this just a minute
9 ago. We use a number of models. Currently, we use
10 the statistical model and we use an ensemble
11 continuous model that runs through 50 years of data
12 to try and forecast what a likely scenario might be.

13 That's going to change. We do it once a month
14 now. Other River Forecast Centers in Colorado
15 Basin, California, they're doing their ensemble
16 forecasting up to weekly. Some of them are doing
17 them daily. Right now, we haven't had requests for
18 that, so we're staying with our once a month and
19 we're coordinating with the Natural Resources
20 Conservation Service out of Portland.

21 We coordinate our numbers, or we collaborate
22 our numbers. We used to coordinate. What that
23 means is right now, we get on the phone, we talk, we
24 come up with a single deterministic forecast, but
25 our probabilistic forecasts may differ. In the

1 future, if we switch to a more probabilistic
2 forecast, that coordination will go away,
3 unfortunately.

4 Right now, when I was doing this forecasting
5 when I was in Tulsa, I was better with the NRCS
6 (National Resources Conservation Service) than I was
7 without them, so I kept doing it, and the person who
8 took over for me in Tulsa continues to do that as
9 well.

10 Our precipitation estimates that you're going
11 to see here are the ones that we use to feed our
12 model are generated by the River Forecast Center in
13 Tulsa. That River Forecast Center covers the entire
14 Arkansas system from Leadville down to Pine Bluff,
15 Arkansas, and their quantitative precipitation
16 estimates are calculated or developed hourly, daily
17 and yearly throughout the year, so every hour of
18 every day, there is a gridded precipitation estimate
19 provided for the entire Arkansas River system.

20 Our observed flows come from the gages that
21 you're all familiar with from the USGS and the
22 Department of Water Resources in Colorado. I want
23 to throw a huge kudo out to them. I am blind
24 without them. I can't do -- my warnings won't work.
25 My -- nothing works for me if I'm not getting that

1 data, so they do a tremendous job, and I have
2 colleagues around the country who would be -- who
3 are jealous of the data resources that I have
4 available.

5 Our native flows are calculated in conjunction
6 with the Natural Resources Conservation Service. We
7 try and keep track of the diversions, the reservoir
8 storage, the transbasin -- transmountain diversions
9 and try and come up with a number that represents
10 what the basin would produce in the absence of human
11 intervention.

12 Our native flows on Chalk Creek, Grape Creek,
13 the Huerfano and the Cucharas Rivers are unadjusted.
14 We take the gage data and we use that as our native
15 flow. We know that's not entirely accurate, but
16 there are diversions up there. We just can't
17 keep -- necessarily keep track of them and we don't
18 have the data to put them into our continuous model.
19 We actually need 50 years of data to include a
20 diversion in our system, and that's sometimes hard
21 to come by.

22 I'm going to show you some of our forecasts
23 and our verification data that I put together
24 through the years, but I want you to know what
25 you're looking at first, so this is a typical draft

1 that I put together every year for our water supply.
2 It includes our forecasts plus our observed data,
3 but the black line or the heavy dark line represents
4 our 30-year normal, and that's what we use as our
5 verification metric. The red line with the squares
6 is our official forecast. The squares represent
7 each month's data, January's forecast, February's,
8 et cetera.

9 The other three are some of the submodels that
10 we use to produce that final forecast. We have --
11 use the Natural Resources Conservation Service, the
12 National Weather Service statistical method, and the
13 official -- and then the ensemble forecast method
14 that we use at the weather service.

15 The yellow lines on either extreme, hopefully
16 on either extreme, are our probable maximum and our
17 probable minimum for each month's forecast and, of
18 course, the blue line, heavy blue line is our
19 actually observed seasonal native flow volume, and
20 then the blue line with the -- with the triangles is
21 the monthly accumulated seasonal flow, so you can
22 kind of get a feel for the distribution as it came
23 through. The goal being that the heavy blue line of
24 our observed seasonal native flow falls between
25 those two yellow lines, and you're going to see we

1 don't always accomplish that goal, but what we're
2 trying to do is establish a certain uncertainty
3 level for our forecast and then show you what we
4 think is actually going to happen within those
5 bounds.

6 So at Salida on the -- again, this is our
7 April through September native flow. I have to --
8 I'm almost jealous of my colleagues in Tulsa because
9 this was actually a pretty good forecast year for
10 them, and it was a very challenging year as you all
11 may remember, but we forecast -- or when we were
12 missing, we were missing to the high side, which is
13 where our observed was, and that's one way I always
14 looked at whether or not we were doing a good job.
15 So in February and March, we forecast a little too
16 high. That was the huge snowpack that we saw in
17 December and January, and then as that snowpack
18 melted off or sublimated, our forecasts came down
19 and then we were almost on, right on, through the
20 end of the forecast season, so kudos to my
21 colleagues in Tulsa. They did a bang-up job on that
22 forecast.

23 As you can see, we're a little above normal at
24 Salida. As we move down to Pueblo, we got further
25 above normal. A lot of -- a lot of rain fell in

1 that lower basin in May and June that we didn't
2 account for in the runoff forecast, because we're
3 mostly using snow. But as you can see, they were
4 actually closest in March and April -- or February
5 and March, excuse me -- with their forecasts, and
6 then they dropped off as that snowpack fell off, and
7 then they didn't try -- we -- our system doesn't
8 really pick up rainfall well in the spring, so those
9 heavy March -- or those heavy May rainfall events,
10 they didn't get really picked up in our forecasts,
11 so we kind of missed them. Again, I would actually
12 have been fairly proud of that forecast.

13 Chalk Creek at Nathrop. As we get further up
14 in the basin, our uncertainty tends to become a
15 little bigger, because they're much -- it's much
16 harder to tell where the snow is going to fall and
17 where the rain's going to fall in the basins, but
18 here again, we were well above normal for our -- for
19 the observed flow, and our forecasts were all
20 generally above normal. We had a little narrowing
21 of our uncertainty there in March, and I'm not sure
22 what happened there. I wasn't actually doing the
23 work. I think I said earlier, "Don't kill the
24 messenger." These aren't my forecasts, but just
25 wanted to give you a feel for some of what these

1 look like.

2 Grape Creek at Westcliffe is a nightmare for
3 us. It's -- we -- I just found out this year
4 there's so -- there are many, many diversions up
5 there that we're not tracking, and it -- we can't
6 get it into our system, so our forecasts there are
7 on shaky ground, and we knew that before. Now we
8 just understand why.

9 The Huerfano, again, this is an extreme
10 headwater point on the Huerfano, and we have a
11 tremendous uncertainty. You can see how wide that
12 uncertainty band is relative to our normal and to
13 our observed, so it tends to be fairly uncertain,
14 and here, we were kind of forecasting a normal year.
15 We had an above normal year, but still not -- not a
16 terrible forecast run.

17 The Cucharas at La Veta had a huge year, and
18 you can see we missed it completely. We're almost
19 never going to be able to forecast this large a
20 volume, because our models just don't deal with that
21 much uncertainty that well, so we were -- the
22 observed was so far beyond the bounds of what we
23 would consider normal that the models have trouble
24 picking it up, so it's going to be very difficult
25 for us to forecast at that level of extreme. I

1 would like to have seen us close or further away
2 from normal, and we'll work with the Tulsa to see
3 what -- what we can do about that.

4 Another huge year on the Purgatoire at
5 Trinidad, and when we get down to Las Animas, you'll
6 see an even bigger number. Here again, we were
7 missing to the high side of normal, which we look
8 for, but again, we were -- we were too low most of
9 the season, even -- even going into June, when we're
10 halfway through the runoff season, we were still --
11 we still missed the forecast because of all the
12 precipitation that we've picked up through the
13 summer.

14 The Arkansas River at Las Animas. This one's
15 not as big as the Purgatoire number is and it pretty
16 well matches what we saw from the USGS. If you'll
17 remember, though, this is just a September -- or
18 April through September number, not a entire Water
19 Year. A huge runoff in May and June and, again, we
20 kind of missed most of the year until that June
21 number, where we started to throw off a fairly
22 significant forecast or above normal forecast.

23 Ah, the Purgatoire at Las Animas. It -- if
24 you look at the normal and the observed, that's
25 almost at 300% of normal, but it's just different

1 from what the USGS just showed us, and I need to
2 figure out why we're so far off. Again, their
3 number is probably the correct one. The biggest
4 difference will be that this is just a April through
5 September number, but I don't think even that's
6 enough to account for the difference between the two
7 numbers that you're seeing. So, again, trust
8 theirs.

9 Give you a quick heads-up on what that meant.
10 Down the mainstem of the Granite, or the Arkansas
11 starting at Granite, we're just about normal.
12 Moving to Salida, we -- the percent of normal
13 increased as we moved downstream as those rainfall
14 events in the lower basin started providing water to
15 the Arkansas.

16 On the tributaries, the Purgatoire at
17 Trinidad, that's an impressive number, and it even
18 looks good on a chart. The others, Chalk Creek at
19 Nathrop, 138% of normal. That stood out and then,
20 of course, the Cucharas at 213% of normal. If you
21 remember the May 10th and 11th event, the Cucharas
22 River got hammered during that event and I think a
23 lot of the water came during that -- that big --
24 those big May rainfall events.

25 The observed flow forecast in volumes, 177% of

1 normal at Las Animas on the Arkansas and then the
2 304% on the Purgatoire at Las Animas. Got to figure
3 out what happened on that 304.

4 Last thing I want to talk to you about is I
5 mentioned that every day, every hour, we're doing a
6 gridded precipitation estimate for the entire
7 Arkansas system. We actually do the entire
8 continental United States, and this is an example of
9 our gridded data. I unfortunately didn't get a
10 legend on there, but we're probably running, down in
11 the Louisiana or Arkansas, we're probably looking at
12 60 to 70 inches, and then up in the headwaters of
13 the Arkansas, we're probably looking at 15 to 16, to
14 give you a feel for what those colors mean.

15 All of the small basins that are outlined
16 there, those are the basins modeled by the Arkansas
17 River River Forecast Center, and so that gives you a
18 feel of what scale they're modeling on.

19 Zooming in to Colorado, the -- I wish I had --
20 do we have a pointer? I guess not. There's a
21 little blue dark blue square up there in about kind
22 of west central part of the state. That's a 40-inch
23 value of Water Year precipitation. There are
24 several others in the 30's. You can see the upper
25 Purgatoire got hammered. The lower Purgatoire got

1 some significant rainfall events, and then the
2 Cucharas and the Huerfano Rivers also got pretty
3 well hammered. Just these are the identifiers that
4 we use, and we try and forecast these.

5 The last thing I'm going to show you is a kind
6 of a poor man's mass balance analysis. I took all
7 of this data and I took all of the basins above our
8 forecast points, calculated an average value for the
9 Water Year to calculate a total volume of
10 precipitation input to the system, and then I
11 compared it to the observed native flow values to
12 try and create an idea of the efficiency of the
13 system, how much of the precip- -- of the moisture
14 that came in the form of precipitation was produced
15 as native flow or as observed flow, and I just
16 wanted to do that because it's there.

17 We've done it before in small details, but if
18 it's information that's of interest to you, we can
19 produce it. That's part of why I came was there's a
20 lot of data in our system that's not being used,
21 necessarily, and if I can find a way to make -- help
22 you make decisions with that data, that's why the
23 National Weather Service exists, so if you see
24 something here, I'll give you my card. I'll give
25 you my contact information. If I can help you make

1 decisions, please let me know.

2 But as for that efficiency analysis, it was
3 actually kind of interesting. I got some numbers
4 that -- I haven't done this before, so I don't have
5 anything to compare it to, but we had a 31%
6 efficiency of total Water Year precip coming off
7 during the runoff season, that -- which struck me as
8 a large number. Upper -- the Upper Arkansas at
9 Salida was 29%. Then there was a huge dropoff as we
10 got down to Pueblo Reservoir, dropping to 11%.
11 Grape Creek and Westcliffe, I don't believe. That's
12 where we're having trouble with that one. The
13 Cucharas at Boyd Ranch, again, 36%. That struck me
14 as a very large number, and the Purgatoire River at
15 Trinidad struck me as a very small number. That's a
16 headwater site, should be a fairly efficient
17 producer of runoff, and we saw less than 10%. The
18 two values at the Arkansas, those are observed flow
19 efficiencies, and told me that you all are doing a
20 great job of using the water that's coming down the
21 river.

22 So that's the information I have today. If it
23 it's helpful, please let me know. I'll be glad to
24 come back and do the same thing, if the committee is
25 interested, next year. If not, I'll be glad to sit

1 in the back like I normally do, and if there's any
2 questions, I'll be glad to take them. Otherwise,
3 hit me up later.

4 MR. RIZZUTO: Questions of the board?

5 MR. MALONE: What's the forecast for the
6 year?

7 MR. ANDERSON: We haven't started doing
8 them yet. The Climate Prediction Center outlooks
9 for the winter are tending towards warm and dry.
10 The dry -- the warm signal starts immediately and
11 continues through the winter. The dry signal picks
12 up in February and March and continues through the
13 spring. Until February, there's really no signal
14 right now. We don't know if it's going to be wet or
15 dry or just normal, so that's what I can tell you,
16 and I always -- as people always ask me, I am a
17 hydrologist, so I leave the meteorology to the other
18 guys and, until it hits the ground, it's their
19 problem.

20 MR. BARFIELD: So your forecasts are sort
21 of more firm forecasts, right, because you -- I
22 mean, at least that's how I took it, or maybe that's
23 how it turned out this year. You know, you don't
24 have a good crystal ball for the precip component of
25 it, so -- but --

1 MR. ANDERSON: No, we don't.

2 MR. BARFIELD: But your crystal ball for
3 the snowpack is better.

4 MR. ANDERSON: Yes, that's exactly how I
5 would describe it. Once the snow is on the ground,
6 we have a pretty good feel for the efficiency of it
7 coming off. At least we have a historical record of
8 it, and then we can start to make forecasts from
9 that. I wish we were better at it, because I've
10 been surprised. I've had a April 1st forecast of
11 140% of normal, or a May 1st -- March 1st forecast
12 of 140% of normal become an April 1st forecast of
13 75% of normal because we had three weeks of
14 sublimation and all over the West, the snowpack
15 disappeared. So I wish I was better at it, but
16 that's the philosophy we use is the one you
17 described. Anyone else? Okay. Thank you very
18 much.

19 MR. RIZZUTO: Thank you, Tony. And no
20 submitted reports, so we won't have an exhibit
21 there. Next, we'll move to reports from local water
22 users and state agencies.

23 First, Purgatoire River Water Conservancy
24 District, Steve Kastner, General Manager.

25 MR. KASTNER: Steve Kastner, Purgatoire

1 River Water Conservancy District. Thank you,
2 Mr. Chairman. I have a few slides. I don't have a
3 written report. I'll just talk from my slides, if
4 it's all right.

5 MR. RIZZUTO: Okay.

6 MR. KASTNER: This first slide is the
7 results of the irrigated acreage survey of 2016. We
8 get these results from the Division Engineer's
9 office in late January or January. The bottom line
10 shows, including dryup acres that we count from
11 court change cases, in 2016, 12,400 and so acres
12 were irrigated in the district. We're allowed --
13 that first gray column totals 20,600. That's the
14 individual ditch limitations contained in the
15 Operating Principles. Actually, that's the
16 individual ditch totals we're allowed as a total for
17 the district. 19,499, I think, is the number. That
18 difference is due to some initial overlap counting
19 of acreages from way back. So 12,400 is well under
20 the 19,000 limit.

21 Water Commissioner Jeff Montoya and myself
22 independently did our surveys of random fields again
23 this year during the summer and fall. Those results
24 aren't available yet, but will be in a month or so
25 and will be provided to, I believe, Kansas and

1 Reclamation. I think if you ask Jeff or myself,
2 we'd say there's probably a slight increase this
3 year compared to '16.

4 This chart is the last 10, 12 years of
5 diversions within the District. The most right end
6 of the chart is this 2017 irrigation season. That
7 orange corner up there is around 44,000 Acre Feet
8 for this year. That number could have been quite a
9 bit higher, I would guess up around 60,000, if the
10 ditches wanted to. A lot of water was -- that was
11 physically and legally available was bypassed,
12 essentially not needed, and the next slide tells you
13 why.

14 This is precipitation. The first two columns
15 are long-term averages in the Trinidad area. The
16 Trinidad column is in town. The airport column is,
17 I don't know, 10, 15 miles east of town, further
18 from the mountains, an inch and-a-half less water on
19 average, and it's that airport site is in the middle
20 of some of the irrigated areas, so it's a good, good
21 site; and the last column is what was there this
22 year. If you do the math, it's right around exactly
23 150% of average, and that -- those rains just
24 reduced headgate demands significantly. There was
25 large pieces of the season where they just simply

1 didn't divert. They were getting all they needed
2 from the skies. I don't know if that was forecast
3 or not.

4 The principal purpose of this next slide is to
5 remind you to get a Christmas tree. The principal
6 purpose. The -- the red line are the flows through
7 Trinidad, the City of Trinidad, and the green line
8 are flows, these are about the last 40 years of
9 record, at Thatcher below the district on the
10 Purgatoire. The principal point of this graph is to
11 see that on the right end, 2017, the -- both flows
12 are well above average. The two horizontal lines
13 are the averages for each gage. You can see where
14 especially the Thatcher gage was double the average.

15 The other note of this is 2017 and how close
16 together the two sites were. I think it reflects
17 limited diversion demand by the district ditches and
18 it reflects precipitation below the district that
19 hits the Thatcher gage. So you can see over the --
20 this period, some years the Thatcher gage is higher
21 than the Trinidad gage and some years, it's the
22 opposite. This year, they were very close. The
23 difference is about 2,000 Acre Feet over the whole
24 year. I'll leave the detailed analysis of the
25 numbers to Chris.

1 I have one more slide to talk about. These --
2 this is the content readings of the last 14 months
3 or so of the Model Pool, which is our -- our senior
4 storage pool in the reservoir. You can see last
5 winter, it slowly increases and then sharply
6 increases during the rains of last spring, and then
7 it peaked right near our 20,000 Acre Foot balance
8 limit in that pool, and then three months of
9 irrigation drawdowns and then October -- October is
10 split into half there, because our irrigation season
11 ends the middle of October.

12 October, no water was taken out of storage,
13 and then after the 15th, we began storing again and,
14 as you can see, in about a month or five weeks or so
15 from now, we will be back to that 20,000 Acre Foot
16 content limit. We're currently storing about 100
17 Acre Feet a day. We're about 3,000 feet short, so
18 if you take the middle of -- from the middle of
19 January to -- we probably will begin some irrigation
20 the first of April when we can, so that's two
21 and-a-half months of 100 Acre Feet a day coming to
22 John Martin that normally doesn't. That's 7,500
23 Acre Feet to help fill John Martin.

24 That is the last slide I have. I will talk
25 about a couple more subjects. Back in, I think it

1 was 2012, some of you -- I wasn't here then, but the
2 City of Trinidad sought a couple changes to the
3 Operating Principles. They were presented through
4 the District; principally, the change being to allow
5 storage in Trinidad Reservoir of some more of the
6 John Martin flood ditch water that they changed in
7 Colorado Water Court. I think the 475 Acre Feet
8 more storage, based on that water right change case.

9 I think all the signatory parties of the
10 Operating Principles at least tentatively approved
11 that, except for Reclamation. Reclamation wanted,
12 along with their approval, that -- for some changes
13 to the contract that the District has with
14 Reclamation for that whole project. The principal
15 change they wanted was to ensure that the diversions
16 by the City and by State Parks, who both had water
17 right change cases, were being counted as District
18 diversions. That impacts the amount of money they
19 charge us for our variable payment construction
20 repayment loan so, in my opinion, there really
21 wasn't an issue there. We were counting all those
22 diversions as project diversions.

23 That discussion, however, enlarged to other
24 contract amendments, principally money issues the
25 District currently has with both Reclamation and the

1 Corps of Engineers. The Corps gives us an O & M
2 bill every year and Reclamation gives us a
3 construction repayment bill every year, so we have
4 some contract -- what's the term -- technical
5 discussions. I can't call it negotiations, because
6 we have to pay for those. I'm learning my Bureau
7 speak.

8 So for the last year, we've had maybe a half
9 dozen meetings with the Bureau, principally talking
10 money issues. I think we're coming nearer to the
11 end of those discussions, and some of the changes we
12 want will -- they can do without any further federal
13 approval. Some of the changes need congressional
14 authorization, so we'll -- we're getting to the
15 point where we might begin that process. I'm
16 optimistic.

17 I think once we get to the end of this current
18 discussion process with the Bureau, they will -- I'm
19 not sure how the process works, but we'll submit to
20 the Operating Principle parties for final approval
21 the proposed Operating Principle changes sought by
22 the City through the District. I think the Bureau
23 is going to handle that process, as I understand it.
24 I think they're responsible for that. So that's
25 what I've spent a lot of time on this year, other

1 than water matters.

2 One other thing we started last month is the
3 Ten-Year Review of the Operating Criteria, which is
4 a document that governs operations and allocations
5 of water within the District. The Operating
6 Principles are more external to the District, so --
7 the Operating Criteria require Ten-Year Review also,
8 but that is just between the District and the
9 Bureau, and we're -- we've just had one meeting so
10 far and are working on a second proposed revisions
11 of that document.

12 And so in summary, my only problems are water
13 and money. Everything else is fine, so that's where
14 we are. Unless there's any questions, that's it.

15 MR. RIZZUTO: Questions, Board?

16 MR. BARFIELD: I have one quick question.
17 Can you back up like four slides? There's a -- it's
18 not your Christmas slide. It's a -- yeah, that one
19 there.

20 So the priority diversions, that's for --
21 those are diversions supported by the dryup for the
22 City and Parks? What are priority diversions?

23 MR. KASTNER: When we -- when the
24 District determines that some -- one of our ditches
25 is out of project water, either stored water or

1 concurrent river inflows to the district, we
2 typically will go to priority administration, where
3 the Water Commissioner takes over administration of
4 the water rights, and this -- this year, for
5 example, there's a little bit of orange. That
6 happened maybe I think in the third week of
7 September, where we had two ditches run out of
8 stored and water and were not getting their desired
9 amount of allocation off the direct flow of the
10 river, so we declare the priority administration,
11 even though there's still water in the reservoir for
12 the other ditches.

13 MR. BARFIELD: Okay. Thank you.

14 MR. RIZZUTO: Other questions of the
15 Board? Anyone else? Okay, Steve.

16 MR. KASTNER: Thank you, Mr. Chairman.

17 MR. RIZZUTO: Next presentation, Fountain
18 Creek, Greenway Watershed and Flood Control
19 District, Larry Small.

20 MR. SALTER: I'll need just a minute to
21 get the presentation loaded.

22 MR. SMALL: Thank you. Good morning.
23 I'm Larry Small. I'm the Executive Director of the
24 Fountain Creek Watershed Flood Control in the
25 Greenway District, and I'm here to talk to you about

1 our last step in determining what a preferred
2 alternative is for flood control on Fountain Creek
3 from Colorado Springs to the confluence with the
4 Arkansas River.

5 As you know, we completed our first activity
6 associated with identifying potential scenarios for
7 flood control in October of 2011 in conjunction with
8 the USGS, where we looked at 12 potential scenarios
9 for reducing the peak flows and sediment transport
10 in that reach and focusing on impacts at the Pueblo
11 gage, and we followed that up two years ago with an
12 evaluation of impacts on water rights that I
13 reported to you to determine if we were to implement
14 flood control activities on Fountain Creek, what
15 water rights would be impacted and how would we
16 mitigate the impacts to those water rights so that
17 there would be no injury to water right holders.

18 We followed that with our Phase 1 appraisal
19 study that we completed in January of this year, to
20 look at the feasibility of three alternatives that
21 were in that first study in 2011, as well as
22 subalternatives that we identified for two of those.

23 That work was completed in January of 2017.
24 We did not eliminate any alternatives at that point.
25 We just wanted to look at what were the issues

1 associated with the six alternatives we were
2 evaluating.

3 We started into Phase 2 in March of this year
4 and will complete it in February of 2018. That is
5 the needs assessment of those alternatives. We took
6 all six forward and we added a seventh alternative,
7 which is known as a floodplain management
8 alternative, so that we had seven alternatives to
9 evaluate in Phase 2, and then going forward, after
10 we complete in February of 2018, we'll move into
11 future phases to determine financing, permitting,
12 design and construction requirements.

13 The Phase 2 work that we did was a
14 stakeholder-driven process. We had a group of
15 people that we identified throughout the Arkansas
16 Basin who had subject matter expertise and could
17 bring real world experience. We didn't want to go
18 off and put engineers in the back room to do this
19 work and then come out and say, "Look at what a
20 great thing we did," without using someone with real
21 life experience and real life concerns associated
22 with any of these alternatives we're looking at, so
23 we -- we made sure that we had real people involved
24 in this process.

25 We selected the alternatives for the study.

1 It was those seven -- six that we brought forward
2 and the seventh that I mentioned. With that group,
3 we developed evaluation criteria and specifically
4 how we compare these alternatives and what were the
5 important aspects that needed to be considered and
6 looked at. We did the evaluation and we did select
7 a preferred alternative and we will be delivering a
8 final report, so that's generally the scope of what
9 we were approaching.

10 The stakeholder process, the group that we
11 picked, there were people from Pueblo County,
12 Colorado Springs Utilities, City of Colorado
13 Springs, landowners, water right owners, Division of
14 Water Resources, environmental groups. Division 2
15 Engineer's Office participated, so we had a large
16 number. There was 32 people actually involved in
17 this process.

18 We met monthly from June through November and
19 we anticipate two more meetings, one in January and
20 February as we wrap up. We provided input on the
21 consultant team work and let the -- the stakeholders
22 provide us direction and concerns so that we could
23 go forward and do appropriate work to mitigate
24 issues that were identified and concerns that were
25 raised. We discussed those issues and we reached

1 consensus on the conclusion. We didn't walk away
2 from any issue until we had a full consensus on a
3 solution to the issue.

4 We screened the alternatives, and these are
5 the six that we actually started with coming
6 forward. We had a mainstream dam for flood control
7 only on Fountain Creek, with what was called the
8 original alignment. This was an alignment that
9 would have impacted some pretty substantial
10 transportation infrastructure along Fountain Creek,
11 Interstate 25, if you consider that a substantial
12 infrastructure, railroads, Overton Road, so we
13 looked at that same alternative alignment that would
14 avoid impacting those infrastructures.

15 We looked at the mainstream original alignment
16 with a permanent pool and we looked at the
17 alternative alignment with a permanent pool. We
18 looked at 10 small side detention ponds and one
19 large side detention facility. Those were the
20 alternatives brought forward out of Phase 2, or
21 Phase 1, I'm sorry.

22 Here was the comparison that we did in Phase 1
23 with those alternatives. We looked at six
24 categories: Flood benefits, cost, technical
25 challenges, permitting and environmental impacts,

1 social impacts, and water right issues, and you can
2 see we scored from best to worst on a color scale
3 and you can see how these stacked up, with no
4 particular discerning conclusion that you could
5 reach from at least this level of evaluation.

6 After we did our Phase 2 screening, we ended
7 up with three of those alternatives plus the
8 Floodplain Management detention basin alternative
9 that I mentioned that we did seem to feel were
10 viable alternatives. The others, we discarded at
11 that point in our evaluation, but we continued to
12 evaluate the mainstream dam for flood control only,
13 with an alignment that avoided that transportation
14 infrastructure, one large side detention facility,
15 and the Floodplain Management alternative.

16 This is the mainstem dam. I think you saw
17 this from our first phase. Let me back up. I think
18 I can. You can see it's a fairly straight line dam
19 configuration. You can see the end stationary
20 associated with the approximate location where it is
21 near Pueblo. This is the alternative that would
22 have avoided I-25. I call it the wing dam
23 configuration, where we would put a still, nearly a
24 mile long dam across the creek, but correspondingly
25 roughly about a mile and a quarter wing wall up the

1 creek to prevent invasion out onto the
2 infrastructure.

3 The single off-channel detention basin is just
4 simply that. It's a large area of land that would
5 be filled and just released as a side detention
6 facility to quite a bit of land associated with it.
7 It was positioned upstream, close to the county line
8 in between El Paso and Pueblo County.

9 The Floodplain Management alternative came
10 from our Fountain Creek Water Restoration Master
11 Plan that we also completed in 2011. That was done
12 in October, 2011. We looked at channel
13 stabilization, bank stabilization, reconnection of
14 the floodplain, restoration of habitat, easements
15 that would be needed for any of the work we did, and
16 we also looked at the possibility of anywhere from
17 three to six small side detention basins that would
18 provide local benefit, but not necessarily
19 downstream benefit, because we found that a lot of
20 the issues associated with flood flows on Fountain
21 Creek severely impact upstream agricultural
22 properties before ever any issues are created in the
23 City of Pueblo, so we wanted to find a way to
24 mitigate the flows incrementally and provide that
25 local benefit through those small detention basins,

1 if they are determined to be needed.

2 These are some of the characteristics of the
3 Floodplain Management alternative. You can see
4 stream management on the -- on the upper side, the
5 creation of wetlands, creation of flood control
6 structures. On the upper right side are flow
7 structures, sediment, ponding, fix channel
8 improvements. In the lower left is revegetation and
9 re-establishment of the riparian habitat, and then
10 flood control instream structures that would manage
11 the sediment and the flow as it comes downstream.

12 This is an example of what a small off-channel
13 detention basin would look like. Where it would be
14 off the channel, it would be able to take input and
15 output as the waters rise, and release as the flows
16 diminish. Not a very large area associated with
17 these at all.

18 So the alternative evaluation looked at six
19 areas, categories that we -- that the team felt, the
20 stakeholder team felt were important to consider.
21 Safety, resiliency, constructability and cost were
22 the first three. You can see the criteria for each
23 of those. We also looked at environment and
24 community as the other two, and schedule. What
25 would it take to actually build any of these? What

1 would the phasing be? What would -- would there be
2 any earned benefits?

3 When we finished that evaluation, this is the
4 high level -- there's a chart that describes in
5 words, a very long spreadsheet that has the wording
6 associated with each of the color coding you see
7 here that we coded these as the best being the
8 green, yellow is better, white is good, and you can
9 see a safety reduction of flood risk, if we transfer
10 risk, number of acres of land protected. You can
11 see the criteria for resiliency, constructability,
12 environment, community, scheduling.

13 You can see that floodplain management scores
14 very well. There's strengths in the mainstream dam.
15 There's not so many -- there are not many strengths
16 with a single side channel. It does score better in
17 some categories, but overall, from our evaluation,
18 the Floodplain Management alternative seems to be
19 the best. So the conclusion is that after we looked
20 at the key comparisons, only the mainstream dam
21 alternative meets the 100-year target of 14,000 CFS
22 in Pueblo, if that is an important criteria.

23 All the alternatives have similar
24 implementation costs, ranging from 140 to
25 \$200 million. The floodplain management alternative

1 provided the most environmental benefits and is the
2 most permissible alternative that we have. It
3 avoids any large federal permitting processes as you
4 would run into with dams or large side detention
5 facilities. Most of the permitting is local
6 permitting, Corps of Engineer permitting, floodplain
7 management permitting, city water quality permits,
8 so those can be done as small projects and permitted
9 generally at the local level.

10 Floodplain Management alternative has the
11 least impact on private property and water rights,
12 and the Floodplain Management alternative is the
13 only alternative that can be phased. The other two
14 need to be started and finished as a continuous
15 project and, in fact, with the Floodplain Management
16 alternative, we've already accomplished starting
17 three of those projects that we identified. There
18 were 215 projects identified that were done under
19 our watershed assessment of stream stability and
20 sediment supply that found 215 locations of serious
21 erosion and sedimentation in the corridor that
22 needed to be corrected.

23 We have started two of those projects. We
24 completed the dredging project in the channel in
25 Pueblo from the 8th Street bridge to the confluence

1 that removed the vegetation, restored the floodplain
2 capacity in that location as a project, and will be
3 starting the design of a four projects next year
4 that are associated with those 215, so essentially,
5 the Floodplain Management alternative is underway as
6 we speak today.

7 The recommendation from the stakeholder group
8 is that Floodplain Management alternative is the
9 recommended floodplain -- or flood management
10 alternative for Fountain Creek. It provides
11 multiple benefits in addition to flood management.
12 It has stakeholder support. It could attract
13 outside funding for certain components of the
14 project that we have, and it could be combined with
15 localized floodplain measures in Pueblo at currently
16 flood-prone locations to address the key flood
17 control objectives along Fountain Creek in Pueblo.

18 We looked at localized floodplain measures in
19 Pueblo. This chart shows you, if you see the red
20 line, that's the 100-year 24-hour storm inundation
21 floodplain. The blue line is the 500-year. Pueblo
22 would be severely impacted if there ever is a
23 500-year storm in this region, and we feel there's
24 generally no mitigation for that.

25 That's kind of like what you saw with Katrina

1 and some of the other disasters that we've seen.

2 It's unfortunate, but no matter how well you plan,
3 you can't prevent some things from happening. As
4 far as the 100-year, you can prevent it, and there
5 are only two areas in Pueblo that are subject to
6 flooding from the 100-year storm. One is at Highway
7 47 in Pueblo and the other one is at Highway 50 in
8 Pueblo, and the third location is actually some
9 small lowlands at the confluence with the Arkansas
10 River where there are no assets at risk.

11 So if you look at -- this is Highway 50 -- you
12 can see the blue area. This is the area that is
13 subject to flooding. That's the 100-year flood
14 inundation. The -- I don't have a pointer, but the
15 blue line you see is a levee that could be
16 constructed that would prevent any flooding into
17 that area located to the west, which also included
18 some flooding that could occur on Interstate 25 at
19 that location and could flood into some of the
20 developed commercial properties, so that's one area
21 that's subject to flooding from the 100-year storm
22 in Pueblo. This levee would prevent that if there
23 were a levee constructed at that location. The cost
24 of that levee would range anywhere, based on our
25 AC classified cost estimating, to range from a

1 probable cost of four million to a low of three and
2 a high of six, so very inexpensive compared to the
3 assets at risk are very expensive compared to a
4 \$250 million dam to protect this particular area.

5 The other area is at Highway 47. There, a
6 3,000-foot levee would be required to protect that
7 area on the west. You can see Dillon Drive there is
8 partially inundated with this, so those are the two
9 areas that are really at risk in Pueblo of flooding.
10 This levee ranges anywhere from four to \$8 million,
11 depending on what the construction, real cost of
12 construction needs would be, so cost effective
13 approach is to protecting the only two areas that
14 are at risk. That could be accomplished.

15 So our next step is to prepare the final
16 report. We're in the process right now of drafting
17 our first draft final report. That will be used in
18 January by the stakeholders. We'll produce our
19 final report in February and complete the project by
20 March 1st. So if you have any questions I'll be
21 glad to answer.

22 MR. RIZZUTO: Any questions of Larry by
23 the Board? Okay. Thank you, Larry, and you
24 submitted your report; correct?

25 MR. SMALL: Mm-hmm. You have the

1 electronic here; right?

2 MR. SALTER: Do we want to make a copy of
3 the presentation? He doesn't have a written report.

4 MR. RIZZUTO: Okay. Copy of the
5 presentation as an exhibit.

6 MR. SALTER: If it's the --

7 MR. RIZZUTO: Anyone opposed to that? If
8 not, it will become Exhibit F. Okay. And I'm going
9 to go a few more reports and then I will do a break.
10 Southeast Water -- Colorado Water Conservancy
11 District presented their report on Wednesday, so we
12 won't have that submitted here today.

13 MR. BARFIELD: Mr. Chairman, there is a
14 written report that maybe we can mark as G, I
15 believe.

16 MR. RIZZUTO: That would be the Southeast
17 Water Conservancy District. That would be Exhibit
18 G. Next, we'd move to Lower Arkansas Valley Water
19 Conservancy District. Jack Goble.

20 MR. GOBLE: Thanks, Mr. Chairman, members
21 of the board. Again, I'm Jack Goble, an engineer
22 with the Lower Arkansas Valley Water Conservancy
23 District, and I guess for Larry's benefit, I do
24 consider engineers real people, although
25 stakeholders are definitely important.

1 So the Lower Ark District has participated in
2 a number of activities this year, but I'll just
3 mention a few of the highlights. We completed the
4 third year of the Catlin fallow and leasing pilot
5 project where 239 acres were fallowed on six Catlin
6 Canal farms, and we delivered 398 Acre Feet of water
7 to the municipalities of Fowler, Fountain, and
8 Security, and so far, all the participants have been
9 pleased with the project and so we plan to operate
10 next year, which will be our fourth year as well,
11 and that project was approved for 10 years of
12 operation, so...

13 We continue to manage two Rule 10 plans under
14 the Irrigation Improvement Rules, the Fort Lyon Plan
15 and the Non-Fort Lyon Plan. The Non-Fort Lyon Plan
16 has about a dozen other ditches. We divided these
17 two -- we divided our main, our main plan into two
18 plans a few years back, just because the Fort Lyon
19 had so many sprinklers going up. So under the Fort
20 Lyon Plan, we have 153 sprinklers that cover
21 approximately 16,500 acres; and in the Non-Fort Lyon
22 Plan, we have 84 sprinklers that cover about
23 8,700 acres, and that plan also has 12 farms with
24 about 590 acres of drip irrigation, so most of the
25 improvements are obviously sprinklers, and we've

1 seen the number of sprinkler acreage in the Valley
2 more than double in the last five years, so there's
3 definitely continued growth there.

4 We administered a rebate program funded by a
5 CWCB (Colorado Water Conservation Board) grant this
6 past year to help irrigation well owners convert 28
7 wells that were using the power conversion
8 coefficient over to totalizing flow meters, which
9 are more accurate, so this should help provide more
10 accurate pumping data for these wells.

11 In addition, we recently completed a Phase 1
12 of a feasibility and scoping study.

13 MR. RIZZUTO: Jack, if you could speak up
14 a little.

15 MR. GOBLE: I can just use the mic.

16 MR. RIZZUTO: Okay. Thank you.

17 MR. GOBLE: There we go. So in addition,
18 we recently completed Phase 1 of a feasibility and
19 scoping study for a new storage account in John
20 Martin Reservoir. This study, which was also funded
21 through a CWCB grant, produced a draft report that
22 proposes a new 40,000 Acre Feet Colorado water users
23 account in John Martin Reservoir, and the draft
24 report that recently was completed outlines
25 potential benefits to both Colorado users and Kansas

1 that could result from this new account, including
2 facilitating further development of irrigation
3 improvements in the Lower Arkansas Valley, and
4 irrigation improvements are expected to be an
5 essential tool going forward to improve water
6 quality in the river.

7 Phase 2 of this project, which is to begin
8 shortly, is expected to include further discussion
9 with Kansas and ARCA representatives developing
10 recommendations for modifications to the 1980
11 Operating Plan and the John Martin Reservoir
12 Accounting System (JMAS) and developing procedures
13 and accounting for this new account.

14 We also started a new water quality project
15 this past summer where we collected baseline water
16 quality data in an area under the Fort Lyon Canal
17 that has very few existing irrigation improvements,
18 which is pretty unique for the Fort Lyon Canal
19 because, like I mentioned before, sprinklers have
20 gone up quite a bit in the last seven or eight
21 years.

22 This data collection will continue for a few
23 years before surface improvements such as sprinklers
24 and ditch lining are implemented to determine if
25 there's an effect to water quality from their return

1 flows, and this project is funded by a grant
2 received from the Colorado Department of Public
3 Health and Environment, and we're also working in
4 cooperation with the Colorado Department of Ag on
5 that project.

6 We will also be doing similar water quality
7 measurements around a couple of existing sprinkler
8 head stabilization ponds, likely under the Fort Lyon
9 Canal, where after a couple years of measurements,
10 we plan to either line or seal these ponds and
11 continue to monitor them for water quality to see if
12 there is an improvement, and all of these irrigation
13 improvements obviously will be included in the Rule
14 10 Plan to make sure replacement return flows are
15 made.

16 And we also continue to operate our
17 Conservation Easement Program and have added several
18 new easements on irrigated farm ground over the last
19 year. So with that, that concludes my report, and
20 I'm available for questions.

21 MR. RIZZUTO: Questions?

22 MR. BARFIELD: I don't have any
23 questions. I guess I would just note we did have an
24 opportunity, several of us, to meet with Jack and
25 Steve Witte and Bill Tyner and they reviewed the

1 Phase 1 report and answered our questions and we
2 sort of discussed, you know, sort of how to engage
3 in the processes is obviously a very significant
4 consideration and we'll look forward to working with
5 you on it.

6 MR. GOBLE: We appreciate that and we
7 also look forward to that. Thank you. Other
8 questions?

9 MR. RIZZUTO: Seeing none, thank you.
10 Exhibit? None?

11 MR. BARFIELD: None.

12 MR. RIZZUTO: Arkansas River Basin
13 Roundtable. That was presented on Wednesday and
14 it's my understanding there will be a written report
15 that will be submitted.

16 MR. BARFIELD: So make that H, then?

17 MR. RIZZUTO: That would be Exhibit H.
18 Colorado Parks and Wildlife. Presenting will be
19 Brett Ackerman, Colorado Parks and Wildlife Deputy
20 Southeast Regional Manager.

21 MR. ACKERMAN: Thank you, Mr. Chairman,
22 members of the Administration. Grateful to be here
23 today to address you. I'll be very brief. The
24 permanent pool has been a significant portion of
25 this meeting the past few years and we've made

1 significant progress, as reported yesterday.

2 (Discussion held off the record.)

3 MR. ACKERMAN: I have, in the past years,
4 brought a PowerPoint presentation, started to feel a
5 little bad that everybody else has got a PowerPoint
6 presentation, so I put together one slide on my
7 phone back there and it was just a cardiograph that
8 showed that the permanent pool actually now has a
9 heartbeat. We're very excited about that. As I've
10 mentioned the last several years, we worked for a
11 long time with the State of Kansas and the State of
12 Colorado to try to put together plan to get some
13 water into the permanent pool.

14 As I reported in the past, the issue has been
15 that in good water years like last year, we've been
16 able to put water in the permanent pool, but as
17 water offtake has dwindled, the permanent pool has
18 dwindled, and when the permanent pool is needed,
19 it's not available, so it's not fulfilling its
20 intent.

21 Special thanks to the Special Engineering
22 Committee who worked through the year last year to
23 put together a plan to get water into the permanent
24 pool from the Highland, as the Engineering Committee
25 saw its report yesterday, and the goal was to get

1 enough water into the permanent pool to cover
2 evaporative loss, and so in this one-year pilot last
3 year, it was demonstrated that that was possible by
4 using the Highland, at least in a high water year,
5 and so we've had some discussions about extending
6 that again through 2018.

7 We're not asking for a resolution at this
8 meeting here today. We need to get some more
9 numbers together in order to renew the agreement
10 between the States of Colorado and Kansas, and
11 anticipate asking ARCA for a special meeting to put
12 a resolution later, early in 2018, much as we did
13 last year.

14 With that, Mr. Chairman, that's Colorado Parks
15 and Wildlife's report.

16 MR. RIZZUTO: Questions?

17 MR. BARFIELD: No questions.

18 MR. RIZZUTO: None? Good. Thank you.

19 Arkansas River Watershed Collaborative, and we don't
20 have who's going to present that, but you'll be able
21 to introduce yourself and present your card to the
22 reporter. Thanks.

23 MR. OSBORN: Appreciate the opportunity
24 to be here and speak to you all on behalf of the
25 Arkansas River Watershed Collaborative and also

1 appreciate the previous two presenters for also not
2 having a PowerPoint. I was getting -- my palms were
3 getting a little sweaty. This is my first ARCA
4 meeting, so thank you for having me.

5 MR. RIZZUTO: Introduce yourself.

6 MR. OSBORN: Yeah. So my name is Blake
7 Osborn and I work for Colorado State University out
8 of Fort Collins, but I'm actually based in Pueblo.
9 I work for Extension and also the Colorado Water
10 Institute as a water specialist, and I'm here kind
11 of to talk a little bit more and just give a little
12 report out on a project that I'm working on with a
13 bigger group of stakeholders, including the Colorado
14 Department of Agriculture, Colorado Department of
15 Public Health and Environment, USGS is a part of it,
16 and some local stakeholders like Lower Ark and other
17 water managers and local producers, farmers.

18 So our -- excuse me. Our main goal is to
19 improve water quality, and there's a couple of
20 things that we're doing to try to accomplish that.
21 Jack mentioned a few of the pilot projects that
22 Lower Ark is taking on and collecting data for, but
23 something that I'm involved in is watershed plan,
24 and this watershed plan extends or will extend from
25 John Martin to the State of Kansas, and the goal is

1 to try to improve water quality through best
2 management practices and through stakeholder
3 participation, including engineers. We have some.

4 So, so far, we're about a third of the way
5 through this. We'll be finishing up this plan in
6 December of 2018 but, yeah, our goal is to mostly
7 work with farm and ranch and also water managers,
8 like canal companies and ditch companies, that are
9 the major water -- water users in the basin through
10 voluntary mechanisms, BMPs, things like irrigation
11 efficiency improvements, improving transportation
12 mechanisms, but also doing that within the rules of
13 the Compact and subscribing to Rule 10 planning and
14 everything, so that is our goal.

15 That's -- that's pretty much it. I just
16 wanted to make the committee aware of that effort
17 and let everybody know that that's going on and it's
18 very much a stakeholder process, and so if anybody
19 has any questions, you can find me on online if you
20 just Google Blake Osborn, Colorado Water Institute,
21 or we have a web site, actually, that we just
22 developed for this watershed plan, which is
23 lowerarkplanjm.com, so if you're ever interested in
24 any of the products that we're producing, you can
25 always track our progress there, so thank you very

1 much.

2 MR. RIZZUTO: Okay. Thank you. Any
3 questions? Board, anyone? Okay. Thank you. At
4 this time, I'm going to take a break. It's 10:04.
5 Let's plan on 10:15 to return and we'll see how well
6 we do with that. So we'll take a break right now.
7 Thanks.

8 (A break was then taken from
9 10:04 a.m. to 10:23 a.m.)

10 MR. RIZZUTO: I would call the ARCA Board
11 back to order at 10:23. First order of business
12 would be Compact Compliance/Decree Issues Update,
13 Ten-Year Compact Compliance Accounting Table, et
14 cetera. Kevin Salter.

15 MR. SALTER: Kevin Salter, State of
16 Kansas in this capacity. I'll take my own advice
17 and use the microphone here so everybody can hear.
18 I'd like to thank Kelley Thompson, Bill Tyner,
19 Division II staff and the Division of Water
20 Resources in Colorado, as well as Dale Book, the
21 engineer for the State of Kansas, and his shop.

22 Every year, we go through a process that takes
23 quite a bit of the year to do, to determine Compact
24 Compliance for Colorado with the Arkansas River
25 Compact. One of the things the Decree does is

1 provide the form to do that, and the Ten-Year
2 Compact Compliance Table, as you see up there on the
3 screen, for --

4 MR. RIZZUTO: Hey, Kevin, one second.
5 Linda, could you close the door? Sorry.

6 MR. SALTER: As you can see, the
7 evaluation period for this particular Ten-Year
8 period was 2007 through 2016. The Stateline
9 accretion for that Ten-Year period is just the sum
10 of the individual results, and there's a Stateline
11 accretion of about 15,400 Acre Feet. I know it's
12 going to happen later in the meeting that the
13 Operations Committee has recommended this become an
14 exhibit to the minutes, but maybe we could go ahead
15 and take that at this point in time.

16 MR. RIZZUTO: Okay. Any objection to it
17 being an exhibit?

18 MR. SCHEUERMAN: No.

19 MR. RIZZUTO: It would become Exhibit I.

20 MR. SALTER: Okay. Any questions?

21 MR. RIZZUTO: Seeing none, thank you,
22 Kevin. Colorado Presumed Depletion Factor
23 evaluation, Kelley Thompson. Welcome, Kelley.

24 MR. THOMPSON: Thank you, Chairman
25 Rizzuto. Chairman, thank you. Kelley Thompson with

1 the Colorado Division of Water Resources. I'll make
2 this short.

3 Colorado, as is required by the *Kansas v.*
4 *Colorado* decree (Kevin - please note that this is
5 italicized in my transcript, but in the ASCII file,
6 it will not show up in italics) did complete its
7 annual Presumptive Depletion Factor evaluation again
8 for this year and, again, these PDFs are used to
9 determine replacements of pumping to equate those to
10 what stream depletions are, and Colorado completed
11 the evaluation. The Kansas experts have reviewed
12 that and agreed with our evaluation, and we've
13 recommended that for 2018 replacement plans, we
14 again use a value of 36% for the supplemental
15 flood/furrow irrigation PDF value so, again, that's
16 the same value as was used last year in 2017. Short
17 and sweet. I don't know if there's any questions on
18 that.

19 MR. RIZZUTO: Questions? No? Great.
20 Thank you.

21 Colorado Irrigation Improvement Rules. Bill
22 Tyner.

23 MR. TYNER: Thank you, Mr. Chairman and
24 members of the Administration. I appreciate the
25 opportunity to be here. Jack Goble actually covered

1 a significant portion of this presentation on the
2 Colorado Irrigation Improvement Rules.

3 Just to remind folks, the Compact with Kansas
4 and the Arkansas Basin does require us to make sure
5 we maintain return flows as we make improvements to
6 our surface water infrastructure in Colorado, so as
7 we add sprinkler systems or drip irrigation systems
8 or line canals or laterals that involve surface
9 water use, we have to make sure that we have
10 compliance in terms of maintaining return flows for
11 Colorado and Kansas water users.

12 The 2017 irrigation season included four
13 different plans to comply with those rules. Jack
14 gave a good presentation on the two that are covered
15 by the Lower Arkansas Valley Water Conservancy
16 District. Their district was very helpful in
17 helping us to implement these rules back in 2011 and
18 start those first two plans.

19 We're also very thankful to the Lower Arkansas
20 Water Management Association, who is focused on well
21 augmentation, but has also done a Rule 10 Plan for
22 some structures below John Martin the last few
23 years, and then the Purgatoire River Water
24 Conservancy District was a new player to cover a
25 couple of sprinkler improvements down on Purgatoire

1 District lands below Trinidad Reservoir this year.

2 In each of these situations I believe, as Jack
3 reported, there's still continue to be a large
4 increase in particular in sprinkler installation. I
5 believe that's going to increase significantly
6 again. As we move on into 2018, I think there will
7 be quite a few sprinklers that go in under the Fort
8 Lyon, for example.

9 The folks from Arkansas River Farms that were
10 here yesterday to make a presentation, their plans
11 on the books show probably an additional 40 or 50
12 sprinkler going in just under the Fort Lyon Canal
13 itself, and I think there are plans on some
14 Purgatoire District plans to include some more
15 sprinklers, so those numbers continue to go up and
16 those improvements do have -- hold a lot of hope for
17 water quality benefits that will help both Colorado
18 and Kansas.

19 There's just a summary. Jack kind of already
20 talked about the Lower Arkansas Valley Water
21 Conservancy District numbers. Don't look too close,
22 just in case Jack and I gave slightly different
23 numbers, but we're pretty close to the same.

24 And then here's the summary for the two
25 smaller plans. They're still significant in that

1 they're important to our farmers who want to make
2 these improvements, but are willing to acknowledge
3 that we need to comply with the Compact as we do
4 those improvements.

5 So overall, we have farm ground that is
6 included in all four of these plans of about 42,000
7 acres. Not all of the acres on those farms have
8 been converted to improvements. Some are still in
9 flood, but that's a significant portion of the
10 Arkansas River Basin irrigated acreage that has
11 converted, but we're still low percentage-wise
12 compared to like the Rio Grande and some other parts
13 of the basin, and that's all I have on the update.
14 Are there any questions?

15 MR. RIZZUTO: Okay. Questions? None?
16 Okay.

17 MR. TYNER: Thank you.

18 MR. RIZZUTO: Thank you, Bill. Next
19 order of business, report of Special Engineering
20 Committee, David Barfield.

21 MR. BARFIELD: Yes, I'll provide that.
22 So the Special Engineering Committee was authorized
23 for two years, so two years ago, and in that
24 authorization was actually asked to address a set of
25 specific issues. We have a set of matrix issues

1 related to John Martin and there were three specific
2 issues we were asked to address and we discussed
3 those three and actually came to resolution on
4 resolving Issue Number 27 related to Section 3.A.

5 We are asked to work on some of the LAWMA
6 decree issues that are outstanding. We have about a
7 dozen outstanding issues. We selected a subset of
8 those to focus on and -- and have been making
9 progress on that; and the third priority given and,
10 really, the major focus of our discussions was
11 working on reaching the permanent pool agreement
12 that ARCA approved this spring and that Brett
13 Ackerman mentioned in his report.

14 So, a very active year. We had three
15 face-to-face meetings, as well as conference calls
16 and assignments passed back and forth to get that
17 done. Most of the work was focused in the -- the
18 first half of the year before retired State Engineer
19 Dick -- before Dick retired, so...

20 And I'll just leave it at that. You'll be
21 hearing more about the future work that's being
22 assigned to the SEC, as we call it, a little later.

23 MR. RIZZUTO: Questions of Dave? Okay.
24 Report of the Engineering Committee. Back to you,
25 Dave.

1 MR. BARFIELD: Okay. All right. The
2 Engineering Committee met yesterday afternoon, the
3 first of the three committees. I'll go ahead and
4 just -- just brief -- I'll just read the meeting
5 summary that we have, and then we'll -- we have one
6 action item from our meeting.

7 The committee heard an update from Kelley
8 Thompson on the progress on the Colorado Decision
9 Support System (CDSS). We heard a report from Kevin
10 Salter on the Trinidad Operating Principles Ten-Year
11 Review. Bill Tyner provided a review on the States'
12 one-year agreement on the use of the Highland Canal
13 water for the permanent pool. The committee heard
14 an update from Bill Tyner on the States' efforts to
15 resolve the LAWMA Water Court decree that I just
16 mentioned as well.

17 We received an update from Amy Louise from the
18 Corps of Engineers on Trinidad and John Martin and
19 other issues, again, as we heard about this morning.
20 I provided the same report on the SEC.

21 Activities of the year. Steve Witte provided
22 a report on some submergence issues we're having
23 related to the Stateline flume on the Frontier Ditch
24 and provided a recommendation that the 50-year-old
25 ditch on the Frontier flume should be replaced.

1 This is a Stateline gage and, therefore, a
2 responsibility of ARCA, and I'll come back to that
3 here in a minute.

4 Chris Woodka of the Southeast Water
5 Conservancy District highlighted their activities
6 and Ben Wade of the Colorado Water Conservation
7 Board on activities of the Arkansas River Basin
8 Roundtable.

9 Our only action item, again, we heard
10 Mr. Witte provide a report on the submergence issues
11 on the Frontier Ditch flume and we -- the committee
12 concurred with his recommendation and recommends
13 that ARCA support funding to replace the Stateline
14 Compact flume on the Frontier Ditch. That concludes
15 my report.

16 MR. RIZZUTO: Okay. Questions?

17 MR. BARFIELD: So should we -- how should
18 we act on this?

19 MR. RIZZUTO: Should we move it to the
20 action items or take it up as it comes through the
21 reports?

22 MR. BARFIELD: Why don't we just deal
23 with them as they come up?

24 MR. RIZZUTO: I agree.

25 MR. SALTER: Well, in this particular

1 case, I agree with you, David.

2 MR. BARFIELD: Okay. Since it's --

3 MR. RIZZUTO: Okay. Kansas is in
4 agreement. That's good. So, David, if you want to
5 make a motion.

6 MR. BARFIELD: Right. I guess I would
7 make a motion that ARCA support funding to replace
8 the Stateline Compact flume on the Frontier Ditch.

9 MR. RIZZUTO: Second?

10 MS. MITCHELL: Second.

11 MR. RIZZUTO: Second from Rebecca.
12 Discussion? How does Kansas vote?

13 MR. HAYZLETT: Aye.

14 MR. RIZZUTO: How does Colorado vote?

15 MR. MALONE: Aye.

16 MR. RIZZUTO: Passes. Okay. Thank you,
17 David.

18 All right. Next, report of Operations
19 Committee. Lane.

20 MR. MALONE: All right. Thank you,
21 Mr. Chairman. I'll just go over the meeting
22 summary.

23 The committee received the Compact Year 2017
24 reports from the Operations Secretary Steve Witte
25 and Assistant Operations Secretary Kevin Salter.

1 Committee heard an update on the Water Issues Matrix
2 from Kevin Salter. The committee received the 2017
3 report for the Offset Account from Bill Tyner.
4 Committee received Colorado's Presumptive Depletion
5 Factor Evaluation Report from Kelley Thompson.
6 Committee heard an update on the implementation of
7 the Irrigation Improvement Rules from Bill Tyner.
8 The committee received an update on the status of
9 the 2017 Offset Account from Kevin Salter. The
10 committee heard an update from Bill Tyner on the
11 potential for spill from Trinidad, John Martin,
12 and/or Pueblo reservoirs. The committee heard an
13 update from Kevin Salter on the 2012 to 2016 Offset
14 Account Five-Year Review.

15 On the action items, the committee
16 acknowledged receipt of the 2017 reports of the
17 Operations Secretary from Steve Witte and the
18 Assistant Operations Secretary, Kevin Salter.

19 The Ten-Year Compact Compliance Accounting
20 Table for 2006 to 2016 was presented. The committee
21 recommended that this table be an exhibit to the
22 2017 ARCA Annual Meeting transcript and include in
23 the Compact Year 2017 Annual Report.

24 The committee recommends referring the
25 2006-2017 Operations Secretary reports to the

1 Special Engineering Committee. Especially one
2 addition to the Matrix Item 23 will result in
3 acceptance of the reports.

4 The committee recommends findings pursuant to
5 the Article V.H. regarding the Arkansas River Farms
6 request to divert up to 1,700 Acre Feet through the
7 Lamar Canal during the 2017-2018 winter storage
8 season be referred to the Special Engineering
9 Committee. Colorado will provide, in written form,
10 any facts and data related to this request to
11 Kansas, and I don't know if -- Steve, have you heard
12 any more on what's happening?

13 MR. WITTE: Yesterday -- Steve Witte.
14 Yesterday, I spoke with Duane Hilton at the
15 conclusion of the day and he said that he intended
16 to email me a written description of the
17 presentation he made yesterday that he wanted to
18 have made a part of the record today, so I've not
19 yet received that. If I do during the meeting
20 today, I'll get a copy of that printed off and we'll
21 submit it to the Administration for -- to supplement
22 and support the considerations of the Special
23 Engineering Committee on that subject, if that's
24 acceptable.

25 MR. RIZZUTO: Good.

1 MR. MALONE: I guess that's our report
2 from the Operations Committee, Mr. Chairman.

3 MR. RIZZUTO: Okay. Questions? Okay.
4 Operations Secretary report, Steve Witte.

5 MR. WITTE: Mr. Chairman, members of the
6 Administration, good morning. You heard from Lane
7 that my report was received yesterday. I believe I
8 also distributed copies of that report, either in
9 hard copy or electronically, pursuant to your
10 requests on -- I think the hard copies were mailed
11 out on December 1st and I think the electronic
12 copies were distributed on December 4th and so have
13 been submitted in that manner also.

14 I wanted to tell folks that the ARCA web site
15 is a great repository of this kind of information.
16 Just Google Arkansas River Compact Administration
17 and it will come up. The folks that have worked on
18 that have done a fantastic job of posting critical
19 documents that are relevant to the Administration,
20 as well as the actions of the Administration in
21 terms of past resolutions that have been passed, and
22 there are plans to even include the committee action
23 items. So I would recommend that to you and, by the
24 way, there are also copies of the Operations
25 Secretary's report and Assistant Operations

1 Secretary's reports.

2 So with that said, last year was, as you've
3 been told several times today, was a great year.
4 Our operation of John Martin reflects that. We
5 started the year with like 93,000 Acre Feet in
6 storage and added 150,000 Acre Feet over the course
7 of the year so that, by year's end, the content was
8 like 243 to 244,000 Acre Feet. During the winter
9 Compact storage period, by the end of the winter
10 Compact storage period, 31,700 Acre Feet was
11 transferred, and when you look back over the most
12 recent 20-year history, that's like 50% higher than
13 in previous winter storage periods, so during the --
14 similarly during the Compact, summer Compact storage
15 season, an additional 207,000 Acre Feet was added.
16 Some of that, of course, was utilized during the
17 course of the year.

18 The -- during the winter storage period, there
19 was about -- or at the end of the winter storage
20 period, there was 10,600 Acre Feet of water of the
21 type that were stored in Section III accounts that
22 were transferred into those accounts, and there's a
23 storage charge on that. 35% of the -- of the total
24 water that's designated for storage in those Section
25 III accounts gets distributed in various ways.

1 The first 72 Acre Feet was delivered into
2 Kansas's Section II accounts to make up a deficit on
3 a previous delivery that -- a shortfall that
4 occurred in 2016. Subsequently, about 800 Acre Feet
5 was -- 850 Acre Feet was used to replenish the
6 Kansas Transit Loss Account, which is used to try to
7 overcome deficits on deliveries of Kansas' Section
8 II water, so that was topped off, and then in
9 addition, there was 1600 Acre Feet that was
10 subsequently transferred into Kansas's Section II
11 account and 3400 Acre Feet that was transferred into
12 Colorado's Section II account.

13 Then, later in the year, during the summer
14 period, the Amity Canal had the opportunity to store
15 an additional 76,000 Acre Feet under their Great
16 Plains storage right in their Section III account in
17 John Martin and, concurrent with that, the
18 complimentary 35%, amounting to about 27,000 Acre
19 Feet, was distributed into those various accounts as
20 prescribed by the 1980 Operating Resolution.

21 Despite the success we had in -- with the --
22 with the approval of a new source of water under the
23 single-year agreement for the permanent pool, there
24 was actually a small but net loss to the Permanent
25 Pool over the course of the year, indicating that

1 the evaporation actually was greater than the amount
2 that we were able to store during the course of the
3 year.

4 Releases to Kansas. A release of a total of
5 51,000 Acre Feet was released to Kansas over the
6 course of the year. Of that, 41,000 was Section II
7 water and about 10,000 Acre Feet was Offset Account
8 water. Of the Section II water, there was no
9 deficit on the delivery as we do the crediting
10 accounting, and of the Offset Account water, 8,800
11 Acre Feet was delivered to Kansas for purposes of
12 replacing depletions to Stateline flow caused by
13 post-Compact well pumping in Colorado.

14 There was about 100,000 Acre Feet of water
15 released out of Section II accounts, and with that,
16 I think that concludes my 30th report to the
17 Administration. Thank you. It's been a pleasure.

18 MR. RIZZUTO: Thank you. Questions?
19 Hearing none, next, I'll call on Kevin Salter,
20 Assistant Operations Secretary report.

21 MR. SALTER: Again, Kevin Salter,
22 Assistant Operations Secretary to the
23 Administration. Steve has done another fine job of
24 documenting the operations in John Martin Reservoir.
25 I'm just going to throw this graph up while I'm

1 talking, and this is a graphical representation of
2 the accounts in John Martin Reservoir. You can see
3 where we started at just under 100,000 and ended up
4 just under 250,000 at the end of the Compact Year.

5 One of the things that the Operations
6 Secretary and Assistant Operations Secretaries have
7 worked very hard over the years to do is to
8 communicate. We only met in person one time this
9 year, but it was a very productive meeting at John
10 Martin Reservoir in the visitors' center.
11 Appreciate Parks and Wildlife providing that place
12 for us to meet. It was kind of appropriate.

13 We were able to talk about several different
14 issues and establish some priorities we think should
15 be addressed in the Special Engineering Committee in
16 the upcoming year, and those have been forwarded
17 into a resolution that you'll hear about later on.

18 I also appreciate the Division II staff, John
19 Van Oort, Phil Reynolds and Bill Tyner, and Steve,
20 as far as the communications we have on a regular
21 basis throughout the year, both in exchanging
22 accounting and working on these delivery
23 spreadsheets.

24 Looking down through the report, I'll kind of
25 go to the other thing that was mentioned in the

1 Operations Committee, and that is, we do have some
2 disputes over the operation of John Martin Reservoir
3 and some other issues, and we've been tracking that
4 over the years through a Water Issues Matrix. The
5 matrix has 38 issues on it, of which nine are still
6 pending resolution. We've taken eight and moved
7 those to kind of a suspended category. 20 have been
8 resolved, so we've made progress through the years
9 in getting those resolved, but we did add one new
10 issue to that matrix this year and that's the
11 Colorado multipurpose account that you heard Jack
12 Goble speak to.

13 So that's my report to the Administration.
14 There was a little more detailed report to the
15 Operations Committee yesterday, but I think that's
16 probably sufficient for today.

17 MR. RIZZUTO: Okay. Any questions of
18 Kevin? Thank you, Kevin. Offset Account Report,
19 Steve Witte, Bill Tyner. It looks like you're going
20 to take it all, Bill? Good.

21 MR. TYNER: Thank you, Mr. Chairman.
22 I'll make up for my mistake of not introducing
23 myself the first time I talked. I'm Bill Tyner, the
24 Assistant Division Engineer from Division of Water
25 Resources, Pueblo office.

1 Also, because we're just moving along so
2 wonderfully, I wanted to be able to thank a few
3 people as well. I do appreciate Kevin Salter and
4 Brent Campbell, who we got to work with this year.
5 They go out with our water commissioners. We've got
6 a number of water commissioners here today: Rebecca
7 Nichols, Lonnie Spady, Jeff Montoya. I don't think
8 I'm missing anybody, but some of those folks are
9 involved with the dryup tours that Kevin goes out
10 and inspects lands that are supposed to be dried up,
11 but John Van Oort and Phil Reynolds, as Kevin
12 mentioned, work almost daily through the irrigation
13 season, working with Kansas in some way, shape or
14 form. There's almost never a day goes by that
15 there's not a phone call or an email that happens.

16 We -- one thing that I don't know why we
17 forgot to mention it, but Steve Witte also put
18 together a tour of the Upper Arkansas Basin that
19 some of the folks from the federal agencies and some
20 folks from Kansas got to go on in mid-May this year.
21 That was kind of a helpful event, just to take some
22 time away from what we normally do, but also to see
23 some of those features that folks don't always see
24 from the Compact Administration, and Brett Ackerman
25 and I were actually supposed to work with Brent

1 Newman to see if there was some interest in a tour
2 next year in 2018 around the time of the Arkansas
3 River Basin Water Forum that will be held in
4 La Junta next year, so that -- we haven't had much
5 discussion on that, but that may be an opportunity
6 for members of the Compact Administration or for
7 members of some of the federal agencies that are
8 just interested in seeing some of the features of
9 the Lower Basin to attend. John Martin might be
10 very full at that time. Might be a good time to go
11 look at it.

12 I'll get back to my report. The Offset
13 Account in 2017 was an important element, partly
14 because of this agreement to be able to use part of
15 the water from Lower Arkansas Water Management
16 Association's portfolio on the Highland Canal to
17 also supply water to the permanent pool, but from
18 Kansas's standpoint, it was important that LAWMA
19 still be able to deliver significant water to the
20 Offset Account.

21 This is just a summary slide that shows all
22 that happened in the Offset Account. The account
23 began with a balance of 4,431 Acre Feet. In order
24 to be able to operate the account for last year,
25 Lower Arkansas Water Management Association

1 transferred some of their Section II water to pay
2 the 500 Acre Foot storage charge, and then overall
3 transferred a total of 1709 Acre Feet of Section II
4 water into the Offset Account, and then through the
5 Highland Canal consumable inflows to the Offset
6 Account, Keesee Ditch consumable water that was
7 stored in the Offset Account, and then a new source
8 from shares of Fort Lyon Canal that the Arkansas
9 River Farms, and I talked about a little bit
10 yesterday that were dealt to LAWMA in trade for
11 LAWMA shares or in the process of being dealt.

12 Those Fort Lyon augmentation shares included
13 four augmentation stations that are above John
14 Martin Dam, so there was a significant input to the
15 Offset Account of the 14,180 Acre Feet of inflows in
16 the Compact Year that came in off of the Fort Lyon
17 lands above John Martin Dam.

18 The account experienced 1,269 Acre Feet of
19 evaporation over the year, and Kansas did call for a
20 significant release of water. Steve had mentioned
21 the net consumable was 10,000 Acre Feet plus 533
22 Acre Feet of Kansas charge water in return flows.
23 The end of the Compact Year, the account balance was
24 8,518 Acre Feet.

25 Just a little add-on. Because of the use of

1 the Fort Lyon shares and the operation of the Fort
2 Lyon Canal for an additional two weeks after the
3 Compact Year ended on October 31st, LAWMA placed an
4 additional 498 Acre Feet through those augmentation
5 stations into the Offset Account the first half of
6 November and then also was able to lease some more
7 consumable water that was delivered out of Lake
8 Meredith to the Offset Account, 3,640 Acre Feet.

9 So as of early this week, the Offset Account
10 had a total of 12,641 Acre Feet. Part of that water
11 was from a delivery to both the Colorado Water
12 Protective Development Association (CWPDA) and LAWMA
13 had made to the Colorado Upstream Consumable
14 subaccount in the Offset Account. Colorado, after
15 lots of years of operating the account, will finally
16 use that portion of the account for its original
17 intended purpose, which is to replace depletions to
18 the storage that's happening right now in John
19 Martin conservation storage.

20 So as those depletions occur across the
21 winter, some of that water from that 1,300 Acre Feet
22 can be booked over to replace those depletions to
23 conservation storage or, if not needed, can later be
24 booked so that Kansas can take those to the
25 Stateline for Stateline depletion replacement, and

1 that's what this last slide talks about a little bit
2 is the emphasis on who participates in that.

3 CWPDA has a larger number -- larger amounts of
4 depletions because of where their wells are placed
5 in the basin. LAWMA has a smaller obligation, but
6 both contributed to the water that's in the account,
7 and Kansas will receive notice any time that we make
8 that transfer on a monthly basis.

9 That concludes my presentation. If there are
10 any questions, I'd be glad to answer them.

11 MR. RIZZUTO: Questions? You did a great
12 job, Bill. No one has questions. Thank you.

13 MR. TYNER: Thank you.

14 MR. RIZZUTO: Okay. All right. And
15 Lane, you gave recommendations, I believe, in your
16 report, or have you? I believe they were.

17 MR. SCHEUERMAN: Yes.

18 MR. BARFIELD: Are there any that need
19 action? The SEC recommendations, I think we'll act
20 on. They're incorporated into a later action, so we
21 can probably take care of them.

22 MR. SCHEUERMAN: Whichever you want to
23 do.

24 MR. BARFIELD: At that time.

25 MR. SCHEUERMAN: You want to do them

1 later?

2 MR. BARFIELD: Yeah. They're
3 incorporated into the resolution that we will have.

4 MR. SCHEUERMAN: Okay. We're good.

5 MR. BARFIELD: Let's do that.

6 MR. RIZZUTO: All right. Call on for a
7 report of Administrative and Legal Committee, I
8 formally welcome Rebecca to the Board. It's good to
9 have you on here. You definitely set the gentlemen
10 on the group off in a better manner, so -- try to be
11 politically correct.

12 MS. MITCHELL: I'm not very politically
13 correct often, so...

14 MR. RIZZUTO: Okay. Well, welcome.

15 MS. MITCHELL: So, again, Rebecca
16 Mitchell representing Colorado. I'm going to do a
17 brief meeting summary and then we can talk about the
18 action items in a minute, but the committee reviewed
19 the 2017 Annual Meeting agenda. Kevin Salter
20 presented the changes based on the presentations
21 during the committee meetings, including making
22 introductions off the record.

23 The committee also heard a report from
24 Stephanie Gonzales, Recording Secretary and
25 Treasurer. You'll hear from her again in just a

1 minute. The committee heard an update from Kevin
2 Salter, Kansas Division of Water Resources, on the
3 status of transcripts from prior annual meetings,
4 1998 and 1999. The committee also heard an update
5 on the status of the ARCA annual reports from Brent
6 Newman from the Colorado Water Conservation Board,
7 also noting the status of the reviews and the
8 publishing of the annual reports, and we can talk
9 about the action items, I think, in -- right after
10 the Recording Secretary and Treasurer report.

11 MR. RIZZUTO: Okay. Recording Secretary
12 Treasurer's report, Stephanie Gonzales.

13 MS. GONZALES: All right. I'm pretty
14 loud, so I won't use the microphone. We had the
15 Audit Report. Thank you, Chairman. We had the
16 Audit Report completed and it was presented to the
17 committee members for approval. We have -- I just
18 will have one other update is we did receive our
19 Colorado and Kansas assessments, so we are good to
20 go, and then I think I'm just going to defer
21 everything else to Brent, who did a report on action
22 items.

23 MR. RIZZUTO: Questions of Stephanie
24 before she leaves? None? Okay. Thank you.

25 MS. GONZALES: Thank you.

1 MS. MITCHELL: And I think it's my turn
2 to get back into action items.

3 MR. RIZZUTO: Right.

4 MS. MITCHELL: Before I do that, I wanted
5 to thank Randy Hayzlett for being patient with me
6 and helping me through yesterday's meeting and then
7 also again today.

8 There were 11 action items that came out of
9 the Administrative and Legal Committee. I'm going
10 to read each of those, but I'm also going to note
11 where they're -- if they are to be dealt with in a
12 future agenda item, so I wanted to make sure you
13 knew everything that we dealt with yesterday.

14 Our first action item will be dealt with in
15 Agenda Item 13.A., but the committee recommended
16 that ARCA adopt the 2015 and 2016 Annual Meeting
17 transcripts and the April, 2017 special meeting
18 written summary, but that will be dealt with later.

19 Our second action item was the committee
20 recommended approval of the Fiscal Year 2016-2017
21 Auditor's Report, and I would move that we recommend
22 approval for that.

23 MR. HAYZLETT: Second.

24 MR. RIZZUTO: Is there a second? Second
25 by who?

1 MR. HAYZLETT: Yes.

2 MR. RIZZUTO: Oh, Randy? Okay.

3 Discussion? Do you want to just vote on them as we
4 go along?

5 MR. HAYZLETT: Yeah.

6 MR. RIZZUTO: Discussion? How does
7 Kansas vote?

8 MR. HAYZLETT: Aye.

9 MR. RIZZUTO: How does Colorado vote?

10 MS. MITCHELL: Aye.

11 MR. RIZZUTO: Okay. Passes.

12 MS. MITCHELL: Our third action item was
13 that the committee recommended ARCA direct Stephanie
14 Gonzales to sign the USGS cooperative agreements,
15 and I would move that.

16 MR. RIZZUTO: Second?

17 MR. HAYZLETT: Second.

18 MR. RIZZUTO: Second by Randy.

19 Discussion? How does Kansas vote?

20 MR. HAYZLETT: Aye.

21 MR. RIZZUTO: How does Colorado vote?

22 MS. MITCHELL: Aye.

23 MR. RIZZUTO: Passes.

24 MS. MITCHELL: The fourth action item
25 will be dealt with in item 13.C., so we don't need

1 to move anything at this point, but the committee
2 recommended adopting the Fiscal Year 2018-2019
3 budget and assessment presented by Brent Newman.

4 Moving on to action item number 5, the
5 committee referred the resolution regarding John
6 Martin Reservoir permanent pool to the Special
7 Engineering Committee, and I would move that we do
8 that.

9 MR. RIZZUTO: Okay. Second?

10 MR. HAYZLETT: We'll be doing that in the
11 special --

12 MR. RIZZUTO: Okay.

13 MR. HAYZLETT: -- when we take the
14 special --

15 MS. MITCHELL: Engineering Committee
16 resolution?

17 MR. HAYZLETT: It's incorporated there,
18 so I don't know if we need to do it.

19 MS. MITCHELL: Okay. Never mind.

20 MR. RIZZUTO: Withdrawn.

21 MS. MITCHELL: Sorry. My first mistake.

22 MR. RIZZUTO: Okay. Withdrawn.

23 MS. MITCHELL: I'll make more. I've got
24 eight more to go. And basically what we just
25 mentioned, this will be dealt with in item 13.D.

1 The committee recommends that ARCA adopt the
2 resolution titled *Renewal of the Special Engineering*
3 *Committee*. (Kevin - this is in italics in my
4 transcript but doesn't show as such in the ASCII
5 file.) This resolution will include items
6 referred -- darn it -- to the Special Engineering
7 Committee during the 2017 committee meetings, and so
8 we'll deal with that later.

9 The next one is also going to be dealt with in
10 agenda item 13.E. The committee recommends sending
11 letters of recognition for Rachel Duran and Steve
12 Miller.

13 Action item number 8 will be dealt with later,
14 but I wanted to briefly mention what happened at
15 yesterday's meeting. The committee recommended the
16 following slate of officers and committee chairs for
17 2018. The ARCA officers would be Vice-Chair, Randy
18 Hayzlett; Recording Secretary and Treasurer,
19 Stephanie Gonzales; Operations Secretary, Bill
20 Tyner; Assistant Operations Secretary, Kevin Salter;
21 and as for the committee chairs, hopefully if I
22 don't get fired after today, Administrative and
23 Legal would be Randy Hayzlett as the chair and
24 Rebecca Mitchell as a member. For operations, Hal
25 Scheuerman as chair and Lane Malone as a member, and

1 for our Engineering Committee chair, it would be
2 Scott Brazil and David Barfield as members, and that
3 will be dealt with later.

4 So for our ninth action item, the committee
5 recommended adopting the revisions to the ARCA
6 by-laws, and that will be dealt with in 13.H.

7 For our tenth action item, the committee
8 recommended December 6 for the committee meetings
9 with December 7th, 2018, for the Annual Meeting,
10 both meetings to be held in Garden City, Kansas, and
11 I would move that we do that.

12 MR. HAYZLETT: Second.

13 MR. RIZZUTO: Okay. Second by Randy.
14 Discussion? How does Kansas vote?

15 MR. HAYZLETT: Aye.

16 MR. RIZZUTO: Colorado?

17 MS. MITCHELL: Aye.

18 MR. RIZZUTO: Okay. Passes.

19 MS. MITCHELL: And our final and
20 11th action item was that the committee recommended
21 meeting as needed to review the ARCA Annual Report
22 template, and I would move that we do that.

23 MR. RIZZUTO: Okay. Second?

24 MR. HAYZLETT: Second.

25 MR. RIZZUTO: Second, Randy. Discussion?

1 Kansas, how do you vote?

2 MR. HAYZLETT: Aye.

3 MR. RIZZUTO: Colorado, how do you vote?

4 MS. MITCHELL: Aye.

5 MR. RIZZUTO: Motion passes.

6 MS. MITCHELL: And that is the end of our
7 action items for the Legal and Administrative
8 Committee.

9 MR. RIZZUTO: Kevin?

10 MR. SALTER: If there's no further
11 discussion on that committee, I would suggest to the
12 Administration that the committee written summaries
13 and action items be made an exhibit to the agenda in
14 one exhibit.

15 MR. RIZZUTO: One exhibit. Okay.

16 MR. BARFIELD: We're a little behind on
17 exhibits. Maybe it's time to --

18 MR. RIZZUTO: Yeah, catch up with those.

19 MR. BARFIELD: -- catch up. I guess
20 sequence doesn't matter.

21 MR. RIZZUTO: Go ahead, David.

22 MR. BARFIELD: All right. So why don't
23 we go ahead and make -- let's go ahead and as we've
24 said here, so I think we were on I; right?

25 MR. RIZZUTO: Right. We're to J now.

1 MR. BARFIELD: So J then would be the
2 three committee summaries and recommendations;
3 right?

4 MR. RIZZUTO: Right.

5 MR. BARFIELD: All right. Let's go back
6 up here. Bill Tyner had some slides on the Colorado
7 Irrigation Improvement Rules. Do we need that as an
8 exhibit or not?

9 MR. SALTER: I don't think so.

10 MR. BARFIELD: Okay. We won't do that.
11 Let's see. The Operations Secretary report, it
12 should be an exhibit, should it not? So that would
13 be K, then, the Operations Secretary report.

14 MR. RIZZUTO: Okay.

15 MR. BARFIELD: The Assistant Operations
16 Secretary report then will be L. The Offset Account
17 Report would be M, and I think we'll be dealing with
18 the -- will the audit -- do we want to attach the
19 audit? Will that be done later or not, the
20 financial report?

21 MR. HAYZLETT: Yeah, it's in item 13.

22 MR. BARFIELD: Okay. All right. Are we
23 missing anything else? I don't think so.

24 MS. MITCHELL: Sorry about that.

25 MR. BARFIELD: That's okay.

1 MR. RIZZUTO: So does everyone understand
2 what's been proposed as far as exhibits? So any
3 objection? Seeing none, those exhibits will be
4 exhibited in our report and will carry the letters
5 that were suggested by David.

6 Okay. I guess we're ready to move on to if
7 there's any new business to come before the Board.

8 MR. BARFIELD: Well, I believe we're --
9 there's a whole series under 13.

10 MR. RIZZUTO: Action. Yeah, we'll do
11 that, but is there anything else --

12 MR. BARFIELD: Oh, I'm sorry.

13 MR. RIZZUTO: -- that we need to consider
14 that hasn't been presented? Okay. Seeing none.

15 To the action items, we have the 2015-2016
16 meeting minutes, and what I suggest is we adopt each
17 separately, rather than as a group, so motion to
18 adopt the 2015 Annual Meeting minutes?

19 MS. MITCHELL: I'll so move.

20 MR. RIZZUTO: Second?

21 MR. HAYZLETT: We'll second.

22 MR. RIZZUTO: Okay. Kansas, how do you
23 vote?

24 MR. HAYZLETT: Aye.

25 MR. RIZZUTO: Colorado, how do you vote?

1 MS. MITCHELL: Aye.

2 MR. RIZZUTO: Okay. Adopted. Now to the
3 2016 Annual Meeting minutes.

4 MR. HAYZLETT: Move that we accept it.

5 MR. RIZZUTO: Okay. Randy.

6 MS. MITCHELL: I second.

7 MR. RIZZUTO: Okay. All right.

8 Discussion?

9 MS. MITCHELL: I guess you'll have to
10 speak up quickly.

11 MR. RIZZUTO: How does Kansas vote?

12 MR. HAYZLETT: Aye.

13 MR. RIZZUTO: Are you questioning it,
14 David? I see you --

15 MR. BARFIELD: No. Aye. Randy's
16 providing our votes.

17 MR. RIZZUTO: Okay. Colorado, how do you
18 vote?

19 MS. MITCHELL: Aye.

20 MR. RIZZUTO: Okay. All right. Next
21 we're to the April, 2017 special telephonic meeting.

22 MR. HAYZLETT: I move that we approve
23 that.

24 MR. RIZZUTO: Randy moves that we approve
25 that. Second?

1 MS. MITCHELL: Second.

2 MR. RIZZUTO: Second by Rebecca.

3 Discussion? How does Kansas vote?

4 MR. HAYZLETT: Aye.

5 MR. RIZZUTO: How does Colorado vote?

6 MS. MITCHELL: Aye.

7 MR. RIZZUTO: Passes. Okay.

8 Recommendations related to the ARCA web site.

9 MR. SALTER: Do you mind if I speak?

10 MS. MITCHELL: Go ahead.

11 MR. RIZZUTO: Okay. Kevin Salter.

12 MR. SALTER: One of the things we try to
13 do is if something's going to come up as an action
14 item, we put it on there as an action item and that
15 way, people are aware of what we may be acting on.
16 This is one that was brought up to us as a possible
17 action item. The Administrative and Legal Committee
18 noted, appropriately, that they'd actually provided
19 guidance to staff last year, pointing us to that
20 guidance, so there is no recommendation or anything
21 to be acted on as far as the ARCA web site, so we're
22 good. No action needed.

23 MR. RIZZUTO: No action needed. To keep
24 up with the exhibits, I'm going to call on David.
25 What do we need to attach exhibits?

1 MR. BARFIELD: So the Annual Meeting
2 minutes, I presume?

3 MR. SALTER: No, the --

4 MR. BARFIELD: No, we don't?

5 MR. RIZZUTO: They don't?

6 MR. SALTER: No, because they -- the
7 minutes themselves are minutes with exhibits
8 attached.

9 MR. BARFIELD: Okay.

10 MR. RIZZUTO: Okay.

11 MR. BARFIELD: So very good. We've
12 approved them and they'll get on the web site as
13 referenced.

14 MR. SALTER: That's correct.

15 MR. BARFIELD: Okay. Very good.

16 MR. RIZZUTO: Okay. So all right. Then
17 next item, financial matters. Brent Newman.

18 MR. NEWMAN: Brent Newman, Colorado Water
19 Conservation Board. First would be the approval of
20 the auditor's report, and did you guys already vote
21 on that? So the -- our recommendation to the
22 committee was --

23 MR. SALTER: I believe they actually --
24 excuse me. Kevin Salter again. I believe you
25 actually did vote on that and to adopt that

1 auditor's report. It just hasn't been made an
2 exhibit to the meeting minutes, so that should be
3 done.

4 MR. HAYZLETT: That was Number 2, that
5 action item that we voted on.

6 MR. BARFIELD: Okay.

7 MR. RIZZUTO: So without any opposition,
8 we'll make that Exhibit N.

9 MR. BARFIELD: Okay.

10 MR. NEWMAN: And the only other action
11 items under financial matters is the approval of the
12 '18-'19 budget as presented to the Administrative
13 and Legal Committee.

14 MR. RIZZUTO: Okay.

15 MR. NEWMAN: Our recommendation is to
16 approve it.

17 MR. RIZZUTO: All right. We need a
18 motion and second, and then we'll have discussion if
19 there is.

20 MR. HAYZLETT: I was not paying any
21 attention. You said on the budget? I so move that
22 we accept the budget.

23 MR. RIZZUTO: Randy moves it.

24 MS. MITCHELL: I'll second.

25 MR. RIZZUTO: Rebecca seconds.

1 Discussion on the budget? How does Colorado vote?

2 MS. MITCHELL: Aye.

3 MR. RIZZUTO: How does Kansas vote?

4 MR. HAYZLETT: Aye.

5 MR. RIZZUTO: Okay. Motion passes.

6 MR. BARFIELD: And that would be Exhibit
7 O.

8 MR. RIZZUTO: Very good, okay. Okay.
9 Resolutions, reauthorization of the Special
10 Engineering Committee. Rebecca, you were proposing
11 that, or it came out of your committee.

12 MS. MITCHELL: I would propose the
13 reauthorization of the Special Engineering
14 Committee.

15 MR. RIZZUTO: Okay. Second?

16 MR. HAYZLETT: Second.

17 MR. RIZZUTO: Discussion?

18 MS. MITCHELL: I do want to have a
19 discussion --

20 MR. RIZZUTO: Sure.

21 MS. MITCHELL: -- even though I've
22 already moved. The resolution states June as a
23 deadline. I would just like to offer from
24 Colorado's perspective that if our -- our
25 counterparts in Kansas are having any meetings in

1 western Kansas, that we would be happy to join and
2 really deal with these very important issues, so
3 Kevin Rein, myself and staff, even though they don't
4 know it, would happily come over and visit in Kansas
5 and take advantage of that, to get these issues
6 dealt with earlier.

7 MR. BARFIELD: Right. I guess we didn't
8 read the resolution in. You might just highlight
9 what the resolution says, in terms of -- it
10 basically provides authorization to extend the SEC
11 for two more years.

12 MS. MITCHELL: Yes.

13 MR. BARFIELD: And provides a list of
14 priorities to consider during the coming two years
15 and asks that we meet no later than June 30 of this
16 year to start those discussions; right?

17 MS. MITCHELL: Right.

18 MR. BARFIELD: And we certainly are
19 looking to do that sooner rather than later, so...

20 MS. MITCHELL: Thank you.

21 MR. RIZZUTO: Anything to add on that
22 resolution?

23 MS. MITCHELL: No.

24 MR. BARFIELD: Yeah, should -- we
25 normally read, even though it's a little bit

1 lengthy, we normally read resolutions into the
2 record. We don't do that many of them, so...

3 MS. MITCHELL: Okay. Are we ready?

4 MR. RIZZUTO: Yes.

5 MS. MITCHELL: Do I have to do this?

6 MR. RIZZUTO: You do.

7 MS. MITCHELL: This is the resolution
8 regarding the Special Engineering Committee for 2018
9 and 2019.

10 Whereas, pursuant to Bylaw Article V., the
11 Arkansas River Compact Administration, ARCA, by
12 Resolution Number 2005-01 created the Special
13 Engineering Committee or SEC at its December, 2005
14 Annual Meeting to resolve four categories of
15 assigned tasks, including certain accounting and
16 interpretation issues arising from the resolution
17 concerning an Operating Plan for John Martin
18 Reservoir, or the 1980 Operating Plan; and

19 Whereas, the special provisions of the 2005
20 resolution creating the committee specify that,
21 "Term: The Special Committee -- Special Engineering
22 Committee shall be authorized for a period expiring
23 on December 31st, 2006. ARCA may extend this period
24 by resolution adopted at any regular or special ARCA
25 meeting prior to such date"; and

1 Whereas, ARCA has extended the existence of
2 the SEC each subsequent year, most recently in 2015,
3 for a term expiring December 31st, 2017; and

4 Whereas, the committee has resolved disputed
5 issues placed before it during its term and assigned
6 tasks still remain before it with the potential for
7 further agreement;

8 Now therefore, be it resolved that ARCA does
9 hereby extend the term of the committee for two full
10 years to expire on December 31st, 2019, and further,
11 ARCA hereby revises the special provisions of the
12 2005 resolution as set forth on the attached Exhibit
13 1;

14 Be it further resolved that the SEC will meet
15 once before June 30th, 2018. The SEC will consider
16 the following prioritized subjects at meetings
17 authorized by this resolution:

18 The first being a dedicated discussion on
19 flood/spill issues in the first quarter of 2018,
20 preferably January, no later than February. This
21 meeting should be focused on the flood/spill issues
22 only, with an initial goal of determining a path
23 forward.

24 Two, working issues identified in 7, Number 7,
25 of the permanent pool agreement for 2017, from the

1 23rd of March, 2017. Also, a., establish a
2 methodology to annually determine LAWMA's projected
3 depletions, projected replacements, and the amount
4 and sources of water committed to the Offset
5 Account.

6 B., allow the use of the Highland Canal water
7 as a source of water for the permanent pool when the
8 Offset Account is full. When the Offset Account is
9 full, Paragraph 2.a of Appendix A.4 of the decree
10 entered in Kansas V. Colorado, Number 105, Original
11 provides that there is no obligation to deliver
12 replacement water to the Offset Account under
13 Appendix A.4.

14 C., determine what replacement credit is
15 allowed for transit losses on Highland Canal water
16 deliveries to the Offset Account and the permanent
17 pool.

18 D., examine the potential for exchange from
19 Fort Lyon and Lamar Canal augmentation stations to
20 the Offset Account in lieu of direct delivery to the
21 Stateline, including how the evaporative losses on
22 those exchanged credits are charged.

23 E., explore how augmentation stations
24 deliver -- deliveries of Granada Irrigation
25 Company's shares could be managed to facilitate

1 replacement of in-state and Stateline depletions.

2 3., winter inflow split.

3 4., Colorado multipurpose account.

4 5., determine which issues must be resolved to
5 begin the approval process of past Operations
6 Secretary reports.

7 6., establish a process for the Administration
8 to make findings pursuant to Article V.H. and
9 discuss the request presented at the 2017 Operations
10 Committee meeting by the Arkansas Valley Farms.

11 This should be adopted by the Arkansas River
12 Compact Administration at its 2017 Annual Meeting on
13 December 7th, 2017, in Lamar, Colorado.

14 MR. RIZZUTO: Would anyone like Rebecca
15 to read it again?

16 MR. BARFIELD: Actually, I would like to
17 see a copy of it real quick. Actually, there's a
18 couple things that changed. We'll get through this.
19 Just give me a minute.

20 MS. MITCHELL: Okay.

21 (Discussion held off the record.)

22 MR. BARFIELD: Okay. So I guess we've
23 been talking about the priority list. Somewhere in
24 the course of the evening or morning, there was some
25 more specificity added here than I was aware of, so

1 I guess I've -- first of all, it says we'll meet
2 once before June. I would like to recommend we
3 amend the resolution to say "at least once." I
4 really do expect that in the first half of the year,
5 we'll have more than one meeting. I guess it
6 doesn't say we can't, but we might amend it to say
7 "at least once before June 30," but we will be
8 looking for opportunities to meet in Burlington
9 again.

10 I guess I was a little surprised by the
11 specificity on the flood issue, both timing and that
12 we'd have a meeting that's focused only on those
13 issues. If we're going to take the time to meet, I
14 don't really want to be constrained to say only this
15 issue, so -- so I guess I'd like to strike that.

16 MS. MITCHELL: The only --

17 MR. BARFIELD: The provision, really the
18 last sentence of Number 1, so to say it would
19 only -- if we're going to take the time, I
20 understand we want to make sure this is talked
21 about, so...

22 MS. MITCHELL: Would you be comfortable
23 with "including but not limited to"?

24 MR. BARFIELD: Yes.

25 MS. MITCHELL: Okay.

1 MR. BARFIELD: "No later than February."
2 We surely would make that a goal, and I have every
3 expectation that we will do that, but I'm a little
4 uncomfortable being that specific, so...

5 MR. RIZZUTO: Is that the extent of your
6 proposed changes?

7 MR. BARFIELD: Yeah. Correct. Let me
8 just make sure.

9 MR. RIZZUTO: Okay.

10 MR. BARFIELD: 2.a. through e. was just
11 what's in the permanent pool resolution, correct?
12 Right. Winter water, all the rest, yes, everything
13 else is fine.

14 So how about if we say on Number 1, then,
15 so -- so I would ask for that we amend to say "at
16 least once before June 30" then, and then I would
17 ask that the Number 1 be amended to say "a dedicated
18 discussion on flood/spill issues in the first
19 quarter of '18, preferably no later than February."
20 Okay. It actually says "preferably no later
21 than" -- it says "preferably" --

22 MR. HAYZLETT: Preferably January and no
23 later than February.

24 MR. BARFIELD: Right. So I would ask it
25 to read "preferably no later than February," so it's

1 guaranteeing it will happen in the first quarter and
2 saying we really want it to happen sooner rather
3 than later. So is my amendment clear?

4 MR. RIZZUTO: Is it?

5 MS. MITCHELL: Yes.

6 MR. NEWMAN: Are we striking the second
7 sentence?

8 MR. BARFIELD: And then striking the
9 second sentence as well, so Number 1 would read, one
10 final time "A dedicated discussion on flood/spill
11 issues in the first quarter of 2018, preferably no
12 later than February," and we'll work to get it as
13 soon as we can, so...

14 MR. RIZZUTO: All right. The motion on
15 the table was to adopt the resolution. There is a
16 motion to amend it, based on the proposed language
17 of David. Second to the proposed amendment?

18 MS. MITCHELL: I will second the proposed
19 amendment.

20 MR. RIZZUTO: Okay. Discussion? How
21 does Kansas vote on the amendment?

22 MR. BARFIELD: Aye.

23 MR. RIZZUTO: Colorado?

24 MS. MITCHELL: Aye.

25 MR. RIZZUTO: Now, to the resolution.

1 How does Colorado vote on the amended resolution?

2 MS. MITCHELL: Aye.

3 MR. RIZZUTO: Kansas?

4 MR. BARFIELD: Aye.

5 MR. RIZZUTO: Resolution passes as
6 amended. Kevin.

7 MR. SALTER: For the record, that
8 resolution will be 2017-02.

9 MR. BARFIELD: Randy was wondering if we
10 actually seconded the motion on the amended.

11 MR. HAYZLETT: On the amended resolution.
12 You made the motion to accept the resolution and
13 then we went into the amendments, and did we second
14 the --

15 MR. BARFIELD: If we didn't, I second.

16 MR. HAYZLETT: Okay. There you go.

17 MR. BARFIELD: Okay.

18 MR. HAYZLETT: It is now.

19 MR. SALTER: What I heard the Chair say
20 was is you asked for the amended --

21 MR. RIZZUTO: Amendment.

22 MR. SALTER: -- being accepted, and then
23 I think he said the amended resolution after that.

24 MR. RIZZUTO: Right. The -- we voted on
25 the amendment and then asked for a vote on the

1 amended resolution and then declared the adoption of
2 the resolution as amended, so that should take care
3 of it.

4 MR. BARFIELD: We are clearly good.
5 Let's move on.

6 MS. MITCHELL: Be sure that goes through.

7 MR. RIZZUTO: Any more resolutions you
8 want to talk about?

9 MS. MITCHELL: No, no thank you. Not if
10 I have to read them.

11 MR. RIZZUTO: All right.

12 MR. WITTE: Mr. Chairman?

13 MR. RIZZUTO: Steve.

14 MR. WITTE: Regarding that resolution, I
15 did just receive the request, the written request
16 from Arkansas River Valley -- Arkansas River Farms
17 regarding V.H. I transferred it to the Recording
18 Secretary. She'll make copies of that, four copies
19 of that, for inclusion as part of the record.

20 MR. RIZZUTO: Very good. Okay. And
21 would that be an exhibit?

22 MR. SALTER: It will be attached to the
23 minutes, but it is not an exhibit. It stands on its
24 own as a resolution.

25 MR. RIZZUTO: Okay. All right. Let's --

1 MR. BARFIELD: Now, are we talking about
2 the resolution or are we talking about what
3 Mr. Witte has just provided?

4 MR. SALTER: The resolution stands on its
5 own.

6 MR. RIZZUTO: Right.

7 MR. SALTER: We would need to make the
8 Ark River Farms -- (unreportable cross-talk)

9 MR. WITTE: There was a request -- there
10 was a written request from Arkansas River Farms for
11 the V.H. determination, and so we can make four
12 copies now so that you can look at it before making
13 it an exhibit, or we can wait until afterwards to
14 actually make those copies. I just wanted it on the
15 record that we received it and are available to make
16 copies.

17 MR. SALTER: And would like it to be an
18 exhibit to the minutes.

19 MR. WITTE: And would like for it to be
20 an exhibit, yes.

21 MR. BARFIELD: Well, we're okay with it
22 being an exhibit. I would note for the record that
23 this Administration has not seen it, so -- and
24 again, we have a path forward and that's the SEC
25 process here, so...

1 MR. RIZZUTO: Is there any objection to
2 making it an exhibit, but it was done so without
3 anyone reviewing it?

4 MR. BARFIELD: Correct.

5 MR. RIZZUTO: Okay.

6 MR. BARFIELD: So that would be Exhibit
7 P.

8 MR. RIZZUTO: Right. Next, letters of
9 recognition. Back to you, Rebecca.

10 MS. MITCHELL: Oh, I would move that we
11 send letters of recognition to Rachel Duran, the
12 Kansas Department of Agriculture Division of Water
13 Resources, and also Steve Miller, Colorado Water
14 Conservation Board.

15 MR. RIZZUTO: Typically, on other boards,
16 I've had those read into the record.

17 MR. BARFIELD: Yes.

18 MR. RIZZUTO: So you get another chance,
19 Rebecca, to read the two proposed --

20 MR. SALTER: I would suggest maybe Randy
21 do the -- do you still have a copy of that?

22 MR. HAYZLETT: Did you give me one? Do
23 you have another one?

24 MR. SALTER: I do, and if you prefer,
25 Mr. Hayzlett, I can read it.

1 MR. HAYZLETT: Might be quicker than me
2 finding it.

3 MR. RIZZUTO: So, Kevin, you're going to
4 read both letters?

5 MR. SALTER: I will do the Rachel Duran
6 letter.

7 MR. RIZZUTO: Okay.

8 MR. SALTER: Do you have -- for the Steve
9 Miller, do you have a copy of it or --

10 MR. NEWMAN: I do.

11 MR. RIZZUTO: Okay. So first, Kevin, go
12 ahead.

13 MR. SALTER: Okay. We'll preface.
14 Rachel Duran was a member of the Kansas Division of
15 Water Resources, member of the team. We thought it
16 was appropriate to have a letter of recognition for
17 her short but distinguished service to ARCA, so we
18 have a letter of recognition on ARCA letterhead
19 dated December 7th, 2017.

20 Dear Rachel: The Arkansas River Compact
21 Administration would like to thank you for your
22 service to this Administration. Your contributions
23 included building the ARCA web site, assisting in
24 the smooth running of our annual meetings, and
25 assisting the State of Kansas in fulfilling its

1 duties pursuant to the Compact.

2 Kevin Salter notes that people along the
3 Arkansas River Valley asked you -- about you and
4 they want to know that you are missed.

5 ARCA extends its congratulations to you and
6 wishes you the best in your future endeavors.

7 Sincerely, Jim Rizzuto, Chairman, Arkansas River
8 Compact Administration, and attached to that is a
9 series of pictures from her service here, along with
10 a picture of John Martin Reservoir with the ARCA web
11 site imposed upon that picture.

12 MR. RIZZUTO: All right. Thanks, Kevin.
13 I think what we'll do is adopt each letter
14 separately. So having heard the content of the
15 letter, a motion to adopt the letter of recognition
16 for Rachel Duran?

17 MR. HAYZLETT: So move.

18 MR. RIZZUTO: Second?

19 MS. MITCHELL: Second.

20 MR. RIZZUTO: Okay. Discussion? How
21 does Colorado vote?

22 MS. MITCHELL: Aye.

23 MR. RIZZUTO: How does Kansas vote?

24 MR. HAYZLETT: Aye.

25 MR. RIZZUTO: Okay. Next, a letter of

1 recognition for Steve Miller.

2 MS. MITCHELL: Well, Steve Miller's
3 tenure was a little longer than Rachel's at, I
4 believe 26 years, so a lot of good work had occurred
5 in that time, so his letter reads:

6 Subject: Recognition of service. Mr. Miller:
7 The Arkansas River Compact -- I'm changing it to
8 Arkansas now for you guys. I'm trying to make
9 friends on the other side.

10 The River Compact Administration would like to
11 formally recognize your dedication and the
12 beneficial impact to the business of ARCA realized
13 in your role as Colorado Water Conservation Board
14 staff representative. In your tenure with the CWCB,
15 you provided support to ARCA committees and members
16 of the Administration consistently, demonstrating
17 integrity and a spirit of determination in your
18 service to the State of Colorado and the
19 Administration.

20 Your dedication to the water users impacted by
21 the Colorado -- or by the Compact -- led to
22 recognition as a well-respected expert on matters
23 within the Arkansas River Basin, where you provided
24 wise and helpful advice and assistance to ARCA
25 representatives, Arkansas Basin farmers, and

1 stakeholders from Colorado and Kansas alike.

2 The Administration would like to express its
3 deepest gratitude and appreciation for your service,
4 dedication and courtesy. As your assistance has
5 been instrumental to several of ARCA's milestones
6 over the past decades and in celebration of your
7 retirement, this letter was approved by the
8 Administration at the 2017 Annual Meeting in Lamar,
9 Colorado. The Administration will also enter this
10 letter of recognition into the Annual Meeting
11 minutes and have it reflected in the ARCA Annual
12 Report. Sincerely, our names.

13 MR. RIZZUTO: Go ahead.

14 MR. BARFIELD: I would move adoption of
15 the letter of recognition.

16 MR. RIZZUTO: Second?

17 MS. MITCHELL: Second.

18 MR. RIZZUTO: Okay. Discussion? How
19 does Colorado vote?

20 MS. MITCHELL: Aye.

21 MR. RIZZUTO: How does Kansas vote?

22 MR. BARFIELD: Aye.

23 MR. RIZZUTO: Okay. Motion adopted for
24 the letter of recognition for Steve Miller.

25 MR. BARFIELD: So Exhibits Q and R,

1 respectively.

2 MR. RIZZUTO: Correct.

3 MR. BARFIELD: Very good.

4 MR. RIZZUTO: Okay. Election of
5 officers, and I would suggest we do this as a slate,
6 rather than individually. So, a motion?

7 MR. BARFIELD: I would -- and since
8 you -- since Rebecca has already read into the
9 record what they were, I would move that the slate
10 of officers that were mentioned earlier be adopted
11 by the Administration.

12 MR. RIZZUTO: Okay. Second?

13 MS. MITCHELL: Second.

14 MR. RIZZUTO: Discussion? How does
15 Kansas vote?

16 MR. BARFIELD: Aye.

17 MR. RIZZUTO: How does Colorado vote?

18 MS. MITCHELL: Aye.

19 MR. RIZZUTO: Okay. Motion is adopted.

20 MR. BARFIELD: Similarly, for the
21 committee chairs and members, again, those were
22 already read into the record. I would move they be
23 adopted as read into the record earlier.

24 MR. RIZZUTO: Okay. Second?

25 MS. MITCHELL: Second.

1 MR. RIZZUTO: Discussion? How does
2 Kansas vote?

3 MR. BARFIELD: Aye.

4 MR. RIZZUTO: How does Colorado vote?

5 MS. MITCHELL: Aye.

6 MR. RIZZUTO: Adopted. Revision to ARCA
7 by-laws.

8 MS. MITCHELL: I would move that we do a
9 readoption of the by-laws.

10 MR. BARFIELD: We probably ought to have
11 some --

12 MS. MITCHELL: Discussion?

13 MR. BARFIELD: -- basic description of
14 what those do.

15 MR. RIZZUTO: Like I said, welcome to the
16 board, Rebecca.

17 MS. MITCHELL: Is this a hazing process?
18 I wasn't in a sorority in college, but I'm imagining
19 this is what hazing was like, with more alcohol,
20 though.

21 All right. So the -- this is Resolution
22 2017-03 regarding the amendment of by-laws of the
23 Arkansas River Compact Administration.

24 Whereas, Article VIII, Section B(1) of the
25 Arkansas River Compact grants the Arkansas River

1 Compact Administration the authority to adopt, amend
2 and revoke by-laws, rules and regulations consistent
3 with the Arkansas River Compact; and

4 Whereas, Article XI, Section 1 of the by-laws
5 of the Arkansas River Compact Administration
6 provides that amendments to the by-laws may be made
7 at any meeting of the Arkansas River Compact
8 Administration, provided that notice of the proposed
9 amendment shall have been given in the notice of the
10 meeting; and

11 Whereas, proper notice of the proposed
12 amendment of the Arkansas River Compact
13 Administration by-laws was provided in the meeting
14 notice dated November 27th, 2017; and

15 Now therefore, be it resolved that pursuant to
16 the terms of the Arkansas River Compact and the
17 by-laws of the Arkansas River Compact
18 Administration, the Arkansas River Compact
19 Administration hereby readopts the amended by-laws
20 of the Arkansas River Compact Administration as
21 attached hereto.

22 And I think this would be filed as resolution
23 independently.

24 MR. BARFIELD: And just for the record,
25 the amendments that we're talking about, I don't

1 think they've been described here, have they? I
2 mean, they're basically to allow us to have
3 meetings, telephonic meetings, and other ways of
4 having meetings. It just clarifies that we can do
5 that and other sort of editorial fixes, I guess,
6 would be how I'd characterize what we're doing here.

7 MR. RIZZUTO: Okay.

8 MR. BARFIELD: Did you make a motion?

9 MR. RIZZUTO: Motion to adopt?

10 MS. MITCHELL: Motion to adopt the
11 by-laws.

12 MR. RIZZUTO: Okay.

13 MR. BARFIELD: Amendments.

14 MS. MITCHELL: Amendments.

15 MR. RIZZUTO: Amendments.

16 MR. BARFIELD: Kansas would second.

17 MR. RIZZUTO: Okay. Discussion? How
18 does Kansas vote?

19 MR. BARFIELD: Aye.

20 MR. RIZZUTO: How does Colorado vote?

21 MS. MITCHELL: Aye.

22 MR. RIZZUTO: Motion is adopted. Okay.

23 Next, we're to the public comment section of the
24 meeting. Are there any public comments that need to
25 come before the board?

1 Okay. Seeing none, future meetings. It was
2 stated that our next Annual Meeting will be the
3 committee meetings on the 6th of December and the
4 Annual Meeting on the 7th in the great State of
5 Kansas, in the city of Garden City, so we all look
6 forward to that.

7 Is there anything else that needs to come
8 before the Board?

9 MR. BARFIELD: No. We appreciate
10 Colorado hosting the meeting, and I guess I would
11 move adjournment.

12 MR. RIZZUTO: Okay. And I assume there's
13 a second.

14 MS. MITCHELL: Oh, second. I move that
15 we adjourn. I really move that we would adjourn.

16 MR. RIZZUTO: Before we do, one thing. I
17 want to thank Lamar Community College for hosting
18 this and thanks definitely to the court reporter for
19 taking all the notes of this meeting and wish
20 everyone a happy holiday season and, with that, how
21 does Kansas vote on adjournment?

22 MR. BARFIELD: Aye.

23 MR. RIZZUTO: How does Colorado vote?

24 MS. MITCHELL: Aye.

25 MR. RIZZUTO: Motion to adjourn is

1 adopted, thank you, at 11:40 on December 7th, 2017.

2
3 (Proceedings concluded at 11:40 a.m.
4 Mountain Standard Time.)
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1 STATE OF KANSAS)

2 COUNTY OF RENO)
3

4 This is to certify that I, Lee Ann Bates, a
5 Certified Shorthand Reporter in and for the State of
6 Kansas, reported in shorthand the proceedings had at
7 the time and place set forth on the title page hereof
8 and that to the best of my ability, the above and
9 foregoing pages contain a full, true and correct
10 transcript of the said proceedings.

11 Certified to on this 25th day of July, 2019.
12

13 Lee Ann Bates, CSR, RPR, CRR
14 ADVANCED COURT REPORTING SERVICES
15 LEE ANN BATES, CSR, RPR, CRR
16 27113 West Mills Avenue
17 Plevna, Kansas 67568
18 (620) 793-6555 or (620) 664-7230
19
20
21
22
23
24
25

**ARCA 2017 ANNUAL MEETING
EXHIBITS/ATTACHMENTS TO MINUTES**

Letter:	Description:	Offered By:
A.	Annual Meeting Attendance	Jim Rizzuto
B.	Agenda	Jim Rizzuto
C.	U.S. Army Corps of Engineers Report	Jim Rizzuto
D.	U.S. Geologic Survey Presentation	Jim Rizzuto
E.	U.S. Bureau of Reclamation Report Presentation	Jim Rizzuto
F.	Fountain Creek Greenway, Watershed and Flood Control District Presentation	Jim Rizzuto
G.	Southeastern Colorado Water Conservancy District Written Report	David Barfield
H.	Arkansas River Basin Roundtable Report	Jim Rizzuto
I.	Ten-year Compact Compliance Accounting Table (2007-2016)	Jim Rizzuto
J.	ARCA Engineering, Operations, and Administration & Legal Committee Reports and Attendance	David Barfield
K.	Annual Report of the Operations Secretary	David Barfield
L.	Annual Report of the Assistant Operations Secretary	David Barfield
M.	Offset Account Report	David Barfield
N.	FY 2016 - 2017 Auditor's Report	Jim Rizzuto
O.	FY 2018 - 2019 Budget	David Barfield
P.	Request for Article V.H. Determination from Arkansas River Farms	David Barfield
Q.	Letter of Recognition for Rachel Duran	David Barfield
R.	Letter of Recognition for Steve Miller	David Barfield

Exhibit A

Annual Meeting

December 7, 2017

ATTENDANCE LIST

2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Brent Zaystall	KS			
KEVEN SALIBA	KDA-DWR	—	—	—
Randy Zaystall	ARCH-KS	—	—	—
Ginger Pugh	KDA-DWR Manhattan, KS	Manhattan, KS	—	—
Kenneth Trues	KDA-DWR	Manhattan, KS		
Chris Brightel	KDA-DWR	Manhattan KS	—	—
Rebecca Mitchell	CO	Denver CO		
Rebecca Nichols	DWR-WD67	Lamar CO		
SEVE RASTNER	NRWCD	TRINIDAD, CO		
Sindylhair	CO Dep't of Ag	Broomfield, CO		
Jeroy P. March	Lower Ark Conservation	James, CO6,		
Dale Book	Sprink Water Engineers	1050 Lyden St DENVER 80401		

ATTENDANCE LIST

2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Stanley Hines	Frontier Ditch	Box 147	620-374-4457 620-372-2109	
Philip Reynolds	CDWR			philip.reynolds@state.co.us
Jeff Montoya	CDWR	Trinidad, CO 19213 Hwy 350	719-680-1052	jeff.montoya@state.co.us
Stephanie Gonzales	ARCA Rec Sec/Treas	Po Box 1106 Lamar CO 81052	719-688-0799	arca.co.ks@gmail.com
John Van Oort	CDWR			
JOSEPH TALBOT	CDWR		719-542-3364 x217	
James Booth	USACE		573 433 4764	james.l.booth@usace.army.mil
Nabil Shafik	USACE		505-342-3421	nabil.g.shafik@usace.army.mil
Ryan Gronewold	USACE		505-342-3340	Ryan.P.Gronewold@usace.army.mil
John Stalp	Colo Gov. Office			
BILL TYNER	CO DIV WATER		719-542-3368 x2110	bill.tyner@state.co.us
Andrew Clark	USGS	1204 Caterbury Hays KS 67601	785 760 3100	ajclark@usgs.gov

ATTENDANCE LIST

2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Krystal Brown	U.S. Geological Survey	201 E 9th St Pueblo, CO 81006	719-562-2841	kbrown@usgs.gov
Martin Montoya	City of Lamar	1036 Parmenter Lamar, CO 81052	719-688-6942	martin.montoya@ci.lamar.co.us
Kevin Rein	DWR	1313 SHERMAN ST DENVER 80122	303-866-3581	
Scott Brazil	ARCA	1890 38th Ave Pueblo CO	719-250-7113	sbrazil@live.com
Laure Malone	ARCA	33827 CR 17 Holly	719 940-0646	Laure.Malone@arcanet.org
Kelley Thompson	CDWR	1313 Sherman St Denver 80203	303 866 3581	
Roy VAUGHAN	Reclamation	Pueblo	561-9855 719-366	
Tony Anderson	NWS	3 Eaton Way Pueblo, CO 81001	719-948-9429	Tony Anderson @ nwsa.gov
Tony Howard	Amity	Holly 2045 main	719-537-6627	amitysuper@gmail.com
Taron Norquist	GMD3			
MARK RUDE	GMD3	GARDEN CITY	620-275-7147	MRUDE@GMD3.ORG

ATTENDANCE LIST

2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE & FAX</u>	<u>EMAIL</u>
Corin Thayer		Ally		
Erk Skje	WCB			

ATTENDANCE LIST
2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
 Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Brandy Cole	KDA - DWR	GCFO	—	Brandy.Cole @KDA.Gov
Blake Osborn	Colorado State University	Pueblo, Co	719-545-1845	blake.osborn@colostate.edu
CHRISTIAN GNAU	USBR	Loveland Co	970-962-4352	cgnau@usbr.gov
Lonnie Spady	C DWR	La Junta	719-384-1000	lonnie.spady@state.co.us
Hal Scheuerman	ARCA Kansas	Deerfield Ks.	—	—
BRADY M'ECROY	USDA-NRCS	Lamar CO		brady.mcelroy@ co.usda.gov
Rachel Zancanella	CO DWR	Pueblo		rachel.zancanella @state.co.us
Bethany Arnold	DWR	Pueblo, CO		bethany.arnold@ state.co.us
Mark Yuska	USACE	Albuquerque, NM	505-342-3608	mark.e.yuska@ usace.army.mil
Amy Louise	USACE	ABQ, NM	505-342-3342	Amy.Louisie@ USACE.army.mil
VAN TRUAN	USACE	Pueblo, Colo	719-543-6915	van.q.truan@ usace.army.mil
Nathan Sullivan	USGS	Hays, KS	785-764-6266	nsullivan@usgs.gov

ATTENDANCE LIST

2017 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 07, 2017, 8:00 A.M. (MST), Lamar, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Craig Painter	USGS	Lawrence, KS	785-832-3582	cpainter@usgs.gov
Steve Witte	DWR (colo.)	310 E Abriena Dr Pueblo, CO	(719) 542-3369	steve.witte@state.co.us
BOB KIMBROUGH	USGS	DENVER FEDERAL CT. 2 MS. 415 DENVER CO 80225	303 236-6702	rkimbrow@usgs.gov
Rob Batdorf	City of Lamar	Lamar, 81052 102 E Parmenter	719 336-2002	robbie.batdorf@ci.lamar.co.us
Jack Goble	CAWCON	501 Swink Ave Rocky Ford, CO	719-251-5150	jgoble@caawcon.com
DAN STEUER	Co. Atty. Gen'l	1300 Broadway Denver	720 508 6262	DANIEL.STEUE@COAG.GOV
Troy Dumber	The Garden City Co	AD. Box 597 Garden City, KS	620-276-3246	troy.dumber@sbcglobal.net
Glenn Wilson	Amity	19755 CRILL HOLL CO	719-688-4997	glenn.wilson@amityco.co
Wiley Work	City of Lamar	102 E. Parmenter Lamar	719-336-2279	wiley.work@ci.lamar.co.us
Rena Brand	Colo Parks & Wildlife	4255 Sinton Rd Co Springs, CO 80907	719-323-	rena.brand@state.co.us
LARRY SMALL	FOUNTAIN CREEK WATERSHED, FLOOD CONTROL & GREGGWAY DISTRICT	P.O. Box 26373 COLORADO SPRINGS CO 80936-6373	719-447-5012	LSMALL42@COMCAST.NET
LYNDEN GILL	LAWRENCE	34705 CR 24 McLennan CO	719 688-1176	surecrop@centurytel.net

Exhibit A

Exhibit B

Annual Meeting

December 7, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James Rizzuto, La Junta

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

FINAL NOTICE & DRAFT AGENDA

2017 ANNUAL MEETING ARKANSAS RIVER COMPACT ADMINISTRATION

THURSDAY, DECEMBER 7, 2017
8:00 A.M. (MST) / (9:00 AM CST)

Note new location

**Lamar Community College
Bowman Building – Room 139
2401 South Main Street
Lamar, CO 81052**

The **2017 Annual Meeting** of the Arkansas River Compact Administration (ARCA) will be held on **Thursday, December 7, 2017**, commencing at 8:00 A.M. MST (9:00 A.M. CST) at the location noted above. The meeting will be recessed for lunch at about 12:00 P.M. MST and reconvened for the completion of business in the afternoon as necessary.

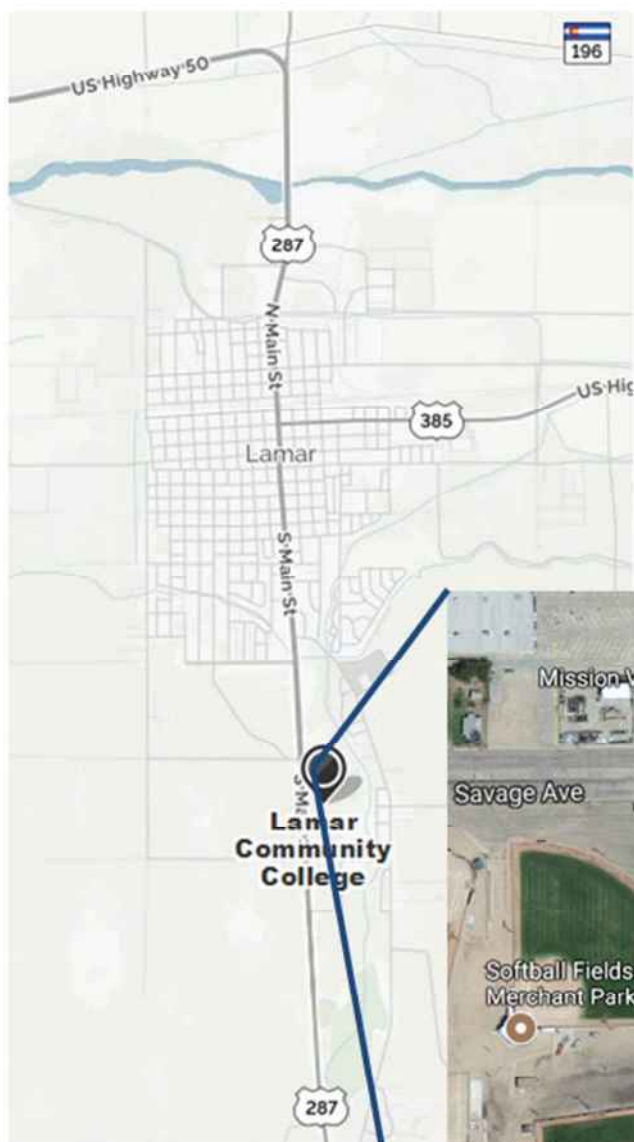
Notice is hereby given pursuant to Article XI.1 of the ARCA bylaws that the **Administration will consider for adoption updates to the bylaws**, for the purpose of modernizing communication between ARCA members.

The **Engineering, Operations, and Administrative/Legal Committees** of ARCA will meet on **Wednesday, December 6, 2017**, also at the **location noted above**, starting at 1:30 PM. MST (2:30 P.M. CST) and continuing to completion. The public is invited to attend the Committee meetings, however please be aware time for comments may be limited.

Meetings of ARCA are operated in compliance with the federal Americans with Disabilities Act. If you need a special accommodation as a result of a disability please contact Stephanie Gonzales at (719) 688-0799 at least three days before the meeting.

This information is also available on ARCA's website:

<http://www.co-ks-arkansasrivercompactadmin.org/>



The 2017 ARCA Annual Meeting will be held in the **Large Lecture Hall (Room 139) in the Bowman Building** at Lamar Community College, which is approximately 1.25 miles south of the intersection of E Olive (Highway 50 East) and Main Street (Highways 287/385 South)

★ 2017 ARCA Committee and Annual meetings will be held in the **Large Lecture Hall (Room 139) in the Bowman Building** at Lamar Community College.

↓ Parking areas



A map of the Lamar Community College campus is available at: https://lamarcc.edu/About-LCC/campus_map

ENGINEERING COMMITTEE MEETING
WEDNESDAY, DEC. 6, 2017, 1 P.M. (MST)
TENTATIVE AGENDA (subject to change)
Presiding: David Barfield

- 1. Review committee agenda and preparation of action item(s) – *assign staff***
- 2. Old business**
 - A. Colorado Decision Support System update
 - B. Trinidad Operating Principles Ten-year Review update
 - C. Update on use of Highland Canal water for John Martin Permanent Pool
 - D. Update on Fountain Creek Flood Control Study
 - E. LAWMA Water Court decree issues
- 3. New business and other matters**
 - A. Updates from Federal Agencies
 - i. U.S. Corps of Engineers
 - ii. U.S. Bureau of Reclamation
 - iii. U.S. Geologic Survey
 - B. Report from the Special Engineering Committee
 - C. Stateline Compact flume replacement, Frontier Ditch – *action item*
- 4. Summary of action items / Committee assignments to staff**
- 5. Future meetings**
- 6. Adjourn**

OPERATIONS COMMITTEE MEETING
WEDNESDAY, DEC. 6, 2017 *
TENTATIVE AGENDA (subject to change)
Presiding: Lane Malone

- 1. Review committee agenda and preparation of action item(s) – *assign staff***
- 2. Reports of Operations Secretary and Assistant Operations Secretary**
 - A. Operations Secretary – Steve Witte
 - B. Assistant Operations Secretary, including review of Water Issues Matrix – Kevin Salter
 - C. Committee recommendation concerning CY2017 Operations and Assistant Operations Secretaries’ reports
- 3. Colorado State Engineer’s Annual Offset Account Report – Colorado Division of Water Resources**
- 4. Ten-year Compact Compliance Accounting table (2007-2016) – Joint report of the States – *action item***
- 5. Old business**
 - A. Consideration of past Operations Secretary Reports (2006-2016) – *action item*
 - B. Colorado’s PDF Evaluation Report
 - C. Colorado Irrigation Improvement Rules update
- 6. New business and other matters**
 - A. Approval of 2017 Operations Secretary Report – *action item*
 - B. 2017 Offset Account review
 - C. Arkansas River Farms – Request for ARCA findings pursuant to Article V.H. – *action item*
 - D. Potential for Spill from Trinidad, Pueblo, and/or John Martin Reservoirs
 - E. 2012-2016 Offset Account Five-year Review
- 7. Summary of action items / Committee assignments to staff**
- 8. Future meetings: April and/or mid-Summer meetings**
- 9. Adjourn**

* The Operations Committee will start following the conclusion of the Engineering Committee

ADMINISTRATIVE & LEGAL COMMITTEE MEETING

WEDNESDAY, DEC. 6, 2017 *

TENTATIVE AGENDA (subject to change)

Presiding: Rebecca Mitchell

- 1. Review committee agenda and preparation of action item(s) – *assign staff***
- 2. Review 2017 Annual Meeting Agenda**
- 3. Recording Secretary/Treasurer Report**
- 4. Old business**
 - A. Status of transcripts from prior meetings
 - i. Annual meetings: 1998 and 1999
 - B. Recommendation on approval of transcripts
 - i. 2015 Annual – *action item*
 - ii. 2016 Annual – *action item*
 - iii. April 17, 2017 Special – *action item*
 - C. Annual Reports status
 - D. ARCA website
 - i. Recommendation regarding posting of information related to ARCA meetings (e.g., previous year's committee action items, fiscal documents and Offset Account report) to ARCA website. – *action item*
- 5. Financial Matters**
 - A. Recommendation on Auditor's Reports for Fiscal Year (FY) 2016-17– *action item*
 - B. Treasurer Report
 - C. Contracts – *action items*
 - i. USGS Cooperative Agreements
 1. Kansas Section
 2. Colorado Section
 - ii. CoAgMet
 - D. Budget review and recommendations to ARCA
 - i. Review of current FY 2017-18 – *action item, if modifications needed*
 - ii. Recommendation on Proposed FY 2018-19 budget and assessment – *action item*
- 6. New business and other matters – *action items***
 - A. Resolutions:
 - i. Regarding John Martin Reservoir Permanent Pool
 - B. Letters of Recognition
 - i. Rachel Duran
 - ii. Steve Miller

* The Operations Committee will start following the conclusion of the Engineering Committee

- C. Nomination of Officers:
 - i. Vice-Chairman
 - ii. Recording Secretary and Treasurer
 - iii. Operations Secretary
 - iv. Assistant Operations Secretary
- D. Recommendation on appointment of Committee chairs
- E. Revisions to ARCA Bylaws

7. Summary of action items / Committee assignments to staff

8. Future meetings

- A. 2018 ARCA Annual Meeting date and location (default December 11, 2018 in Lamar)
- B. Administration & Legal committee – possible meeting to review ARCA Annual Report template

9. Adjourn

**ARKANSAS RIVER COMPACT ADMINISTRATION
2017 ANNUAL MEETING**

THURSDAY, DEC. 7, 2017, 8:00 am (MST)

Lamar Community College, Lamar, CO

TENTATIVE AGENDA (subject to change)

Presiding: James Rizzuto, Chairman

- 1. Call to Order: Chairman, James Rizzuto**
(Instructions for those in attendance for benefit of court reporter)
- 2. Introduction of representatives and visitors**
- 3. Review and revisions of agenda**
- 4. Reports of Officers**
 - A. Chairman – James Rizzuto
 - B. Vice-Chairman – Randy Hayzlett
 - C. Recording Secretary and Treasurer – Stephanie Gonzales (defer to item 10)
 - D. Operations Secretary – Steve Witte (defer to item 9)
 - E. Assistant Operations Secretary – Kevin Salter (defer to item 9)
- 5. Reports of Federal Agencies**
 - A. U.S. Army Corps of Engineers
 - B. U.S. Geological Survey
 - C. U.S. Bureau of Reclamation
 - D. National Weather Service
- 6. Reports from Local Water User and State Agencies**
 - A. Purgatoire River Water Conservancy District / City of Trinidad
 - B. Fountain Creek Greenway, Watershed and Flood Control District
 - C. Southeastern Colorado Water Conservancy District
 - D. Lower Arkansas Valley Water Conservancy District
 - i. Colorado Water Users Account Study status
 - E. Arkansas River Basin Roundtable
 - F. Colorado Parks and Wildlife
 - G. Arkansas River Watershed Collaborative
- 7. Compact Compliance / Decree Issues Updates**
 - A. Ten-year Compact Compliance Accounting table (2007-2016) – Joint report of the States
 - B. Colorado's PDF (presumed depletion factor) Evaluation
 - C. Colorado Irrigation Improvement Rules
- 8. Report of Special Engineering Committee**

9. Report of Engineering Committee

- A. Report from December 6, 2017 meeting – David Barfield
- B. Engineering Committee recommendations

10. Report of Operations Committee

- A. Report from December 6, 2017 meeting – Lane Malone
- B. Operations Secretary Report – Steve Witte
- C. Assistant Operations Secretary Report – Kevin Salter
- D. Offset Account Report – Steve Witte / Bill Tyner
- E. Operation Committee recommendations

11. Report of Administrative & Legal Committee

- A. Report from December 6, 2017 meeting – Rebecca Mitchell
- B. Recording Secretary and Treasurer Report – Stephanie Gonzales
- C. Administrative & Legal Committee Recommendations – most actions deferred to Item 13 (concurrent with appropriate action item)

12. New Business

13. ARCA Action Items

- A. Approval of prior meeting minutes
 - i. Annual Meeting minutes
 - ii. Special Telephonic Meeting summary
- B. Recommendations related to ARCA website
- C. Financial Matters
- D. Resolutions
- E. Letters of Recognition
- F. Election of officers
- G. Appointment of committee chairs
- H. Revisions to ARCA by-laws
- I. Instructions to Committees

14. Public Comment

15. Future meetings

- A. 2018 Annual Meeting location and date
- B. Committee Meetings
- C. Special Meeting(s) of ARCA

16. Adjourn

Exhibit C

Annual Meeting

December 7, 2017

Arkansas River Basin



US Army Corps
of Engineers®
Albuquerque District

Report of Civil Works Activities for 2017

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1. General

During water year 2017, activities of the U.S. Army Corps of Engineers (USACE), Albuquerque District, in the Arkansas River Basin consisted of reservoir regulation, flood control related studies, floodplain management services, regulation under Section 404 of the Clean Water Act, and emergency assistance.

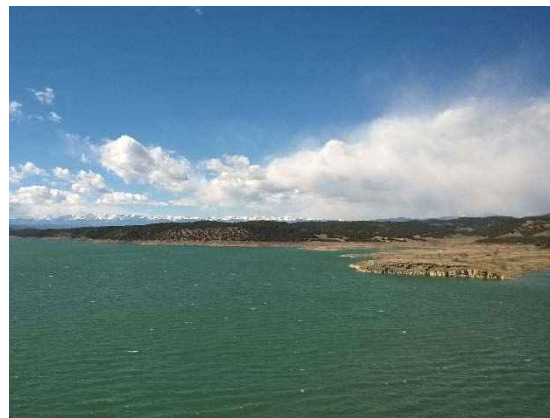
2. Dam Safety

A Table Top Exercise was conducted from July 24 to July 26 to evaluate the Dam Safety Emergency Action Plan (EAP), current emergency response plans (Evacuation Plans, Continuity of Operations Plans, etc.) and to test internal and external capabilities to respond to emergency and flood scenarios at both John Martin and Trinidad Dams. The exercise was a facilitator/moderator-led event designed to present realistic problems arranged sequentially in a simulated environment.

The objectives of the exercise were to identify priorities and responsibilities of key decision makers, reorder priorities as necessary based on new information and unexpected events, assess warning procedures as described in each EAP, exercise communication and coordination with State and local Emergency Management Agencies in response to this event, assess personnel's familiarity with each EAP, and determine potential areas of inundation and evacuation. The EAPs will be updated with the information obtained at the exercise.

3. Water Control Operations

In 2017, the Arkansas Basin snowmelt runoff was above normal throughout the entire basin. As of the May 1st, the basin wide snowpack was above average at 115% of median with the Upper Arkansas Basin reporting 130% of median and the Purgatoire River Basin reporting 110% of median. At Trinidad Dam, storage peaked at 44,424 acre-feet (elevation of 6211 ft) on 11 May and the maximum release was about 2,000 cfs during 11-15 May 2017. At John Martin Dam, storage peaked at 265,939 acre-feet (elevation of 3,845 ft) on 27 June, and the maximum release was about 1,478 cfs on 16 June. USACE did not operate for flood control at Trinidad, John Martin, or Pueblo Reservoirs in 2017.



Trinidad Lake, 2017. USACE photograph.

a. Trinidad Lake

The Trinidad Water Control Manual indicates that flood damages begin to occur when flows exceed 5,000 cfs, although there is evidence that impacts to agricultural areas begins as low as 3,000 cfs. USACE did operate for high releases at Trinidad due to a series of thunderstorms that occurred in southern Colorado from May 8 through May 11 that increased the stream flow levels of the Purgatoire River and tributaries. On May 10th, precipitation recorded at Trinidad Project Office was 1.74 inches. The peak at Madrid gage upstream of Trinidad Dam was approximately 5,250 cfs on 9 May 2017.

On May 10 the State of Colorado Department of Water Resources (DWR) requested a release of 2,000 cfs from Trinidad to evacuate approximately 6,900 acre-feet of stormwater storage that accumulated in Trinidad Reservoir. Since this would be the highest release in Trinidad Dam history (previously 1,200 cfs) and because the Water Control Manual limits rate of release increases, the release rate was increased in steps and downstream channel conditions were monitored after each increase in release. The releases from May 8th through May 15th are provided in the table below.

Date	Computed Inflows (cfs)	Time	Releases (cfs)	Storage (acre-feet)	Elevation (feet)	Stage (ft)	Precip (inches)
8-May	200.88	0700	0	35,633	6202.42	3.98	0.00
9-May	2696.01	0700	0	36,173	6202.98	3.98	0.61
10-May	2233.66	0000	0	41,269	6208.06	4.01	1.74
10-May	-	0700	0	43,232	6209.92	4.01	-
10-May	-	1115	418	44,024	6210.64	6.83	-
10-May	-	1145	620	44,113	6210.72	7.35	-
10-May	-	1230	914	44,146	6210.75	7.76	-
10-May	-	1600	1176	44,146	6210.75	7.94	-
10-May	-	1630	1660	44,280	6210.87	9.72	-
11-May	1825.77	0000	1660	44,280	6210.87	9.72	0.42
11-May	-	0700	1660	44,280	6210.87	9.72	-
11-May	-	1500	2005	44,424	6211.00	11.51	-
12-May	1038.30	0000	2005	44,335	6210.92	11.51	0.19
12-May	-	0700	2005	43,979	6210.60	11.51	-
13-May	940.49	0000	2005	42,395	6209.14	11.51	0.00
13-May	-	0700	2005	41,766	6208.54	11.51	-
14-May	965.90	0000	2005	40,262	6207.08	11.51	0.00
14-May	-	0700	2005	39,651	6206.48	11.51	-
15-May	648.92	0000	2005	38,180	6205.02	11.51	0.00
15-May	-	0700	2005	37,583	6204.42	11.51	-
15-May	-	0900	779	37,366	6204.20	7.66	-
15-May	-	1000	412	37,346	6204.18	6.81	-
15-May	-	1255	0	37,346	6204.18	3.99	-
15-May	-	1445	337	37,356	6204.19	6.54	-

On May 10, 2017 when Trinidad release was 1,176 cfs, the gabion baskets started to fail and separate from the embankment. Complete failure of the gabion baskets occurred early on 12 May 2017 when the release was 2000 cfs. Although the gabion baskets were intended to provide channel bank erosion protection and their failure did not compromise the integrity of the outlet structure, the releases were constrained to 2000 cfs to assess the hydraulic performance of the flip bucket. The release of 2,000 cfs was continued through the weekend and reduced on Monday, 15 May 2017 to 337 cfs to bypass reservoir inflows. The Corps is removing the gabion baskets to ensure future releases meet downstream safe channel capacity.

Arkansas River Compact Administration (ARCA) Resolution No. 2014-2 requests that the United States Bureau of Reclamation conduct a 10-year review for the period 2005 through 2014 as it pertains to the Trinidad Operating Principles, Article VI and State of Kansas Condition 4. Previous reviews were completed in 1988, 1996 and 2010. The purpose of the 10-year review is to obtain optimum beneficial use of the water available to the project consistent with the laws and policies of the State of Colorado and the United States including the Arkansas River Compact.

Meetings were held 15 March 2017, 5 May 2017, and 17 October 2017. Contact persons for stockwater accounting, City of Trinidad accounting, permanent fish pool accounting, flood pool operations, irrigated acreage and water use within District, gages and general summary of Trinidad Lake were identified in the 15 March 2017 meeting. The May meeting covered a data review of the 10-year review period, review of the recommendations from the previous 10-year review and the progress made regarding the recommendations. The October meeting focused on the last three years, 2015 through 2017, and presentation of the "Draft 2005-2014 Review of Operating Principles and Project Operations".

In 2017, several projects were completed at Trinidad Lake that focused on extending the life of the facilities. The bulkhead inspection was completed in August and the report was finalized and submitted for review. The primary bulkhead inspection was needed prior to the conduit inspection. A conduit inspection was completed 14 -15 November 2017 which included the conduit and emergency and service gates for both conduits. The 49 year old generator at the control tower was replaced in 2017. The generator is required for making gate changes in the case of power failure. Coordination between the contractor, Purgatory River Irrigation District and Albuquerque District was accomplished so that advance notice could be given when the gates would be down for the installation since the work was completed during irrigation season.

A vegetation removal contract has been planned and budgeted for Fiscal Year 2018. The removal is scheduled for spring 2018. The vegetation on the upstream and downstream sides of the earth embankment dam are significantly overgrown. Vegetation will be removed to avoid any potential structural impacts to the engineered fill of the earth embankment dam. Funds are also available for rip-rap improvement project on Trinidad's earth embankment dam.

The Trinidad Periodic Inspection was completed in 21 March 2017 and the report has been prepared in accordance with ER 1110-2-1156, Safety of Dams – Policy and Procedures, Chapter 11 and Appendix V. Trinidad Dam classifies as a high hazard structure and the purpose of the periodic inspection is to assure its structural stability, safety, and operational adequacy.

USACE periodically reviews reservoir operations to include new hydrologic information. In 2017, the Trinidad Water Control Manual was reviewed and updated to include hydrologic data, operating and reporting procedures, and general project information such as recreation and watershed characteristics. No changes were made to the Water Control Plan. The draft is currently undergoing Agency review, and implementation of the new manual is expected to occur in 2018.

To accurately measure high releases (above 800 cfs) from Trinidad dam, the USGS will install a new auxiliary stream gage about 1000 ft downstream of the current gage (Purgatoire River below Trinidad Lake, CO, 07124410). The current gage will continue to be used for lower releases. The USGS is expecting to complete the installation of the new auxiliary gage by 15 December 2017.

In 2013, it was found that sediment had collected around the Control Tower making it impossible to read the lake staff gauge at elevations below 6,164 ft. The staff gauge is an important tool for verifying the lake elevation recorded by the instrumentation and data collection platform (DCP) maintained by the U.S. Geological Survey (USGS). In 2017, samples of the sediment were collected from around the tower and tested according to the requirements of the Clean Water Act.

Once the elevation of Trinidad Reservoir is at 6,150 ft or lower, sediment will be removed with an excavator from around the Control Tower to make the staff gage more readable and allow the bubbler to work correctly at low pool elevations. The work will be scheduled after irrigation season ends since the lake will most likely be at its lowest elevation and water operations will not be affected. Excavation should be completed prior to the lake rising from inflow and freezing with the onset of winter temperatures. The side staff gage goes down to elevation 6150 ft. The quantity of sediment that can be removed will depend on lake elevation at the time of the work.

b. John Martin Reservoir

During 2017, several projects were completed on the structure of John Martin Dam. The 16 spillways and the tainter-gates were cleared of vegetation, pressure washed and patched. Areas around the conduits and bath tub ring were pressure washed as well. The equipment needed for the cleaning were purchased, which included a fire pump, 1,000 gallon tank and a trailer for the tank. Maintenance on the gates in the operating gallery was completed along with maintenance on the tainter gate machinery.

Repairs to the Visitor's Center were started in FY17 and will be completed in FY18. The repairs included stabilizing the flooring and installing new wood flooring. Two new windows will be installed at the north and west walls, and a wood sales counter will also be installed.

A bathymetric survey was started on 28 November 2017. The data will be finalized and a new Area-Capacity curve will be developed in 2018. The purpose of the survey is to measure the accumulated sediment in the lake since the last survey completed in 2009.

In 2018, the stilling basin dewatering, dredging and inspection project will be completed. The stilling basin and dam foundation will be inspected for the first time since the dam was constructed, by dredging and dewatering to clear sediment. This project will include removal of sediment upstream of the dam from the vicinity of the bulkhead gates so they can be placed to dewater the conduits and inspect the entire length of the conduits and condition of the gates.

In 2017 USACE continued to work on the update of John Martin Reservoir's Master Plan, which was last updated in 1974. A Master Plan is "the strategic land use management document that guides the comprehensive management and development of all project recreational, natural and cultural resources throughout the life of the water resource development project". In general, it defines "how" the resources will be used by the general public. The Master Plan does not address the technical operational aspects of the lake with respect to flood risk management. The Master Plan focuses on all USACE fee-owned land including easements, licenses, and leases at John Martin Reservoir.

The process started with a Public Meeting held on 27 October 2016 in Lamar, Colorado to describe the Master Plan and its purpose. A second meeting was held on 16 February 2017 to discuss the overall goals for resources, review current and future land classifications and public/agency comments in view of the goals. Once the plan is completed, an Environmental Assessment will be prepared and available for public review.

4. Civil Works Authorities and Programs

a. Continuing Authorities Program

The Continuing Authorities Program (CAP) is a group of nine legislative authorities under which the Secretary of the Army, acting through the Chief of Engineers, is authorized to plan, design, and implement certain types of water resources projects without additional project-specific congressional authorization. USACE had one active CAP project in the Arkansas River Basin in 2017.

1. Section 205

Section 205 of the 1948 Flood Control Act, as amended, provides authority to USACE to plan and construct small flood damage reduction projects that have not been

specifically authorized by Congress. USACE conducted a preliminary investigation along Fountain creek above Manitou springs and Colorado Springs in an area that experiences significant risk of flooding. The investigation concluded that the Section 205 authority was not appropriate due to the magnitude of potential flood risk solutions.

2. Section 206

Section 206 of the Water Resources Development Act (WRDA) 1996 provides authority to USACE for aquatic ecosystem restoration projects in areas unrelated to existing USACE water projects. USACE had no active Section 206 projects in the Arkansas River Basin in 2017.

3. Section 14

Section 14 of the 1946 Flood Control Act, as amended, provides authority for USACE to plan and construct emergency stream bank protection projects to protect endangered highways, highway bridge approaches, public facilities such as water and sewer lines, churches, public and private nonprofit schools and hospitals, and other nonprofit public facilities. USACE and El Paso County are reaching the final approval of a Section 14 project feasibility study along Fountain Creek at US Highway 85/87 Bridge and the Fountain Creek Regional Trail. The project objective is to protect both banks from further erosion. The project is anticipated to proceed to construction in 2018.

4. Section 1135

Section 1135 of WRDA 1986, as amended, provides the authority to modify existing USACE projects to restore the environment and construct new projects to restore areas degraded by USACE projects. USACE had no active Section 1135 projects in the Arkansas River Basin in 2017.

b. Investigations Program

The USACE Investigations Program includes specifically authorized studies for comprehensive solutions to large complex problems relating to flooding, ecosystem restoration, loss of land and property, floodplain management, and watershed planning and analysis. The Investigations program consists of two phases: the feasibility study phase, and the pre-construction engineering and design (PED) phase. The feasibility study is used to investigate the Federal interest, engineering feasibility, economic justification and environmental acceptability of a recommended water resources project, and results in a feasibility report. The feasibility report is the document on which congressional authorization for PED and Construction is based. During the pre-construction engineering and design phase, development of the first construction contract bidding package can be completed while waiting for congressional construction authorization. If the project is authorized for construction by Congress, USACE and the project sponsor can move forward with the remaining detailed design and construction. USACE had no active Investigations or Construction projects in the Arkansas River Basin in 2017.

5. Planning Assistance to the States (Section 22) Program

Section 22 of the WRDA of 1974, as amended, provides authority for USACE, under the Planning Assistance to the States (PAS) program, to assist states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, use, and conservation of water and related land resources. Section 208 of WRDA 1992 amended WRDA 1974 to include Indian tribes. The studies are cost shared on a 50% Federal/50% non-Federal basis. USACE had no active PAS studies within the Arkansas River Basin in 2017.

6. Flood Plain Management Services Program

The USACE Flood Plain Management Services (FPMS) program authority stems from Section 206 of the Flood Control Act of 1960 (Public Law 86-645), as amended. The objective of the FPMS program is to support comprehensive floodplain management with technical services and planning guidance at all appropriate governmental and community levels. Services available include assistance relating to the interpretation and evaluation of basic flood-hazard data. These services are provided to state, local governments, and Indian tribes at no cost. Section 321 of WRDA 1990 requires recovering the cost of services provided to Federal agencies and to private entities. Flood reports are also authorized under the FPMS Program. Additionally, another authority for developing post flood assessment reports is the Flood Control and Coastal Emergencies (FC&CE) program. The FC&CE program is authorized by Public Law (PL) 84-99, as amended. USACE had no active FPMS projects in 2017 in the Arkansas River Basin.

7. Flood Risk Management Program

USACE established the National Flood Risk Management Program (FRMP) in May 2006 to integrate and synchronize USACE activities, both internally and with counterpart activities of the Department of Homeland Security, Federal Emergency Management Agency (FEMA), other Federal agencies, state organizations, and regional and local partners and stakeholders. In FY17, FRMP was used to support Post-Wildfire Flood Preparedness efforts following the Hayden Pass and Junkins Wildfires in southern Colorado. Support was offered in the form of technical assistance related to hydrology and hydraulics, as well as outreach related to sand-bag training for impacted communities.

One component of the FRMP is the Levee Safety Program. The USACE Levee Safety Program was established by the National Levee Safety Act of 2007, which was authorized in WRDA 2007.

The Inspection of Completed Works/Rehabilitation Program (ICW/RP) is the USACE program that provides for the inspection and rehabilitation of Federal and non-Federal flood risk management projects within the RP. In FY17, USACE ICW assisted Las

Animas with elevated Arkansas River flow issues impacting their levee operations in southeastern Colorado in the Arkansas River Basin.

An additional component of FRMP is the Silver Jackets Program, which is part of the National Flood Risk Management Program. The Silver Jackets Program proposes establishing an interagency team in each state with a representative from FEMA, USACE, the State National Flood Insurance Program Coordination Office, and the State Hazard Mitigation Office as standing members and lead facilitators. The lead FRMP Manager for the formation of the Silver Jackets Program in Colorado and the Arkansas River Basin resides in the USACE Omaha District, and the Albuquerque District performs a support role.

The Colorado Silver Jackets team was officially created in 2013. The team consists of four USACE Districts that include the Sacramento, Albuquerque, Kansas City, and Omaha Districts. The State of Colorado is represented by the Colorado Water Conservation Board as well as the Colorado Department of Homeland Security. FEMA Region 8 is also part of the State team. USACE had no active Silver Jackets projects in 2017 within the Arkansas River Basin.

8. Regulatory Program

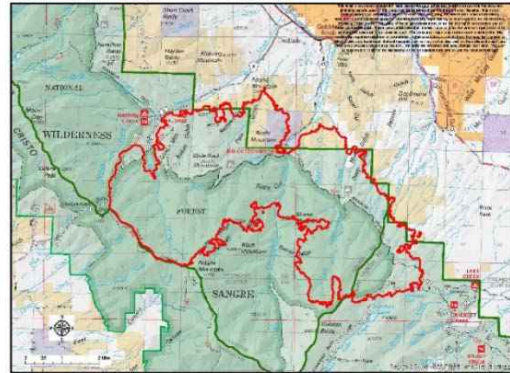
USACE regulates Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including wetlands. USACE reviewed a total of 142 activities in the basin during Water Year 2017. All activities were authorized by general (Regional or Nationwide) permits. General permits, which typically involve minimal delays and paperwork, are activity-specific permits that are issued for projects that have minimal impact on the aquatic environment. USACE continues to issue permits related to the Waldo Canyon, Hayden Pass, and Junkins Fire/Flooding for sediment and debris removal, stream restoration, bank stabilization, and flood prevention activities in Fountain and Hardscrabble Creeks and the Arkansas River in Custer, El Paso, Fremont, Pueblo, and Teller Counties.

Persons or agencies who are planning to conduct work activities in any waterway in the basin are advised to contact the Southern Colorado Regulatory Office, 200 South Santa Fe Avenue, Suite 301, Pueblo, Colorado 81003 or telephone 719-543-9459. Information, including all public notices, is also available on the USACE Albuquerque District web home page at: <http://www.spa.usace.army.mil/reg>.

9. Emergency Management Coordination

Public Law 84-99 provides USACE with the authority to assist state and local governments before, during, and after flood events. In the Arkansas River Basin, USACE works with the State of Colorado Division of Homeland Security and Emergency Management and the Colorado Water Conservation Board to prepare for flood fight activities in years with significant snowpack and spring snowmelt runoff.

Several large wildland fires occurred within the Arkansas River Basin watershed in 2016. The Hayden Pass, Junkins, and Beulah fires have created new burn scars which will have potential long-term impacts to the watershed. The flood threat potential from the burn scars has been significantly increased from the Pre-fire to Post-fire conditions as a result of the denuded watershed with reduced infiltration and increased runoff. National Flood Risk Management funds were used to support Post-Wildfire Flood Preparedness efforts following the Hayden Pass and Junkins Wildfires in southern Colorado. Support was offered in the form of technical assistance related to hydrology and hydraulics, as well as outreach related to sand-bag training for impacted communities.



Hayden Creek Pass Fire Burned Area, 2016.

The Hayden Pass burn scar (16,800 acres) is approximately 20 miles southeast of Salida, CO. The fire burned within the Pike and San Isabel National Forests and Bureau of Land Management land. Following a series of visits, meetings and follow-up discussions with representatives from the State of Colorado and others, hydrologic watershed modelling was completed by the Albuquerque District's Hydrology and Hydraulics (H&H) group. In addition to the Highway 50 crossing, there are numerous culverts on county roads that will require diligent monitoring and clearing.

Readiness and Contingency Operations Office (RCO) and H&H provided technical assistance to the Colorado Division of Homeland Security and Emergency Management (CDHSEM) relating to the Junkins and Beulah Fires. The burn scars are approximately 30 miles west of Pueblo, Colorado. The flood threat potential within the denuded watershed has been significantly increased, with the potential for sediment and debris flows posing a severe threat to the communities of Greenwood, Wetmore and Beulah. This increased flood threat is anticipated to be a multi-year condition. Highway 387, which provides access to private landowners, may become a critical escape route for Beulah residents in emergencies. Keeping this road open will be a challenge for the impacted counties and U.S. Forest Service over the next 3-5 years.



Junkins Fire: South Hardscrabble Creek

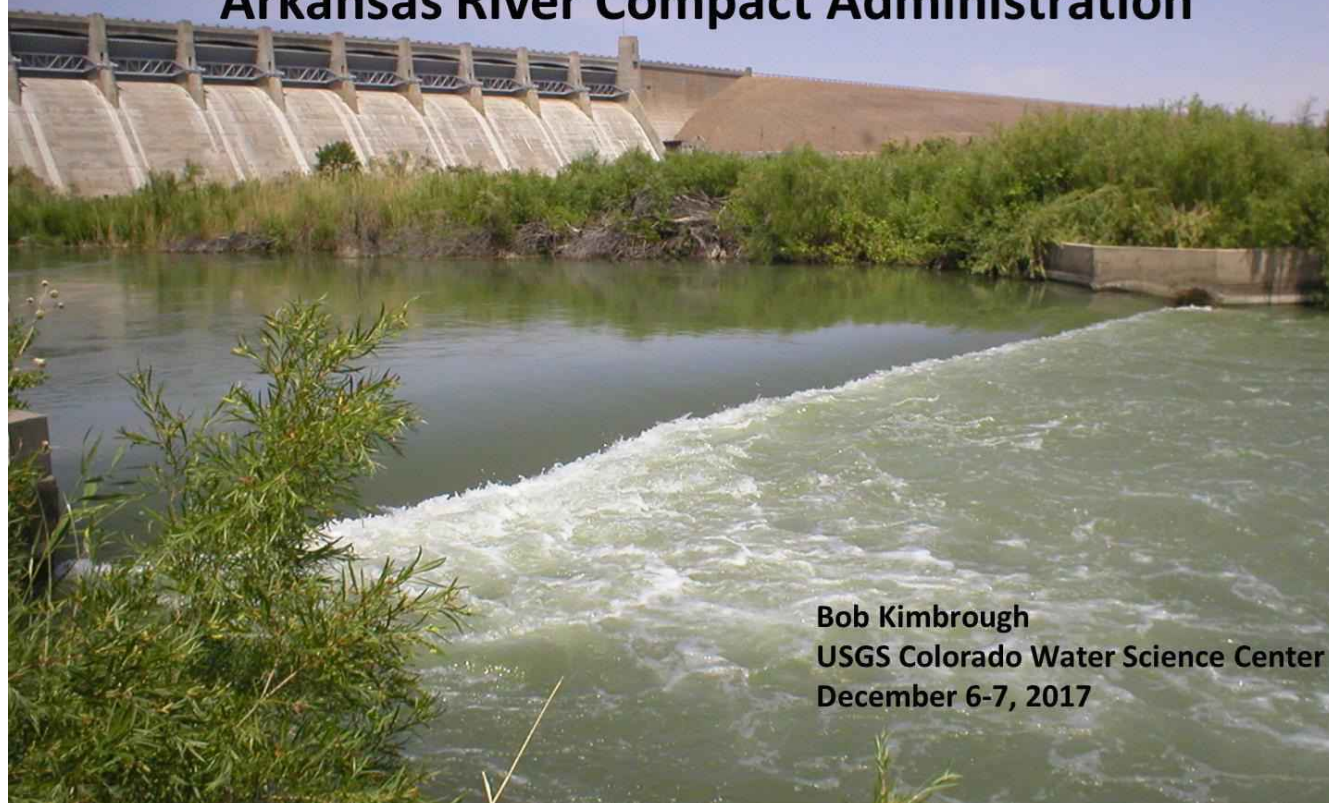
Assistance can be obtained by contacting the U.S. Army Corps of Engineers, Albuquerque District, Readiness and Contingency Operations Office, 4101 Jefferson Plaza NE, Albuquerque, New Mexico 87109-3435 or telephone 505-342-3686 during our normal business hours between 7 am and 4 pm, weekdays.

Exhibit D

Annual Meeting

December 7, 2017

USGS Activities in the Arkansas River Basin in cooperation with the Arkansas River Compact Administration



USGS/ARCA Cooperative Program

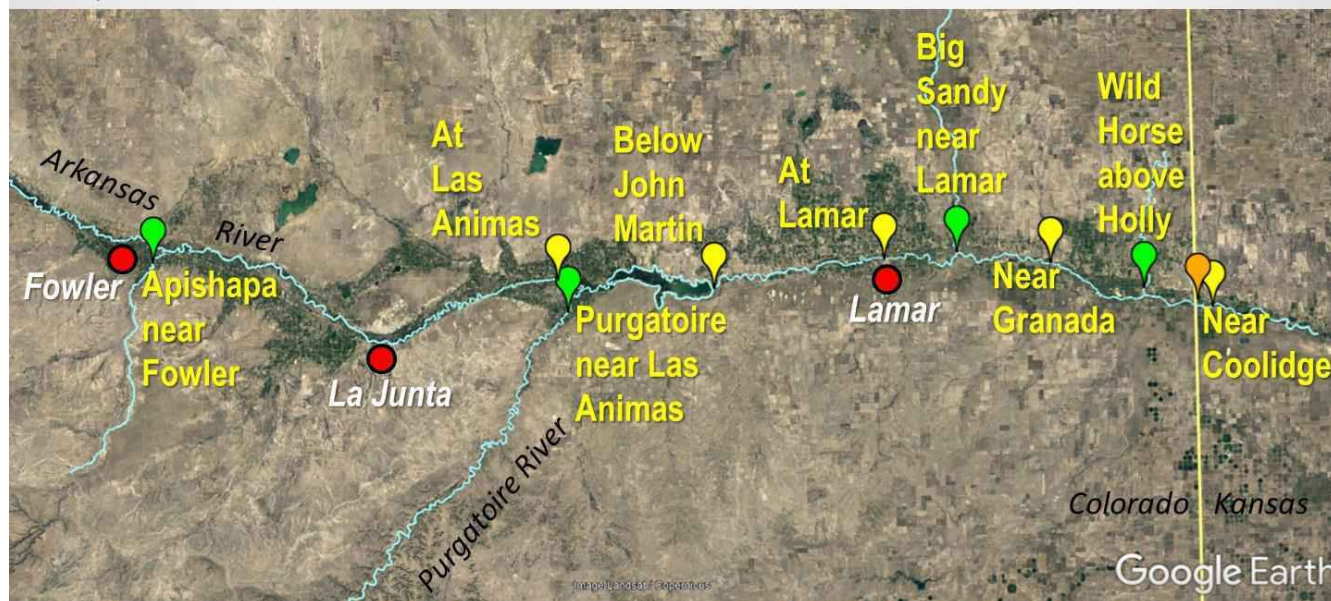
11 streamgages; Fowler, CO – Coolidge, KS

5 Mainstem Arkansas sites

Frontier Ditch near Coolidge

4 Tributaries

1 CSG, Big Sandy (not shown)



Guidance for additional measurements during releases from John Martin Reservoir

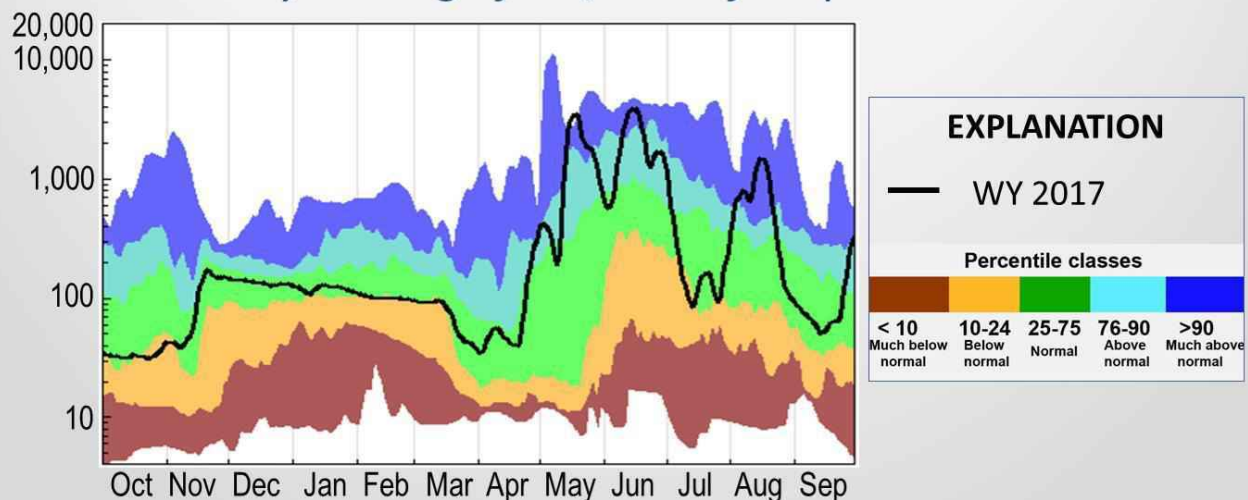
- Measurements made as soon as practical and within 72 hours of requests.
- Measurements are used to update the stage/discharge rating as soon as practical but no later than 24 hours following the measurements.
- USGS will make arrangements for weekend or off-hour measurements if critical needs are identified by Kansas or Colorado

WY 2017 streamflow conditions

Arkansas River at Las Animas

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
314,400	138,600	227%	163%

7-day average flow, cubic feet per second

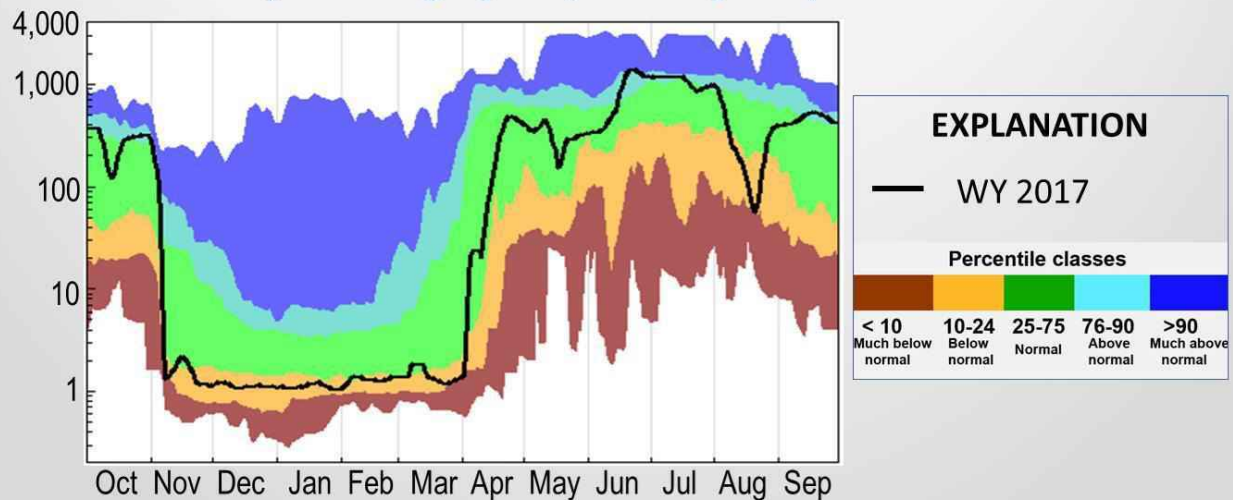


WY 2017 streamflow conditions

Arkansas River below John Martin Reservoir

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
214,600	271,700	79%	107%

7-day average flow, cubic feet per second

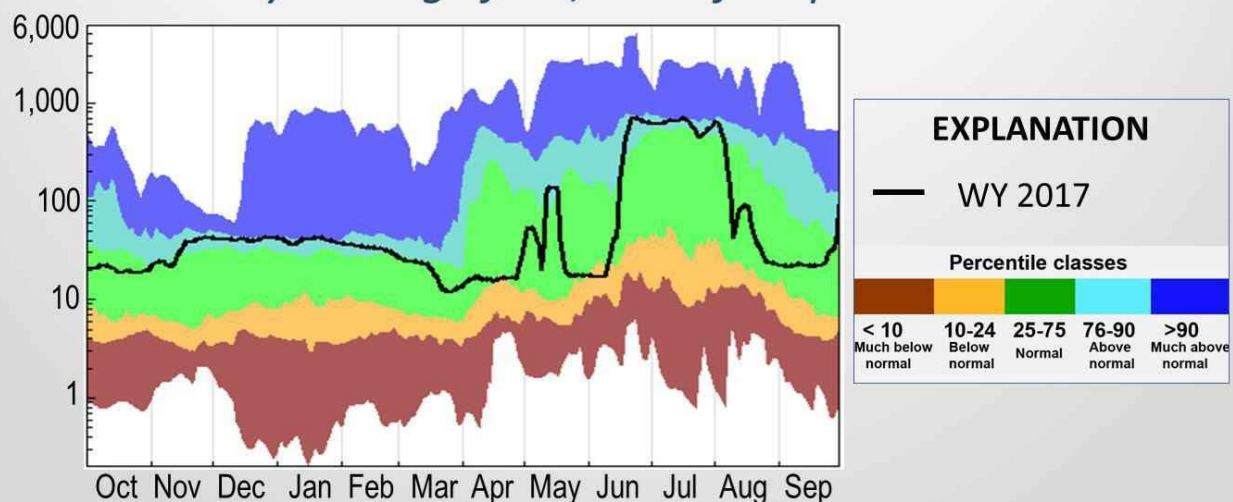


WY 2017 streamflow conditions

Arkansas River at Lamar

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
81,900	85,400	96%	102%

7-day average flow, cubic feet per second

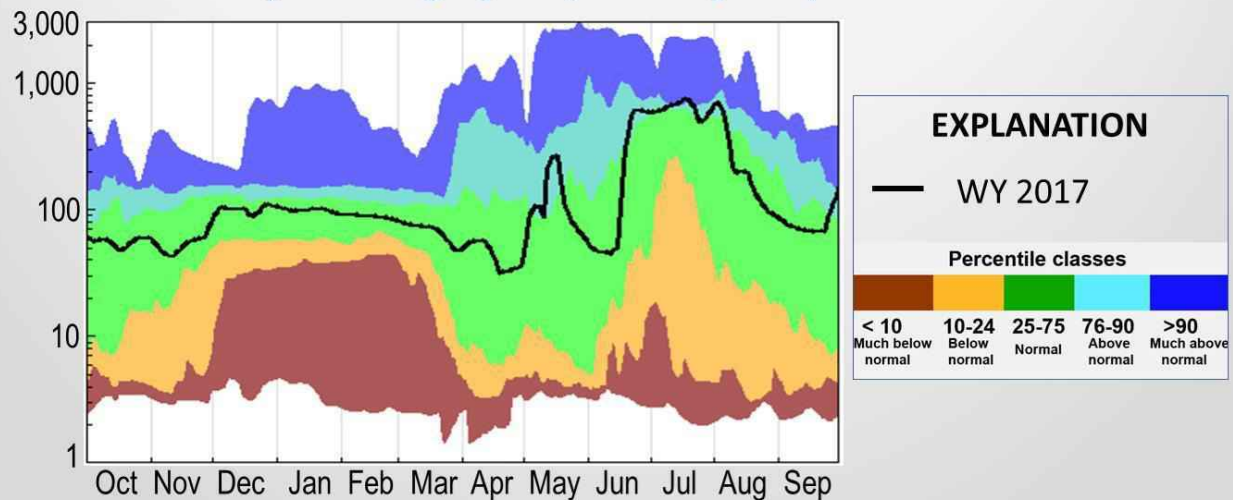


WY 2017 streamflow conditions

Arkansas River near Granada

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
114,300	112,800	101%	97%

7-day average flow, cubic feet per second

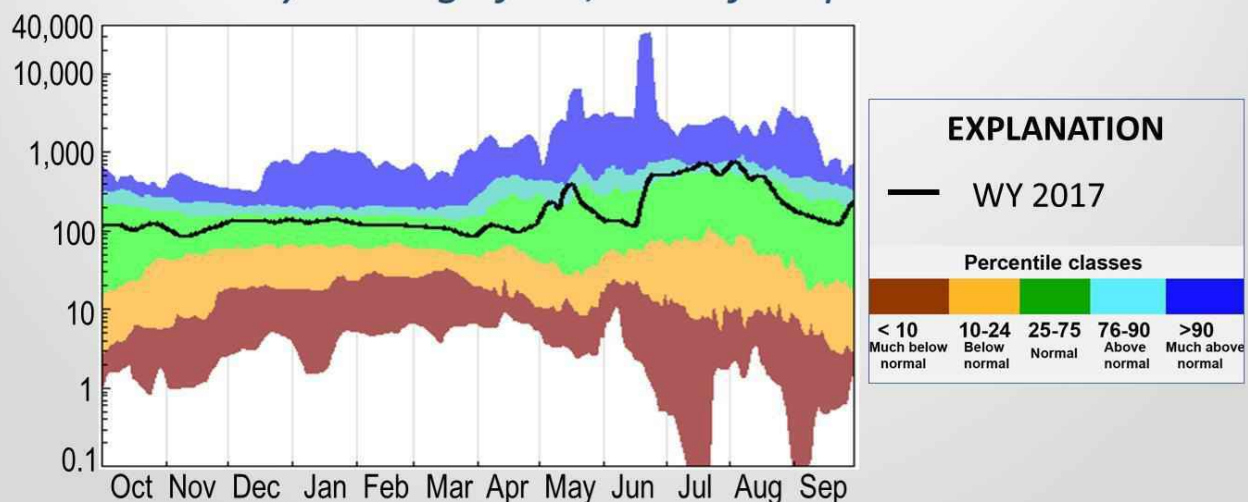


WY 2017 streamflow conditions

Arkansas River near Coolidge, KS

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
154,100	150,600	102%	105%

7-day average flow, cubic feet per second

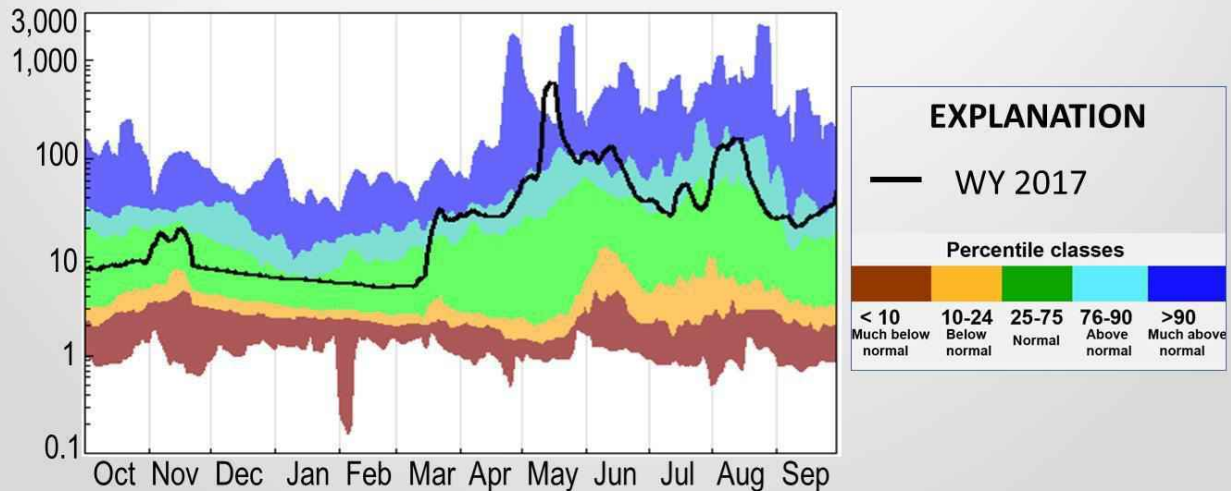


WY 2017 streamflow conditions

Apishapa River near Fowler

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
33,020	14,350	230%	186%

7-day average flow, cubic feet per second

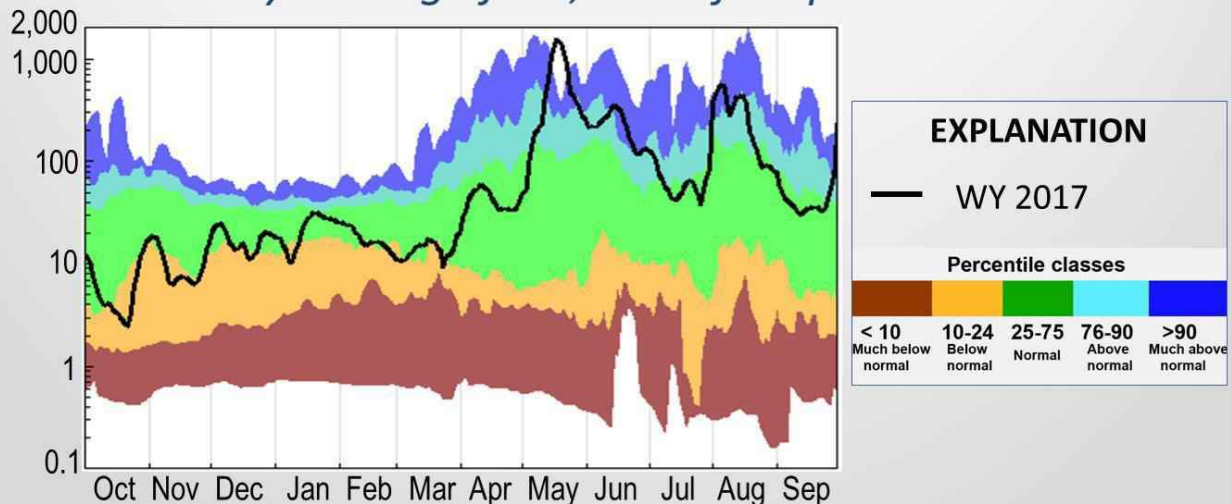


WY 2017 streamflow conditions

Purgatoire River near Las Animas

WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of average
82,790	23,310	355%	190%

7-day average flow, cubic feet per second



WY 2017 streamflow conditions

Station	WY17 Annual Flow, in ac-ft	WY16 Annual Flow, in ac-ft	2017 as % of 2016	2017 as % of Average
Big Sandy Creek near Lamar	15,150	11,040	137%	154%
Base flow	10,950	9,020	121%	150%
Above Base flow	4,200	2,020	208%	115%
Wildhorse Cr. above Holly (Oct, Apr-Sept)	8,340	5,550	150%	249%
(April – Sept)	7,670	4,630	166%	299%
Frontier Ditch near Coolidge	6,800	6,200	110%	79%

Summary

- Streamflow in WY17 was above average at 8 of 10 streamgages (exceptions; Granada and Frontier Ditch)
- WY17 flow in the main stem Arkansas River ranged from 97% (Granada) to 163% (Las Animas) of average
- Streamflow for WY17 was greater than WY16 flow at 8 of 10 streamgages (exceptions; below John Martin and Lamar)
- At the request of Colorado, USGS obtained discharge measurements at several sites downstream of John Martin Reservoir on June 16, 2017

Exhibit E

Annual Meeting

December 7, 2017


RECLAMATION

Managing Water in the West

Arkansas River Compact Administration Meeting

2017 Report

Roy Vaughan
Facility Manager
Pueblo Dam



U.S. Department of the Interior
Bureau of Reclamation

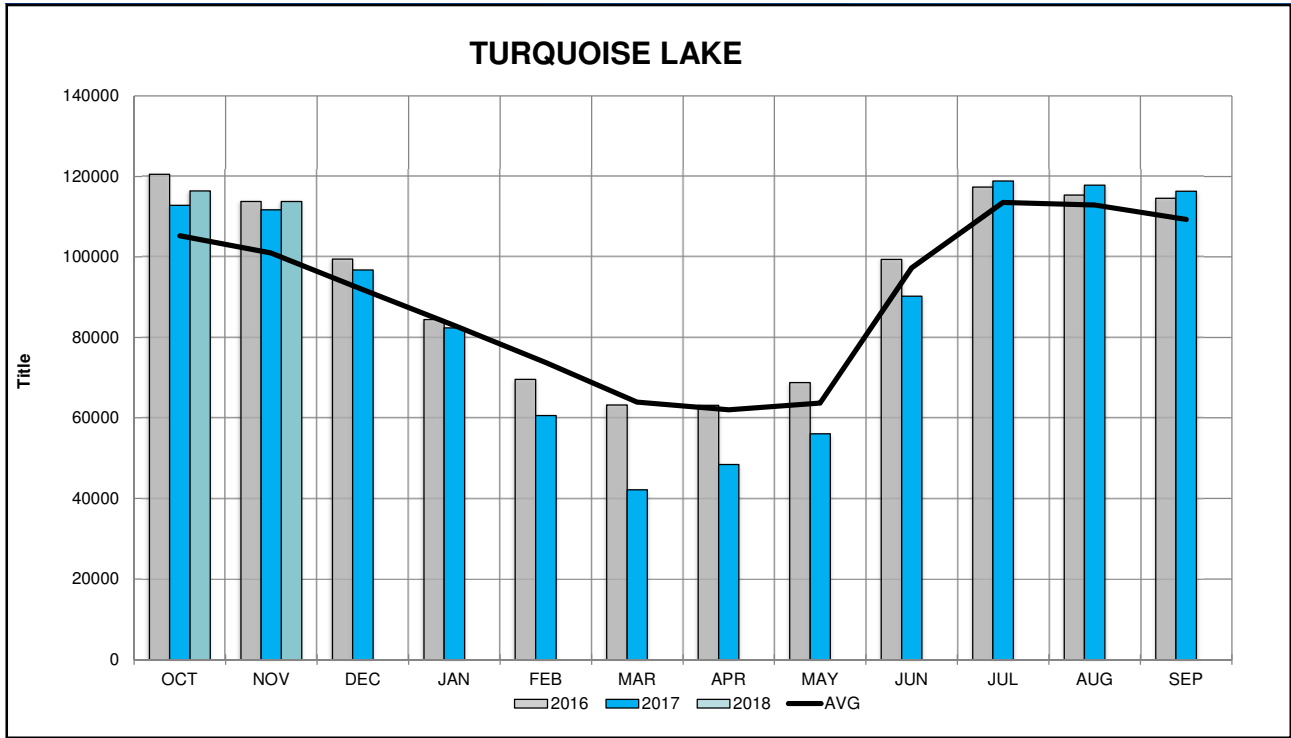
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Fry-Ark Project 2017 Water Year

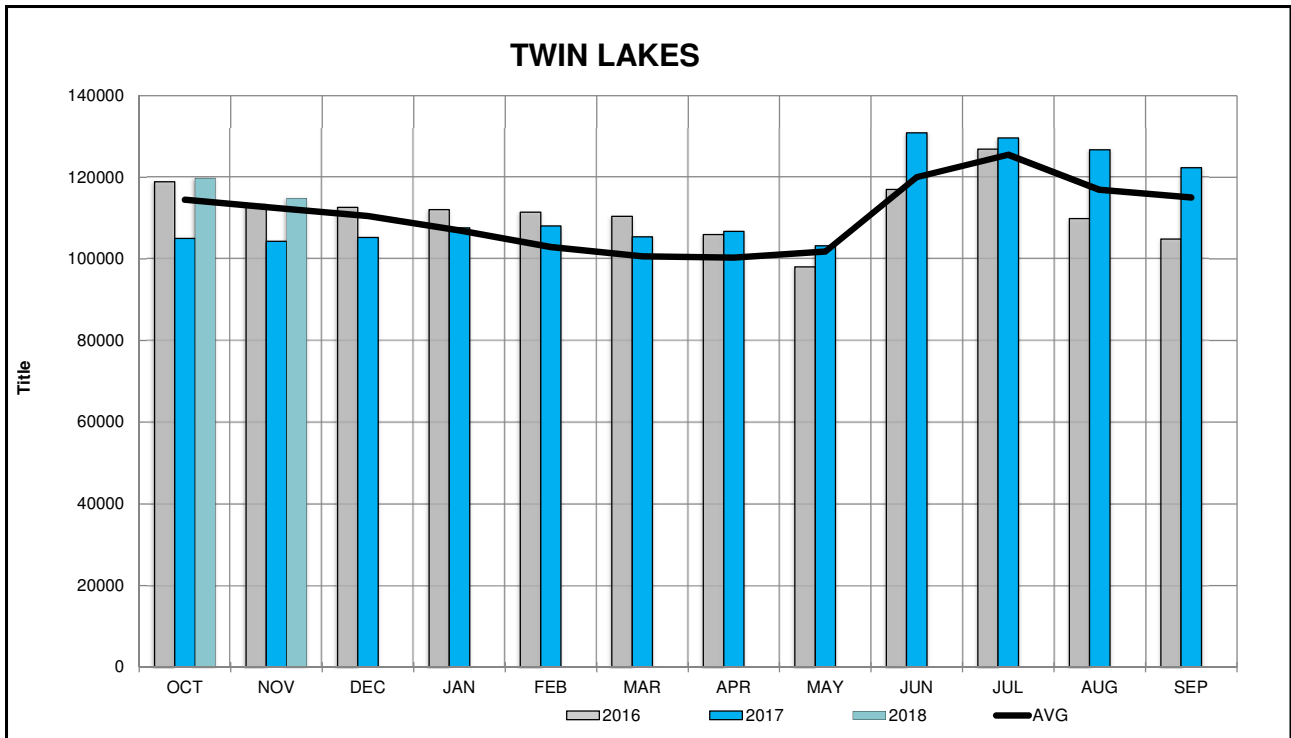
- Imports were well above average at 67,010 AF. That is approximately 116% of our 40 year average.
- This is the 4th year of above average imports
- Snowpack in the collection system was above average for most of the winter
- The collection system opened April 14. Runoff peaked in June and continued to the beginning of August.

RECLAMATION

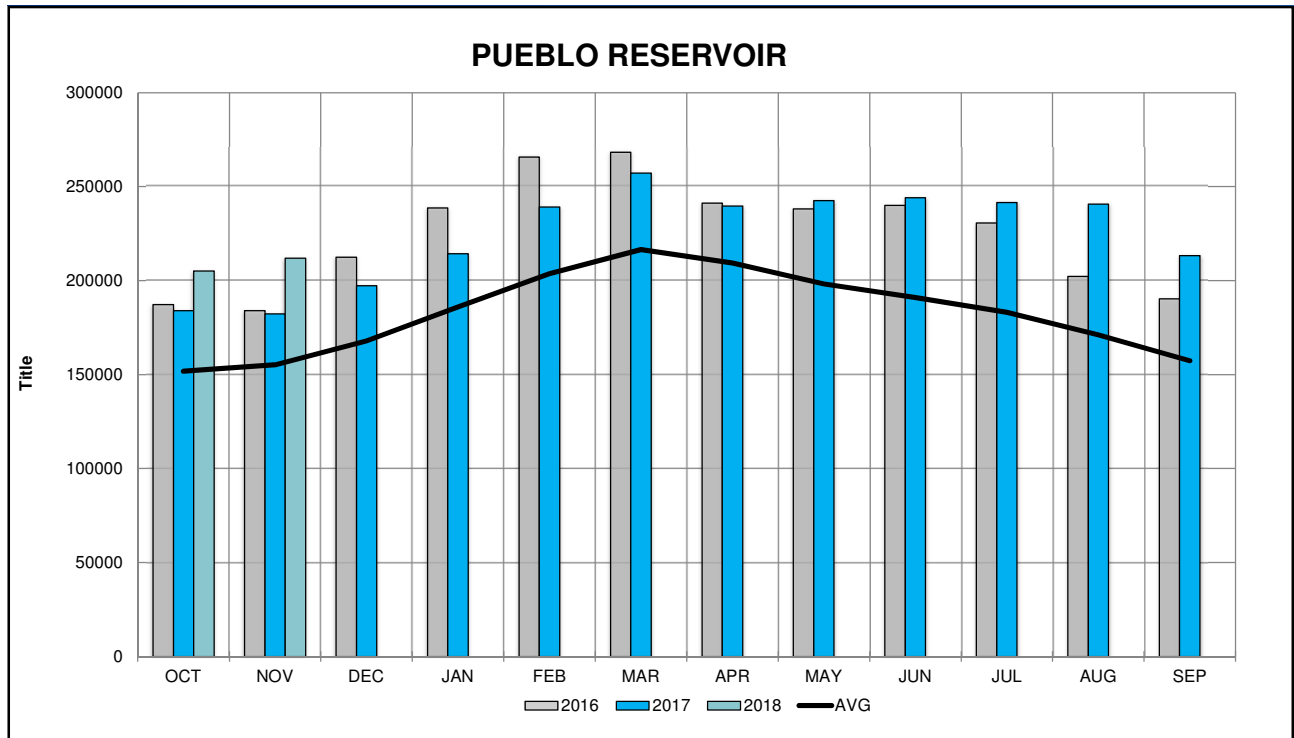
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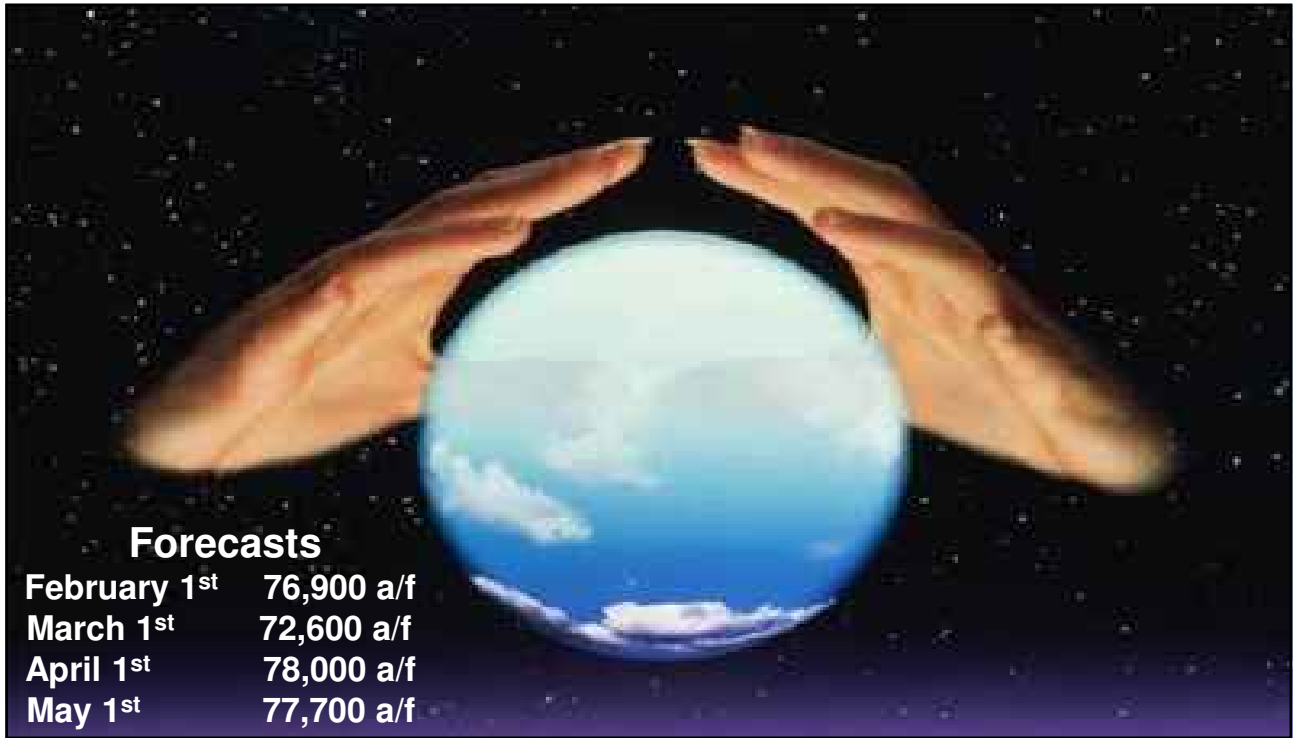
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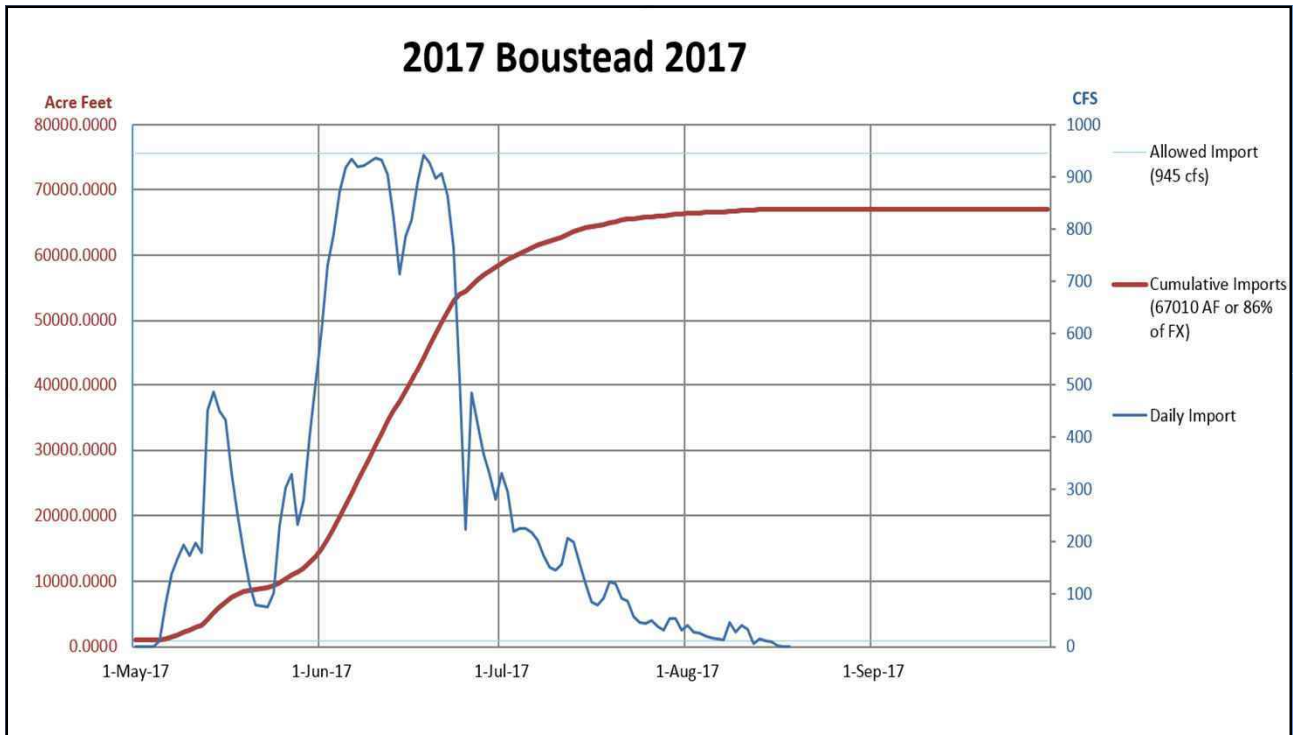
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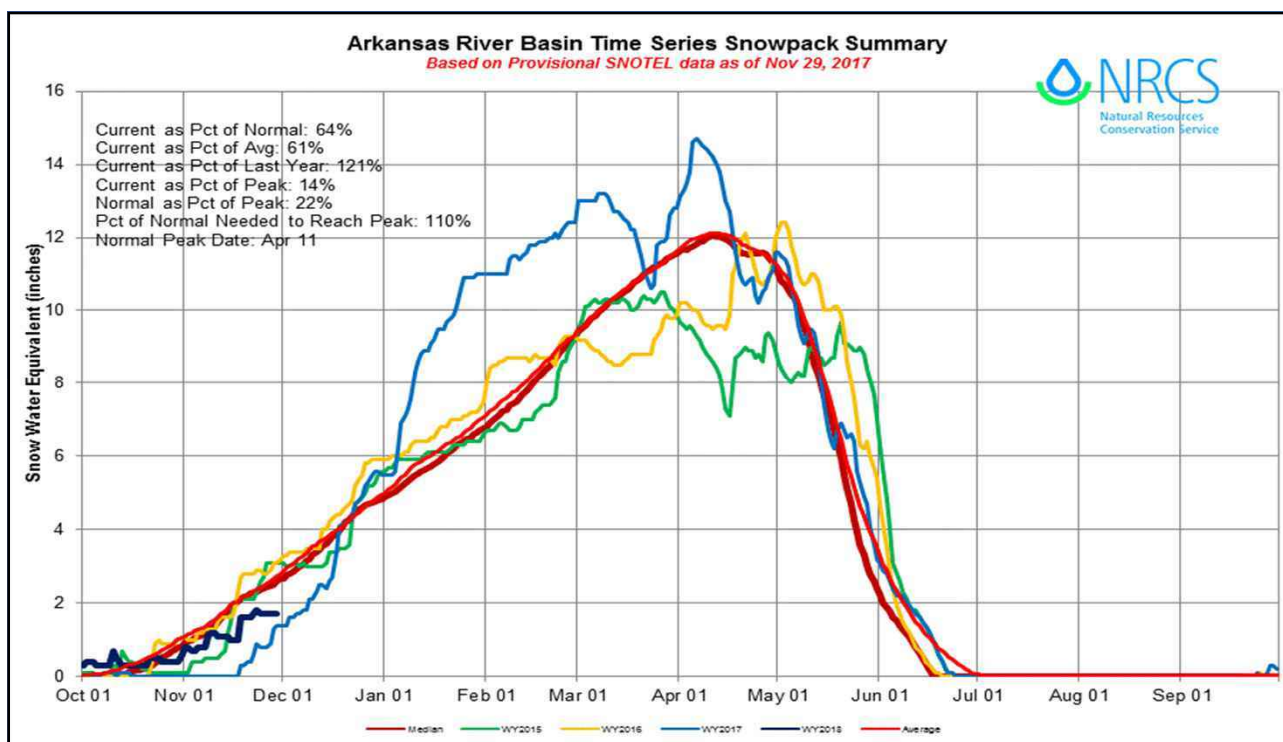
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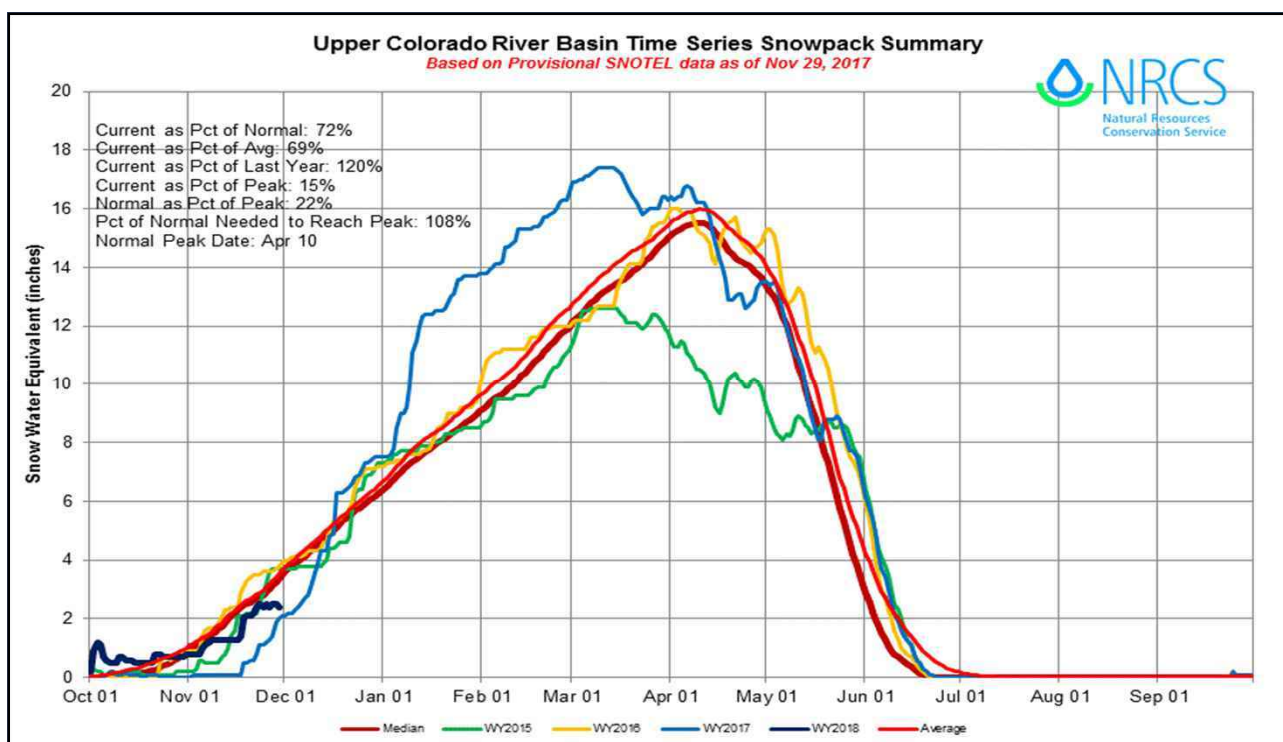
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10

Winter Operations

- Currently moving 115 cfs from Twin to Pueblo.
- We anticipate moving a total of 60,000 AF from Turquoise through Twin to Pueblo.
- Movement of water will be adjusted according to the forecast and customers needs.



RECLAMATION

11

Hydro Plant Update

- The Lease of Power Privilege has been finalized with SECWCD.
- Reclamation has approved the design, specifications, and submittals for phase 1 & 2 and is currently reviewing the final phase.
- Construction on the Hydro plant began in September 2017.



RECLAMATION

12



13



14



15

AVC and Master Contract

- The Arkansas Valley Conduit and Long Term Excess Capacity Master Contract Environmental Impact Statement was completed in August 2013 and Record of Decision was signed February 2014.
- The Primary Feasibility Design Report (FDR) for AVC and two supplemental FDRs are complete.
- The Master Contract was executed with the SECWCD in December 2016.

For questions specific to the project, please contact:

Patrick Fischer: 970-962-4326 E-mail: pfischer@usbr.gov

RECLAMATION

16

Trinidad 10-Year Review Status

- Draft Report was posted on Oct 18, 2017
- Initially, comments were due by Nov 20, 2017
 - Comment period extended to Dec 22, 2017 (65 day comment period)
 - <https://www.usbr.gov/gp/eca/trinidad/>
- Comments will be incorporated into report and posted as Final Draft by Dec 31, 2017
- Final Report will be released by Jan 16, 2018

For additional information please contact Chris Gnau: 970-962-4332 E-mail CGnau@usbr.gov



RECLAMATION

17

Southern Delivery System

- SDS is a \$1.1 billion dollar project by Colorado Springs, Security, Fountain, and Pueblo West to build a 62-mile pipeline from Pueblo Dam with a capacity of 96 mgd.
 - Phase 1 is complete and the delivery of water commenced April 28, 2016.
 - Fountain Creek Diversion and Pinello Ranch Mitigation Projects were completed in 2017.
 - Land acquisition for the Gary M. Bostrom Reservoir (Formerly Upper Williams Creek Reservoir) is ongoing and will be completed in 2018 with construction (SDS Phase 2) to begin in 2029.
 - No schedule has been discussed for the construction of the Williams Creek Reservoir
- Visit: <http://www.sdswater.org>



RECLAMATION

18

Mussels

- Facility assessment for the Fry-Ark are complete.
- The action response plans are complete.
- To date we have found no adults on substrate samples, and results were negative this year for mussel larvae Pueblo Reservoir.
- For a copy of the Pueblo assessment/findings reports please contact: Pat McCusker. Phone: 970-962-4342
E-mail: PMcCusker@usbr.gov

RECLAMATION

19

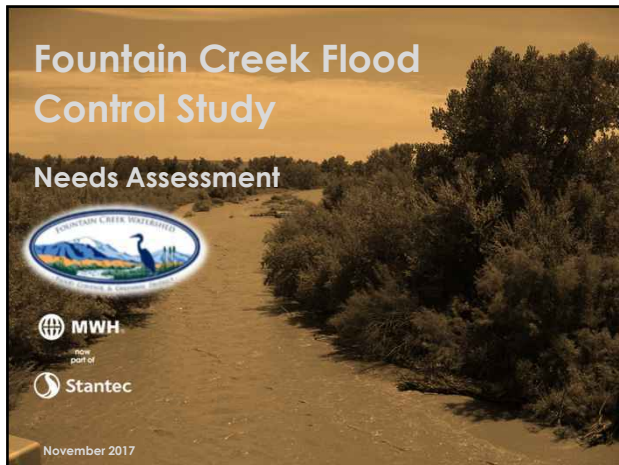


20

Exhibit F

Annual Meeting


December 7, 2017



1

Fountain Creek Flood Control Study Phases


- **Phase 1** – Appraisal Study >> Feasibility of Three Alternatives and Subalternatives
 - Completed January 2017
- **Phase 2** – Needs Assessment >> Screen Alternatives and Select Preferred Alternative
 - To be completed February 2018
- **Future Phases** – Financing, Permitting, Design, Construction



2

Scope of Phase 2

- Stakeholder-driven process
- Select alternatives for study
- Develop evaluation criteria
- Evaluate alternatives
- Select preferred alternative
- Deliver Final Report



3

Stakeholder Process



4

Stakeholder Group


- Pueblo County
- Colorado Springs Utilities
- City of Colorado Springs
- Landowners
- Water right owners
- Division of Water Resources
- Environmental groups



5

Stakeholder Meetings

- Monthly meetings
- June – November
- Anticipate 1-2 more meetings
- Provide input on consultant team work and provide direction
- Discuss issues and reach consensus



6

Alternative Screening

7

Flood Control Alternatives From Phase 1

- Mainstem Dam for Flood Control Only, Original Alignment
- Mainstem Dam for Flood Control Only, Alignment Avoiding I-25/RR
- Mainstem Dam with Permanent Pool, Original Alignment
- Mainstem Dam with Permanent Pool, Alignment Avoiding I-25/RR
- 10 Small Side Detention Ponds
- One Large Side Detention Facility

8

Phase 1 Alternative Comparison

Flood Control Alternative	Flood Benefits	Cost	Technical Challenges	Permitting and Environmental Impacts	Social Impacts	Water Rights Issues
Mainstem, Single Purpose, Protect I-25/RR	Green	Yellow	Green	Yellow	Yellow	Yellow
Mainstem, Single Purpose, Relocate I-25/RR	Green	Yellow	Red	Yellow	Yellow	Yellow
Mainstem, Multi-Purpose, Protect I-25/RR	Green	Red	Yellow	Red	Yellow	Red
Mainstem, Multi-Purpose, Relocate I-25/RR	Green	Red	Red	Red	Red	Red
10 Side Detention Basins	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Single Side Detention Basin	Red	Green	Yellow	Green	Green	Yellow

Notes:
 "Flood benefits" is based on objective of 10,000 cfs for 100-yr flood peak for Fountain Creek at Pueblo.
 "Cost" is based on total project cost.
 "Technical challenges" include major relocations and difficult hydraulic structures.
 "Permitting and environmental impacts" include NEPA compliance, wetland impacts, species impacts, and sediment management.
 "Social impacts" include number and size of affected private properties.
 "Water rights issues" include priority and acquisition of water rights.

9

Remaining After Screening

- Mainstem Dam for Flood Control Only, Original Alignment
- **Mainstem Dam for Flood Control Only, Alignment Avoiding I-25/RR**
- Mainstem Dam with Permanent Pool, Original Alignment
- Mainstem Dam with Permanent Pool, Alignment Avoiding I-25/RR
- 10 Small Side Detention Ponds
- **One Large Side Detention Facility**
- **Floodplain Management + Detention Basin**

10

Mainstem Dam



11

Mainstem Dam with Flood Pool Only and Alignment Avoiding I-25 and R/R



12

Single Off-Channel Basin



MWH Stantec

13

Floodplain Management Alternative

- Fountain Creek District Fountain Creek Corridor Master Plan
 - Channel stabilization
 - Bank stabilization
 - Reconnect floodplain
 - Restore habitat
 - Acquire easements
- 3-6 small detention basins

MWH Stantec

14

Floodplain Management Alternative



MWH Stantec

15

Floodplain Management Alternative



MWH Stantec

16

Alternative Evaluation

MWH Stantec

17

Evaluation Criteria

- Safety
 - Reduction in 100-yr peak flow in Pueblo
 - Avoid transfer of risks (downstream erosion, dam safety)
 - Acres removed from 100-yr floodplain
- Resiliency
 - Flood recovery and repair
 - Promote natural processes
- Constructability and Cost
 - Benefit-cost factor
 - Capital cost
 - Operation and maintenance

MWH Stantec

18

Evaluation Criteria

- Environment
 - Habitat
 - Water quality
 - Sediment transport
 - Recreation
 - Wetlands
 - Permittability
- Community
 - Number of parcels and acreage affected
 - Funding and collaboration opportunities
 - Water rights impacts
 - Value of new developable land

19


Evaluation Criteria

- Schedule
 - Timing for full buildout
 - Phasing ability
 - Interim benefits

20

Evaluation of Alternatives

Evaluation of Alternatives		<table><tr><td>Good</td></tr><tr><td>Better</td></tr><tr><td>Best</td></tr></table>			Good	Better	Best
Good							
Better							
Best							
Category	Criteria	Mainstem Dam	Single Side Channel Dam	Floodplain Management			
Safety	Reduction in flood risk						
	Avoid transfer of risks						
	Number of acres of land protected						
Resiliency	Flooding recovery and repair						
	Promote natural processes						
Constructability / Costs	Relationship of cost to benefits						
	Cost requirements						
Environment	Repair and maintenance						
	Habitat						
	Water quality						
	Geomorphology						
	Downstream sediment deposition						
	Recreational benefits						
	Wetlands						
	Permittability						
Community	Property rights and uses						
	Funding and collaboration						
	Impact to existing water rights						
Schedule	Economic development						
	Timing for full buildout						
	Phasing						
	Interim benefits						



21

Key Comparisons

- Only the Mainstem Dam alternative meets the 100-yr target of 14,000 cfs in Pueblo
- All alternatives have similar implementation costs: \$140-\$200 million
- The Floodplain Management alternative provides the most environmental benefits and is the most permittable
- The Floodplain Management alternative has the least impact on private property and water rights
- The Floodplain Management alternative is the only alternative that can be phased, but would require the longest time to completion

22

Recommendation

- The Floodplain Management Alternative is the recommended flood management alternative for Fountain Creek as it:
 - provides multiple benefits in addition to flood management
 - has stakeholder support
 - could attract outside funding for certain components
 - could be combined with localized floodplain measures in Pueblo at currently flood-prone locations to address the key flood control objectives along Fountain Creek in Pueblo

23

Localized Floodplain Measures in Pueblo

24



25



26

 **MWH** now part of  **Stantec**

27



28

 **MWH** now part of  **Stantec**

29

Next Steps

30

Next Steps

- Prepare final report
- Present results to the public

QUESTIONS/COMMENTS?

Exhibit G

Annual Meeting

December 7, 2017



SOUTHEASTERN COLORADO WATER CONSERVANCY DISTRICT

Fryingpan-Arkansas Project 2017 Report

Prepared for the Arkansas River Compact Administration

December 7, 2017

1. Fryingpan-Arkansas Imports

The primary purpose of the Southeastern Colorado Water Conservancy District is to provide supplemental water for municipal, industrial and agricultural use in the Arkansas River basin within Colorado.

The Bureau of Reclamation operates the Fryingpan Arkansas Project, which brings in an average of about 56,000 acre-feet each year. In 2017, a total of 67,009 acre-feet were brought into the Arkansas River basin by the Fry-Ark Project.

With deductions for contractual obligations, transit loss and evaporation, the District allocated 46,141 acre-feet of Fry-Ark Project Water. Of this, 35,023 acre-feet went to agriculture, while 11,118 acre-feet went to municipal and industrial water providers.

The District also sold 13,386 acre-feet in return flows, including 12,365 acre-feet to agriculture and 1,021 acre-feet to M&I.

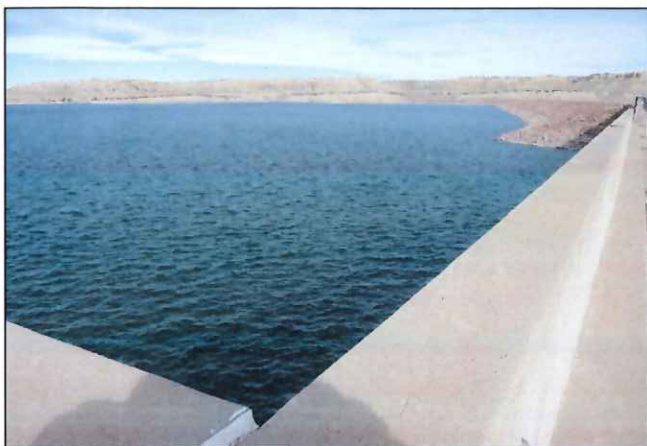
Under Allocation Principles, M&I is entitled to 54.49 percent of Fry-Ark allocations, however cities did not require their full allocation in 2017.



Water flows into Turquoise Lake from the Boustead Tunnel in May.

Fryingpan-Arkansas Allocations

2017	First-use	Return flows
M&I	11,118 AF	1,021 AF
AG	35,023 AF	12,365 AF



Pueblo Reservoir, as seen from top of Pueblo Dam in January.

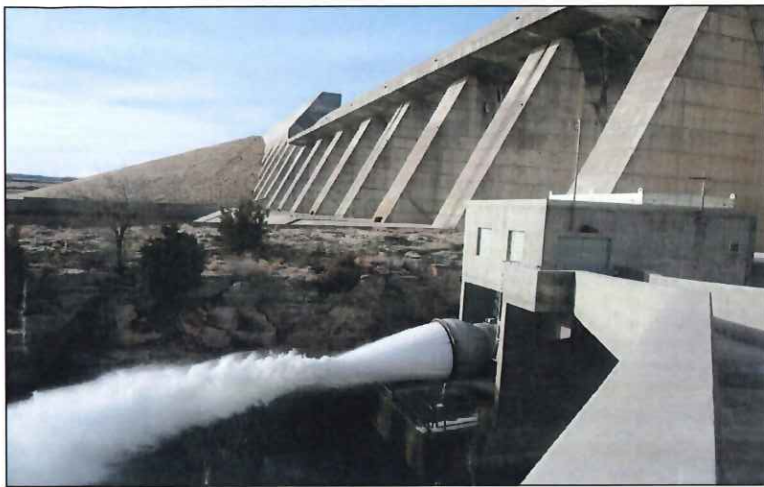
2. Excess-Capacity Master Contract

The District began its first year of administering an Excess Capacity Contract with the Bureau of Reclamation in 2017. The contract was finalized in December of 2016.

The Contract allows the District to store up to 29,938 acre-feet of non-Project water owned by beneficiaries in Pueblo Reservoir annually for the next 40 years. A total of 16 water providers requested 6,525 acre-feet of storage for the first year.

An equal amount will be stored in 2018.

Exhibit 6



3. Hydropower Project

Work began in September on a 7.5-megawatt hydroelectric power plant at Pueblo Dam. Mountain States Hydro LLC is the lead contractor, and work is expected to be completed in time for initial operation in 2018.

The work is being completed with the assistance of a loan from the Colorado Water Conservation Board.

The plant is designed to generate electricity at flows to the river ranging from 35-810 cubic feet per second. No water is consumed in the process. Two penstocks will hook into connections on the Bureau of Reclamation pipeline that delivers water to the Southern Delivery System.

The plant will be located just downstream from the North Outlet Works that was constructed as part of SDS and also is now owned by the Bureau of Reclamation.



Blasting was used to excavate rock at the hydro site next to the Arkansas River. The microblasts were coordinated to depths of 25-40 feet with the use of about 600 bore holes. The depths were calculated to match elevations of the foundation of the housing for the hydro plant.

Top Left: North Outlet Works.

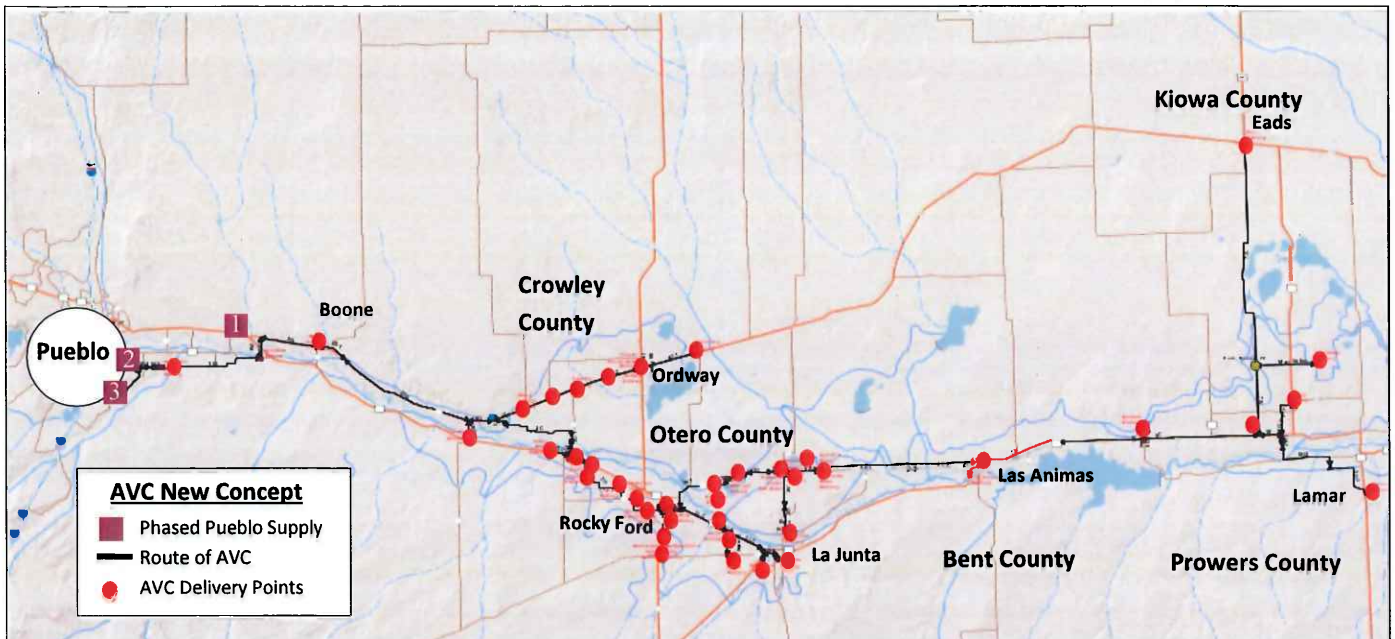
Bottom Left: The first blast.

Top Right: Drilling holes.

Second Right: Placing blast mats.

Third Right: Removing material.

Bottom Right: Excavated hole



4. Arkansas Valley Conduit

In an effort to save time and hopefully money, the District advanced a plan to use excess capacity in Pueblo Water's system to connect with the Arkansas Valley Conduit route east of Pueblo.

The phased approach could bring water to communities that are facing enforcement action for radionuclide contamination years sooner the Comanche North plan chosen in the 2014 Record of Decision by the Bureau of Reclamation.

Under North Comanche, the AVC would begin at Whitlock Treatment Plant, with water being pumped uphill to a regulating tank southwest of Pueblo.

Under what is being termed the "New Concept" water would initially be delivered at the east end of the Pueblo Airport Industrial Park, where it could connect to the AVC route with a new 6-mile pipeline. Other connection points would be added later.

Preliminary discussions and studies on the New Concept proposal are continuing, and Reclamation will make the final decision on whether to use the new route.



5. Standard Water Court Conditions

The District Board adopted standard language for water court cases in April 2018 in an attempt to reduce time and legal costs.

District lawyers prepared a 26-page memo that contains language that has been used in past water court cases to satisfy District requirements in court cases in Water Division 2 (Arkansas River basin).

The standard language covers Fry-Ark water, return flows and facilities; Winter water storage program; Upper Arkansas Voluntary Flow Management Program; Pueblo Flow Management Program; exchanges; and revegetation.

In an unusual move, the District will make the memo available to the public, including those who

have filed statements of opposition in Southeastern cases or those opposed by Southeastern.

Because the District serves a nine-county area along the mainstem of the Arkansas River, it has typically become involved in all major and many minor water court cases. At times, the District's interests may not be the same as its constituents' concerns.

The standard language is a way to protect the District's interests while saving its stakeholders money.



6. Leadership Changes

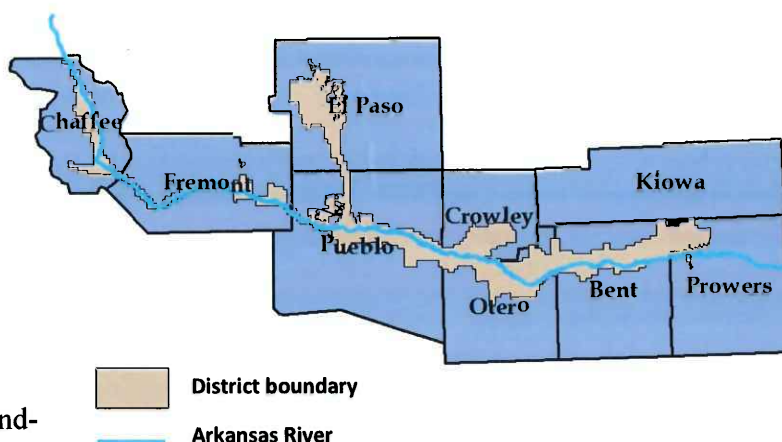
Five Board vacancies opened during 2017, which is unusual for a District where many Directors have served decades.

The Southeastern Board is made up of 15 directors, who represent the District both by region and in accordance to population.

In April, Seth Clayton replaced David Simpson, in Pueblo County; and Greg Felt replaced Jay Moore, in Chaffee County as standard four-year appointments. In July, Alan Hamel replaced Pat Edelmann in Pueblo County, after Edelmann moved from the county.

Gary Bostrom, the board's vice-president, died unexpectedly in August. His replacement has not yet been named.

Vera Ortegon, the board's secretary, resigned in November. Her replacement has not been named.



Seth Clayton



Greg Felt



Alan Hamel

Southeastern Colorado Water Conservancy District Board of Directors



El Paso County

Curtis Mitchell
Ann Nichols
Mark Pifher
Gibson Hazard
(vacant)

Pueblo County

Seth Clayton
Alan Hamel
(vacant)
At Large
Kevin Karney

Bent County

Bill Long

Chaffee County

Greg Felt

Crowley County

Carl McClure

Fremont County

Tom Goodwin

Kiowa-Prowers

Dallas May

Otero

Howard "Bub" Miller

Exhibit H

Annual Meeting

December 7, 2017

Arkansas Basin Roundtable Report – December 6, 2017

In 2017, the Arkansas Basin Roundtable has approved 7 Water Supply Reserve grants for a total of \$1.6 million. Approved projects include, but not limited to, continued public education/outreach, recharge ponds, replacing old canal lining and rehabilitating dams.

The Basin Roundtable members also provide support to applicants who seek Roundtable approval for proposed Colorado Water Plan grants. The CO Water Plan grant program is a new grant program created within the CO Water Conservation Board to advance the goals and actions in the CO Water Plan.

Roundtable members remain actively engaged in Interbasin Compact Committee meetings and have participated in the Statewide Water Supply Initiative Technical Advisory Groups. Several Roundtable members attended an East Slope Roundtable Summit in June 2017. Many members also attend various stakeholder meetings across the basin.

Continuing issues for the basin include finding funding sources for multiple water projects and an increased effort to improve water quality throughout the basin.

The Arkansas River Watershed Collaborative (ARWC) is in the process of securing non-profit status. The ARWC is currently tackling watershed health issues across the basin including fire recovery and mitigation efforts and will soon develop stream management plans.

An election was held for several open Executive Committee positions in October. No new candidates volunteered or were nominated so incumbent committee members were reelected to remain and serve another term.

Exhibit H

Exhibit I

Annual Meeting

December 7, 2017

Ten-year Accounting of Depletions and Accretions to Usable Stateline Flow
2007 - 2016

1	2	3	4	5	6	7	8	9
Year of Ten-year Cycle	Model Year	H-I Model Usable Depletion/ Accretion ¹	Offset Account Credits ²					Remaining Usable Depletion/ Accretion ⁶
			Stateline Delivery to Kansas	Evaporation Credit	Gross Credit ³	Applied to Post-1985 Depletions ⁴	Net Credit ⁵	
1	2007	-301	6,650	0	6,650	1,025	5,625	-5,926
2	2008	-2,198	11,617	0	11,617	1,288	10,329	-12,527
3	2009	-148	5,511	0	5,511	1,256	4,255	-4,403
4	2010	410	10,241	0	10,241	1,548	8,693	-8,283
5	2011	1,841	6,436	0	6,436	1,717	4,719	-2,878
6	2012	4,044	0	0	0	1,479	-1,479	5,523
7	2013	2,594	0	0	0	1,505	-1,505	4,099
8	2014	4,332	2,728	0	2,728	1,635	1,093	3,239
9	2015	2,779	2,695	0	2,695	2,337	358	2,421
10	2016	4,328	4,044	0	4,044	3,043	1,001	3,327
Total		17,681	49,922	0	49,922	16,833	33,089	-15,408
Shortfall for 2017								0

Water Quantities are in acre-feet.

¹ Positive values in Columns 3 and 9 reflect depletions; negative values, accretions. H-I Model results in Column 3 for 2016 are based on input file UPDATE16_June17.dat.

² Positive values in Columns 4, 5, 6, and 8 reflect credits; negative values, debits.

³ Column 6 is the sum of Columns 4 and 5.

⁴ Column 7, a positive value, is the amount of Offset Credit applied to Post-1985 depletions, determined pursuant to Appendix A.3 of the 2009 Judgment and Decree in KS v CO.

⁵ Column 8 is Column 6 minus Column 7.

⁶ Column 9 is Column 3 minus Column 8.

Exhibit J

Annual Meeting

December 7, 2017

Arkansas River Compact Administration
Engineering Committee
Meeting Summary and Action Items
December 6, 2017
Lamar, Colorado

The committee requested Brent Campbell and Erik Skeie to produce a brief summary of presentations made and a list of action items for this committee meeting.

Meeting Summary

The committee heard an update from Kelly Thompson, CDWR on progress related to the Colorado Decision Support Systems.

The committee heard a report from Kevin Salter, KDWR on the Trinidad Operating Principles Ten-year Review.

The committee heard an update from Bill Tyner, CDWR on the states one-year agreement on the use of Highland Canal water for the John Martin Permanent Pool.

The committee deferred a report on the Fountain Creek Flood Control Study to the 2017 ARCA Annual Meeting.

The committee heard an update from Bill Tyner, CDWR on the states' efforts to resolve LAWMA Water Court decree issues.

The committee heard an update from Amy Louise, U.S. Army Corps of Engineers on Trinidad, John Martin, and other issues.

The committee heard a report from David Barfield, KDWR on activities of the Special Engineering Committee in the past year.

The committee heard a report from Steve Witte, CDWR on submergence issues related to the state-line flume on the Frontier Ditch this year and provided a recommendation to replace the 50+ year old ditch flume.

The committee heard a report from Chris Woodka, Southeastern Colorado Water Conservancy District highlighting their activities.

The committee heard an update from Ben Wade, Colorado Water Conservation Board on the Arkansas basin Roundtable.

Action items

1. The committee recommends ARCA support funding to replace the Stateline Compact Flume on the Frontier Ditch.

Exhibit 5

David Barfield
David Barfield, Chair

Date: _____

Rebecca Mitchell
Rebecca Mitchell (for Scott Brazil), Member

Date: _____

Arkansas River Compact Administration
Operations Committee
Meeting Summary and Action Items
December 6, 2017
Lamar, Colorado

The committee requested Brent Campbell and Erik Skeie to produce a short summary of presentations made and a list of action items for this committee meeting.

Meeting Summary

The committee received the Compact Year (CY) 2017 reports of the Operations Secretary (Steve Witte) and Assistant Operations Secretary (Kevin Salter).

The committee heard an update on the "Water Issues Matrix" from Kevin Salter (KDWR)

The committee received the 2017 report for the Offset Account from Bill Tyner, CDWR.

The committee received Colorado's Presumptive Depletion Factor (PDF) Evaluation Report from Kelley Thompson, CDWR.

The committee heard an update on the implementation of the Irrigation Improvement Rules from Bill Tyner, CDWR.

The committee received an update on the status of the 2017 Offset Account review from Kevin Salter, KDWR.

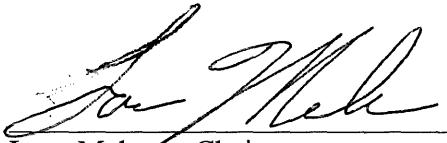
The committee heard an update from Bill Tyner, CDWR, on the potential for spill from Trinidad, John Martin, and/or Pueblo reservoirs.

The committee heard an update from Kevin Salter, KDWR on the 2012-2016 Offset Account Five-year Review.

Action items

1. The committee acknowledged receipt of the CY 2017 reports of the Operations Secretary (Steve Witte) and Assistant Operations Secretary (Kevin Salter).
2. The Ten-year Compact Compliance Accounting table for 2006-2016 was presented. The Committee recommended that this table be an exhibit to the 2017 ARCA Annual Meeting transcript and included in the Compact Year (CY) 2017 Annual Report.
3. The committee recommends referring the 2006-2017 Operations Secretary reports to the Special Engineering Committee. Specifically, what in addition to Matrix Item 23 will result in acceptance of the reports.

4. The committee recommends findings pursuant to Article V.H. regarding the Arkansas River Farms request to divert up to 1,700AF through the Lamar Canal during the 2017-2018 winter storage season be referred to the Special Engineering Committee. Colorado will provide, in written form, any facts and data related to this request to Kansas.


Lane Malome, Chair


Hal Scheuerman Member

Date: 12-6-17

Date: Dec 6, 2017

Arkansas River Compact Administration
Administrative & Legal Committee
Meeting Summary and Action Items
December 6, 2017
Lamar, Colorado

The committee requested Brent Campbell and Erik Skeie to produce a short summary of presentations made and a list of action items for this committee meeting.

Meeting Summary

The committee reviewed the 2017 annual meeting agenda. Kevin Salter presented changes based on the presentations during the committee meetings. Including making introductions off the record.

The committee heard a report from Stephanie Gonzales, Recording Secretary and Treasurer.

The committee heard an update from Kevin Salter, KDWR, on the status of transcripts from prior annual meetings (1998 and 1999)

The committee heard an update on the status of the ARCA annual reports from Brent Newman, CWCBC, noting the status of the reviews and publishing of the annual reports.

Action items

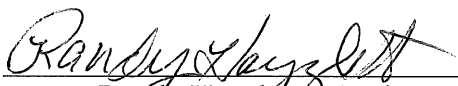
1. The committee recommends that ARCA adopt the 2015 and 2016 Annual Meeting Transcripts, and the April 2017 Special meeting written summary.
2. The committee recommends approval of the FY 2016-17 Auditor's Report.
3. The committee recommends ARCA direct Stephanie Gonzales to sign USGS cooperator agreements.
4. The committee recommends adopting the Fiscal Year (FY) 2018-2019 Budget and assessment presented by Brent Newman.
5. The committee refers the resolution regarding the John Martin Reservoir Permanent Pool to the Special Engineering Committee.
6. The committee recommends that ARCA adopt the resolution titled *Renewal of the Special Engineering Committee*. This resolution will include items referred to the Special Engineering Committee during the 2017 committee meetings.

Exhibit J

7. The committee recommends sending letters of recognition for Rachel Duran and Steve Miller.
8. The committee recommends the following slate of officers and committee chairs for CY 2018:
 - a. ARCA officers:
Vice-chair..... Randy Hayzlett
Recording/Secretary- Treasurer..... Stephanie Gonzales
Operations Secretary.....Bill Tyner
Assistant Operations Secretary..... Kevin Salter
 - b. Committee Chairs:
Administrative & Legal.... Randy Hayzlett as Chair, Rebecca Mitchell as member
Operations..... Hal Scheuerman as Chair, Lane Malone as member
Engineering.....Scott Brazil as Chair, David Barfield as member
9. The committee recommends adopting the revisions to the ARCA Bylaws.
10. The committee recommends December 6, 2018 for the committee meetings with December 7, 2018 for the annual meeting. Both meetings to be held in Garden City, Kansas.
11. The committee recommends meeting as needed to review the ARCA Annual Report template.


Rebecca Mitchell, Chair

Date: 12-7-2017


Randy Hayzlett, Member

Date: 12-7-2017

ATTENDANCE LIST
ARKANSAS RIVER COMPACT ADMINISTRATION COMMITTEE MEETINGS
Wednesday, December 06, 2017, 1:30 P.M. (MST), Lamar, Colorado

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>Attending Engineering</u>	<u>Attending Operations</u>	<u>Attending Legal & Ad</u>
Kevin Selten	KDA-DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
David Saylor	KDA-DWR	Manhattan, KS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Brent Campbell	KDA-DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Brandy Cole	KDA-DWR	GCFC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ginger Pugh	KDA-DWR	Manhattan, KS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kenneth Titus	KDA-DWR	Manhattan, KS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dak Bork	KDA-DWR-Sprinkler		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Randy Naylor	ARCA Rep	LAKIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Nabil Shafike	VSACE	Albuquerque	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cris Brighel	KDA-DWR	Manhattan, KS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DAN RICHARDS	RICHARDS D&L CALIBRATION	RD 21 EADS, CO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Exhibit J

ATTENDANCE LIST
ARKANSAS RIVER COMPACT ADMINISTRATION COMMITTEE MEETINGS
Wednesday, December 06, 2017, 1:30 P.M. (MST), Lamar, Colorado

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>Attending Engineering</u>	<u>Attending Operations</u>	<u>Attending Legal & Ad</u>
Rena Brand	Colorado Parks & Wildlife	4255 Sinton Rd, Co Springs, CO 80907	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CHRISTIAN GNAU	U.S. Bureau of Reclamation	11056 West County Rd 18e Loveland CO 80537	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mike VALENTINE	CITY OF TRINIDAD	135 N. ANIMAS ST. TRINIDAD, CO 81082	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Duane Helton	Arkansas River Farms	504 Greenhorn Drive Canon City, CO 81212	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BOB KIMBROUGH	USGS-COLORADO	Box 2605 DENVER FEDERAL CTR M.S. 415 DENVER CO 80225	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kystal Brown	USGS-Colorado	201 E 9th St Pueblo, CO 81006	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wiley Work	City of Lamar	102 E. 1st Street Lamar CO 81052	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STEVE KASTNER	PRWCD	3590 EAST MAIN STREET TRINIDAD CO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Michael Yoder	Enlarged Southside Dist 67	18502 US Hwy 350 Trinidad, CO 81082	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jeremy Yoder	PRWCD	18502 US Hwy 350 Trinidad CO 81082	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Don Steerman	Dist 67	P.O. 309 LAMAR, CO 81052	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

ATTENDANCE LIST
ARKANSAS RIVER COMPACT ADMINISTRATION COMMITTEE MEETINGS
Wednesday, December 06, 2017, 1:30 P.M. (MST), Lamar, Colorado

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>Attending Engineering</u>	<u>Attending Operations</u>	<u>Attending Legal & Ad</u>
Rachel Zancanella	CO DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Philip Reynolds	DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
JOSEPH TAUBOTT	DWR		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bethany Arnold	DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Jeff Montoya	DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lance Spady	CO DWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cindy Lair	CO Dept of Ag	Bismfield CO.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lance Miller	Agri Rep		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DA. STEUER	CO ATTY GEN		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kelley Thompson	CDWR		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eric Skwe	CWB	1313 Sherman St R-718 Denver CO 80203	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ATTENDANCE LIST
ARKANSAS RIVER COMPACT ADMINISTRATION COMMITTEE MEETINGS
Wednesday, December 06, 2017, 1:30 P.M. (MST), Lamar, Colorado

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>Attending Engineering</u>	<u>Attending Operations</u>	<u>Attending Legal & Ad</u>
Se + B...	RCD		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ryan Gro...	USACE		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arny Louise	USACE		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Ben Wood	CWCB	1313 Sherman St. Rm 500 Denver, CO 80203	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
KEVIN LEIN	IAE		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Edith	IWR	100 E. Broadway Durango, CO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rebecca	CWCB		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Don & Angie Higbee	LAOMA		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dale March	Ft Lyon		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
KATH. NYOU	ARF		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
John Van. Cort	CDWR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Stanley H. Jr.	Frontier D. for		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Jack Goble	LAUCCB		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brett A. Le...	...		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Stephanie Gonzales	ARCA Rec. Secretary	Po Box 1106 Lamar CO 81052	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steven Hines	Frontier Ditch Co	Box 147 Cooke, KS 67836	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Exhibit K

Annual Meeting

December 7, 2017

ANNUAL REPORT

OF THE

OPERATIONS SECRETARY

CONCERNING THE OPERATION

OF

JOHN MARTIN RESERVOIR

COMPACT YEAR 2017

SUBMITTED TO THE

OPERATIONS COMMITTEE

ARKANSAS RIVER COMPACT ADMINISTRATION

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ARKANSAS RIVER COMPACT ADMINISTRATION

307 South Fifth Street, Lamar, Colorado 81052

719-336-9696

For Colorado

Chairman and Federal Representative
Vacant

For Kansas

Rebecca Mitchell, Denver

David Barfield , Topeka

Scott Brazil, Pueblo

Hal Scheuerman, Deerfield

Lane Malone, Holly

Randy Hayzlett, Lakin

December 1, 2017

Mr. Hal Scheuerman, Chairman

Arkansas River Compact Administration – Operations Committee, 2016-2017

Dear Sir,

The purposes of this letter report is to provide you with an accounting summary of the operation of John Martin Reservoir for the (2017) compact year, which is incorporated and made a part hereof and to document certain activities and accomplishments that occurred within the year in concert with the directions of the Operations Committee.

Summary of Operations November 1, 2016 to October 31, 2017

The 2017 compact year started with a balance for all accounts totaling 93,803.99 acre feet (ac/ft). The compact year closed on October 31, 2017 with an ending balance for all accounts in John Martin Reservoir totaling, 243,935.34 ac/ft. See Section 2 – Accounting Supplements - Daily Status Report for 11012016 and Daily Status Report for 10312017.

CONSERVATION STORAGE

In accordance with the revised 1980 Operating Plan, the 2017 compact year began at 00:00 hours on November 1, 2016 with a period of “winter storage” in which all inflow into John Martin Reservoir accrued to conservation storage.

During the period of Winter Compact storage from November 1, 2016 through March 31, 2017, 27,155.32 ac/ft (net) was stored as Compact Water. An additional 4,818.96 ac/ft was added to Conservation Storage during April 2017, prior to the end of winter storage. Distribution began on April 3, 2017, in accordance with Subsection II A of the revised 1980 Operating Plan and continued at the prescribed rates until exhausted on April 18, 2017, resulting in the transfer of 31,756.06 ac/ft as prescribed by Section II D of the 1980 Operating Plan. See Section 2 – Table I and Accounting Supplement - Distribution of Compact Stored Water April 2017

In contrast, the previous year's storage totaled 43,374.58 ac/ft (net). The 1950 to 1975 historical average winter storage amount is 22,209 ac/ft.

During the 2017 Summer Compact Storage season there were three storage events that resulted in additions to Conservation Storage of 207,002.43 ac/ft. The first storage event began on May 11, 2017 and concluded on July 17, 2017 totaling 154,941.72 a/f. The second storage event began on July 31, 2017 and concluded on August 25, 2017 totaling 48,876.73 a/f, and the third storage event began on September 30, 2017 and concluded on October 3, 2017 totaling 7,157.32 a/f. See Section 2 Accounting Supplement - John Martin Reservoir Summer Storage Inflows

During the year, the maximum end of day content of 265,938.99 ac/ft was reached on June 27, 2017.

As a result of the Las Animas Consolidated Ditch not utilizing all of its Section III water by the end of the 2016 compact year, 97.61 ac/ft of water was transferred to Conservation Storage on November 1, 2016, pursuant to Subsection III C. of the 1980 Operating Plan. Similarly, 2005.67 ac/ft of water is subject to transfer to Conservation Storage on November 1, 2017.

“OTHER WATER”, INCLUDING PUEBLO WINTER WATER PROGRAM

The base flow at the Arkansas River at Las Animas gage was determined during the period November 1st through November 14th based on worked records by the Colorado USGS and the Colorado Division of Water Resources (CDWR). There were two separate measurements prior to November 14th at the Arkansas River at Las Animas 58.4 cfs was measured on November 10, 2016 by CDWR and 71.5 cfs was measured on November 14, 2016 by the USGS. The base flow was determined to be 62.43 cfs per cooperative agreement between (CDWR) and Kansas Division of Water Resources (KDWR). For documentation purposes, CDWR had conducted an inspection of the LA Consolidated Ditch and had determined that the LA Consolidated Ditch was not bypassing any flows around the ARKLASCO gauge. KDWR did not attend this inspection but agreed with CDWR assessment of this inspection. Measurements were also conducted by the USGS on November 23, 2016 (176 cfs) and by the CDWR on November 22, 2016 (135 cfs) which assisted in USGS working the records. The Compact Storage/Pueblo Winter Water Program (PWWP) split percentages were calculated daily from November 27, 2016 through December 3, 2016 using current day enhanced flows to base line flows. After flow rates stabilized, computations were made and the Compact/PWWP split percentages were 42.02% for Compact Water and 57.98% for Winter Water. The methodology for determining the conservation storage to winter water ratio was consistent with the method utilized in prior years and a worksheet summarizing the determinations made was provided to the Assistant Operations Secretary's staff.

Beginning on November 16, 2016, 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. See Section 2 – Table II for details.

Thirty five percent of the water initially placed into the winter water holding account was transferred out of the holding account each day and distributed as prescribed by Section III D of the 1980 Operating Plan.

- On November 16, 2016, 72.00 ac/ft of water was transferred to the Kansas Section II account to pay back the deficit accrued during the delivery to Kansas between June 6, 2016 and June 30, 2016.
- Following the pay back of the deficit to Kansas water was allocated to filling the Transit Loss account. A total of 850.94 ac/ft was transferred into this account and was completed between November 16, 2016 and December 1, 2016.
- Between November 16, 2016 and March 15, 2017, 1,626.78 ac/ft of water was transferred into the Kansas Section II account (See Section 2 – Table IX)---3,392.04 ac/ft of water was transferred into the Water District 67 winter water storage charge account (See Section 2 – Table XI) and thereafter to Colorado Section II accounts (less evaporation).

Sixty five percent of the total amount initially placed into the winter water holding account was detained in the winter water holding account. This detention in the winter water holding account continued through March 15, 2017, when the distribution of 10,602.46 ac/ft occurred to the appropriate accounts pursuant to Section III D of the 1980 Operating Plan. See Section 2 - Tables VI, VII and VIII.

From April through August, Amity was again entitled to store water under the Great Plains Storage right and 76,862.93 ac/ft (gross) was added to their Section III account from which 26,902.19 a/f was storage charge (35%).

OFFSET

The following is a brief description of deliveries to the Offset Account during the year. A transfer of fully consumable water to satisfy the 500 ac/ft storage charge prerequisite was made by the Lower Arkansas Water Management Association (LAWMA) on March 31, 2017. A second transfer from LAWMA’s XY account of 700 a/f of fully consumable water was made on July 11, 2017. Water was delivered through various months of the year by LAWMA from Fort Lyon, Highland Canal and Keesee Ditch water rights. Additionally, 1200 a/f of fully consumable water acquired from various sources was delivered to the Colorado Upstream sub-account from Pueblo Reservoir. There was one release from the Offset Account for delivery to Kansas during the year. See Section 2 – Table III. The operations of the Offset Account are covered in greater detail in a separate report.

PERMANENT POOL

The permanent recreation pool decreased by 165.80 ac\ft (net) during compact year 2017. There was 1,319.56 a/f stored in the Permanent Pool from the Highland Canal per ARCA Resolution 2017-01. There were three storage events from the Muddy Creek storage right in 2017 totaling 121.80 a/f. See documentation of the sources delivered to the Permanent Pool in Section 1 as well as Section 2, Table IV

KANSAS RELEASES

Kansas placed a call for release of water available to them from the Kansas Section II account which began on June 15, 2017 and continued through August 3, 2017 when the release was stopped. Kansas supplemented this release with a release from the Offset Account, which began on June 26, 2017 and continued through July 22, 2017. A total of 51,461.71 ac/ft was released, composed of 40,928.45 a/f of Article II water and 10,533.26 a/f of Offset water. 4,461.25 a/f was released from the Transit Loss Account during this delivery. See Section 2 – Tables III, IX and X.

The Section II release of 40,928.45 ac/ft resulted in a deficit of 0 ac/ft. This determination of deficits or transit losses were made in accordance with the Agreement on Determination of Transit Loss under the provisions of Section II E (4) of the Resolution Concerning an Operation Plan for John Martin reservoir, revised December 2006 and the Agreement concerning the Offset Account in John Martin Reservoir for Colorado Pumping, Determination of Credits for Delivery of Water Released for Colorado Pumping, and Related Matters dated September 29, 2005. The computational worksheets pursuant to these agreements, are included herein as: Section 2 Accounting Supplement_KSRelease_Section2&Offset_06152017-08032017.

The release of water from the Offset Account amounted to 10,533.26 ac/ft that resulted in the delivery of 8,847 ac/ft of consumable water. The computational worksheets are included herein as: Section 2 Accounting Supplement_KSRelease_Section2&Offset_06152017-08032017.

COLORADO ART II RELEASES

A total of 99,724.66 ac\ft were released out of the Colorado Section II accounts. A summary of combined operations of the Colorado Section II accounts is included in Section 2 – Table XII.

ADDITIONAL OPERATIONAL DETAILS

Section 3 of this report contains the daily accounting for the compact year.

Section 4 contains information provided by and included at the request of the Assistant Operations Secretary that documents operations related to efforts to bypass inflows as required by Section II C (1) of the 1980 Operating Plan and other pass through operations.

Summary of Activities Coordinated through Operations Committee

The Operations Committee (Committee) met on one occasion during the 2017 Compact Year. This meeting was held in conjunction with the December 7, 2017 meeting of the Compact Administration. The Operations Secretary and the Assistant Operations Secretary were unable to coordinate a meeting during the 2017 Compact year but were able to meet on November 14, 2017. Additionally, there were numerous interactions throughout the year which included advisories, inquiries and explanations on various topics related to the operation of John Martin Reservoir and the Arkansas River Compact.

The Special Engineering Committee (SEC) met in person on three occasions in Burlington Colorado. There was also 8 different occasions when the SEC or the SEC Staff communicated telephonically.

Respectfully Submitted,



Steven J. Witte
Arkansas River Compact Administration
Operations Secretary

SECTION 1

Date	Muddy Creek Flows (cfs)	Rule Creek Flows (cfs)	DOW Percent of Muddy Creek Flows (5000/13425)	Is Rule Creek Flow < 70% of Muddy Creek	Transit Loss Percent Calcs	DOW Credit to Permanent Pool (cfs)	DOW Credit to Permanent Pool (af)	Accounting Date
7/15/2017	7.31	11.00	2.7	No	30%	1.9	3.8	7/16/2017
7/16/2017	0.00	8.35	0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	
			0.0	NA	NA	0.0	0.0	

3.8

Note: Credits to Permanent Pool computed pursuant to the decree in Colorado CA 1434 and as approved in the Resolution Concerning a John Martin Reservoir Permanent Pool (1976). Rule Creek gage was ice-effected until approximately

Date	Muddy Creek Flows (cfs)	Rule Creek Flows (cfs)	DOW Percent of Muddy Creek Flows (5000/13425)	Is Rule Creek Flow < 70% of Muddy Creek	Transit Loss Percent Calcs	DOW Credit to Permanent Pool (cfs)	DOW Credit to Permanent Pool (af)	Accounting Date
7/28/2017	0.00	34.40	0.0	NA	NA	0.0	0.0	7/29/2017
7/29/2017	73.10	346.00	27.2	No	30%	19.1	37.8	7/30/2017
7/30/2017	5.62	81.20	2.1	No	30%	1.5	2.9	7/31/2017
7/31/2017	46.6	97.5	17.4	No	30%	12.1	24.1	8/1/2017
8/1/2017	0.0	31.4	0.0	NA	NA	0.0	0.0	8/2/2017
8/2/2017	0.0	19.6	0.0	NA	NA	0.0	0.0	8/3/2017
			0.0	NA	NA	0.0	0.0	

64.8

Note: Credits to Permanent Pool computed pursuant to the decree in Colorado CA 1434 and as approved in the Resolution Concerning a John Martin Reservoir Permanent Pool (1976). Rule Creek gage was ice-effected until approximately

Date	Muddy Creek Flows (cfs)	Rule Creek Flows (cfs)	DOW Percent of Muddy Creek Flows (5000/13425)	Is Rule Creek Flow < 70% of Muddy Creek	Transit Loss Percent Calcs	DOW Credit to Permanent Pool (cfs)	DOW Credit to Permanent Pool (af)	Accounting Date
8/11/2017	58.50	128.00	21.8	No	30%	15.3	30.3	8/12/2017
8/12/2017	9.85	32.70	3.7	No	30%	2.6	5.1	8/13/2017
8/13/2017	10.00	16.20	3.7	No	30%	2.6	5.2	8/14/2017
8/14/2017	9.15	17.70	3.4	No	30%	2.4	4.7	8/15/2017
8/15/2017	7.84	12.20	2.9	No	30%	2.0	4.1	8/16/2017
8/16/2017	7.26	8.10	2.7	No	30%	1.9	3.8	8/17/2017
8/17/2017	0.00	0.00	0.0	NA	NA	0.0	0.0	8/18/2017
			0.0	NA	NA	0.0	0.0	

53.1

Note: Credits to Permanent Pool computed pursuant to the decree in Colorado CA 1434 and as approved in the Resolution Concerning a John Martin Reservoir Permanent Pool (1976). Rule Creek gage was ice-effected until approximately

SECTION 2

JOHN MARTIN RESERVOIR

Water Year 2017

TABLE: I COMPACT WATER

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	0.00	6278.78	97.61	0.00	39.40	0.00	6336.99
December	6336.99	5084.60	0.00	0.00	46.34	0.00	11375.25
January	11375.25	6221.93	0.00	0.00	66.68	0.00	17530.50
February	17530.50	4230.62	0.00	0.00	215.15	0.00	21545.97
March	21545.97	6068.69	0.00	0.00	459.34	0.00	27155.32
April	27155.32	4818.96	0.00	31756.06	218.22	0.00	0.00
May	0.00	81534.45	0.00	45620.59	560.27	0.00	35353.59
June	35353.59	59836.97	0.00	74381.40	822.06	0.00	19987.10
July	19987.10	14028.56	0.00	33392.60	165.00	0.00	458.06
August	458.06	48418.67	0.00	48805.60	71.13	0.00	0.00
September	0.00	2732.85	0.00	1983.50	0.00	0.00	749.35
October	749.35	4424.47	0.00	5173.31	0.51	0.00	0.00
Totals:		243679.55	97.61	241113.06	2664.10	0.00	

TABLE: II WINTER WATER HOLDING ACCOUNT

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	0.00	2615.30	0.00	915.34	3.53	0.00	1696.43
December	1696.43	4652.12	0.00	1628.26	16.69	0.00	4703.60
January	4703.60	4224.00	0.00	1478.37	28.16	0.00	7421.07
February	7421.07	3650.85	0.00	1277.77	93.39	0.00	9700.76
March	9700.76	1531.00	0.00	11138.33	93.43	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		16673.27	0.00	16438.07	235.20	0.00	

JOHN MARTIN RESERVOIR

Water Year 2017

TABLE: III OFFSET ACCOUNT

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	4430.74	0.00	0.00	0.00	67.55	0.00	4363.19
December	4363.19	0.00	0.00	0.00	24.97	0.00	4338.22
January	4338.22	0.00	0.00	0.00	19.31	0.00	4318.91
February	4318.91	0.00	0.00	0.00	46.94	0.00	4271.97
March	4271.97	0.00	575.43	0.00	81.19	0.00	4766.21
April	4766.21	1322.60	0.00	0.00	141.96	0.00	5946.85
May	5946.85	2243.08	0.00	0.00	179.19	0.00	8010.74
June	8010.74	2154.34	0.00	0.00	255.43	1818.21	8091.44
July	8091.44	2153.93	1133.44	0.00	121.25	8715.05	2542.51
August	2542.51	3466.18	149.97	149.97	100.84	0.00	5907.85
September	5907.85	1396.03	69.83	69.83	125.54	0.00	7178.34
October	7178.34	1444.15	71.99	71.99	104.56	0.00	8517.93
Totals:		14180.31	2000.66	291.79	1268.73	10533.26	

TABLE: IV PERMANENT POOL

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	7803.92	0.00	0.00	0.00	118.93	0.00	7684.99
December	7684.99	0.00	0.00	0.00	43.97	0.00	7641.02
January	7641.02	0.00	0.00	0.00	33.99	0.00	7607.03
February	7607.03	0.00	0.00	0.00	82.73	0.00	7524.30
March	7524.30	0.00	0.00	0.00	142.95	0.00	7381.35
April	7381.35	0.00	0.00	0.00	185.03	0.00	7196.32
May	7196.32	0.00	0.00	0.00	183.93	0.00	7012.39
June	7012.39	252.28	0.00	0.00	199.43	0.00	7065.24
July	7065.24	473.45	0.00	0.00	205.38	0.00	7333.31
August	7333.31	185.02	0.00	0.00	166.74	0.00	7351.59
September	7351.59	419.92	0.00	0.00	145.25	0.00	7626.26
October	7626.26	110.69	0.00	0.00	98.83	0.00	7638.12
Totals:		1441.36	0.00	0.00	1607.16	0.00	

JOHN MARTIN RESERVOIR

Water Year 2017

TABLE: V FLOOD POOL

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	0.00	0.00	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	0.00	0.00	0.00	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		0.00	0.00	0.00	0.00	0.00	

TABLE: VI FT. LYON CANAL
Section III Water

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	0.00	0.00	0.00	0.00	0.00	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	4402.06	0.00	43.64	0.00	4358.42
April	4358.42	0.00	0.00	0.00	93.88	3186.83	1077.71
May	1077.71	0.00	0.00	0.00	27.51	0.00	1050.20
June	1050.20	0.00	0.00	0.00	29.28	0.00	1020.92
July	1020.92	0.00	0.00	0.00	28.86	0.00	992.06
August	992.06	0.00	0.00	0.00	22.16	0.00	969.90
September	969.90	0.00	0.00	0.00	9.65	960.25	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		0.00	4402.06	0.00	254.98	4147.08	

JOHN MARTIN RESERVOIR

Water Year 2017

**TABLE: VII LAS ANIMAS CONSOLIDATED CANAL
Section III Water**

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	97.68	0.00	0.00	97.61	0.07	0.00	0.00
December	0.00	0.00	0.00	0.00	0.00	0.00	0.00
January	0.00	0.00	0.00	0.00	0.00	0.00	0.00
February	0.00	0.00	0.00	0.00	0.00	0.00	0.00
March	0.00	0.00	3420.06	0.00	33.91	0.00	3386.15
April	3386.15	0.00	0.00	0.00	84.28	89.15	3212.72
May	3212.72	0.00	0.00	0.00	82.10	0.00	3130.62
June	3130.62	0.00	0.00	0.00	87.29	0.00	3043.33
July	3043.33	0.00	0.00	0.00	86.02	0.00	2957.31
August	2957.31	0.00	0.00	0.00	65.97	0.00	2891.34
September	2891.34	0.00	0.00	0.00	50.14	809.41	2031.79
October	2031.79	0.00	0.00	0.00	26.12	0.00	2005.67
Totals:		0.00	3420.06	97.61	515.90	898.56	

**TABLE: VIII AMITY CANAL
Section III Water**

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	23.35	0.00	0.00	0.00	0.38	0.00	22.97
December	22.97	0.00	0.00	0.00	0.18	0.00	22.79
January	22.79	0.00	0.00	0.00	0.06	0.00	22.73
February	22.73	0.00	0.00	0.00	0.28	0.00	22.45
March	22.45	0.00	2780.34	0.00	27.93	0.00	2774.86
April	2774.86	119.59	0.00	41.86	69.56	0.00	2783.03
May	2783.03	27733.50	0.00	9706.85	254.48	0.00	20555.20
June	20555.20	39590.67	0.00	13856.76	911.98	0.00	45377.13
July	45377.13	5260.65	0.00	1841.23	1317.51	0.00	47479.04
August	47479.04	4158.52	0.00	1455.49	1113.78	0.00	49068.29
September	49068.29	0.00	0.00	0.00	943.45	0.00	48124.84
October	48124.84	0.00	0.00	0.00	616.81	296.25	47211.78
Totals:		76862.93	2780.34	26902.19	5256.40	296.25	

JOHN MARTIN RESERVOIR

Water Year 2017

TABLE: IX KANSAS SECTION II

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	36040.03	0.00	96.56	0.00	549.22	0.00	35587.37
December	35587.37	0.00	507.46	0.00	204.56	0.00	35890.27
January	35890.27	0.00	463.49	0.00	160.71	0.00	36193.05
February	36193.05	0.00	395.76	0.00	395.14	0.00	36193.67
March	36193.67	0.00	163.51	0.00	690.24	0.00	35666.94
April	35666.94	0.00	12702.42	0.00	1115.20	0.00	47254.16
May	47254.16	0.00	21279.68	0.00	1359.60	0.00	67174.24
June	67174.24	0.00	32930.34	0.00	2203.15	15860.18	82041.25
July	82041.25	0.00	13683.20	0.00	2270.63	23183.94	70269.88
August	70269.88	0.00	19980.77	0.00	1802.56	1884.33	86563.76
September	86563.76	0.00	793.40	0.00	1663.96	0.00	85693.20
October	85693.20	0.00	2069.32	0.00	1125.05	0.00	86637.47
Totals:		0.00	105065.91	0.00	13540.02	40928.45	

TABLE: X TRANSIT LOSS

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	951.06	0.00	837.22	72.00	16.28	0.00	1700.00
December	1700.00	0.00	13.72	0.00	9.76	0.00	1703.96
January	1703.96	0.00	3.62	0.00	7.58	0.00	1700.00
February	1700.00	0.00	18.57	0.00	18.57	0.00	1700.00
March	1700.00	0.00	15.66	0.00	32.53	0.00	1683.13
April	1683.13	0.00	41.86	0.00	42.20	0.00	1682.79
May	1682.79	0.00	61.19	0.00	43.98	0.00	1700.00
June	1700.00	0.00	3745.41	0.00	47.81	3697.60	1700.00
July	1700.00	0.00	803.46	0.00	39.81	763.65	1700.00
August	1700.00	0.00	6.39	0.00	38.05	0.00	1668.34
September	1668.34	0.00	0.00	0.00	32.09	0.00	1636.25
October	1636.25	0.00	0.00	0.00	21.02	0.00	1615.23
Totals:		0.00	5547.10	72.00	349.68	4461.25	

JOHN MARTIN RESERVOIR

Water Year 2017

TABLE: XI D67 WINTER WATER STORAGE CHARGE

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	0.00	0.00	53.56	0.00	0.02	0.00	53.54
December	53.54	0.00	1107.08	0.00	2.78	0.00	1157.84
January	1157.84	0.00	1011.26	0.00	7.80	0.00	2161.30
February	2161.30	0.00	863.44	0.00	28.09	0.00	2996.65
March	2996.65	0.00	356.70	3324.28	29.07	0.00	0.00
April	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May	0.00	0.00	0.00	0.00	0.00	0.00	0.00
June	0.00	0.00	0.00	0.00	0.00	0.00	0.00
July	0.00	0.00	0.00	0.00	0.00	0.00	0.00
August	0.00	0.00	0.00	0.00	0.00	0.00	0.00
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		0.00	3392.04	3324.28	67.76	0.00	

TABLE: XII COLORADO SECTION II

Month	Contents Beg. of Month A.F.	Inflow A.F.	Transfers In A.F.	Transfers Out A.F.	Evap. A.F.	Release A.F.	Contents End Of Month A.F.
November	44457.21	0.00	7240.39	7240.39	677.70	0.00	43779.51
December	43779.51	0.00	0.00	0.00	250.47	0.00	43529.04
January	43529.04	0.00	0.00	0.00	193.64	0.00	43335.40
February	43335.40	0.00	0.00	0.00	471.18	0.00	42864.22
March	42864.22	0.00	3526.46	777.61	847.46	0.00	44765.61
April	44765.61	0.00	19053.64	0.00	1384.39	6277.87	56156.99
May	56156.99	0.00	37520.88	3534.31	1629.07	9696.48	78818.01
June	78818.01	0.00	51562.41	0.00	2514.11	31518.73	96347.58
July	96347.58	0.00	20763.53	1149.80	2680.87	24565.62	88714.82
August	88714.82	0.00	30281.65	0.00	2266.16	11368.27	105362.04
September	105362.04	0.00	1190.10	0.00	1873.28	14411.52	90267.35
October	90267.35	0.00	3103.99	0.00	1176.03	1886.17	90309.14
Totals:		0.00	174243.05	12702.11	15964.36	99724.66	

John Martin Daily Report						11/1/2016		
Acct	Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage								
City								
City/LAMAR	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation								
Summer Compact	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact	11/1/2016	0.00	170.76	97.61	0.00	0.00	0.00	268.37
Other Water								
Winter Water Holding Account	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D67 Winter Water Storage Charge	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pool								
Permanent Pool	11/1/2016	7,803.92	0.00	0.00	0.00	0.00	5.55	7,798.37
Flood Pool	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	Totals:	7,803.92	170.76	97.61	0.00	0.00	5.55	8,066.74
Agreement								
InterState								
Kansas Kansas	11/1/2016	36,040.03	0.00	0.00	0.00	0.00	25.63	36,014.40
Transit Loss	11/1/2016	951.06	0.00	0.00	0.00	0.00	0.68	950.38
Section III								
Amity	11/1/2016	23.35	0.00	0.00	0.00	0.00	0.02	23.33
Ft. Lyon	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas	11/1/2016	97.68	0.00	0.00	97.61	0.00	0.07	0.00
CO Sec II								
Prev Winter Stored Keesee	11/1/2016	0.00	0.00	422.58	0.00	0.00	0.00	422.58
Prev Winter Stored Ft Bent	11/1/2016	0.00	0.00	475.63	0.00	0.00	0.00	475.63
Prev Winter Stored Amity	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Lamar	11/1/2016	0.00	0.00	2,943.02	0.00	0.00	0.00	2,943.02
Prev Winter Stored Hyde	11/1/2016	0.00	0.00	238.79	0.00	0.00	0.00	238.79
Prev Winter Stored X-Y	11/1/2016	0.00	0.00	937.22	0.00	0.00	0.00	937.22
Prev Winter Stored Buffalo	11/1/2016	0.00	0.00	1,561.79	0.00	0.00	0.00	1,561.79
Prev Winter Stored Sisson	11/1/2016	0.00	0.00	220.48	0.00	0.00	0.00	220.48
Prev Winter Stored Stubbs	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Manvel Consu	11/1/2016	0.00	0.00	230.18	0.00	0.00	0.00	230.18
Prev Winter Stored Manvel Return	11/1/2016	0.00	0.00	210.70	0.00	0.00	0.00	210.70
CO Sec II								
Cmnt Winter Stored Keesee	11/1/2016	422.88	0.00	0.00	422.58	0.00	0.30	0.00
Cmnt Winter Stored Ft Bent	11/1/2016	475.97	0.00	0.00	475.63	0.00	0.34	0.00
Cmnt Winter Stored Amity	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmnt Winter Stored Lamar	11/1/2016	2,945.12	0.00	0.00	2,943.02	0.00	2.10	0.00
Cmnt Winter Stored Hyde	11/1/2016	238.96	0.00	0.00	238.79	0.00	0.17	0.00
Cmnt Winter Stored X-Y	11/1/2016	937.89	0.00	0.00	937.22	0.00	0.67	0.00
Cmnt Winter Stored Buffalo	11/1/2016	1,562.90	0.00	0.00	1,561.79	0.00	1.11	0.00
Cmnt Winter Stored Sisson	11/1/2016	220.64	0.00	0.00	220.48	0.00	0.16	0.00
Cmnt Winter Stored Stubbs	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmnt Winter Stored Manvel Consu	11/1/2016	230.34	0.00	0.00	230.18	0.00	0.16	0.00
Cmnt Winter Stored Manvel Return	11/1/2016	210.85	0.00	0.00	210.70	0.00	0.15	0.00
CO Sec II								
Summer Stored Keesee	11/1/2016	3,933.55	0.00	0.00	0.00	0.00	2.80	3,930.75
Summer Stored Ft Bent	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Amity	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Lamar	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Hyde	11/1/2016	2,381.77	0.00	0.00	0.00	0.00	1.70	2,380.07
Summer Stored X-Y	11/1/2016	10,603.99	0.00	0.00	0.00	0.00	7.55	10,596.44
Summer Stored Buffalo	11/1/2016	12,716.16	0.00	0.00	0.00	0.00	9.05	12,707.11
Summer Stored Sisson	11/1/2016	2,438.60	0.00	0.00	0.00	0.00	1.74	2,436.86
Summer Stored Stubbs	11/1/2016	83.60	0.00	0.00	0.00	0.00	0.06	83.54
Summer Stored Manvel Consumabl	11/1/2016	2,600.95	0.00	0.00	0.00	0.00	1.85	2,599.10
Summer Stored Manvel Return Flo	11/1/2016	2,453.06	0.00	0.00	0.00	0.00	1.75	2,451.31
Agreement	Totals:	81,569.34	0.00	7,240.39	7,338.00	0.00	58.06	81,413.67
OffsetAccount								
Consumable								
Upstream	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Downstream	11/1/2016	4,430.74	0.00	0.00	0.00	0.00	3.15	4,427.59
Kansas	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ReturnFlow								
Return Flow	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RF Transit Loss	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Keesee Winter	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffsetAccount	Totals:	4,430.74	0.00	0.00	0.00	0.00	3.15	4,427.59
Reservoir	Totals:	93,804.00	170.76	7,338.00	7,338.00	0.00	66.76	93,908.00
Colorado Article II Summary								
Keesee	11/1/2016	4,356.43	0.00	422.58	422.58	0.00	3.10	4,353.33
Ft Bent	11/1/2016	475.97	0.00	475.63	475.63	0.00	0.34	475.63
Amity	11/1/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar	11/1/2016	2,945.12	0.00	2,943.02	2,943.02	0.00	2.10	2,943.02
Hyde	11/1/2016	2,620.73	0.00	238.79	238.79	0.00	1.87	2,618.86
X-Y	11/1/2016	11,541.88	0.00	937.22	937.22	0.00	8.22	11,533.66
Buffalo	11/1/2016	14,279.06	0.00	1,561.79	1,561.79	0.00	10.16	14,268.90
Sisson	11/1/2016	2,659.24	0.00	220.48	220.48	0.00	1.90	2,657.34
Stubbs	11/1/2016	83.60	0.00	0.00	0.00	0.00	0.06	83.54
Manvel	11/1/2016	5,495.19	0.00	440.88	440.88	0.00	3.91	5,491.28
Colorado Article I	Totals:	44,457.22	0.00	7,240.39	7,240.39	0.00	31.66	44,425.56

John Martin Daily Report						10/31/2017		
Acct	Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage								
City								
City/LAMAR	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation								
Summer Compact	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Water								
Winter Water Holding Account	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D67 Winter Water Storage Charge	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pool								
Permanent Pool	10/31/2017	7,642.21	0.00	0.00	0.00	0.00	4.09	7,638.12
Flood Pool	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	Totals:	7,642.21	0.00	0.00	0.00	0.00	4.09	7,638.12
Agreement								
InterState								
Kansas Kansas	10/31/2017	86,683.83	0.00	0.00	0.00	0.00	46.36	86,637.47
Transit Loss	10/31/2017	1,616.09	0.00	0.00	0.00	0.00	0.86	1,615.23
Section III								
Amity	10/31/2017	47,237.05	0.00	0.00	0.00	0.00	25.27	47,211.78
Ft. Lyon	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas	10/31/2017	2,006.74	0.00	0.00	0.00	0.00	1.07	2,005.67
CO Sec II								
Prev Winter Stored Keesee	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Ft Bent	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Amity	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Lamar	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Hyde	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored X-Y	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Buffalo	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Sisson	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Stubbs	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Manvel Consu	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Manvel Return	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO Sec II								
Crnt Winter Stored Keesee	10/31/2017	399.37	0.00	0.00	0.00	0.00	0.21	399.16
Crnt Winter Stored Ft Bent	10/31/2017	1,739.11	0.00	0.00	0.00	0.00	0.93	1,738.18
Crnt Winter Stored Amity	10/31/2017	682.54	0.00	0.00	0.00	0.00	0.37	682.17
Crnt Winter Stored Lamar	10/31/2017	3,493.13	0.00	0.00	0.00	0.00	1.87	3,491.26
Crnt Winter Stored Hyde	10/31/2017	225.70	0.00	0.00	0.00	0.00	0.12	225.58
Crnt Winter Stored X-Y	10/31/2017	885.68	0.00	0.00	0.00	0.00	0.47	885.21
Crnt Winter Stored Buffalo	10/31/2017	1,490.79	0.00	0.00	0.00	0.00	0.80	1,489.99
Crnt Winter Stored Sisson	10/31/2017	208.43	0.00	0.00	0.00	0.00	0.11	208.32
Crnt Winter Stored Stubbs	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crnt Winter Stored Manvel Consu	10/31/2017	435.57	0.00	0.00	0.00	0.00	0.23	435.34
Crnt Winter Stored Manvel Return	10/31/2017	335.57	0.00	0.00	0.00	0.00	0.18	335.39
CO Sec II								
Summer Stored Keesee	10/31/2017	6,183.96	0.00	0.00	0.00	0.00	3.31	6,180.65
Summer Stored Ft Bent	10/31/2017	4,713.17	0.00	0.00	0.00	0.00	2.52	4,710.65
Summer Stored Amity	10/31/2017	284.71	0.00	0.00	0.00	0.00	0.15	284.56
Summer Stored Lamar	10/31/2017	16,342.27	0.00	0.00	0.00	0.00	8.74	16,333.53
Summer Stored Hyde	10/31/2017	3,996.25	0.00	0.00	0.00	0.00	2.14	3,994.11
Summer Stored X-Y	10/31/2017	15,624.60	0.00	0.00	0.00	0.00	8.36	15,616.24
Summer Stored Buffalo	10/31/2017	21,814.25	0.00	0.00	0.00	0.00	11.67	21,802.58
Summer Stored Sisson	10/31/2017	3,398.56	0.00	0.00	0.00	0.00	1.82	3,396.74
Summer Stored Stubbs	10/31/2017	552.15	0.00	0.00	0.00	0.00	0.30	551.85
Summer Stored Manvel Consumabl	10/31/2017	3,835.37	0.00	0.00	0.00	0.00	2.05	3,833.32
Summer Stored Manvel Return Flo	10/31/2017	3,716.31	0.00	0.00	0.00	0.00	1.99	3,714.32
Agreement	Totals:	227,901.19	0.00	0.00	0.00	0.00	121.90	227,779.29
OffsetAccount								
Consumable								
Upstream	10/31/2017	1,092.44	0.00	0.00	0.00	0.00	0.58	1,091.86
Downstream	10/31/2017	6,716.65	27.90	0.00	1.40	0.00	3.60	6,739.55
Kansas	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge	10/31/2017	282.13	0.00	1.40	0.00	0.00	0.15	283.38
ReturnFlow								
Return Flow	10/31/2017	369.10	0.00	0.00	0.00	0.00	0.20	368.90
RF Transit Loss	10/31/2017	34.26	0.00	0.00	0.00	0.00	0.02	34.24
Keesee Winter	10/31/2017	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffsetAccount	Totals:	8,494.58	27.90	1.40	1.40	0.00	4.55	8,517.93
Reservoir	Totals:	244,037.98	27.90	1.40	1.40	0.00	130.54	243,935.34
Colorado Article II Summary								
Keesee	10/31/2017	6,583.33	0.00	0.00	0.00	0.00	3.52	6,579.81
Ft Bent	10/31/2017	6,452.28	0.00	0.00	0.00	0.00	3.45	6,448.83
Amity	10/31/2017	967.25	0.00	0.00	0.00	0.00	0.52	966.73
Lamar	10/31/2017	19,835.40	0.00	0.00	0.00	0.00	10.61	19,824.79
Hyde	10/31/2017	4,221.95	0.00	0.00	0.00	0.00	2.26	4,219.69
X-Y	10/31/2017	16,510.28	0.00	0.00	0.00	0.00	8.83	16,501.45
Buffalo	10/31/2017	23,305.04	0.00	0.00	0.00	0.00	12.47	23,292.57
Sisson	10/31/2017	3,606.99	0.00	0.00	0.00	0.00	1.93	3,605.06
Stubbs	10/31/2017	552.15	0.00	0.00	0.00	0.00	0.30	551.85
Manvel	10/31/2017	8,322.82	0.00	0.00	0.00	0.00	4.45	8,318.37
Colorado Article I	Totals:	90,357.49	0.00	0.00	0.00	0.00	48.34	90,309.15

Distribution of Compact Stored Water April 2017

	A	B	C	D	A-B-C-D		M	N	O	P	Q	R	M-N+O+P-Q-R
	Winter Compact	Evap on Winter Compact	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance		Summer Compact	Evap on Summer Compact	Summer Compact Inflow	Rule 10 Transfers	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance
Date	0:00 hrs				24:00 hrs		0:00 hrs						24:00 hrs
	(af)	(af)	(af)	(af)			(af)	(af)	(af)	(af)	(af)	(af)	
3/31/2017					27155.32								
4/1/2017	27,155.32	21.34	0	0	27,133.98								431.97
4/2/2017	27,133.98	21.31	-	-	27,112.67		431.97	0.34	308.82				740.45
4/3/2017	27,112.67	21.26	537.20	805.80	25,748.41		740.45	0.58	11.07				750.94
4/4/2017	25,748.41	0.75	991.75	1,487.63	23,268.28		750.94	0.02	684.06				1,434.98
4/5/2017	23,268.28	11.49	991.75	1,487.63	20,777.41		1434.98	0.71	212.00				1,646.27
4/6/2017	20,777.41	16.30	991.75	1,487.63	18,281.73		1646.27	1.29	240.17				1,885.15
4/7/2017	18,281.73	18.07	793.40	1,190.10	16,280.16		1885.15	1.86	488.46				2,371.75
4/8/2017	16,280.16	16.07	793.40	1,190.10	14,280.59		2371.75	2.34	195.94				2,565.35
4/9/2017	14,280.59	14.10	793.40	1,190.10	12,282.99		2565.35	2.53	233.86				2,796.68
4/10/2017	12,282.99	10.69	793.40	1,190.10	10,288.80		2796.68	2.43	83.51				2,877.76
4/11/2017	10,288.80	10.15	793.40	1,190.10	8,295.15		2877.76	2.84	276.26				3,151.18
4/12/2017	8,295.15	7.22	793.40	1,190.10	6,304.43		3151.18	2.74	346.02				3,494.46
4/13/2017	6,304.43	6.03	793.40	1,190.10	4,314.90		3494.46	3.34	261.15				3,752.27
4/14/2017	4,314.90	4.25	793.40	1,190.10	2,327.15		3752.27	3.70	258.62				4,007.19
4/15/2017	2,327.15	2.29	793.40	1,190.10	341.36		4007.19	3.95	283.94				4,287.18
4/16/2017	341.36	0.35	136.40	204.61	(0.00)		4287.18	4.35	235.80		657.00	985.49	2,876.14
4/17/2017					-		2876.14	2.50	182.97		793.40	1190.10	1,073.11
4/18/2017					-		1073.11	1.03	84.34		462.57	693.85	-
4/19/2017							0.00						-
4/20/2017							0.00						-
4/21/2017							0.00						-
4/22/2017							0.00						-
4/23/2017													-
Total		160.33	10,789.45	16,184.20				36.55	4,818.96		1,912.97	2,869.44	

Distribution of Compact Stored Water Starting May 11 2017

	A	B	C	D	A-B-C-D		M	N	O	P	Q	R	M-N+O+P-Q-R
	Winter Compact	Evap on Winter Compact	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance		Summer Compact	Evap on Summer Compact	Summer Compact Inflow	Rule 10 Transfers	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance
Date	0:00 hrs (af)		(af)	(af)	24:00 hrs		0:00 hrs (af)	(af)	(af)	(af)	(af)	(af)	24:00 hrs
5/10/2017													
5/11/2017							0.00				-	-	4,887.24
5/12/2017							4887.24	5.60	3203.40		-	-	8,085.04
5/13/2017	-				-		8085.04	9.43	5403.41		595.05	892.58	11,991.40
5/14/2017	-				-		11991.40	13.32	10424.98		793.40	1,190.11	20,419.55
5/15/2017	-				-		20419.55	22.92	10673.22		991.75	1,487.63	28,590.47
5/16/2017	-				-		28590.47	45.67	10805.51		991.75	1,487.63	36,870.93
5/17/2017	-				-		36870.93	30.34	7573.29		991.75	1,487.63	41,934.50
5/18/2017	-				-		41934.50	14.75	5666.63		991.75	1,487.63	45,107.00
5/19/2017	-				-		45107.00	26.70	2974.07		991.75	1,487.63	45,574.99
5/20/2017	-				-		45574.99	26.79	2326.82		991.75	1,487.63	45,395.64
5/21/2017	-				-		45395.64	27.64	2328.99		991.75	1,487.63	45,217.61
5/22/2017	-				-		45217.61	31.25	3342.96		991.75	1,487.63	46,049.94
5/23/2017	-				-		46049.94	37.66	2226.05		991.75	1,487.63	45,758.95
5/24/2017	-				-		45758.95	35.02	2019.37		991.75	1,487.63	45,263.92
5/25/2017	-				-		45263.92	49.53	2001.82		991.75	1,487.63	44,736.83
5/26/2017	-				-		44736.83	29.65	1674.49		991.75	1,487.63	43,902.29
5/27/2017	-				-		43902.29	28.98	1317.10		991.75	1,487.63	42,711.03
5/28/2017	-				-		42711.03	28.10	739.81		991.75	1,487.63	40,943.36
5/29/2017	-				-		40943.36	26.90	765.08		991.75	1,487.63	39,202.16
5/30/2017	-				-		39202.16	34.92	810.79		991.75	1,487.63	37,498.65
5/31/2017	-				-		37498.65	35.10	369.42		991.75	1,487.63	35,353.59
6/1/2017							35353.59	27.31	771.93		991.75	1,487.63	33,618.83
6/2/2017							33618.83	33.04	645.07		991.75	1,487.63	31,751.48
6/3/2017							31751.48	31.18	730.52		991.75	1,487.63	29,971.44
6/4/2017							29971.44	29.39	403.19		991.75	1,487.63	27,865.86
6/5/2017							27865.86	26.65	762.67		991.75	1,487.63	26,122.50
6/6/2017							26122.50	21.31	1664.52		991.75	1,487.63	25,286.33
6/7/2017							25286.33	19.36	2039.49		991.75	1,487.63	24,827.08
6/8/2017							24827.08	13.18	3052.25		991.75	1,487.63	25,386.77
6/9/2017							25386.77	29.61	3564.16		991.75	1,487.63	26,441.94
6/10/2017							26441.94	30.50	3763.49		991.75	1,487.63	27,695.55
6/11/2017							27695.55	31.56	4166.15		991.75	1,487.63	29,350.76
6/12/2017							29350.76	37.50	4631.59		991.75	1,487.63	31,465.47

6/13/2017						31465.47	30.73	3072.74		991.75	1,487.63	32,028.10
6/14/2017						32028.10	35.94	3555.24		991.75	1,487.63	33,068.02
6/15/2017						33068.02	28.39	3015.83		991.75	1,487.63	33,576.08
6/16/2017						33576.08	33.10	3290.51		991.75	1,487.63	34,354.11
6/17/2017						34354.11	33.56	2538.37		991.75	1,487.63	34,379.54
6/18/2017						34379.54	33.03	1546.25		991.75	1,487.63	33,413.38
6/19/2017						33413.38	22.09	928.20		991.75	1,487.63	31,840.11
6/20/2017						31840.11	38.67	790.62		991.75	1,487.63	30,112.68
6/21/2017						30112.68	38.50	732.66		991.75	1,487.63	28,327.46
6/22/2017						28327.46	25.36	697.10		991.75	1,487.63	26,519.82
6/23/2017						26519.82	19.26	1617.00		991.75	1,487.63	25,638.18
6/24/2017						25638.18	19.23	2084.12		991.75	1,487.63	25,223.69
6/25/2017						25223.69	18.98	2762.11		991.75	1,487.63	25,487.44
6/26/2017						25487.44	23.48	2811.07		991.75	1,487.63	25,795.65
6/27/2017						25795.65	29.80	1783.08		991.75	1,487.63	25,069.55
6/28/2017						25069.55	21.42	1034.45		991.75	1,487.63	23,603.20
6/29/2017						23603.20	18.14	629.62		991.75	1,487.63	21,735.30
6/30/2017						21735.30	21.79	752.97		991.75	1,487.63	19,987.10
7/1/2017						19987.10	20.01	746.51		793.40	1,190.10	18,730.10
7/2/2017						18730.10	19.13	693.37		793.40	1,190.10	17,420.84
7/3/2017						17420.84	15.18	496.44		793.40	1,190.10	15,918.60
7/4/2017						15918.60	13.88	913.44		793.40	1,190.10	14,834.66
7/5/2017						14834.66	16.44	978.42		793.40	1,190.10	13,813.14
7/6/2017						13813.14	12.68	351.33		793.40	1,190.10	12,168.29
7/7/2017						12168.29	13.07	1176.34		793.40	1,190.10	11,348.06
7/8/2017						11348.06	12.23	726.22		793.40	1,190.10	10,078.55
7/9/2017						10078.55	10.71	530.52		793.40	1,190.10	8,614.86
7/10/2017						8614.86	10.35	623.44		793.40	1,190.10	7,244.45
7/11/2017						7244.45	6.69	410.46		793.40	1,190.10	5,664.72
7/12/2017						5664.72	6.01	650.04		793.40	1,190.10	4,325.25
7/13/2017						4325.25	2.98	765.85		793.40	1,190.10	3,104.62
7/14/2017						3104.62	2.62	599.23		793.40	1,190.10	1,717.73
7/15/2017						1717.73	1.45	1497.60		793.40	1,190.10	1,230.38
7/16/2017						1230.38	1.06	1533.20		793.40	1,190.10	779.02
7/17/2017						779.02	0.51	878.09		662.64	993.96	(0.00)
7/18/2017												
Total		0.00	-	-				154,936.32		61,357.79	92,036.81	

Distribution of Compact Stored Water Starting July 31 2017

	A	B	C	D	A-B-C-D		M	N	O	P	Q	R	M-N+O+P-Q-R
	Winter Compact	Evap on Winter Compact	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance		Summer Compact	Evap on Summer Compact	Summer Compact Inflow	Rule 10 Transfers	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance
Date	0:00 hrs				24:00 hrs		0:00 hrs						24:00 hrs
	(af)	(af)	(af)	(af)			(af)	(af)	(af)	(af)	(af)	(af)	
7/31/2017									458.06				458.06
8/1/2017							458.06	0.38	2181.14		793.40	1,190.11	655.31
8/2/2017							655.31	0.54	2613.82		793.40	1,190.11	1,285.08
8/3/2017	-				-		1285.08	0.62	2086.22		793.40	1,190.11	1,387.17
8/4/2017	-				-		1387.17	1.09	1571.72		793.40	1,190.11	974.29
8/5/2017	-				-		974.29	0.76	2037.05		793.40	1,190.11	1,027.07
8/6/2017	-				-		1027.07	0.80	1552.22		793.40	1,190.11	594.98
8/7/2017	-				-		594.98	0.35	1595.31		793.40	1,190.11	206.43
8/8/2017	-				-		206.43	0.03	2517.41		793.40	1,190.11	740.30
8/9/2017	-				-		740.30	0.66	1604.84		793.40	1,190.11	360.97
8/10/2017	-				-		360.97	0.27	2581.93		793.40	1,190.11	959.12
8/11/2017	-				-		959.12	0.47	3231.98		793.40	1,190.11	2,207.12
8/12/2017	-				-		2207.12	1.13	4056.42		793.40	1,190.11	4,278.90
8/13/2017	-				-		4278.90	2.17	3626.45		793.40	1,190.11	5,919.67
8/14/2017	-				-		5919.67	3.49	4039.78		793.40	1,190.11	7,972.45
8/15/2017	-				-		7972.45	4.48	3309.16		793.40	1,190.11	9,293.62
8/16/2017	-				-		9293.62	8.58	2176.39		793.40	1,190.11	9,477.92
8/17/2017	-				-		9477.92	8.94	1859.55		793.40	1,190.11	9,345.02
8/18/2017	-				-		9345.02	7.80	1447.68		793.40	1,190.11	8,801.39
8/19/2017	-				-		8801.39	7.53	885.02		793.40	1,190.11	7,695.37
8/20/2017	-						7695.37	6.58	991.53		793.40	1,190.11	6,696.81
8/21/2017	-						6696.81	5.72	735.67		793.40	1,190.11	5,443.25
8/22/2017							5443.25	3.14	508.86		793.40	1,190.11	3,965.46
8/23/2017							3965.46	2.63	597.82		793.40	1,190.11	2,577.14
8/24/2017							2577.14	2.04	410.70		793.40	1,190.11	1,002.29
8/25/2017							1002.29	1.00	200.00		480.52	720.77	-
8/26/2017							0.00						-
8/27/2017							0.00						-
Total		0.00	-	-					48,876.73		49,131.78	73,697.97	

Distribution of Compact Stored Water Starting September 30 2017

	A	B	C	D	A-B-C-D		M	N	O	P	Q	R	M-N+O+P-Q-R
	Winter Compact	Evap on Winter Compact	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance		Summer Compact	Evap on Summer Compact	Summer Compact Inflow	Rule 10 Transfers	Distribute 40% to Kansas	Distribute 60% to Colorado	Balance
Date	0:00 hrs (af)				24:00 hrs		0:00 hrs (af)						24:00 hrs
9/30/2017									2732.85		793.40	1,190.11	749.35
10/1/2017							749.35	0.27	1659.70		793.40	1,190.11	425.27
10/2/2017							425.27	0.20	1610.94		793.40	1,190.11	52.50
10/3/2017	-				-		52.50	0.02	1153.83		482.52	723.79	-
10/4/2017	-				-		0.00						-
10/5/2017	-				-		0.00						-
10/6/2017	-				-		0.00						-
10/7/2017	-				-		0.00						-
10/8/2017	-				-		0.00						-
10/9/2017	-				-		0.00						-
10/10/2017	-				-		0.00						-
10/11/2017	-				-		0.00						-
10/12/2017	-				-		0.00						-
10/13/2017	-				-		0.00						-
10/14/2017	-				-		0.00						-
10/15/2017	-				-		0.00						-
10/16/2017	-				-		0.00						-
10/17/2017	-				-		0.00						-
10/18/2017	-				-		0.00						-
10/19/2017	-				-		0.00						-
10/20/2017	-				-		0.00						-
#REF!													
Total		0.00	-	-					7,157.32		482.52	723.79	

Summary of Key Information for Section II - Offset Delivery June-July 2017

11/28/2017

Date	Flow Data			Release Data				Muskingum routing				Delivery Calculations	
	Mean Daily Stateline (SL) Flow	Mean Daily Stateline (SL) Flow	SL flow less antecedent flow	Offset Consumable Release	Offset Non-Consumable Release	Section 2 Release	Transit Loss Release	Total Release	Total Release Times 1.05	Routed release	Routed release, lagged one day	Stateline Delivery Hydrograph	Equivalent Stateline Flow Hydrograph
	CFS	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
5/27/2017	146	289	35	0	0	0	0	0	0	0	0	0	0
5/28/2017	137	271	17	0	0	0	0	0	0	0	0	0	0
5/29/2017	133	263	9	0	0	0	0	0	0	0	0	0	0
5/30/2017	128	254	0	0	0	0	0	0	0	0	0	0	0
5/31/2017	130	258	4	0	0	0	0	0	0	0	0	0	0
6/1/2017	130	257	4	0	0	0	0	0	0	0	0	0	0
6/2/2017	124	245	0	0	0	0	0	0	0	0	0	0	0
6/3/2017	157	312	58	0	0	0	0	0	0	0	0	0	0
6/4/2017	154	306	52	0	0	0	0	0	0	0	0	0	0
6/5/2017	140	278	24	0	0	0	0	0	0	0	0	0	0
6/6/2017	136	269	15	0	0	0	0	0	0	0	0	0	0
6/7/2017	125	247	0	0	0	0	0	0	0	0	0	0	0
6/8/2017	122	241	0	0	0	0	0	0	0	0	0	0	0
6/9/2017	118	234	0	0	0	0	0	0	0	0	0	0	0
6/10/2017	115	229	0	0	0	0	0	0	0	0	0	0	0
6/11/2017	125	248	0	0	0	0	0	0	0	0	0	0	0
6/12/2017	145	288	34	0	0	0	0	0	0	0	0	0	0
6/13/2017	133	263	9	0	0	0	0	0	0	0	0	0	0
6/14/2017	131	260	6	0	0	0	0	0	0	0	0	0	0
6/15/2017	127	252	0	0	0	694	278	694	729	35	0	0	0
6/16/2017	125	247	0	0	0	1190	476	1190	1250	324	35	0	0
6/17/2017	253	501	247	0	0	1190	476	1190	1250	677	324	0	0
6/18/2017	396	786	532	0	0	1190	476	1190	1250	895	677	0	0
6/19/2017	509	1009	756	0	0	1190	476	1190	1250	1030	895	0	0
6/20/2017	587	1165	911	0	0	1190	360	1190	1250	1114	1030	0	0
6/21/2017	618	1227	973	0	0	1118	231	1118	1174	1162	1114	0	0
6/22/2017	613	1216	962	0	0	1051	179	1051	1104	1163	1162	0	0
6/23/2017	554	1098	844	0	0	1051	179	1051	1104	1140	1163	0	0
6/24/2017	523	1038	784	0	0	1051	179	1051	1104	1127	1140	0	0
6/25/2017	544	1079	825	0	0	1051	179	1051	1104	1118	1127	0	0
6/26/2017	559	1109	855	0	231	878	126	1109	1165	1115	1118	0	0
6/27/2017	574	1139	885	161	236	754	37	1150	1208	1136	1115	0	0
6/28/2017	556	1104	850	331	66	754	0	1150	1208	1164	1136	0	0
6/29/2017	563	1116	863	397	0	754	0	1150	1208	1180	1164	0	0
6/30/2017	548	1088	834	397	0	754	46	1150	1208	1191	1180	0	0
7/1/2017	545	1082	828	397	0	754	79	1150	1208	1197	1191	0	0
7/2/2017	570	1130	876	397	0	754	79	1150	1208	1201	1197	0	0
7/3/2017	582	1155	901	397	0	797	79	1193	1253	1206	1201	0	0
7/4/2017	591	1173	919	397	0	833	79	1230	1291	1226	1206	0	0
7/5/2017	591	1172	918	397	0	833	79	1230	1291	1251	1226	0	0
7/6/2017	586	1162	908	397	0	833	79	1230	1291	1266	1251	0	0
7/7/2017	590	1170	917	397	0	833	79	1230	1291	1276	1266	0	0
7/8/2017	653	1295	1042	397	0	833	79	1230	1291	1282	1276	0	0
7/9/2017	676	1341	1088	397	0	833	79	1230	1291	1285	1282	0	0
7/10/2017	680	1349	1095	397	0	833	50	1230	1291	1288	1285	0	0
7/11/2017	667	1323	1069	397	0	833	0	1230	1291	1289	1288	0	0
7/12/2017	644	1277	1023	397	0	833	0	1230	1291	1290	1289	0	0
7/13/2017	629	1247	993	397	0	833	0	1230	1291	1290	1290	0	0
7/14/2017	658	1304	1050	397	0	833	0	1230	1291	1291	1290	0	0
7/15/2017	696	1381	1127	397	0	833	0	1230	1291	1291	1291	0	0
7/16/2017	910	1804	1550	397	0	660	0	1056	1109	1282	1291	0	0
7/17/2017	909	1804	1550	397	0	397	0	793	833	1203	1282	0	0
7/18/2017	975	1934	1680	397	0	298	0	694	729	1057	1203	0	0
7/19/2017	712	1413	1159	397	0	298	0	694	729	932	1057	0	0
7/20/2017	610	1210	956	397	0	452	0	849	892	862	932	0	0
7/21/2017	574	1138	885	397	0	539	0	936	983	878	862	0	0
7/22/2017	571	1133	879	384	0	607	0	992	1041	921	878	0	0
7/23/2017	575	1140	886	0	0	992	0	992	1041	967	921	0	0
7/24/2017	550	1092	838	0	0	992	0	992	1041	995	967	0	0
7/25/2017	506	1004	751	0	0	1085	0	1085	1139	1017	995	0	0
7/26/2017	511	1013	759	0	0	1141	0	1141	1198	1066	1017	0	0
7/27/2017	575	1141	887	0	0	1141	0	1141	1198	1116	1066	0	0
7/28/2017	622	1233	980	0	0	697	0	697	731	1125	1116	0	0
7/29/2017	859	1703	1449	0	0	476	0	476	500	964	1125	0	0
7/30/2017	806	1599	1345	0	0	476	0	476	500	787	964	0	0
7/31/2017	804	1594	1341	0	0	635	0	635	666	686	787	0	0
8/1/2017	812	1611	1357	0	0	793	0	793	833	686	686	0	0
8/2/2017	869	1723	1470	0	0	793	0	793	833	742	686	0	0
8/3/2017	727	1441	1187	0	0	298	0	298	312	752	742	0	0
8/4/2017	638	1266	1012	0	0	0	0	0	0	570	752	0	0
8/5/2017	488	967	714	0	0	0	0	0	0	353	570	0	0
8/6/2017	399	791	537	0	0	0	0	0	0	218	353	0	0
8/7/2017	541	1072	819	0	0	0	0	0	0	135	218	0	0
8/8/2017	437	866	613	0	0	0	0	0	0	84	135	0	0
8/9/2017	378	750	496	0	0	0	0	0	0	0	31	0	0
8/10/2017	0	0	0	0	0	0	0	0	0	0	0	0	0
1/17/2018	0	0	0	0	0	0	0	0	0	0	0	0	0
1/18/2018	0	0	0	0	0	0	0	0	0	0	0	0	0
1/19/2018	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals				10000	533	40928	4461	51462	54035	53899	53847	45530	52894

Total Offset = 10533

Transit Loss on Consumable = 1153

Granada Transit Loss Credit Percentage = 100.0%

Transit Loss Model Input JMR to Lamar = 116

Transit Loss Model Input Lamar to Granada = 480

Transit Loss Model Input Granada to Stateline = 268

Total Transit Loss Model Input = 865

Muskingum

Derivation of factors

K (hr)= 60

c0= 0.048

x = 0.15

c1 = 0.333

t (hr) = 24

c2 = 0.619

c0+c1+c2 = 1.00

K t ratio check

2Kx < t < 2K(1-x)

18 < 24 < 102

Antecedent Flow Calculations

Initial Average= 251.02

AF

AF

YES 7

YES 8

YES 9

YES 10

YES 5

NO 1

YES 2

YES 3

YES 4

YES 6

Adjusted Average 253.81 2284.26

YES 9.00

YES 532

YES 756

YES 911

YES 973

NO 962

YES 844

YES 784

YES 825

YES 855

Adjusted Average 253.81 2284.26

Final Baseflow 127.96 9.00

Computations for < 6 days

Enter date of 6th day 0.00

Enter date of 5th day 0.00

Enter date of 4th day 0.00

Average with 6 days 253.81

Paragraph 3.b.iii check

Average for prior days 11-20 271.33

Is value twice the computed Antecedent Flow Value? No

Muskingum Day 6 = #N/A

Para. 3.b.iii AF Value #N/A

Offset Delivery Efficiency = 88.47%

Offset Net Delivery = 9319

Offset Consumable Delivery = 8847

ESF Delivery Efficiency = 102.8%

Section II Delivery = 40928

Section II Delivery Transit Loss = 0

Evaporation Delivery Credit = 0

**FULL REPORT CAN BE DOWNLOADED ELECTRONICALLY ON THE
ARKANSAS RIVER COMPACT ADMINISTRATION WEBSITE**

Exhibit L

Annual Meeting

December 7, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James T. Rizzuto, Swink

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

December 1, 2017

Mr. Lane Malone, Chairman
Mr. Hal Scheuerman, Member
Operations Committee
Arkansas River Compact Administration

Re: Compact Year 2017 Summary
Assistant Operations Secretary Report

Gentlemen,

In this report, I will provide my perspective as Assistant Operations Secretary on operations that have occurred over the past Compact Year (CY), including communications, Kansas Reservoir Call, the Pueblo Winter Water Storage Program (PWWSP), Pass-thru & Status Accounting, Water Issues Matrix, and Special Engineering Committee.

Communications

The Operations Secretary, Assistant Operations Secretary, and their respective staff have set a goal of open and frequent communications regarding Arkansas River operational issues to foster a positive, collaborative, and productive working relationship. We continue to work on achieving this goal.

The Operations and Assistant Operation Secretaries met once, on November 14th. I appreciate the committee's attendance at this meeting. This meeting included the following topics: prospects of a John Martin Reservoir spill, the Water Issue Matrix, and the delivery spreadsheet. Steve Witte and I also discussed recommending work priorities for the Special Engineering Committee. Lonnie Spady (CDWR) noted that the Consolidated Ditch ceased diversions and there was no need to review returns to the Purgatoire or Arkansas rivers.

We were also involved in a number of ARCA Special Engineering Committee meetings this year.

Additionally, the States have communicated on a regular basis. These communications included a variety of topics including John Martin Accounting System (JMAS) data updates, PWWSP operational issues, Offset Account operations, Kansas releases, and runoff conditions within the Arkansas River Basin. Issues were generally resolved as they arose.

John Martin Reservoir

I have provided a graphical representation of John Martin Reservoir (JMR) and the accounts contained within for CY2017. See Figure 1 at the end of this report. The maximum JMR end of day content occurred on June 27th with 265,939 AF in storage. The minimum JMR end of day content occurred on November 1, 2016 with 93,908 AF in storage.

Deliveries to Kansas

Kansas entered the irrigation season (April 1st) with approximately 35,600 AF in its Section II account. During CY2017, Kansas made one run that will be described briefly below.

A 600 cfs release from the Kansas Section II Account was started on June 15th. Kansas also made a concurrent release of 200 cfs from the Offset Account from June 26th to July 22nd. The Kansas Section II release rate varied throughout this run as irrigation demand changed and precipitation occurred. See Figure 2 for a graphic of this release at the end of this report. The release to Kansas ended the morning of August 3rd, or a run of approximately 50 days. The release spreadsheet accounting was exchanged and reviewed by both offices. The table below provides the basic information on this release.

Kansas II & Offset Account Release (6/15-8/3/2017)	
Kansas Section II Account release	40,928 AF
ESF Delivery Efficiency	100%
Section II Delivery	40,928 AF
Section II Delivery Transit Loss	0 AF
Offset Account released	
- consumable	10,000 AF
- nonconsumable	533 AF
Offset Account delivery efficiency	88.47%
Offset net delivery	9,319 AF
Offset consumable delivery	8,847 AF

Frontier Ditch Parshall flume: The Frontier Ditch Parshall flume (flume) was in submergence 21 of the 95 days they diverted. This became an issue since real-time flow information was not available for some of these days on the USGS website. On July 21st a conference call was held

to discuss the submergence issue. See memo from Bill Tyner dated August 18, 2017 attached for a summary of those discussions and the persons involved.

At the time the Frontier Ditch was found in submergence, we reviewed the flow conditions and found that diversion rates above 35 cfs caused the flume to go into submergence. Therefore the Garden City Field Office (KDA-DWR) directed the Frontier Ditch to keep diversions less than 35 cfs. There were instances when the Frontier Ditch automatic gate didn't properly adjust, and Frontier Ditch was directed to reduce the rate below the 35 cfs.

The submergence issue this summer was similar to 2006, when there were no readily apparent causes of the submergence. On June 29th, I reviewed the top portion of the ditch and noted high water surface levels throughout that section. I didn't find any checks in the ditch or other obstructions that would have caused these water surface levels. The water velocity in the ditch appeared to be slow in the section reviewed.

Based on my review and conversations with Steve Hines, I suspect the submergence was a ditch maintenance issue. Mr. Hines described spraying the ditch to burn and then being interrupted by rains. I believe that weeds were not completely removed from the ditch cross-section, slowing the water in the ditch. The slower water increased the water surface elevation, and above a certain flow, caused the flume to go into submergence.

During days when the Frontier Ditch flume was known to be in submergence, USGS would not post Frontier Ditch diversions to the internet in real-time. USGS staff agreed to calculate the daily mean flow for the previous day and email that value to those interested.

I asked that USGS provide the number of days that the Frontier Ditch flume was in submergence. Nathan Sullivan, USGS, provided that information for January 1, 2006 to August 18, 2017. See Table below. I added the total diversion days, the maximum mean daily flow, and the number of diversion days over 35 cfs. There are a few days each year where the flume is in submergence, with three (3) of the past twelve (12) years having more than 10% of the diversion days in submergence.

Water Year	Diversion days	Submergence		Maximum mean daily flow (cfs)	Days over 35 cfs
		Number of days	Percent of days		
2006	162	40	24.7%	41.0	27
2007	181	2	1.1%	34.5	0
2008	159	3	1.9%	36.3	14
2009	151	2	1.3%	36.1	6
2010	140	3	2.1%	35.6	7
2011	178	6	3.4%	27.2	0
2012	207	1	0.5%	27.9	0
2013	142	19	13.4%	35.1	2
2014	106	2	1.9%	29.6	0
2015	109	3	2.8%	41.1	6
2016	169	0	0.0%	36.5	15
2017*	95	21	22.1%	38.5	10
*2017 contains provisional data					

During this discussion, it was also noted that this flume is structurally past its useful life. Steve Witte volunteered his staff to complete a preliminary evaluation of the flume. I provided LiDAR information for the area of the flume on July 25th. Division 2 staff completed a survey of the flume and nearby area on October 12th. Division 2 staff prepared a report which recommended replacing the flume and gave a preliminary estimate of \$24,000 to complete that work. The report will be presented to ARCA at its 2017 annual meeting.

Delivery Spreadsheet: During an in-depth review of the delivery spreadsheet, I found what appears to be an error in the calculation of the antecedent ten-day Stateline flow. This was discussed at the OS-AOS meeting on November 14th. The States have agreed to look at this delivery spreadsheet to determine if it is an error or not. While reviewing this, I would also like to look at another provision related to the determination of Stateline antecedent flows for releases that begin eleven (11) to twenty (20) days after a previous release. This was not the case this year with only one run of water to Kansas.

Pueblo Winter Water Storage Program

The States have committed to work on this issue and will build upon the work that has already been done. Pueblo Winter Water Storage Program (PWWSP) issues have held up approval of the Operations Secretary's annual reports since 2006.

Colorado and Kansas have visited the Consolidated Ditch to review water being returned to either the Purgatoire River above the Purgatoire River near Las Animas gage or at the tail end of the ditch to the Arkansas River below the USGS Arkansas River at Las Animas gage since November 2010. These visits have generally occurred in the days ahead of November 15th which is the beginning of the PWWSP.

On November 14, 2016, John Van Oort, Bill Tyner, and Lonnie Spady with Colorado Division 2 and Brandy Cole, Rachel Duran, and I visited the two returns just before the syphon under the Purgatoire River, the tail end of the Consolidated Ditch, and the seep return. We found that one of the returns was wet but not actively returning water and the second return nearest the syphon had not been recently used based on presence of branches laying in the bottom and general condition of the return. The seep return and tail end of the ditch were returning small amounts of water below the Arkansas River at Las Animas USGS gage. We discussed potential gaging of the wasteways to know whether or not these wasteways are being used around the November 1st to 14th period where the baseflow is being determined for the Arkansas River at Las Animas gage. Those discussions are continuing. Figure 3 below shows some information related to the operations during this period.

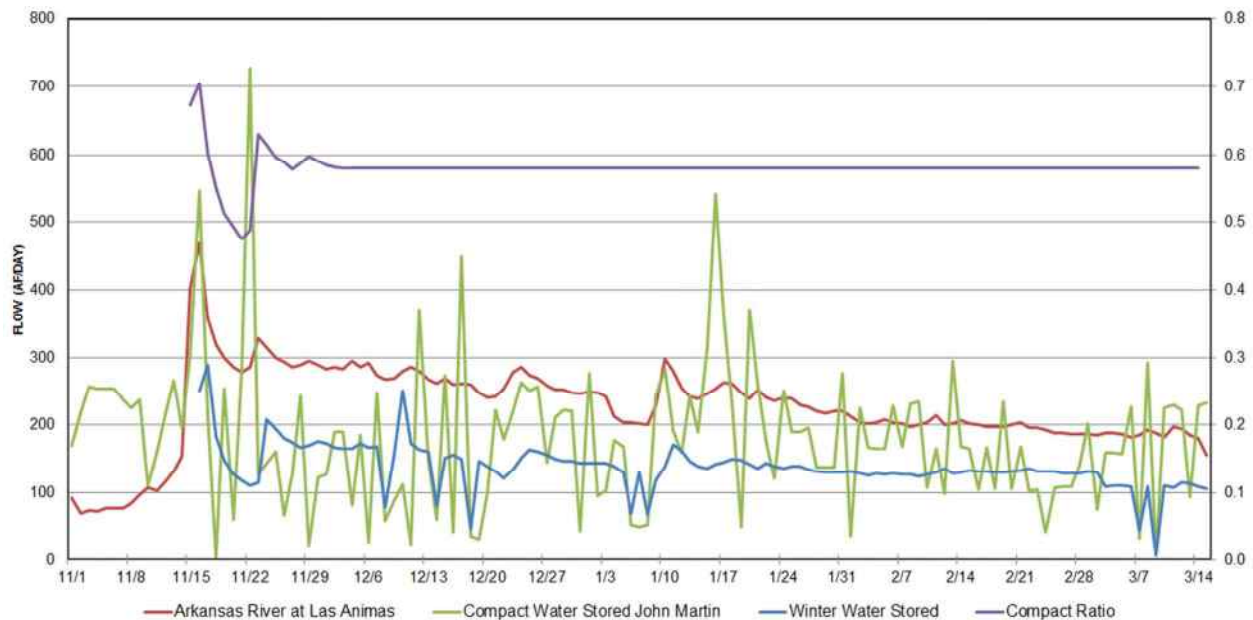


Figure 3 Arkansas River at Las Animas flows, Winter Water storage, and Compact Conservation storage for the period of November 1, 2016 to March 15, 2017 and the Compact ratio of the Arkansas River at Las Animas flows for the period of November 15, 2016 to March 14, 2017.

CY2018 PWWSP: The Consolidated Ditch was not visited this year as the Consolidated Ditch had ceased diversions on November 12th. During our November 14th meeting, Lonnie Spady, Division 2, showed pictures taken of the Consolidated Ditch. There were no concerns noted.

Pass-thru and Status Accounting

JMR daily inflow, storage, and outflow were tracked by the Garden City Field Office staff for CY2017. A pass thru spreadsheet was first provided to the Operations Secretary on November 15th for inclusion in the Operations Secretary's report. This spreadsheet tracks: the amount (AF) of river flows; JMAS (John Martin Accounting System) inflows and releases; JMR reservoir evaporation, storage, and releases.

The information in this spreadsheet was regularly updated and reviewed by the Garden City Field Office staff. The spreadsheet uses the tracked information to calculate:

- (1) gaged and ungaged inflows,
- (2) pass-thru, and
- (3) the reservoir "status."

The pass-thru represents that amount of JMR inflows which are not stored in any account and are released downstream. The reservoir "status" represents the difference between the amount considered stored in JMAS and the amount shown as stored in JMR by the Corps.

Water Issues Matrix

As previously reported in the past, this matrix is a joint work product of the States which is designed to track various disputed issues. These disputed issues are primarily concerned with JMR related operations and accounting, of which approximately half have been resolved through the efforts of this Committee and others. In the past year we have added two issues: Issue 45 related to a Colorado multipurpose account in John Martin Reservoir, and Issue 55 related to the allocation of waters not allocated by the Compact, if there is any. These issues are in the process of being developed.

The matrix currently has 38 issues, of which nine (9) are pending resolution, eight (8) have been removed or suspended, and twenty (20) have been resolved. The current versions of the matrix and issues summary table are attached.

Summary

I look forward to working with the Operations Secretary and his staff on these issues and the day-to-day operations of the Arkansas River.

Sincerely,



Kevin L. Salter, P.E.
Assistant Operations Secretary

Figure 1 Graphical representation of John Martin Accounts over CY2017

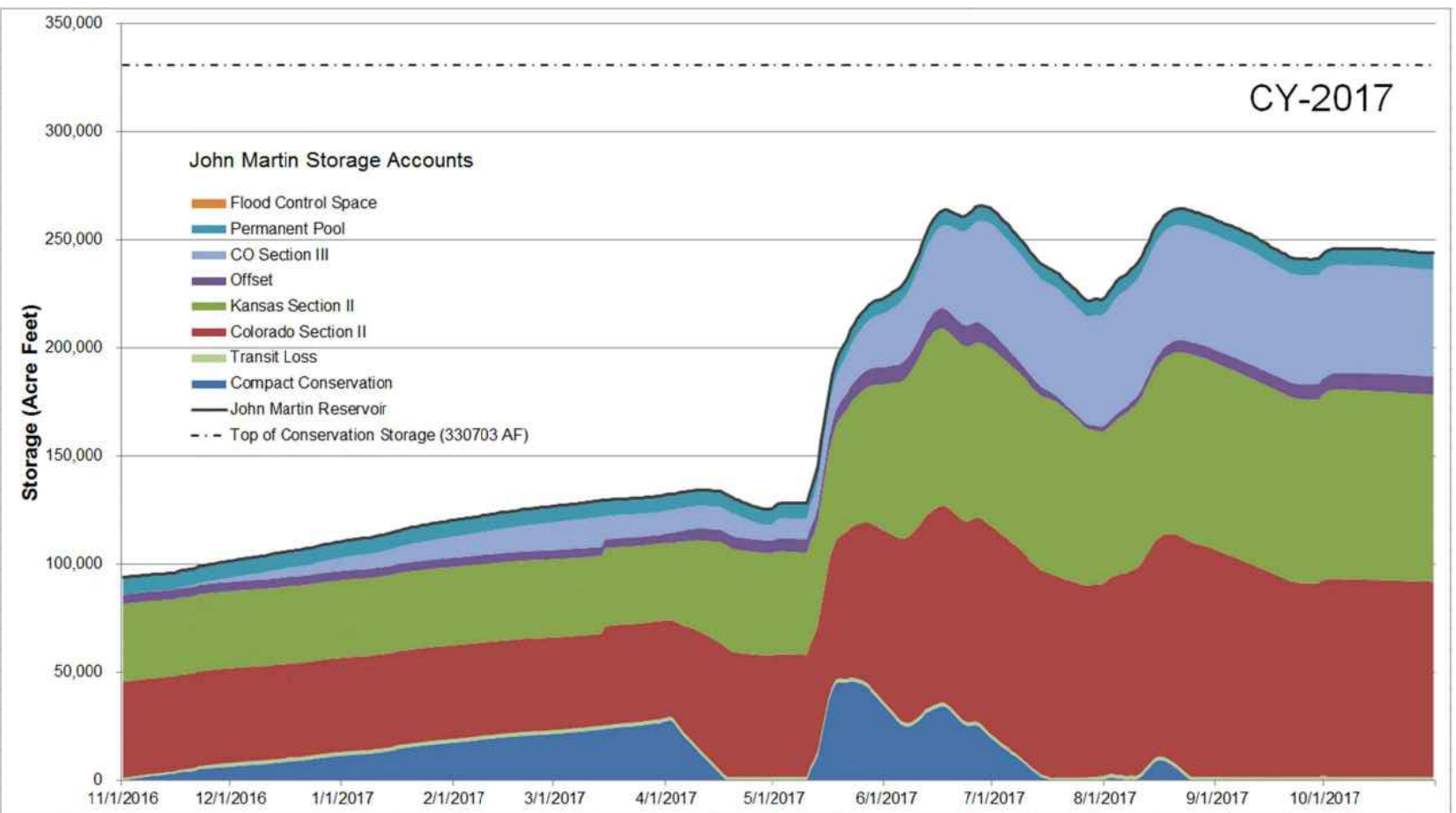
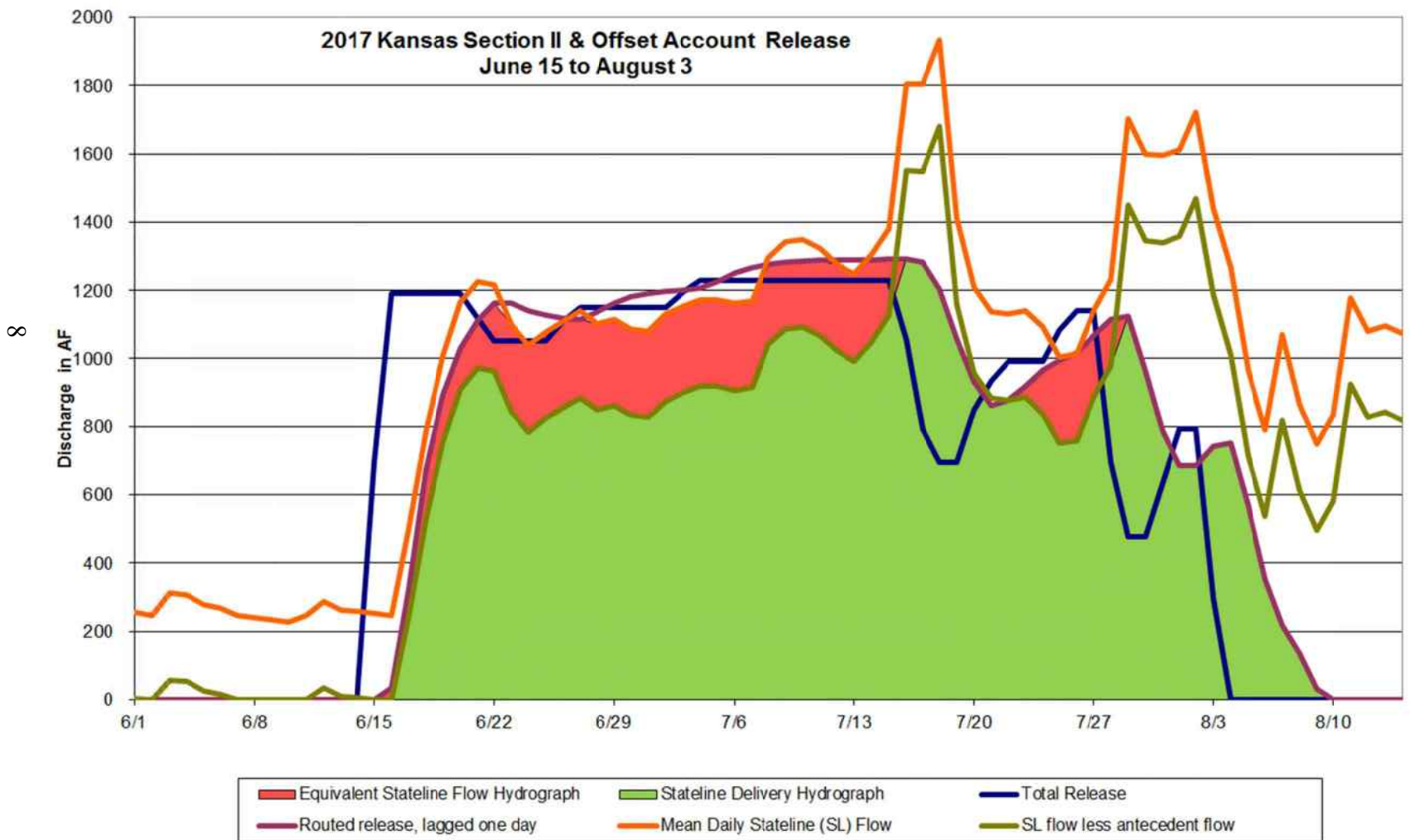


Figure 2 Hydrograph of the Kansas release at the Stateline (Section II)



Attachment 1

AOS Report

December 1, 2017

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MEMORANDUM

TO: Steve Witte*, Division Engineer/Operations Secretary
Randy Hayzlett*, Kansas ARCA Representative
Kevin Salter*, Assistant Operations Secretary

FROM: Bill Tyner*, Assistant Division Engineer, Division 2

CC: David Barfield, Hal Scheuerman*, Lane Malone, Scott Brazil, Rebecca Mitchell,
Brent Newman, Joey Talbott, Brandy Cole, Nathan Sullivan, Lori Marintzer*
Mike Meyer, Collin Painter, John Van Oort*, Phil Reynolds, Lonnie Spady, and
Rebecca Nichols* (* indicates participated in July 21st phone discussion)

DATE: August 18, 2017

SUBJECT: Summary of Conference Call Regarding Frontier Ditch Stateline Flow Measurement Issues

INTRODUCTION AND SUMMARY

This memo is to document the telephone conversation and action items some of us discussed on July 21, 2017 regarding recent problems with submergence issues at the Frontier Ditch. The Frontier Ditch gage is one of two gages that comprise the Stateline flow. The other gage is the Arkansas River near Coolidge, KS. See Map Attached. The USGS maintains both of these gages.

The discussion initially started with submergence being associated with Frontier Parshall flume being beyond its useful life. Kevin and Lori (USGS) both noted that the submergence issue was not caused by the Parshall flume or checks placed in the ditch below that flume. They believe that the submergence issue is a ditch maintenance issue. Kevin related a conversation with Steve Hines, Frontier Ditch, in which Steve said that the ditch was sprayed to kill the weeds but before they burned, they received a significant amount of rain. When Frontier Ditch was able to burn, some areas had regrowth occurring. It is Kevin's belief that standing vegetation in areas along the bottom and possibly sides of the ditch was slowing the water and causing the Parshall flume to go into submergence above about 35 cfs. Kevin Salter noted in reviewing this memo that some submergence had occurred earlier in the year and at lower flows.

Randy Hayzlett commented that with the high amount of rain that western Kansas had received during the irrigation season in 2017 it was very difficult for ditch companies to stay ahead of vegetation overgrowth that impacts ditch carrying capacity. He believed that Frontier Ditch was attempting to remove obstructions that were causing the Frontier Ditch flume to submerge, but were having difficulty.

Lori noted for a Parshall flume of 6 feet, the flume is considered in submergence at 70%. When the



flume went into submergence, the USGS would block the real time discharge data from the web since the flow is then determined by using a submergence calculation to estimate daily values. She noted that it is not possible to provide corrected data on a real-time basis.

It should be noted that Colorado does not agree that this practice by the Kansas USGS allows the States to follow the provisions of the agreements by collecting the provisional fifteen-minute gage data, then determining if there is a relevant reason under the agreement(s) to rely on some other data. If the Kansas USGS is unwilling to allow the provisional fifteen-minute data to be distributed to the two States to allow the agreements to properly be operated, then a new solution should be sought at the 2017 ARCA Meeting.

The reason for Colorado's concern about this gage was that Kansas was in the middle of a Stateline delivery of water from John Martin Reservoir (June 15, 2017 through August 3, 2017). The Stateline measurements are fundamentally important to proper accounting of the crediting and transit loss associated with deliveries under agreements signed by the Colorado State Engineer and Kansas Chief Engineer (see agreements attached).

Kevin noted that the two crediting agreements were signed about a year apart and that their respective provisional data sections had different language. More specifically, the Section II agreement provided for the use of corrected data under certain circumstances. Kevin noted that problems with the Frontier Ditch measurement in July 2006 was probably the reason for this language. Kevin also noted that this year's situation was similar to July 2006 when the Frontier Ditch also went was in submergence.

Kevin stated that the Frontier Ditch continues to divert with the instruction to hold to 35 cfs or less in order to keep the Parshall flume out of submergence. Kansas staff are closely monitoring the ditch diversions and have/will alert the Frontier Ditch (Steve and/or Stanley Hines) when diversions look like they might exceed 35 cfs. Even with this monitoring and notice, the Frontier Ditch did have another instance of submergence on July 27 and 28 (2017).

Lori did commit to providing a provisional submergence calculation for the prior day should the Frontier Ditch have submergence issues again. Such a submergence calculation was provided by email of July 28. See attached.

FRONTIER PARSHALL FLUME

Randy noted that at the 2016 Arkansas River Compact Administration Meeting in December of 2016, discussion occurred about replacing the Frontier Ditch flume. From the Engineering Committee's 2016 Summary and Action Items, the committee heard a request from Kevin for ARCA's funding assistance to replace the Frontier Ditch Parshall flume. The Committee requested more detailed information on construction and costs before considering this request.

During the July 21st conference call, we discussed whether the Kansas USGS staff or perhaps Kansas NRCS staff could evaluate the Frontier Ditch flume and make recommendations on replacement design

and costs. Kansas felt that neither agency would be able to perform that work by the next ARCA Meeting.

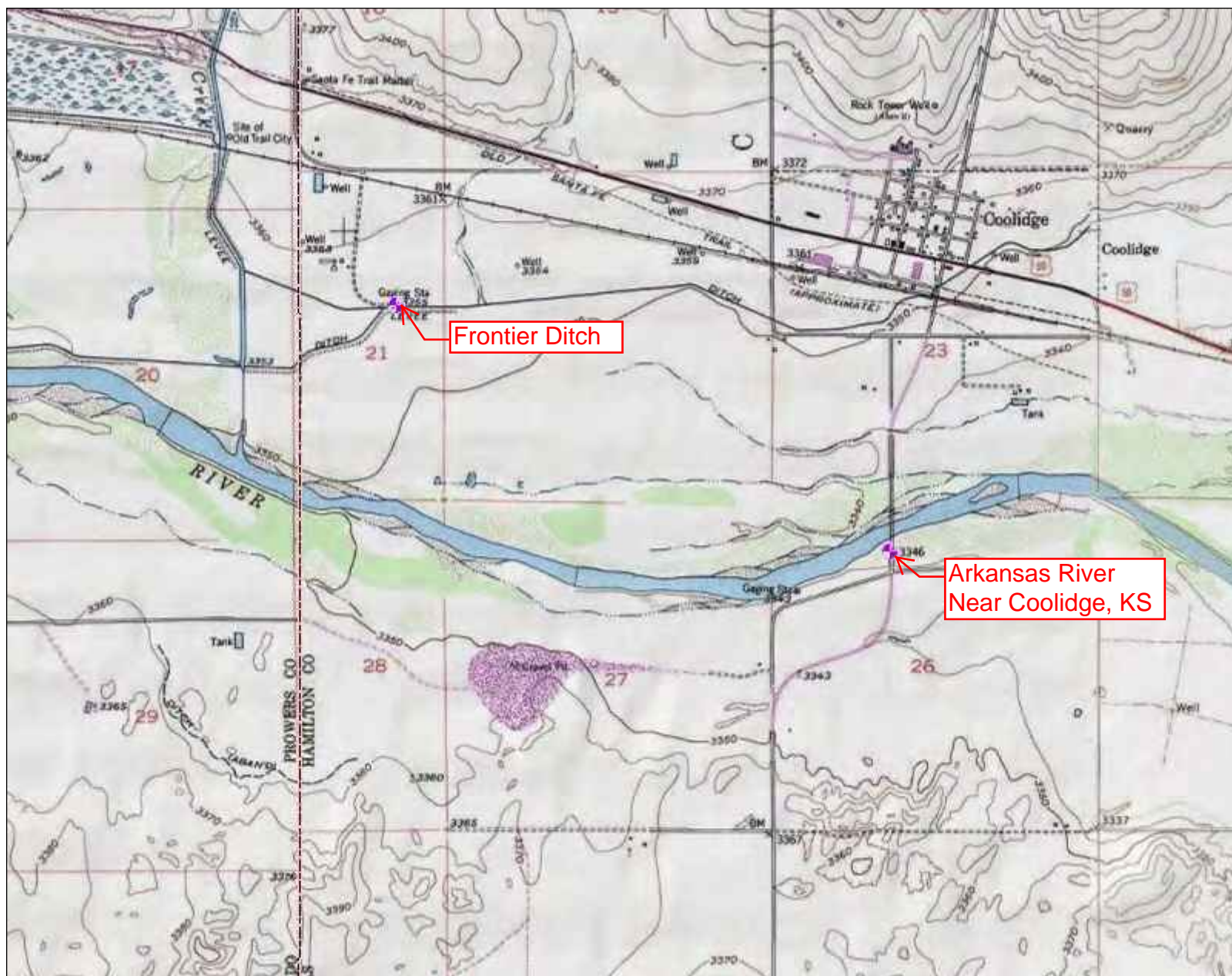
Steve Witte volunteered the Colorado Division 2 Hydrography Section to perform a preliminary evaluation of the flume working with Kevin Salter, the Frontier Ditch and Lori, (USGS). The Division 2 Hydrography staff are currently in the middle of design work on another basin project, however the work to evaluate the Frontier Ditch flume should be able to be performed during late September to early November in time to provide a preliminary report for review by both States prior to the 2017 ARCA meeting in Lamar, Colorado. Kevin agreed with this proposal and volunteered some LiDAR data recently acquired to help with the evaluation of conditions at the site. The LiDAR information for the area of the Frontier Flume was provided on July 25.



CDSS

Colorado's Decision Support Systems

Map Viewer



Legend

- Active Gage Diversion
- Active Gage Reservoir
- Active Gage Stream
- County

Location



Notes

4,677 0 2,339 4,677 Feet

1: 28,064



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Date Prepared: 8/8/2017 2:17:34 PM

AGREEMENT CONCERNING THE OFFSET ACCOUNT IN JOHN MARTIN
RESERVOIR FOR COLORADO PUMPING, DETERMINATION OF CREDITS
FOR DELIVERY OF WATER RELEASED FOR COLORADO PUMPING, AND
RELATED MATTERS

September 29, 2005

This Agreement is entered into by the State of Colorado and the State of Kansas (hereinafter referred to as “Colorado” and “Kansas”) in the interests of interstate comity to resolve accounting issues relating to the Offset Account in John Martin Reservoir for Colorado Pumping (hereinafter “Offset Account”). The crediting and implementation principles described herein will be applied to Offset Account deliveries and H-I Model input sets for the years 1997 through 2004 as well as future years.

Acceptance of this Agreement by Colorado and Kansas does not prejudice or constitute a waiver of their respective rights under the Arkansas River Compact, the April 24, 1980 Resolution Concerning an Operating Plan for John Martin Reservoir (as revised on May 10, 1984, and December 11, 1984), the March 17, 1997 Stipulation Re Offset Account in John Martin Reservoir in *Kansas v. Colorado*, No. 105 Original, or the Amended March 30, 1998 Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping.

Colorado and Kansas agree as follows:

1. Definitions: The following terms will be defined in this agreement as follows:

- A. **Colorado Consumable Subaccount** – a subaccount of the Offset Account into which fully consumable water, as determined by the Colorado State Engineer pursuant to Paragraphs 3 and 4 of the Offset Account Resolution, is delivered or transferred. This subaccount is further segmented into:
 - i. Colorado Upstream Consumable Subaccount
 - ii. Colorado Downstream Consumable Subaccount.
- B. **Colorado Upstream Subaccount** – a subaccount of the Offset Account for the storage of water with the purpose of replacing depletions to conservation storage inflows pursuant to Paragraph 6 of the Offset Account Resolution.
- C. **Consumable Portion of the Release** – the water released from the Kansas Consumable and Colorado Consumable subaccounts of the Offset Account. This would not include waters released from any other subaccounts of the Offset Account.
- D. **H-I Model** – the Hydrologic-Institutional Model developed jointly by the States to assist in the determination of Stateline depletions to usable streamflows.

- F. **Kansas Consumable Subaccount (KCS)** – a subaccount of the Offset Account for the storage of that part of the total account for which evaporation is charged to Kansas, pursuant to Paragraph 5B of the Offset Account resolution.
- G. **Kansas Storage Charge Subaccount** – a subaccount of the Offset Account for the storage of fully consumable water which is a prerequisite for Colorado or its water users to store water in the Offset Account as provided for in Paragraph 9 of the Offset Account Resolution.
- H. **Kansas Stateline Return Flow Subaccount** – a subaccount of the Offset Account for those Stateline return flows which, based on historic patterns, would have been delivered to the Stateline, but which are held in the Offset Account pursuant to Paragraph 4 of the Offset Account Resolution.
- I. **Muskingum method** – a routing method as described in the following reference: McCarthy, G.T., 1938: 'The Unit Hydrograph and Flood Routing', presented at conference of North Atlantic Division, U.S. Corps of Engineering, June 1938 (see also 'Engineering Construction - Flood Control', pp. 147-156, the Engineer School, Ft. Belvoir, VA, 1940).
- J. **Offset Account Resolution (OAR)** – the “Resolution concerning an Offset Account in John Martin Reservoir for Colorado Pumping as amended March 30, 1998,” or as it is subsequently amended.
- K. **Provisional data** -- streamflow and ditch diversion data collected on the day the administrative action is taken.
- L. **Reasonable Opportunity** – is the first day during the period of April 1st to June 30th when the mean Stateline daily flow is 100 cfs or greater for at least 15 days in the previous 30-day period, even if the 30 days precede April 1.
- M. **Stateline flow** – the flow of the waters of the Arkansas River as determined by gaging stations located at or near the Stateline, more specifically the combined flow as measured by USGS gaging stations: Frontier Ditch near Coolidge and the Arkansas River near Coolidge.
- N. **Stateline Return Flow Subaccount** – a subaccount of the Offset Account for water that will be required to maintain historical Stateline return flows pursuant to Paragraph 4 of the Offset Account resolution.
- O. **Stateline Return Flow Transit Loss Subaccount** – a subaccount of the Offset Account for the associated transit loss water needed to deliver historical Stateline return flows to the Stateline Pursuant to Paragraph 8 of the Offset Account Resolution.

2. Subaccounts currently approved for the Offset Account.

The Offset Account, as provided for by the **Offset Account Resolution (OAR)**, shall consist of the following subaccounts:

- A. Colorado Consumable Subaccounts (OAR Paragraphs 3 & 4)
 - i. Colorado Upstream Consumable Subaccount
 - ii. Colorado Downstream Consumable Subaccount
- B. Colorado Upstream (OAR Paragraph 6)

- C. Instate Return Flow to Colorado Ditches (OAR Paragraph 4)
 - i. Keesee Winter Return Flows
- D. Kansas Consumable (OAR Paragraph 5.B.)
- E. Kansas Storage Charge (OAR Paragraph 9)
- F. Kansas Stateline Return Flow (OAR Paragraph 4 & 5, 5 deals with the evaporation on Stateline Return Flows after Kansas has been noticed)
- G. Stateline Return Flow (OAR Paragraph 4)
- H. Stateline Return Flow Transit Loss (OAR Paragraph 8)

Additional subaccounts may be approved only by mutual agreement by both States. Notice of a proposed subaccount (including a detailed written description of the need and justification for the subaccount) must be given from one state to the other; and the response is due from the notified State within two weeks upon receipt.

3. Determination of Credits for the Delivery of Water Released from the Offset Account

The States agree to determine credits for the delivery of water released from the Offset Account on Kansas' demand based on measured **Stateline flow** in accordance with the criteria described below.

- A. Release accounting and stream flow data used in the evaluation of all deliveries will be as follows:
 - i. Accounting records of the Operations Secretary for Offset Account releases, including hourly records of gate changes identifying the beginning and end of releases.
 - ii. Provisional, hourly, and daily satellite data from pertinent gaging stations between John Martin Reservoir and the Stateline. Stateline deliveries for which Colorado will receive credit will be based on the mean daily **Stateline flow**.
 - iii. The United States Geological Survey (USGS) provides the State of Colorado with a data feed of shift-corrected discharge values on an hourly basis. The data provided is in a non-aggregated time step, typically 15-minute measurement intervals. Once data is loaded into the Colorado Division of Water Resources database, it is not updated with subsequent data from the USGS. Therefore, data used for water administration remains the same as during the time the water was administered. Colorado will daily extract 15 minute discharge data for the Arkansas River at Granada, the Frontier Ditch, and the Arkansas at Coolidge gages for the previous 24-hour period to update previously transmitted data and export this and previous data for the most recent 7-day period as a delimited text file to an ftp directory accessible by persons designated by the Colorado State Engineer or Kansas Chief Engineer. **Provisional data** shall be used for all the calculations described in this agreement. Colorado will provide and maintain the auto-executable program

to periodically update databases maintained in their respective offices with this data to ensure identical stream flow data sets to be used to evaluate deliveries of water from John Martin Reservoir to Kansas.

B. The antecedent flow during the Offset Account delivery will be determined as follows:

- i. Use the mean daily **Stateline flow** for the 10 full days preceding the date of delivery arrival, provided that the variability within the period does not depart from the 10-day average by more than 10%. The date of delivery arrival for the purpose of this Paragraph shall be two days after the initiation of the release with the first day of release being day zero. Days of **Stateline flow** which exceed 110% of the initial average will be removed until an average base flow with less than +/- 10% variability is achieved to remove interference caused by precipitation or the effect of Colorado ditch operations during the 10-day period. No more than two iterations of antecedent flow calculation will be performed and no fewer than 6 days out of the preceding 10-day period will be used in determining the antecedent flow except as provided in the following two paragraphs.
- ii. If an Offset Account release follows within 10 days of any other release from a Kansas account (including the Offset Account), the antecedent flow for the current Offset Account release shall be the same as the antecedent flow determined for the previous release using the same procedures as described above in Paragraph 3.B.i.
- iii. If the average flow for the 10-day period preceding the 10 days (i.e. days 11 through 20 prior to arrival of the release) used to determine antecedent flow is more than twice the computed antecedent flow computed above in Paragraph 3.B.i., the antecedent flow will be adjusted to be the average of: a) the antecedent flow as described above in Paragraph 3.B.i. and b) the hydrograph flow value using the **Muskingum method** described below in Paragraph 3.C. on the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero.

C. For Offset Account releases occurring without consecutive Kansas Section II Account releases, the credit component of the Offset Account release at the Stateline for which Colorado will receive 100% credit as a replacement of depletions to usable Stateline flow will be determined as follows:

- i. The mean daily release from the Offset Account will be multiplied by 1.05.
- ii. These adjusted mean daily values will be routed to the Stateline using the **Muskingum method** with the following parameters: $K = 60$ hours, $x = 0.15$ and $t = 24$ hours.

- iii. The resulting Muskingum hydrograph will be lagged one day, in addition to the lag included within the Muskingum routing.
- iv. The Stateline delivery for the purpose of determining Offset credit will be determined as the lesser of: a) the **Stateline flow** less antecedent flow or b) the lagged Muskingum hydrograph.
- v. The Stateline delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.
- vi. The Offset Account delivery efficiency will be the Stateline delivery determined in the manner described above divided by the total Offset Account release.
- vii. Under no circumstances shall more than 100% of the total volume released from the Offset Account over the entire period of the release be determined to be delivered under these procedures.
- viii. The credit for the **Consumable Portion of the Release** will be determined as the Offset Account delivery efficiency multiplied by the **Consumable Portion of the Release**.

D. For combined releases of Offset Account and Kansas Section II Account water, the credit component for the Offset Account release at the Stateline for which Colorado will receive 100% credit as a replacement of depletions to usable **Stateline flow** and the Equivalent Stateline Flow (ESF) volume for determining transit losses associated with Kansas Section II Account release will be determined as follows:

- i. The mean daily release from the sum of the Offset Account and the Kansas Section II Account releases will be multiplied by 1.05.
- ii. These adjusted mean daily values will be routed to the Stateline using the **Muskingum method** with the following parameters: $K = 60$ hours, $x = 0.15$ and $t = 24$ hours.
- iii. The resulting Muskingum hydrograph will be lagged one day, in addition to the lag included within the Muskingum routing.
- iv. The Stateline delivery, for the purpose of determining Offset credit, will be determined as the lesser of: a) the **Stateline flow** less antecedent flow or b) the lagged Muskingum hydrograph.
- v. The Stateline delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release

being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.

- vi. The Offset Account delivery efficiency will be the Stateline delivery determined in the manner described above divided by the total of Offset Account and Kansas Section II Account releases.
- vii. The credit for the **Consumable Portion of the Release** will be determined as the Offset Account delivery efficiency multiplied by the **Consumable Portion of the Release**.
- viii. The ESF delivery will be determined as the lesser of: a) the **Stateline flow** or b) the lagged Muskingum hydrograph.
- ix. The ESF delivery determination will end the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.
- x. The ESF percentage will be calculated as the ESF delivery (determined using Sub-paragraphs 3.D.i through 3.D.iii and 3.D.viii through 3.D.ix) divided by the total of the releases from the Offset Account and Kansas Section II Account.
- xi. The volume of the Kansas Section II ESF is the total of the Kansas Section II releases multiplied by the ESF percentage.
- xii. If the ESF volume for the Kansas Section II Account delivery is less than the Kansas Section II Account volume released, the resulting transit loss will be replenished to the Kansas Section II Account.
- xiii. Under no circumstances shall more than 100% of the total of either the release from the Offset Account or the Kansas Section II Account over the entire period of the release be determined to be delivered for that account under these procedures.
- xiv. For the purposes of these determinations, the volume of multiple releases from the same account during the combined releases will be summed and treated as a single value.

4. Credit for evaporation from water stored in the “Kansas Consumable Subaccount” (KCS).

As provided in the **Offset Account Resolution (OAR)**, once Kansas has received a 30-day notice and evaporation is now being assigned to the KCS, Colorado may accumulate the evaporation for later credit as determined below in this Paragraph. Commencing April 1 of each year, the content of the KCS will be subject to the following accounting procedures and shall be used to establish evaporation eligible for credit from the KCS:

- A. During the period of April 1 through June 30, if Kansas does not call for water from the KCS, evaporation eligible for credit as a replacement of depletions to usable Stateline flows for water stored in the KCS will begin the day following a **Reasonable Opportunity** for Kansas to call for water. If a **Reasonable Opportunity** has occurred and Kansas has chosen not to call for water from the KCS, evaporation eligible for credit as a replacement of depletions to usable Stateline flows for all water stored in the KCS will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first. However, if Kansas chooses to call for water from the KCS, evaporation eligible for credit will commence on the date of release and will continue until either the KCS is exhausted, or until the succeeding April 1, whichever comes first.
- B. During the period of April 1 through June 30, if Kansas does not call for water from the KCS and there is no **Reasonable Opportunity** for Kansas to call for water, the evaporation eligible for credit as a replacement of depletions to usable Stateline flows for all water stored in the KCS will begin on July 1 and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.
- C. During the period of April 1 through June 30, if Kansas does call for water from the KCS, evaporation eligible for credit from additional water delivered to and stored in the KCS that is less than 3,500 acre-feet will be deferred until July 1 but will then continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.
- D. During the period of April 1 through June 30, if Kansas does call for water from the KCS, evaporation eligible for credit from additional water delivered to and stored in the KCS that is equal to or greater than 3,500 acre-feet will begin on the date the 3,500 acre-feet for the total volume was achieved and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.
- E. During the period of July 1 through September 30 evaporation eligible for credit for additional water delivered to and stored in the KCS from July 1 through September 30 will begin on the day water is delivered and stored in the KCS and will continue until either Kansas calls for a release of water and exhausts the KCS, or until the succeeding April 1, whichever comes first.
- F. Colorado shall receive no credit as a replacement of depletions to usable Stateline flows for evaporation from additional water delivered to and stored in the KCS during the period October 1 through March 31.
- G. Commencing April 1 of each succeeding year, the accounting and procedures as described in this Paragraph 4 shall be used to establish initial conditions for assigning evaporation eligible for credits from the KCS for that year.

- H. The evaporation credit component for offsetting usable depletions to Stateline flows will be computed by applying the Offset Account delivery efficiency for the next Offset Account release, as set forth in Paragraph 3 above, to the quantity of KCS evaporation eligible for credit. Colorado will not seek credit for the computed transit loss component of this water. Kansas Storage Charge water and the Kansas Stateline Return Flow water shall not be placed into the KCS, nor shall evaporation from these subaccounts be eligible for credit.

5. Assignment of Transit Losses

The **Consumable Portion of the Release** from the Offset Account that is not credited as a delivery at the Stateline, as determined in Paragraph 3 above, will be considered to be transit loss and a portion of that amount, as determined below, will be input into the **H-I Model** as a special water and assigned to reaches between John Martin Reservoir and the Stateline. The transit loss to the three reaches between stream gages below John Martin Reservoir (JMR to Lamar, Lamar to Granada, Granada to Stateline) will be determined in proportion to the percentages of transit loss determined using the Livingston Reach 6 factors with the antecedent flows at the stream gages at JMR, Lamar and Granada. However, if through the cooperative efforts of the States, an improved method of determining transit losses between John Martin Reservoir and the Stateline is devised, that method may be utilized through amendment of this agreement pursuant to Paragraph 11. In determining the portion of the transit loss that will be included in the **H-I Model**, the flows through the Granada gage will be used to assess Colorado's efforts to administer the released water past Colorado ditch headgates. The procedure to determine the amount of transit loss to be input into the **H-I Model** as a special water will be as follows:

- A. Upon a call for an Offset Account release from John Martin Reservoir, the flows will be evaluated for the prior ten-day period in a manner consistent with Sub-paragraph 3.B above for the Arkansas River below John Martin Reservoir, the Arkansas River at Lamar and the Arkansas River near Granada river gages to compute a target flow rate at the Granada gage computed as the Granada antecedent flow plus the Offset Account release rate less the transit loss based on Livingston Reach 6 factors. During the Offset Account release, Colorado will administer the release to attempt to maintain the target flow rate at the Granada gage. Changes in the Offset Account release rate will cause a change in the Granada gage target rate (based on the original calculation using the Livingston Reach 6 factors), computed by the new release rate multiplied by the original transit loss percentage plus the antecedent flow.
- B. At the conclusion of the release, the actual volume delivered through the Granada gage will be determined using mean daily flows from the **Provisional Data** for the Granada gage for the target evaluation period, which is from the date of the first day of release arrival at the Stateline through the day following the last full day of release at John Martin Reservoir. This value will be compared to the volume calculated using the delivery target flow rate at Granada multiplied by the number of days between release arrival at the Stateline and one day following the last full day of release at John Martin Reservoir. If the volume of actual delivery through the Granada gage for this period is

greater than or equal to the target volume delivery, 75% of the transit losses determined for the delivery will be input into the **H-I Model** as special water. See Table A below for a sample computation.

- C. If the volume of actual delivery through the Granada gage for the target evaluation period is less than the target volume delivery, the amount of the transit loss in the JMR to Lamar reach that is eligible for use as a transit loss input for the **H-I Model** is reduced by the ratio of the target transit loss in that reach derived using the Livingston Reach 6 factors to the actual transit loss in that reach calculated from the difference between the target flow rate at Granada and the actual delivery flow rate at Granada. The portion of the total delivery transit loss attributed to that reach is multiplied by this ratio to obtain the amount of the transit loss in the JMR to Lamar reach that is eligible for use as a transit loss input. The same computation is performed to determine the amount of the transit loss in the Lamar to Granada reach that is eligible for use as a transit loss input for the **H-I Model**. The transit loss eligible for input into the **H-I Model** in the Granada to Stateline reach is unchanged. Seventy-five percent of the transit loss determined for each of the three reaches will be input into the **H-I Model** as a special water. See Table A below for a sample computation for this case.

Table A: Sample computation for assignment of Transit Loss

Delivery Target Met							
	JMR	JMR to Lamar Reach	Lamar	Lamar to Granada Reach	Granada (Delivery Target)	Granada to Stateline Reach	Stateline
Flow Rates	250 cfs		237.5 cfs		225 cfs		200 cfs
Transit Losses		12.5 cfs		12.5 cfs		25 cfs	
% of total TL		25%		25%		50%	
CU Delivery Transit Loss							1000 ac-ft
Transit Loss by Reach		250 ac-ft		250 ac-ft		500 ac-ft	
75% of TL input as Special Water		187.5 ac-ft		187.5 ac-ft		375 ac-ft	750 ac-ft
Delivery Target Not Met							
	JMR	JMR to Lamar Reach	Lamar	Lamar to Granada Reach	Granada (Delivery Target)	Granada to Stateline Reach	Stateline
Flow Rates	250 cfs		237.5 cfs		225 cfs		200 cfs
Transit Losses		12.5 cfs		12.5 cfs		25 cfs	
% of total TL		25%		25%		50%	
CU Delivery Transit Loss							1000 ac-ft
Transit Loss by Reach		250 ac-ft		250 ac-ft		500 ac-ft	
Actual Delivery Rate					200 cfs		
Actual Transit Loss		25 cfs		25 cfs			
Adjusted Transit Loss		125 ac-ft		125 ac-ft		500 ac-ft	750 ac-ft
75% of Adjusted TL input as Special Water		93.75 ac-ft		93.75 ac-ft		375 ac-ft	562.5 ac-ft

6. Disposition of return flow water from Keesee Ditch, XY-Graham Canal, and Stubbs Ditch Section II accounts that is transferred into the Offset Account.

The procedure used to determine the timing and quantity of return flows is described herein. When Colorado transfers water from one of the subject Section II accounts to the Offset Account under the provisions of paragraph 4 of the **Offset Account Resolution**, the water transferred from the Section II account will be split into its consumptive use, in-state return flow and Stateline return flow components as described in Attachment A.

In-state return flows and the associated transit loss will be simulated in the **H-I Model** as a special water input, either as an input to the river in Reach 11 if return flows are actually released to the river, or as an input to individual Section II accounts of Colorado ditches, as actually occurs.

The consumptive use water, Stateline return flows and the associated transit loss and evaporation that is transferred to the Offset Account will be disposed of in accordance with the provisions of paragraphs 4, 5, and 8 of the **Offset Account Resolution**. The Stateline return flow will be simulated in the **H-I Model** as follows: (1) For return flows that remain in the Offset Account at the direction of the Kansas Chief Engineer, Stateline return flows will be simulated in the **H-I Model** by adding a special water equal to the return flow according to the schedules in Attachment A. Seventy-five percent of the transit loss water will be added to Reach 11. (2) For water transferred into the Kansas Section II account at the direction of the Kansas Chief Engineer, a special water input equal to the amount of the transfer will be made. (3) For Stateline return flows delivered to the river, a special water input equal to the amount of the release will be made to Reach 11, unless this water is delivered past the headgates of canals in Colorado, in which case it will be added to the reach to which it was delivered. In either case, seventy-five percent of the transit loss release will be input to Reach 11. Nothing in this subsection relating to the distribution of Stateline return flow or simulation of Stateline return flow in the **H-I Model** will affect the assignment of evaporation charges as set out in the **Offset Account Resolution**, paragraph 5.B.

7. Using H-I Model 10-year compliance results to determine additional amounts of water for delivery to the Offset Account by Colorado and to reset the status of Colorado's monthly accounting for the purpose of evaporation accounting under the provisions of the Offset Account Resolution.

To use the **H-I Model** to determine Compact compliance in accordance with the Special Master's recommendations in the Fourth Report, two steps are required. The first step is to run the **H-I Model** in both the historic and Compact modes to determine the accretions or depletions to usable Stateline flows for the previous 10-year period resulting from post-Compact well pumping and replacement sources represented in the **H-I Model**. The second step is to sum Colorado's Stateline delivery credits for fully consumable water delivered from the Offset Account to the Stateline for the previous 10-year period including any credits for evaporation from water stored in the KCS that Colorado is entitled to. The resulting quantities from these two steps are then used to calculate the final determination of accretions or depletions to usable

Stateline flows for the previous 10-year period. This final quantity is shown as Accretion A or Depletion A in Table B below.

In the monthly accounting performed by Colorado to replace well pumping depletions using the methods used to implement the Amended Use Rules, the credits that Colorado is entitled to as a result of deliveries from the **Colorado Consumable Subaccounts** to the Stateline are used to balance stream depletions that are calculated each month until these delivery credits are exhausted. These credits are shown as Accretion B in Table B below.

Analysis of the **H-I Model** runs used to determine Accretion A or Depletion A should be completed by mid-March of the year following the 10 calendar year period for which Compact compliance is being determined. Prior to the first full 10-year period, this accounting will be performed using years 1997 through 2005. When this analysis is completed, the actions summarized in the table below should be taken to reset the credit/depletion status of Colorado's monthly accounting.

Table B: Actions to reset the credit/depletion status of Colorado's monthly accounting

Results of the H-I Model analysis for the most current 10 year compliance period	Monthly Accounting Status at the end of December of the last year of the 10 year compliance period	Reset Action for Accretion B (Monthly Accounting Status for the beginning of the current calendar year)
IF	AND IF	THEN
Accretion A	Accretion B > 0 (Credits are used in monthly accounting before any further water is transferred to the KCS)	Reset to Accretion A (Credits are used in monthly accounting before any further water is transferred to the KCS)
Accretion A	Accretion B = 0 (Water is transferred to the KCS after monthly accounting)	Reset to Accretion A (Move KCS back to Colorado CU sub account for Jan-Mar of current year. Credits are used in monthly accounting before any further water is transferred to the KCS)
Depletion A	Accretion B = 0 (Water is transferred to the KCS after monthly accounting)	Place CU water = Depletion A into the Offset Account (Water is transferred to the KCS after monthly accounting)
Depletion A	Accretion B > 0 (Credits are used in monthly accounting before any further water is transferred to the KCS)	Reset Accretion B = 0 Place CU water = Depletion A into the Offset Account (Water is transferred to the KCS after monthly accounting)

8. New accounting procedures or calculations developed through collaborative efforts, including improved methodology to determine transit losses between John Martin Reservoir and the Colorado-Kansas Stateline, may be implemented or substituted with existing procedures or calculations upon modification of this agreement pursuant to Paragraph 11.

9. Colorado will employ best water administrative practices and enforcement activities to assure the timely delivery of Offset Account releases from John Martin Reservoir to the Colorado-Kansas Stateline in order to maximize delivery of such water to the Stateline.

10. If Kansas calls for more than 10,000 AF from the **Colorado Consumable** and/or **Kansas Consumable Subaccounts** during the period of November 1 to March 31 in any consecutive three years period, the transit losses on that part of the releases exceeding 10,000 AF, will be input into the **H-I Model** as special waters in the following April using the procedures provided for in Paragraph 5.

11. The States may agree to modify this Agreement, or any portion thereof, provided any amendment is not inconsistent with the Compact and the decisions of the Court in this case. Either State may seek modification of this Agreement by giving notice to the other State's Chief or State Engineer in writing. The States will cooperate in a good-faith effort to resolve issues raised by the proposed modification. The States may modify this Agreement only by mutual agreement or, if the States are unable to agree on a proposed modification to this Agreement, a State may submit the matter to the dispute resolution process included in the final decree in this case, including binding arbitration.

The States also agree to review this Agreement and the **Offset Account Resolution** every five years to determine whether the provisions can be improved in the interest of continuing interstate comity and effective water management. The first review shall occur five years from the effective date of this Agreement.

OPERATIONAL GUIDELINES

Although not mandatory, to enhance the efficient and timely delivery of water released from the Offset Account, the States also agree to the following guidelines:

1. Kansas should avoid calling for releases from the Offset Account during the period November 1 through March 31. Exceptions may be made whenever stream conditions are favorable for a release and the water is needed in Kansas, or when a spill is expected.
2. When antecedent flow is 100 cfs, or less, Kansas will call for releases from the Offset Account at a flow rate of at least 250 cfs and for a minimum of 7 days, although Kansas may reduce or terminate a release from the Offset Account if a precipitation event diminishes the demand for water in Kansas. Further, Kansas may request a release from

the Offset Account of shorter duration than 7 days if it is made in conjunction with a consecutive release from the Kansas Section II Account.

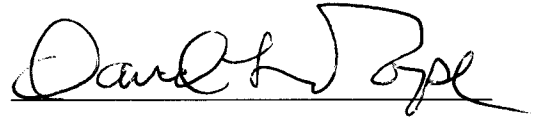
3. Unless Kansas specifies otherwise, releases from Offset subaccounts will be made in the following order:
 - A. Kansas Consumable Subaccount
 - B. Kansas Storage Charge Subaccount
 - C. Kansas Stateline Return Flows Subaccount
 - D. Colorado Consumable Subaccount
 - E. Stateline Return Flow Subaccount and Stateline Return Flow Transit Loss Subaccount
4. Kansas will use its best efforts to maximize the efficiency of Offset Account deliveries, including but not limited to, the release of Kansas Storage Charge water in conjunction with water released from other subaccounts.

JOINTLY APPROVED: 9-30-05



Hal D. Simpson

Colorado State Engineer



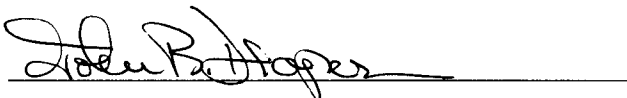
David L. Pope

Kansas Chief Engineer



David W. Robbins

Special Assistant to the Colorado Attorney General



John B. Draper

Special Assistant to the Kansas Attorney General

Attachment A

Timing of Stateline Return Flows

In determining the monthly timing of the releases needed to generate equivalent Stateline Return Flows resulting from the transfer of Section II water from the Keesee, XY-Graham and Sisson Stubbs Accounts into the Offset Account, a percentage of the return flow that would occur for each calendar month is used which is independent of when the delivery of Section II water is made to the Offset Account. The monthly return flow percentages are determined using a delivery schedule to all ditches based on the record of actual deliveries and the determination of the demand for Section II water for each month during the irrigation season. The following three tables provide the Stateline Return Flow schedules for each of the three Section II accounts.

Keesee Average Monthly Response (%)

Month	Reach 11	Reach 12	Reach 13
Jan	0.7277	14.4701	2.4729
Feb	0.6397	10.5869	1.7301
Mar	0.5441	7.7693	1.2423
Apr			
May			
Jun			
Jul			
Aug			
Sep			
Oct			
Nov	0.7747	28.5648	6.0282
Dec	0.7944	19.9629	3.6920
Total	3.4805	81.3541	15.1654

XY-Graham Average Monthly Response (%)

Month	Reach 15	Reach 16	Reach 17	Reach 18
Jan	0.1621	1.3203	2.9592	0.1707
Feb	0.1533	1.1543	2.5478	0.1505
Mar	0.1453	1.0292	2.2195	0.1328
Apr	0.1301	2.6078	5.3561	0.1086
May	0.1335	3.6277	7.0891	0.1134
Jun	0.1569	4.1302	8.1189	0.1518
Jul	0.1723	4.4509	8.8509	0.1843
Aug	0.1881	3.8384	7.7097	0.2163
Sep	0.1953	3.0393	6.3288	0.2333
Oct	0.1877	2.6140	5.5987	0.2246
Nov	0.1809	1.9738	4.3039	0.2114
Dec	0.1733	1.5592	3.5015	0.1941
Total	1.9788	31.3452	64.5842	2.0918

Stubbs Average Monthly Response (%)

Month	Reach 17	Reach 18	Reach 21
Jan	0.2386	2.2571	0.0162
Feb	0.1911	1.7464	0.0179
Mar	0.1536	1.3881	0.0192
Apr	0.0795	8.3885	0.0191
May	0.062	13.248	0.0185
Jun	0.1473	15.2972	0.0172
Jul	0.2303	16.3472	0.0153
Aug	0.3187	13.3833	0.0137
Sep	0.3786	9.5142	0.0125
Oct	0.3657	7.507	0.0122
Nov	0.3339	4.832	0.013
Dec	0.2943	3.1081	0.0143
Total	2.7936	97.0171	0.1891

Quantities of Return Flows, Stateline and In-state

To obtain the quantities of water that would be used as special water inputs to the H-I Model for Stateline Return Flows or In-state Return Flows, the following procedure would be used. The table below shows the allocation into various types of water of the water transferred from the subject Section II accounts. The Stateline return flow would be placed in the Stateline Return Flow Subaccount and transferred to the Kansas Stateline Return Flow Subaccount or released to the river using the schedules determined above with the Stateline return flow quantity in the table below. The transit loss associated with the Stateline return flow would be placed in the Stateline Return Flow Transit Loss Subaccount. Finally, the consumptive use water would be placed in the Colorado Consumable Subaccount.

Breakdown of Transferred Section II Water (%)

Water Type	Keesee	XY-Graham	Stubbs
To Ft. Bent	3.0		
To Amity	14.7		
To Lamar	8.3		
To Buffalo		1.4	
To Stateline	9.7	37.7	35.9
Trans Loss	0.5	3.2	5.0
Rtn Flow	9.2	34.5	30.9
CU Water	64.3	60.9	64.1
Total	100	100	100

**Agreement on Determination of Transit Loss under the provisions of Section II E (4) of
the Resolution Concerning an Operating Plan for
John Martin Reservoir
October 2006
Revised December 2006**

Whereas: CRS 37-80-102 provides that the Colorado State Engineer shall be the executive officer in charge of supervising the work of all division engineers and K.S.A. 82a-706e provides that the Kansas Chief Engineer may establish field offices and appoint water commissioners as agents and,

Whereas: the Resolution Concerning an Operating Plan for John Martin Reservoir adopted by the Arkansas River Compact Administration (ARCA) on April 24, 1980 as subsequently revised (the 1980 Operating Plan) Section II.E(4) states, "Releases of Kansas account water shall be measured at the Stateline as provided in Compact Article V E (3) allowing appropriate arrival times. If transit losses occur, those losses shall be determined by the Colorado Division Engineer and a representative of the Kansas Division of Water Resources and shall be replenished from the Kansas transit loss account. In the event that such losses at the end of the delivery are greater than the total in the Kansas transit loss account, then the deficit shall be made up from the next available transfers of other water under Subsection III D." and,

Whereas: the States have previously disputed the meaning of Section II.E(4) of the 1980 Operating Plan with respect to the appropriate operation of the Kansas Transit Loss Account and the determination of transit losses and,

Whereas: on September 30, 2005, the States signed the Agreement Concerning the Offset Account in John Martin Reservoir for Colorado Pumping, Determination of Credits for Delivery of Water Released for Colorado Pumping, and Related Matters (Offset Account Crediting Agreement) which includes a procedure to determine the **Equivalent Stateline flow (ESF)** delivery for determining transit losses associated with **Kansas Section II Account** deliveries that may occur as a result of combined releases of Offset Account and **Kansas Section II Account** water,

Now, **Therefore**, the undersigned Colorado State Engineer and Kansas Chief Engineer do agree to determine **Transit Loss** associated with the release of the **Kansas Section II Account** water on Kansas' demand based on measured Stateline flow in accordance with the criteria describe below and direct their subordinates and agents as follows:

A. Definitions

- i. **Equivalent Stateline flow or ESF** is the flow at the Stateline during **Kansas Section II Account** delivery equivalent to Kansas call from John Martin Reservoir as measured by the methods described in this agreement.
- ii. **Kansas Section II Account** is the Account in John Martin Reservoir established under Subsection II.D of the 1980 Operating Plan.

- iii. **Transit Loss** is the difference between the water volume released from the **Kansas Section II Account** and the volume of **ESF** as measured by the methods described in this agreement.
- iv. **Kansas Transit Loss Account** is the Account in John Martin Reservoir established under Subsection II.E(4) of the 1980 Operating Plan.
- v. **Livingston method** is a method for computing transit loss on the Arkansas River as described in USGS Water Resources Investigation 78-75 (September 1978) or future revised method as approved by ARCA.
- vi. **Muskingum method** is a routing method as described in the following reference: McCarthy, G.T., 1938: 'The Unit Hydrograph and Flood Routing', presented at conference of North Atlantic Division, U.S. Corps of Engineering, June 1938 (see also 'Engineering Construction - Flood Control', pp. 147-156, the Engineer School, Ft. Belvoir, VA, 1940).
- vii. **Predicted Transit Loss** is the percent of transit loss computed using the **Livingston method** using Reach 6 factors or as provided in a revised method approved by ARCA and the antecedent stream flow method as described below in Paragraph G between John Martin Reservoir and the Stateline.

B. Accounting and stream flow data used in the evaluation of **Kansas Section II Account Transit Loss** will be as follows:

- i. Accounting records of the Operations Secretary for **Kansas Section II Account** releases, including hourly records of gate changes identifying the beginning and end of releases.
- ii. Provisional, hourly, and daily satellite data from pertinent gaging stations between John Martin Reservoir and the Stateline. Stateline deliveries for which Colorado will receive credit will be based on the mean daily **Stateline flow**.
- iii. The United States Geological Survey (USGS) provides the State of Colorado with a data feed of shift-corrected discharge values on an hourly basis. The data provided is in a non-aggregated time step, typically 15-minute measurement intervals. Once data is loaded into the Colorado Division of Water Resources database, it is not updated with subsequent data from the USGS. Therefore, data used for water administration remains the same as during the time the water was administered. Colorado will daily extract 15 minute discharge data for the Arkansas River at Granada, the Frontier Ditch, and the Arkansas at Coolidge gages for the previous 24-hour period to update previously transmitted data and export this and previous data for the most recent 7-day period as a delimited text file to an ftp directory accessible by persons designated by the Colorado State Engineer and the Kansas Chief Engineer. **Provisional data** shall be used for all the calculations described in this agreement. Corrections for data omission, erroneous hourly measurements

or mechanical errors discovered in a timely manner and not due to merely a shift change made by USGS following a subsequent measurement should be included in the provisional data. Colorado will provide and maintain the auto-executable program to periodically update databases maintained in their respective offices with this data to ensure identical stream flow data sets to be used to evaluate deliveries of water from John Martin Reservoir to Kansas.

C. For **Kansas Section II Account** releases occurring without consecutive Offset Account releases, the **ESF** delivery for determining transit losses associated with **Kansas Section II Account** deliveries will be determined as follows:


- i. The mean daily release from the **Kansas Section II Account** release will be multiplied by 1.05.
- ii. These adjusted mean daily values will be routed to the Stateline using the **Muskingum method** with the following parameters: $K = 60$ hours, $x = 0.15$ and $t=24$ hours.
- iii. The resulting Muskingum hydrograph will be lagged one day, in addition to the lag included within the Muskingum routing.
- iv. The **ESF** delivery for the purpose of determining **Transit Loss** will be determined as the lesser of: a) the **Stateline flow** or b) the lagged Muskingum hydrograph.
- v. The **ESF** delivery determination will end the sixth day following the end of the release from the reservoir with the last day of the release being day zero and with the delivery for the sixth day being prorated by the ratio of the number of hours of release in day zero divided by 24.
- vi. The **ESF** percentage will be calculated as the **ESF** delivery (determined using Sub-paragraphs C.i through C.v) divided by the total of the release from **Kansas Section II Account**.
- vii. The volume of the **Kansas Section II Account ESF** is the total of the **Kansas Section II Account** release multiplied by the **ESF** percentage.
- viii. If the **ESF** volume for the **Kansas Section II Account** delivery is less than the **Kansas Section II Account** volume released, the resulting difference is **Transit Loss** which will be replenished to the **Kansas Section II Account**.
- ix. Under no circumstances shall more than 100% of the total volume from the **Kansas Section II Account** release be determined to be delivered under these procedures.

D. For combined releases of Offset Account and **Kansas Section II Account** water, the credit component for the Offset Account release at the Stateline for which Colorado will receive 100% credit as a replacement of depletions to usable **Stateline flow** and the **ESF** volume for determining transit losses associated with **Kansas Section II Account** release will be determined as provided in Paragraph 3.D. of the Offset Account Crediting Agreement. Transit losses for releases from the Offset Account shall not be replenished from the **Kansas Transit Loss Account**.

- E. The **Kansas Transit Loss Account** may be released concurrently with the **Kansas Section II Account** release. The concurrent release may occur under the following conditions unless other terms are agreed to by the Colorado Division Engineer and a representative of the Kansas Division of Water Resources:
- i. When antecedent flows at Stateline are less than 150 cubic feet per second and shall be at a rate and quantity determined by the Division Engineer upon consultation with a representative of the Kansas Division of Water Resources;
 - ii. For antecedent flows at Stateline greater than 150 cubic feet per second, not to exceed 5% of the **Kansas Section II Account** release rate or the **Predicted Transit Loss** as determined by the **Livingston method**, whichever is greater, and terminated on the third day from the beginning of the Kansas Section II Account release (with the day zero the beginning day of such release);
 - iii. For antecedent flows at Stateline greater than 150 cubic feet per second, when a subsequent increase in the Kansas release of at least 50 cfs occurs, an additional transit loss account release may be directed by the Division Engineer, not to exceed an amount equal to the increase in release rate times the **Predicted Transit Loss** as determined by the **Livingston method** at the beginning of the release and will be terminated on the third day from the beginning of the Kansas Section II Account release change.
- F. If a **Transit Loss** is determined by the above procedures, any **Kansas Transit Loss Account** water remaining in the account at the end of the **Kansas Section II Account** release will be used to replenish the **Kansas Section II Account**. In the event that transit losses at the end of the delivery are greater than the total in the **Kansas Transit Loss Account**, then the deficit shall be made up from the next available transfers of other water under Subsection III.D of the 1980 Operating Plan.
- G. For the purposes of determining **Predicted Transit Loss** using the **Livingston method** with Reach 6 factors or the revised method approved by ARCA on Kansas Section II releases, the antecedent flow for the three reaches below John Martin Reservoir will be determined as follows:
- i. Use the mean daily flow for the 10 full days preceding the date of delivery arrival, provided that the variability within the period does not depart from the 10-day average by more than 10%. The date of delivery arrival for the purpose of this paragraph shall be:
 - a. Lamar: use the day that the release is initiated as day zero.
 - b. Granada: one day after the initiation of the release with the first day of release being day zero.

- c. Stateline: two days after the initiation of the release with the first day of release being day zero.
 - d. Days of mean daily flow which exceed 110% of the initial average, will be removed until an average base flow with less than +/- 10% variability is achieved to remove interference caused by precipitation or the effect of Colorado ditch operation during the 10-day period. No more than two iterations of antecedent flow calculation will be performed and no fewer than 6 days out of the preceding 10-day period will be used in determining the antecedent flow except as provided in the following two paragraphs.
- ii. If a Kansas **Section II Account** release follows within 10 days of any other release from a Kansas account (including the Offset Account), the antecedent flow for the current **Kansas Section II Account** release shall be the same as antecedent flows determined for the previous release using the procedures as described above in Paragraph G.i.
 - iii. If the average flow for the 10-day period preceding the 10 days (i.e. days 11 through 20 prior to arrival of the release) used to determine antecedent flow is more than twice the computed antecedent flow computed above in Paragraph G.i., the antecedent flow will be adjusted to be the average of: a) the antecedent flow as described above in Paragraph G.i. and b) the hydrograph flow value using the **Muskingum method** described above in Paragraph C. on the sixth day following the end of the release from John Martin Reservoir with the last day of the release being day zero.
- H. Acceptance of this Agreement by Colorado and Kansas does not prejudice or constitute a waiver of their respective rights under the Arkansas River Compact, the April 24, 1980 Resolution Concerning an Operating Plan for John Martin Reservoir (as revised on May 10, 1984, and December 11, 1984), the March 17, 1997 Stipulation Re Offset Account in John Martin Reservoir in *Kansas v. Colorado*, No. 105 Original, or the Amended March 30, 1998 Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping.
- I. This Agreement is subject to the continued existence of the 1980 Operating Plan. Should the 1980 Operating Plan be terminated as provided in that Plan, this Agreement shall be null and void.

JOINTLY APPROVED ON December 11, 2006:



Hal D. Simpson
Colorado State Engineer



David L. Pope
Kansas Chief Engineer



Tyner - DNR, Bill <bill.tyner@state.co.us>

Frontier submergence calculation for July 27

1 message

Marintzer, Lori <lshill@usgs.gov>

Fri, Jul 28, 2017 at 8:14 AM

To: Bill Tyner <bill.tyner@state.co.us>, John VanOort <john.vanoort@state.co.us>, Brandy Cole <Brandy.Cole@kda.ks.gov>, Kevin Salter <kevin.salter@kda.ks.gov>, Mike Meyer <mike.meyer@kda.ks.gov>, Nathan D Sullivan <nsulliva@usgs.gov>, brokenbarh@yahoo.com, Rebecca Nichols - DNR <rebecca.nichols@state.co.us>

The Frontier Ditch went into submergence in excess of 70% for a time yesterday. The discharge for that period has been blocked from the web page. The **provisional** estimated daily discharge for July 27 is 36.8 cfs.

Lori Marintzer

Hydrologic Technician

USGS, WRD

Hays, Kansas

[785-760-4419](tel:785-760-4419)

On Thu, Jul 20, 2017 at 11:34 AM, Marintzer, Lori <lshill@usgs.gov> wrote:

Late yesterday afternoon the Frontier Ditch went into submergence in excess of 70%. The discharge data on the web has been turned off. The corrected discharge as of 0800 hours this morning was 36 cfs.

When the submergence falls below 70% the discharge will be turned back on.

Thank you,

Lori

Lori Marintzer

Hydrologic Technician

USGS, WRD

Hays, Kansas

[785-760-4419](tel:785-760-4419)

Attachment 2

AOS Report

December 1, 2017

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Water Issues Matrix

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10 – Resolved.....	3
11 – Removed.....	3
12 – Suspended -- Consideration of new sources for permanent pool water – remaining Muddy Creek Storage Right / Keesee (<i>See Issue 14 for current proposal</i>)	3
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14 – Consideration of new sources for permanent pool water – Highland Canal	4
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22 – Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP).....	5
23 – Resolved --Reporting of Winter Water vs. Winter Compact storage split calculation	6
24 – Incorporated into Issue 60 – Utilization of “Summer storage season” as defined by the 1980 Operating Plan.....	7
25 – Criteria for Summer storage event trigger – Section II. B 1	7
26 – Removed -- Section II limitations on use made of account water to irrigation only	7
27 – Resolved -- First reference to Section II in Section III (A)	7
30 – Resolved.....	7
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33 – Resolved -- Transit loss on reservoir-to-reservoir deliveries.....	7
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44 – Suspended -- City of Lamar regulating account	8
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Pending JMR Accounting Issues

10 – Resolved -- Permanent Pool evaporation charges calculated by pro rata volume vs. incremental area
11 – Removed -- Transfer of Account water to Permanent Pool during flood control operations in JMR

12 – Suspended -- Consideration of new sources for permanent pool water – remaining Muddy Creek Storage Right / Keesee (See Issue 14 for current proposal)	
<i>ARCA Committee</i>	Engineering
<i>Issue Category & Priority</i> ¹	B – 8
<i>Legal</i> ² – <i>Policy</i> ³ – <i>Technical</i> ⁴	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<i>ARCA Committee or other general comment(s)</i>	
Related to transfer of the remaining Muddy Creek Storage Right proposal:	
<ul style="list-style-type: none"> ▪ In June 2012, Grady McNeill suggested that they would bring a proposal to transfer the remaining 8,425 AF to the JMR permanent pool ▪ In October 2012, Grady McNeill forwarded a proposed resolution to transfer the remaining portion ▪ On 14 November 2012, CO Div 2, John Tonko, and KS DWR staff visited the Muddy Creek Reservoir, Muddy Creek and Rule Creek gage sites ▪ December 2012: xxx 	
Related to the Keesee proposal:	
<ul style="list-style-type: none"> ▪ LAWMA made a conceptual proposal at the December 2005 ARCA Annual Meeting ▪ LAWMA provided additional detail for this proposal in February 2007 ▪ Informal discussion between Kansas, LAWMA and Colorado ▪ A timeline for discussion between Kansas & LAWMA was established at 2007 ARCA Annual meeting. ▪ David Barfield letter (26 December 2007) ▪ Matt Heimerich letter (January 7, 2008) ▪ David Barfield provided a list of discussion items (email Jan 18, 2008) ▪ Discussion between Barfield & Heimerich on proposal (call Feb 5, 2008) ▪ Email from Matt (Feb 5, 2008) to Colorado team / Barfield agreed to provide a list of LAWMA Colorado Water Rights for use as a source for the permanent pool ▪ LAWMA withdraws its request by letter dated (letter July 1, 2008) ▪ LAWMA has an obligation to provide a source of water for the JMR Permanent Pool, so this issue remains active ▪ David Barfield provides to Matt Heimerich principles that would guide Kansas evaluation (letter dated Nov 25, 2008) 	

13 – Removed -- 1980 Operating Plan's Restriction on use of Section III related to Perm Pool

¹ Categories: **A** – capable of resolution; **B** – may need to be addressed by an ARCA Committee other than Operations; and **C** – staffs have taken this issue as far as they can. The priority based on two groupings “A” issues and “B & C” issues. From memos dated 5 Feb 2004 and 19 August 2004 (Witte & Rude)

² **Legal** is defined as an issue that is not resolvable at this time or within ARCA

³ **Policy** is defined as an issue that needs to have input or guidance from either Operations Committee or ARCA

⁴ **Technical** is defined as an issue that can be resolved by the respective State staffs

14 – Consideration of new sources for permanent pool water – Highland Canal	
ARCA Committee	Engineering
Issue Category & Priority	B – 8
Legal – Policy – Technical	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
	<p>Of these three reasons [provided in the Barfield letter of December 4, 2015], only the first is substantive.</p> <ol style="list-style-type: none"> 1. Condition 2 of Appendix A.4 to the Final Decree entered in <u>Kansas v. Colorado</u>, U.S.C. No. 105 Original as amended June 2009 contains several exceptions to the obligation <u>to deliver water to the Offset Account to replace their depletions to usable Stateline flow. In consideration of the substantial Compact delivery credit it is apparent that this objective has been more than satisfied. “Accordingly, to the extent Keesee and/or Highland water rights are not needed to replace depletions to usable Stateline flow</u> LAWMA shall not be required to deliver these water rights to the Offset Account.” 2. Colorado rejects the suggestion that resolution of Kansas’ concerns related LAWMA decree is a precondition to approval of additional sources for the Permanent Pool. 3. The 2015 CPW Highland proposal acknowledges the need for an additional change of the Highland water rights and such a change will undoubtedly occur, but it makes little sense for anyone to assume the expense of a water court change case without some assurance that the change, once decreed, can be effected.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<i>ARCA Committee or other general comment(s)</i>	
<p>Issues related to Highland Canal proposal:</p> <ul style="list-style-type: none"> ▪ LAWMA made a conceptual proposal at the December 2014 ARCA Annual Meeting ▪ Colorado Parks & Wildlife provided a proposal to use Highland Canal via email of 11 November 2015 from Brett Ackerman ▪ The United States Army Corps of Engineers issued a letter in support of a proposal dated December 2, 2015 ▪ Referred to the Special Engineering Committee at the 2015 ARCA Annual meeting <ul style="list-style-type: none"> ○ Discussed at meetings of the SEC and technical experts during 2016 ○ JMR perm pool spreadsheet model was developed to aid in evaluation of perm pool operations under improved water supply conditions ○ A temporary agreement was signed on 3/23/2017 and will expire on March 31, 2018 	

20 – Resolved -- Winter Water Account of convenience

21 – Resolved -- Timely distribution of Section III storage charge during Pueblo Winter Water Storage Program (PWWSP)

22 – Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP)

<i>ARCA Committee</i>	Operations
<i>Issue Category & Priority</i>	A – 4
<i>Legal – Policy – Technical</i>	Legal 1 st / Technical 2 nd
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The criterion used by Colorado fails to adhere to what was established under the 1980 Operating Plan, specifically: “The Amity may store such water as it could otherwise divert from the Arkansas River for storage in the Great Plains Reservoir system ...” (Section III.A.) and for the Fort Lyon and Las Animas Consolidated they may deliver water under the PWWSP but “the delivery cannot include water that otherwise would have accumulated in conservation storage” (Sections III.B. and C.).	The criteria used to divide inflow to JMR into conservation storage/Section III is not provided in the 1980 Operating Plan, but has been continuously used. Since KS did not prove PWWSP caused injury, CO is reluctant to change.

<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<p>ARCA should establish criteria for determining the water available for Section III storage in JMR to protect inflows to conservation storage. Water delivered to JMR under the PWWSP should not include water that otherwise would have accumulated in conservation storage.</p> <p>In 2007, a snowpack covered SE Colorado that would have prevented direct irrigation. This snowpack may have impacted off-channel storage as well.</p> <p>In 2008, 2009, & 2010, drops in flow between November 14th and 15th on the Purgatoire River near Las Animas appear to be related to the Las Animas Consolidated operations were noted. In reviewing the flow history of this gage site, there appears to be other occurrences prior to 2008.</p> <p>In response to noting the flow drops, the Las Animas Consolidated was visited with Division 2 staff in Nov 2010. We didn't observe any significant returns to the Purgatoire above the USGS gage, nor did we note any other significant returns to the Ark River below the Ark River at Las Animas gage. Additional visits with Colorado Div 2 staff in November, 2011 & 2013 have occurred: we found returns below the Ark @ Las Animas gage consistent with irrigation operations and the wasteway above the Purgatoire River at Las Animas gage not being used during our visits.</p> <p>In November 2011, Salter developed a spreadsheet to gage impacts of changes to the Ark @ Las Animas split between the Compact and PWWSP.</p> <p>In November 2012, we scheduled a visit to the Consolidated but didn't visit given the hydrologic conditions, dry Purgatoire River at the USGS gage and no water being used east of the highway as noted as we traveled to the breached Muddy Creek Reservoir site.</p> <p>{In November 2015 Colorado reported diversions in excess of irrigation requirements by the Las Animas Consolidated and proposed corresponding adjustment to base flows corresponding to estimated returns. – language provided by Steve Witte on 2/19/2016}</p> <p>In October 2016, Colorado provided the first draft documenting procedures/guidelines for the split ratio between Compact Storage and the PWWSP</p>	<p>Kansas has identified this issue as a justification for withholding approval of the annual Reports of the Operations Secretary.</p> <p>As a possible means of resolving this issue, Colorado has proposed documentation of procedures to be used to allocate inflow to John Martin Reservoir between conservation storage and Section III storage each year, including adjustments necessary to address foreseeable contingencies. However, progress on the completion of such documentation has been hampered by the fact that Kansas has not indicated whether this effort might be considered as a sufficient basis for resolution of the issue or worthy of justifying approval of future reports of the Operations Secretary.</p>
<i>ARCA Committee or other general comment(s)</i>	
<p>The Operation Secretary and the Assistant Operation Secretary should continue to work on this issue (10 May 2002).</p>	

24 – Incorporated into Issue 60 – Utilization of “Summer storage season” as defined by the 1980 Operating Plan

25 – Criteria for Summer storage event trigger – Section II. B 1	
ARCA Committee	Operations Committee
Issue Category & Priority	na
Legal – Policy – Technical	technical
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
ARCA needs to address Section II. B (1) with respect to determination of “existing irrigation requirements” for ditches that no longer engage in irrigation. Also the criteria related to how the 1,000 AF over then existing irrigation requirements is applied.	Colorado law defines the extent of a water right based on historical use. Water rights submitted for adjudication of changed uses must meet standard of non-injury to other water users. This issue may be resolved by striking the word “irrigation” from the phrase quoted at left. The 1980 Operating Resolution should also be amended to add the words “per day” to follow “1000 AF”, to resolve the second concern
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
In general, this appears to be primarily a technical issue and we need to discuss the mechanics of how to quantify the “then existing irrigation requirements.” This issue does have some relationship with Issue 26	See February 27, 2007 position paper drafted for the Special Engineering Committee by Steve Witte. Steve has updated this position paper, but may not have distributed.
<i>ARCA Committee or other general comment(s)</i>	

26 – Removed -- Section II limitations on use made of account water to irrigation only

27 – Resolved -- First reference to Section II in Section III (A)

30 – Resolved -- Determination of transit loss under Section II(E)(4)

31 – Resolved -- Sections II (E)(4) and III (D) are unclear as to where transfers to make up deficits should be made

32 – Resolved -- How should transit loss account be used?

33 – Resolved -- Transit loss on reservoir-to-reservoir deliveries

40 – Resolved -- Exchange of daily reservoir status accounting

41 – Resolved -- Non-reporting of Section II(C)(1) determinations

42 – Resolved -- Summer season interruption of transfers from conservation storage to accounts

43 – Resolved -- Winter storage period interruption of transfers from summer conservation storage to accounts

44 – Suspended -- City of Lamar regulating account	
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
[Kansas is considering conditions that would allow the temporary regulation storage]	City of Lamar requested a permanent account at December 2006 meeting of ARCA. Matter referred to the Engineering Committee.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
The City of Lamar should propose an account in JMR to allow for the re-regulation of flows from other releases. Consideration should be given to conditions contained in the minutes of 1989 ARCA Annual meeting and Kansas comments from ARCA Special Meeting May 2002.	An engineering proposal describing proposed operations was provided to the Engineering Committee in December 2007. It is suggested that this matter should be tabled indefinitely as the concept of a multipurpose Colorado account is explored. (See Matrix Issue #45 below)
<i>ARCA Committee or other general comment(s)</i>	
<ul style="list-style-type: none"> ▪ 2006: City of Lamar renewed their request at the December 2006 ARCA Annual Meeting / ARCA referred to Engineering Committee / ▪ 2007: engineering report provided in December 2007 ▪ 2008: Colorado and Kansas provided comments on the City of Lamar's proposal in Dec 2008. This issue appeared to be dropped after these comments. ▪ 2013: With the river conditions experienced this year, the City through their attorney contacted Kansas about using a temporary account in John Martin Reservoir. Kansas is considering conditions that would allow the temporary regulation storage. 	

45 – Colorado Multipurpose Account	
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
Kansas is reviewing the Phase I report provided by Jack Goble, LAVWCD, by email of November 03, 2017.	Colorado would like to engage in a dialogue with Kansas regarding creation of an account in John Martin which could be utilized by various entities for a variety of purposes with appropriate conditions to protect Kansas' interests and which recognizes the potential benefits to both states.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<i>ARCA Committee or other general comment(s)</i>	
<ul style="list-style-type: none"> ▪ Jack Goble, LAVWCD, provided an initial (Phase I) report by email on November 03, 2017 	

50 – Commencement of a spill event	
<i>ARCA Committee</i>	Full ARCA
<i>Issue Category & Priority</i>	C – 6a
<i>Legal – Policy – Technical</i>	Policy
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
The language places the event on the physical operation of the projects control structure and not on the elevation of the water surface or some other trigger. Colorado's timing of spill accounting is not suggested in the governing language.	Compact Article IV C (3) provides that the conservation pool will be operated for the benefit of water users in CO and KS...as provided by the Compact. See also, Art. IV C (2).
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Rely on the physical operations of the project control structure to govern the loss of account water. No change to the language is required, unless clarifying language is desired.	Kansas' position ignores Corps of Engineers exclusive authority to determine flood control releases when JMR surface elevation rises into flood pool space. Contrary to express language of 1980 Operating Plan, water does not "spill physically over the project's spillway" during flood operations. Flood releases are normally made through the outlet works.
<i>ARCA Committee or other general comment(s)</i>	
OS recommendation 12/08/03: amend Section II G of 1980 Operating Resolution to clarify criteria defining the commencement of spill.	
Operations recommended moving this issue to Full ARCA. (14 December 2004)	
Moved to Special Engineering Committee pursuant ARCA 2005-01.	
51 – Resolved -- Spilling accounts	

52 – Criteria for exercise of Post-Compact Rights including Upstream Storage	
<i>ARCA Committee</i>	Administrative & Legal
<i>Issue Category & Priority</i>	B - 10
<i>Legal – Policy – Technical</i>	Legal
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
Upstream storage is not in priority until Section II accounts is completely spilled.	Compact not intended to impede use of water by either state if no material depletion of useable quantity or availability results under the compact. Apportionment of water not allocated by the Arkansas River Compact may be negotiated by ARCA. Colorado believes that it is important to expand the scope of discussion beyond just the criteria that can be used to justify storage in existing reservoirs, but also to include the exercise of other Post-Compact uses of water.
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
Discontinue the practice until authorized by resolution of ARCA.	See earlier exchange of letters between Mr. Simpson and Mr. Pope on this issue. There seems to be agreement by both states that one necessary condition is that John Martin Reservoir must be spilling. Previously, Colorado also imposed an additional condition that water must be physically flowing unused past Garden City, KS before post-Compact reservoirs in Colorado were allowed to store. This two pronged rubric has also been applied with respect to post-1985 uses in Appendix J. 2 to the final decree in KS v CO. However, in light of the level of un-replaced municipal and irrigation pumping depletions that continue to occur from the alluvial aquifer of Hamilton and western Kearney counties and published average water level declines from the High Plains aquifer underlying the Arkansas River in eastern Kearney and western Finney counties which exceeded 15 ft during the period 2000-2005, it is asserted that Kansas' post-Compact well uses are creating circumstances that will have an adverse impact on Colorado's entitlement to exercise its post-Compact water rights if both of these conditions are satisfied before post-Compact uses in Colorado are allowed.
<i>ARCA Committee or other general comment(s)</i>	
OS recommendation 12/08/03: Operations Committee should refer this issue to the Administrative and Legal Committee. Operations Committee transferred this issue to the Administrative and Legal Committee by memo dated 8 October 2004.	

53 – Adjusted JMR inflows during times of spill	
ARCA Committee	ARCA
Issue Category & Priority	C – 6c
Legal – Policy – Technical	Policy*
Kansas Staff Position	Colorado Staff Position
The 1980 Operating Plan does not provide for these adjustments. *Only can be resolved if 52 is resolved	Adjustments to inflow are necessary to account for the effect of post-compact upstream storage during the period that JMR is spilling.
Kansas Staff Comments	Colorado Staff Comments
Discontinue the practice until authorized by resolution of ARCA.	Inappropriate accounting related to conservation storage balances jeopardizes entitlements afforded by Compact Article V (f)
ARCA Committee or other general comment(s)	
OS recommendation 12/08/03: Operations Committee should table this matter until issue #52 is resolved.	
Operations recommended moving this issue to Full ARCA. (14 December 2004)	
Moved to Special Engineering Committee pursuant ARCA 2005-01.	

54 – Resolved -- Section II spill volume during summer storage season

55 – Allocation of waters, if any, not covered by the Arkansas River Compact between Colorado and Kansas	
ARCA Committee	
Issue Category & Priority	
Legal – Policy – Technical	
Kansas Staff Position	Colorado Staff Position
Kansas Staff Comments	Colorado Staff Comments
ARCA Committee or other general comment(s)	

60 – Section II(C) (2) compliance (Agreement B)	
ARCA Committee	Administrative & Legal
Issue Category & Priority	B – 9
Legal – Policy – Technical	Legal
<i>Kansas Staff Position</i>	<i>Colorado Staff Position</i>
<p>District 67 priority calls under pre-JMR conditions are to occur when conservation storage is exhausted into accounts. Colorado does not comply with this requirement of the 1980 Operating Plan.</p> <p>Summer storage season: The 1980 Operating Plan defines the "Summer storage season shall be the period of time commencing at the first exhaustion of conservation storage and continuing to and including the next succeeding October 31."</p>	<p>Agreement B is a separate document, not part of the 1980 Operating Plan, whereby Colorado water right owners agreed to subordinate certain aspects of their entitlement to enforce the priority of their water rights and is entirely consistent with administration of the priority system in Colorado. This issue is not properly before the Operations Committee.</p> <p>Summer storage season: Colorado agrees that Kansas has accurately stated the definition of "Summer Storage Season" as defined in Section I. B of the 1980 Operating Plan.</p>
<i>Kansas Staff Comments</i>	<i>Colorado Staff Comments</i>
<p>Operate according to the 1980 Operating Plan as written or propose changes to the plan for consideration by the administration.</p> <p>Summer storage season: The 1998 Operations Secretary's Annual Report notes that the Operations Secretary deviate from ...[Kevin, I don't think this is an accurate statement as I went back and checked and couldn't find any such statement. Rephrase? – Steve Witte on 2/19/2016]</p>	<p>Agreement B has been deemed to be necessary to maintain the respective benefits of JMR between Colorado water rights above and below JMR granted under the Compact. It is not inconsistent with the Compact, the 1980 Operating Plan, or administration by Colorado of its priority system.</p> <p>In consideration that Kansas has complained that Colorado has defined summer stored water in Agreement B differently than water stored during the "Summer Storage Season" as defined in the 1980 Operating Resolution (See Matrix Issue #24 above) and the accounting of the Operations Secretary which included information resulting from that inconsistent definition, that practice was discontinued after the Annual Report of the Operations Secretary for Compact Year 2001.</p> <p>Summer storage season: This is an aspect of Kansas' complaint regarding Agreement B (Issue # 60), not a separate issue and therefore should be consolidated with that issue and this issue should be removed.</p>
<i>ARCA Committee or other general comment(s)</i>	
<p>OS recommendation 12/08/03: Committee should refer this matter to the Administrative and Legal Committee with a recommendation that no further consideration be given to this issue.</p> <p>Operations Committee transferred this issue to the Administrative and Legal Committee by memo dated 8 October 2004.</p> <p>Moved to Special Engineering Committee pursuant ARCA 2005-01.</p>	

61 – Resolved – Retroactive adjustments of accounting for prior years if accounting methods are revised
62 – Resolved -- OS Report status for 1994 through 2006
63 – Removed -- Status of Assistant Operations Secretary Reports: 1998, 1999, 2000, 2001 & 2002
64 – Resolved -- Assistant Operations Secretary Reports: purpose and timeliness
65 – Removed -- Consider Moving Date of Annual Meetings to January or February
66 – Resolved -- Need for definite process for introducing and resolving operational issues
67 – Resolved -- When issues are resolved, is it in the form of separate resolutions and /or revisions to the 1980 Operating Plan?

70 – Suspended -- Trinidad Reservoir: Passing of inflows exceeding 1,000 cfs	
ARCA Committee	Operations
Issue Category & Priority	
Legal – Policy – Technical	
Kansas Staff Position	Colorado Staff Position
Releases exceeding 1,000 cfs should be passed as soon as possible, up to the channel capacity called for.	December 3, 1999 letter from Hal Simpson to USBR includes revised ‘Criteria for Temporary Detention and Subsequent Release of Flood Flows Below Flood Control Capacity...’ recognizes a 3000 cfs ‘non-damaging flow’ constraint directed by the Corps of Engineers by letter dated April 16, 1993. By letter dated January 12, 2011, the Corps requested the Colorado State Engineer to continue to use this criteria.
Kansas Staff Comments	Colorado Staff Comments
Inflows to Trinidad Reservoir exceeded 1,000 cfs on two separate occasions in August 2004. Those releases should have been passed through the reservoir and may have triggered a summer storage event at John Martin Reservoir. This issue should remain on the matrix until the ability to pass flows above 1,000 cfs is confirmed using the secondary gage. The concern is related to impacts to Compact conservation storage and/or downstream water users if flows above 1,000 cfs cannot be passed through Trinidad Reservoir.	The Water Commissioner requested that the release of these inflows be made: beginning at 1,000 cfs on Friday afternoon, August 6, 2004. He requested that the release be increased to 1,500 cfs on Saturday afternoon. The Corps rating curve for a downstream gage had a maximum release of 1,000 cfs. There is no controversy at issue between the states. Furthermore, ARCA has no authority to determine the non-damaging flow below Trinidad Reservoir. Therefore, this matter should be removed from the matrix.
ARCA Committee or other general comment(s)	
A letter was received from the Corps, dated 1 Nov 2004. This letter explains the events in August and steps that have been and will be taken to assure these releases will be passed in the future. Moved to Special Engineering Committee pursuant ARCA 2005-01. Channel capacity study for the Purgatoire River below Trinidad Reservoir through Trinidad, Colorado, has been undertaken in 2008. The key findings of the final report are listed in the January 12, 2011 letter cited above.	

Notes on Water Issues Matrix

Resolutions:

- ❖ ARCA Adopted Resolution 2006-01 (John Martin Reservoir Permanent Pool Evaporation Method) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation A
- ❖ ARCA Adopted Resolution 2006-02 (Winter Water and District 67 Winter Water Storage Charge Holding Accounts in John Martin Reservoir) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation B
- ❖ ARCA Adopted Resolution 2006- 03 (Transfer of Conservation Storage to Section II Accounts
- ❖ under the 1980 Operating Plan) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation C
- ❖ ARCA Adopted Resolution 2006-04 (Section II Account Spill Volume) on 12 Dec 2006 based on ARCA Special Engineering Committee Recommendation D
- ❖ For Issues #31 and 32, ARCA Special Engineering Committee Recommendation E addresses clarification of the 1980 Operating Plan for these two issues.
- ❖ City of Lamar was expected to submit at the May (?) ARCA meeting a resolution for a regulating account in JMR.
 - Colorado indicated that this issue has been tabled indefinitely
 - LAWMA & DOW made presentation at December 2005 ARCA Annual Meeting
 - December 2006 ARCA referred renewed request to Engineering Committee
- ❖ [may need to update this section with ARCA resolutions and ARCA SEC recommendations that have resolved or otherwise dealt with matrix issues]
- ❖ Issues 27 & 33 resolved by ARCA Resolutions 2016-01 (ARCA SEC Recommendation H) & 2016-02, respectfully
- ❖

Versions	Modification Date	Description of Modification(s)
		Issues #32 & 67 were added 24 October 2003 at a meeting between State staffs
2002issues_table09b.doc	14 June 2004	Incorporate changes suggested by Steve Witte as transmitted by email dated 21 Jan 2004. Change issue status based on Joint categorization document dated 5 Feb 2004; made formatting and grammatical changes.
2005issues_table09c.doc	19 August 2004 12 Nov 2004 19 April 2005	-- Add a Trinidad Issues category. Specifically, Issue #70, the passing of inflows exceeding 1,000 cfs. -- Show Issue 52 & 60 as being transferred to the Admin & Legal Committee. -- add Issue #13 & 24 (19 April 2005), make formatting changes to table, adjust according to 19August 2004 Joint Prioritization memo, rename columns combining Legal, Policy & Technical and adding ARCA Committee and issue categorization
2005issues_table09d_letter.doc	20 April 2005	-- Changed format to 8-1/2 by 11 inch and reorganize sections -- Add actions taken at ARCA CY2004 Annual meeting
2006issues_table09d_letter.doc	11 December 2006	-- Add actions proposed by the ARCA Special Engineering Committee (created by ARCA Resolution 2005-01) on Issues 10, 20, 21, 30, 32, 42, 43 & 54.
2006issues_table10a_letter.doc	18 December 2006	-- Add ARCA actions taken at the 2006 ARCA Annual meeting -- Remove issues resolved by ARCA accepting Special Engineering Committee recommendations
2006issues_table10b_letter.doc	19 December 2006	-- Steve Witte offered suggestions for modifications in conference call with Kevin Salter on this date.
2007issues_table10bb_letter.doc	11 April 2007	-- working draft -- added Issue #25 & 26 according to the Operations Committee instructions -- added ARCA Resolutions information -- added ARCA Special Engineering Committee Recommendations on 31 & 32
2007issues_table10c.doc	1 December 2007	-- added Table of Contents -- modified according to 19 Nov OS-AOS meeting
2008issues_table10d.doc 2008issues_table10e.doc	1 December 2008	-- updated issues / Recommendation G / added City of Lamar / removed resolved issue(s)
2009issues_table11a.doc	22 December 2008	-- added reservoir-to-reservoir delivery issue -- updated issues / ARCA resolution adopting Recommendation G
2010issues_table11c.doc	17 September 2010	-- added Issue 27 (Section III.A language) -- updated Issue 33 positions & comments
2011issues_table11d.doc	25 November 2011	-- update 22 & 33 language
2012issues_table11d.doc	26 November 2012	-- update 12 language
2013issues_table11d.docx	14 November 2013	-- Modify language related to Kansas' positions on several pending issues

Versions	<i>Modification Date</i>	<i>Description of Modification(s)</i>
2013issues_table11d-3.docx		-- Colorado modified language in 14, 22, 26, 27, 33, 44, 45, 52, & 70 -- Issue 45 added to matrix
2013issues_table11e.docx	7 December 2016	
2016issues_table 12a.docx	12 November 2017	-- Removed issues resolved by ARCA resolution and incorporated Issue #24 into Issue #60 -- Added Issue #55
Created an associated separate document with the documentation related to those issues resolved, removed, and template		

Water Issues Matrix Summary Table

Version Date : 12/01/2017

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
38	Totals	32	9	3	5	20		
10	Permanent Pool evaporation charges calculated by pro rata volume vs. incremental area	X				X	2006-01	Special Engineering Committee Recommendation A
11	Transfer of Account water to Permanent Pool during flood control operations in JMR	X			X			
12	Consideration of new sources for permanent pool water	X		X				In 2012, CDOW has proposed using the remaining portion of the Muddy Creek storage rights
13	1980 Operating Plan's Restriction on use of Section III related to Perm Pool	X			X			Steve Witte will review this to determine if it is still an issue.
14	Consideration of new sources for permanent pool water -- Highland Canal	X	X				2017-01	Temporary agreement for 2017
20	Winter Water Account of convenience	X				X	2006-02	Special Engineering Committee Recommendation B
21	Timely distribution of Section III storage charge during Pueblo Winter Water Storage Program (PWWSP)	X				X	2006-02	Special Engineering Committee Recommendation B
22	Criteria for determining Section III storage under the Pueblo Winter Water Storage Program (PWWSP)	X	X					
23	Reporting of Winter Water vs. Winter Compact storage split calculation	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
24	Utilization of "Summer storage season" as defined by the 1980 Operating Plan	X						Incorporated this issue into #60
25	Criteria for Summer storage event trigger -- Section II.B 1		X					Placed on matrix in April 2007
26	Section II limitations on use made of account water to irrigation only				X			Placed on matrix in April 2007 / not currently before the Special Engineering Committee
27	First reference to Section II in Section III A appears to be inappropriate					X	2016-01	Special Engineering Committee Recommendation H
30	Determination of transit loss under Section II(E)(4)	X				X		Resolved pursuant to an Agreement between State & Chief Engineers (December 2006).

Water Issues Matrix Summary Table

Version Date : 12/01/2017

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
31	Sections II (E)(4) and III (D) are unclear as to where transfers to make up deficits should be made	X				X	2007-05	Subject of Special Engineering Committee Recommendation E to be considered at the 2007 ARCA Annual meeting.
32	How should transit loss account be used?	X				X	2007-05	Subject of Special Engineering Committee Recommendation E to be considered at the 2007 ARCA Annual meeting.
33	Transit Loss on Reservoir-to-reservoir deliveries (e.g., deliveries of transmountain water to permanent pool)					X	2016-02	
40	Exchange of daily reservoir status accounting	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
41	Non-reporting of Section II(C)(1) determinations	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
42	Summer season interruption of transfers from conservation storage to accounts	X				X	2006-03	Special Engineering Committee Recommendation C
43	Winter storage period interruption of transfers from summer conservation storage to accounts	X				X	2006-03	Special Engineering Committee Recommendation C
44	City of Lamar regulating account	X		X				City of Lamar requested consideration in 2013 / Kansas considering
45	Colorado Multipurpose Account		X					
50	Commencement of a spill event	X	X					
51	Spilling accounts	X				X	2007-06	Subject of Special Engineering Committee Recommendation F to be considered at the 2007 ARCA Annual meeting.
52	Criteria for exercise of Post-Compact Rights including Upstream Storage	X	X					
53	Adjusted JMR inflows during times of spill	X	X					
54	Section II spill volume during summer storage season	X				X	2006-04	Special Engineering Committee Recommendation D
55	Allocation of waters, if any, not covered by the Arkansas River Compact between Colorado and Kansas		X					Added November 2017

Water Issues Matrix Summary Table

Version Date : 12/01/2017

Issue #	Description	April 2005	Pending	Suspended	Removed	Resolved	ARCA Resolution	Comment
60	Section II(C)(2) compliance (Agreement B)	X	X					
61	Retroactive adjustments of accounting for prior years if accounting methods are revised	X				X	2008-03	Special Engineering Committee Recommendation G
62	OS Report status for 1994 through 2006	X				X	2008-03	Special Engineering Committee Recommendation G
63	Status of Assistant Operations Secretary Reports: 1998, 1999, 2000, 2001 & 2002	X			X			
64	Assistant Operations Secretary Reports: purpose and timeliness	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
65	Consider Moving Date of Annual Meetings to January or February	X			X			Moved from removed to resolved in recognition of By-laws change (Sept 2011) which allows meeting date changes
66	Need for definite process for introducing and resolving operational issues	X				X		See Joint Recommendations as transmitted by Operations Committee letter dated 19 August 2004.
67	When issues are resolved, is it in the form of separate resolutions and /or revisions to the 1980 Operating Plan?	X				X		Process has been established to address resolution of issues as they were resolved.
70	Trinidad Reservoir: Passing of inflows exceeding 1,000 cfs	X		X				

Exhibit M

Annual Meeting

December 7, 2017

Report of the Colorado State Engineer Concerning Accounting of the Operations of an Offset Account in John Martin Reservoir for Colorado Pumping 2017



Photo courtesy of Colorado Parks and Wildlife

Submitted to the
Engineering and Operations Committees
Arkansas River Compact Administration

December 1, 2017
Report of the Colorado State Engineer
Offset Account Operations
November 1, 2016 to October 31, 2017

An Offset Account in John Martin Reservoir was authorized by the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping** dated March 17, 1997 (“Resolution”) and by the **Resolution Concerning an Offset Account in John Martin Reservoir for Colorado Pumping as Amended March 30, 1998** (“Amended Resolution”).

This report summarizes the operations conducted using the Offset Account for the period November 1, 2016 through October 31, 2017 and has been prepared pursuant to paragraph 11 of the Amended Resolution.

At 0000 hours, November 1, 2016 the Offset Account contained 4,430.74 acre-feet. From November 1, 2016 through October 31, 2017 there were deliveries to and transfers to the Offset Account as summarized below. There was one release from the Offset Account for delivery to Kansas during this period. The Lower Arkansas Water Management Association transferred fully consumable water to satisfy the 500 acre-feet Storage Charge prerequisite for using the account for another year on March 31, 2017. The correspondence describing this transfer and the other deliveries is included in Section 3.

In Section 1, a monthly summary of the contents of the Offset Account is provided in Table 1. A summary of the subaccounts of the Offset Account is provided in Tables A through B.2. The outline preceding the tables in Section 1 provides an explanation of the purpose of each subaccount.

Section 2 of this report contains the daily accounting records, by month, for all subaccounts in the Offset Account.

From November 1, 2016 through October 31, 2017, there were four deliveries of water to the Offset Account in addition to the transfer for the storage charge. The transfer and four deliveries are summarized in the following table.

Source	Delivery Start Date	Delivery End Date	Amount to Offset Account (ac-ft)	Net Consumable Water (ac-ft)	Net Return Flow Water (ac-ft)
LAWMA (Article II Transfer)	March 31, 2017	March 31, 2017	575.43	500	75.43
LAWMA (Article II Transfer)	July 5, 2017	July 5, 2017	0.11	0.00	0.11
LAWMA (Article II Transfer)	July 11, 2017	July 11, 2017	1,133.44	700.00	433.44
CWPDA (Various fully consumable from Pueblo Reservoir)	August 14, 2017	August 21, 2017	1,200.00	1,200.00	0.00
LAWMA (Fort Lyon)	April 1, 2017	October 31, 2017	5,267.49	5,267.49	0.00
LAWMA (Highland)	April 2, 2017	October 18, 2017	6,867.34	6,867.34	0.00
LAWMA (Keeseee)	April 18, 2017	October 19, 2017	855.90	855.90	0.00
TOTALS			15,899.71	15,390.73	508.98

During the period referred to above, there was one release of water from the Offset Account requested by the Kansas Chief Engineer.

Offset Account water was released from June 26, 2017 through July 22, 2017 and is summarized as follows:

Summary of Release (June 26, 2017 – July 22, 2017)
(From Calculations per Offset Agreement)

Release from Kansas Storage Charge subaccount = 463.25 acre-feet

Release from Kansas Consumable Water subaccount = 0.00 acre-feet

Release from Colorado Upstream/Downstream Consumable Water subaccounts = 10,000 acre-feet

Release from Return Flow/Return Flow Transit Loss subaccounts = 70.01 acre-feet

Total quantity released = 10533.26 acre-feet

Credit for Colorado Consumptive Use Water

$0.8847 \times 10,000$ (Consumptive Use Water) = 8,847 acre-feet credit

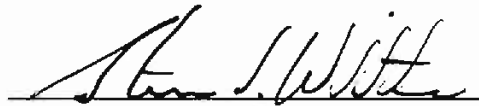
Credits were determined using the Muskingum routing method pursuant to the Agreement Concerning the Offset Account in John Martin Reservoir for Colorado Pumping, Determination of Credits for Delivery of Water Released for Colorado Pumping, and Related Matters, September 29, 2005.

Section 3 of this report provides copies of the letters reporting each delivery of water to the Offset Account as required by paragraph 3 of the Amended Resolution and copies of the letters reporting each release of water from the Offset Account.

Section 4 of this report provides copies of the monthly letters reporting Colorado pumping and Offset Account operations that were prepared and submitted in accordance with paragraph 12 of the Amended Resolution.

At 2400 hours, October 31, 2017 the Offset Account contained 8517.93 acre-feet.

The Colorado State Engineer and the Kansas Chief Engineer have coordinated Offset Account operations successfully through their respective delegates throughout the year.


Steven J. Witte for
Colorado State Engineer

December 1, 2017

INDEX

Report of the Colorado State Engineer – Offset Account Operations

Section 1

Offset Account Monthly Summary Tables

Table 1 (Offset Account Totals)

Tables A (Consumable Water) and B (Total Return Flow Water)

Tables A.1 (Colorado Upstream Consumable) and A.2 (Colorado Downstream Consumable)

Tables A.3 (Kansas Consumable) and A.4 (Kansas Storage Charge)

Tables B.1 (Return Flow) and B.2 (Return Flow Transit Loss)

Section 2

Daily Accounting Records by Month for Offset Account and Subaccounts

Section 3

Correspondence on Deliveries to and Releases from the Offset Account

- March 31, 2017 letter to Kevin Salter regarding the Initial Notice of Offset Account Transfer for LAWMA Keesee Section II water for the storage charge.
- March 31, 2017 letter to Kevin Salter regarding the Initial Notice of Offset Account Delivery for the Highland Canal consumable water.
- April 3, 2017 letter to Kevin Salter regarding Initial Notice of Offset Account Delivery for the Fort Lyon Canal consumable water.
- July 6, 2017 letter to Kevin Salter regarding Initial Notice of Offset Account Transfer for LAWMA Section II (Keesee) water.
- July 11, 2017 letter to Kevin Salter regarding Initial Notice of Offset Account Transfer for LAWMA Section II (X-Y Graham) water.
- August 11, 2017 letter to Kevin Salter regarding Initial Notice of Offset Account Delivery for the CWPDA delivery of consumable water from Pueblo Reservoir.
- October 4, 2017 letter to David Barfield regarding the summary of water delivered or transferred to the Offset Account from sources other than Highland Canal, Fort Lyon Canal and Keesee Ditch.
- October 4, 2017 letter to David Barfield regarding the summary of water delivered by CWPDA to the Offset Account.
- October 4, 2017 letter to David Barfield regarding accounting summary for release of water from the Offset Account during 2017.
- October 5, 2017 letter to Kevin Salter modifying the Initial Notice of Offset Account Delivery for the Fort Lyon Canal consumable water to include delivery to the Colorado Upstream account
- November 28, 2017 letter to David Barfield regarding accounting summary for delivery of LAWMA's Keesee Ditch consumptive use water to the Offset Account for April – October 2017.
- November 28, 2017 letter to David Barfield regarding accounting summary for delivery of LAWMA's Highland Canal consumptive use water to the Offset Account for April – October 2017.
- November 28, 2017 letter to David Barfield regarding accounting summary for delivery of LAWMA's Fort Lyon Canal consumptive use water to the Offset Account for April – October 2017.

Section 4

Monthly Reports of Colorado Pumping and Offset Account Operations

- April 25, 2017 letter to David Barfield and Stephanie Gonzales- November 2016 Report
- April 25, 2017 letter to David Barfield and Stephanie Gonzales- December 2016 Report
- April 26, 2017 letter to David Barfield and Stephanie Gonzales- January 2017 Report
- April 26, 2017, 2017 letter to David Barfield and Stephanie Gonzales- February 2017 Report
- April 26, 2017 letter to David Barfield and Stephanie Gonzales – March 2017 Report
- June 2, 2017 letter to David Barfield and Stephanie Gonzales – April 2017 Report
- July 26, 2017 letter to David Barfield and Stephanie Gonzales – May 2017 Report
- August 23, 2017 letter to David Barfield and Stephanie Gonzales – June 2017 Report
- October 4, 2017 letter to David Barfield and Stephanie Gonzales – July 2017 Report
- November 29, 2017 letter to David Barfield and Stephanie Gonzales – August 2017 Report
- November 29, 2017 letter to David Barfield and Stephanie Gonzales – September 2017 Report
- November 29, 2017 letter to David Barfield and Stephanie Gonzales – October 2017 Report

SECTION 1

Outline of Tables

Offset Account (Table 1)

Contains a monthly summary of the total contents of the Offset Account.

A. Consumable Water (Table A)

1. Colorado Upstream Consumable Water (Table A.1.)

Contains a monthly summary of the water stored under the provisions of paragraph 6 of the Amended Resolution.

2. Colorado Downstream Consumable Water (Table A.2.)

Contains a monthly summary of the consumptive use water stored by Colorado users which has not yet been made available to replace depletions to usable stateline flow and therefore has not been transferred to Kansas as provided for in paragraph 5.B. of the Amended Resolution.

3. Kansas Consumable Water (Table A.3.)

Contains a monthly summary of the consumptive use water that has been made available to replace depletions to usable stateline flow and has therefore been transferred as provided for in paragraph 5.B. of the Amended Resolution.

4. Kansas Storage Charge (Table A.4.)

Contains a monthly summary of the consumptive use water delivered to the Offset Account under the provisions of paragraph 9 of the Amended Resolution.

B. Return Flow Water (Table B)

1. Return Flow Water (Table B.1.)

Contains a monthly summary of the return flow water which must be either released to the river or transferred to the Kansas Consumable Water account to maintain the return flows to Colorado water users and stateline flows because of deliveries of water historically used for irrigation to the offset account.

2. Return Flow Transit Loss Water (Table B.2)

Contains a monthly summary of transit loss water necessary to deliver return flow water to Colorado water users or the stateline which must either be released with return flows or transferred to the Kansas Consumable Water account to maintain historic return flows.

JOHN MARTIN RESERVOIR

**TABLE 1
OFFSET ACCOUNT**

WATER YEAR	CONTENTS	PHYSICAL	ACCOUNT	ACCOUNT		ACCOUNT	ACCOUNT	PHYSICAL	CONTENTS
2017	BEGINNING OF	INFLOW	TRANSFER-IN	TRANSFER-IN	EVAPORATION	TRANSFER-OUT	TRANSFER-OUT	RELEASE	END OF
			(Non-Offset)	(Internal-Offset)		(Internal-Offset)			
MONTH	MONTH A.F.	A.F.	A.F.	A.F.	A.F.	A.F.	A.F.	A.F.	MONTH A.F.
NOVEMBER	4430.74				67.55				4363.19
DECEMBER	4363.19				24.97				4338.22
JANUARY	4338.22				19.31				4318.91
FEBRUARY	4318.91				46.94				4271.97
MARCH	4271.97		575.43		81.19				4766.21
APRIL	4766.21	1322.60			141.96				5946.85
MAY	5946.85	2243.08			179.19				8010.74
JUNE	8010.74	2154.34			255.43			1818.21	8091.44
JULY	8091.44	2153.93	1133.44		121.25			8715.05	2542.51
AUGUST	2542.51	3466.18		149.97	100.84	149.97			5907.85
SEPTEMBER	5907.85	1396.03		69.83	125.54	69.83			7178.34
OCTOBER	7178.34	1444.15		71.99	104.56	71.99			8517.93
TOTALS		14180.31	1708.87	291.79	1268.73	291.79	0.00	10533.26	

OFFSET ACCOUNT

**TABLE A
CONSUMABLE WATER**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	4430.74			67.55			4363.19
DECEMBER	4363.19			24.97			4338.22
JANUARY	4338.22			19.31			4318.91
FEBRUARY	4318.91			46.94			4271.97
MARCH	4271.97		500.00	81.19			4690.78
APRIL	4690.78	1322.60		140.14			5873.24
MAY	5873.24	2243.08		177.42			7938.90
JUNE	7938.90	2154.34		253.60		1748.20	8091.44
JULY	8091.44	2153.93	700.00	113.75		8715.05	2116.57
AUGUST	2116.57	3466.18	149.97	91.33	149.97		5491.42
SEPTEMBER	5491.42	1396.03	69.83	117.53	69.83		6769.92
OCTOBER	6769.92	1444.15	71.99	99.28	71.99		8114.79
TOTALS		14180.31	1491.79	1233.01	291.79	10463.25	

**TABLE B
RETURN FLOW WATER WITH TRANSIT LOSS**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
MONTH							
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH	0.00		75.43	0.00			75.43
APRIL	75.43			1.82			73.61
MAY	73.61			1.77			71.84
JUNE	71.84			1.83		70.01	0.00
JULY	0.00		433.44	7.50			425.94
AUGUST	425.94			9.51			416.43
SEPTEMBER	416.43			8.01			408.42
OCTOBER	408.42			5.28			403.14
TOTALS		0.00	508.87	35.72	0.00	70.01	

OFFSET ACCOUNT

**TABLE A.1.
CONSUMABLE WATER
COLORADO UPSTREAM**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH	0.00			0.00			0.00
APRIL	0.00			0.00			0.00
MAY	0.00			0.00			0.00
JUNE	0.00			0.00			0.00
JULY	0.00			0.00			0.00
AUGUST	0.00	1200.00		12.22	60.01		1127.77
SEPTEMBER	1127.77			21.69			1106.08
OCTOBER	1106.08			14.22			1091.86
TOTALS		1200.00	0.00	48.13	60.01	0.00	

**TABLE A.2.
CONSUMABLE WATER
COLORADO DOWNSTREAM**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	4430.74			67.55			4363.19
DECEMBER	4363.19			24.97			4338.22
JANUARY	4338.22			19.31			4318.91
FEBRUARY	4318.91			46.94			4271.97
MARCH	4271.97			81.19			4190.78
APRIL	4190.78	1322.60		127.64			5385.74
MAY	5385.74	2243.08		164.96			7463.86
JUNE	7463.86	2154.34		241.81		1284.95	8091.44
JULY	8091.44	2153.93	700.00	113.75		8715.05	2116.57
AUGUST	2116.57	2266.18		77.40	89.96		4215.39
SEPTEMBER	4215.39	1396.03		92.46	69.83		5449.13
OCTOBER	5449.13	1444.15		81.74	71.99		6739.55
TOTALS		12980.31	700.00	1139.72	231.78	10000.00	

OFFSET ACCOUNT

TABLE A.3.
CONSUMABLE WATER
KANSAS

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN Consumptive A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT Consumptive A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
MONTH							
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH*	0.00			0.00			0.00
APRIL	0.00			0.00			0.00
MAY	0.00			0.00			0.00
JUNE	0.00			0.00			0.00
JULY	0.00			0.00			0.00
AUGUST	0.00			0.00			0.00
SEPTEMBER	0.00			0.00			0.00
OCTOBER	0.00			0.00			0.00
TOTALS		0.00	0.00	0.00	0.00	0.00	

TABLE A.4.
CONSUMABLE WATER
KANSAS STORAGE CHARGE

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN Consumptive A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT Consumptive A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
MONTH							
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH	0.00		500.00	0.00			500.00
APRIL	500.00			12.50			487.50
MAY	487.50			12.46			475.04
JUNE	475.04			11.79		463.25	0.00
JULY	0.00			0.00			0.00
AUGUST	0.00		149.97	1.71			148.26
SEPTEMBER	148.26		69.83	3.38			214.71
OCTOBER	214.71		71.99	3.32			283.38
TOTALS		0.00	791.79	45.16	0.00	463.25	

OFFSET ACCOUNT

**TABLE B.1
RETURN FLOW**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH	0.00		71.54	0.00			71.54
APRIL	71.54			1.81			69.73
MAY	69.73			1.76			67.97
JUNE	67.97			1.83		66.14	0.00
JULY	0.00		396.65	6.89			389.76
AUGUST	389.76			8.69			381.07
SEPTEMBER	381.07			7.33			373.74
OCTOBER	373.74			4.84			368.90
TOTALS		0.00	468.19	33.15	0.00	66.14	

**TABLE B.2
RETURN FLOW
TRANSIT LOSS**

WATER YEAR 2017	CONTENTS BEGINNING OF MONTH A.F.	PHYSICAL INFLOW A.F.	ACCOUNT TRANSFER-IN A.F.	EVAPORATION A.F.	ACCOUNT TRANSFER-OUT A.F.	PHYSICAL RELEASE A.F.	CONTENTS END OF MONTH A.F.
MONTH							
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00			0.00			0.00
FEBRUARY	0.00			0.00			0.00
MARCH	0.00		3.89	0.00			3.89
APRIL	3.89			0.01			3.88
MAY	3.88			0.01			3.87
JUNE	3.87			0.00		3.87	0.00
JULY	0.00		36.79	0.61			36.18
AUGUST	36.18			0.82			35.36
SEPTEMBER	35.36			0.68			34.68
OCTOBER	34.68			0.44			34.24
TOTALS		0.00	40.68	2.57	0.00	3.87	

**FULL REPORT CAN BE DOWNLOADED ELECTRONICALLY ON THE
ARKANSAS RIVER COMPACT ADMINISTRATION WEBSITE**

Exhibit N

Annual Meeting

December 7, 2017

Arkansas River Compact Administration

Financial Statements

June 30, 2017

James K. Zuber
12/7/17

**Arkansas River Compact Administration
Annual Financial Report
For the Year Ended June 30, 2017**

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rfarmer, llc
a certified public accounting and consulting firm

Independent Auditor's Report

The Governing Body
Arkansas River Compact Administration

We have audited the accompanying financial statements of the governmental activities and each major fund of Arkansas River Compact Administration, as of and for the year ended June 30, 2017, and the related notes to the financial statements, which collectively comprise Arkansas River Compact Administration's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Arkansas River Compact Administration's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, based on our audit, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and each major fund of Arkansas River Compact Administration as of June 30, 2017, and the respective changes in financial position thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the budget to actual information be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Management has omitted the Management's Discussion and Analysis that accounting principles generally accepted in the United States of America require to be present to supplement the basic financial statements. Such missing information, although not a required part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

rfarmer, llc

November 28, 2017

Arkansas River Compact Administration
Statement of Net Position
June 30, 2017

	<u>Governmental Activities</u>	<u>Total</u>
ASSETS		
Cash and Equivalents	\$ 192,511	\$ 192,511
Total Assets	<u>192,511</u>	<u>192,511</u>
LIABILITIES		
Total liabilities	<u>-</u>	<u>-</u>
NET POSITION		
Unrestricted	192,511	192,511
Total net position	<u>\$ 192,511</u>	<u>\$ 192,511</u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Statement of Activities
For the Year Ended June 30, 2017

Functions/Programs	Expenses	Program Revenue Charges for Services	Net (Expense) Revenue and Changes in Net Position	
			Governmental Activities	Primary Government Total
Primary government				
Governmental Activities				
General Government	\$ 82,135	\$ 96,000	\$ 13,865	\$ 13,865
Total governmental activities	82,135	96,000	13,865	13,865
Total primary government	82,135	96,000	13,865	13,865
General revenues:				
Unrestricted interest income			769	769
Total general revenues, special items, and transfers			769	769
Change in net assets			14,634	14,634
Net position - beginning			172,877	172,877
Net position - ending			\$ 192,511	\$ 192,511

The accompanying notes to the financial statements
are an integral part of these statements.

**Arkansas River Compact Administration
Balance Sheet
Governmental Fund
June 30, 2017**

	<u>General</u>	<u>Total Governmental Funds</u>
ASSETS		
Cash and cash equivalents	\$ 192,511	\$ 192,511
Total assets	<u>192,511</u>	<u>192,511</u>
 LIABILITIES AND FUND BALANCES		
Liabilities:		
Total liabilities	<u>-</u>	<u>-</u>
 Fund balances:		
Unassigned	<u>192,511</u>	<u>192,511</u>
Total fund balances	<u>192,511</u>	<u>192,511</u>
Total liabilities and fund balances	<u>\$ 192,511</u>	<u>\$ 192,511</u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Reconciliation of the Governmental Fund Balance Sheet to the Statement of Net Position
June 30, 2017

Total fund balance, governmental funds	\$ 192,511
Net Assets of Governmental Activities in the Statement of Net Position	<u>\$ 192,511</u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Statement of Revenues, Expenditures and Changes in Fund Balances
Governmental Fund
For the Year Ended June 30, 2017

	<u>General</u>	<u>Total Governmental Funds</u>
REVENUES		
State Assessments	\$ 96,000	\$ 96,000
Interest Income	769	769
Total revenues	<u>96,769</u>	<u>96,769</u>
EXPENDITURES		
Gauging Stations and Studies	59,238	59,238
Professional Services	16,178	16,178
Operating Expenses	6,719	6,719
Total Expenditures	<u>82,135</u>	<u>82,135</u>
Excess (deficiency) of revenues over expenditures	<u>14,634</u>	<u>14,634</u>
Net change in fund balances	<u>14,634</u>	<u>14,634</u>
Fund balances - beginning	177,877	177,877
Fund balances - ending	<u><u>\$ 192,511</u></u>	<u><u>\$ 192,511</u></u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Reconciliation of the Statement of Revenues, Expenditures, and Changes in Fund Balance of Governmental
Funds to the Statement of Activities
For the Year Ended June 30, 2017

Net change in fund balances - total governmental funds:	\$ 14,634
Change in net position of governmental activities	<u>\$ 14,634</u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Notes to Financial Statements
June 30, 2017

Note 1 Reporting Entity

Arkansas River Compact Administration (the Compact), a quasi-governmental entity, was created in 1948 and approved by Congress 63 Stat.145 (1949).

The major purposes of the Compact are to:

- A. Settle existing disputes and remove causes of future controversy between the States of Colorado and Kansas, and between citizens of one and citizens of the other State, concerning the water of the Arkansas River and their control, conservation and utilization for irrigation and other beneficial purposes.
- B. Equitably divide and apportion between the States of Colorado and Kansas the waters of the Arkansas River and their utilization as well as the benefits arising from the construction, operation, and maintenance by the United States of John Martin Reservoir Project for water conservation purposes.

All financial transactions of the Compact are included in the General Fund of the basic financial statements. The Board of the Compact is accountable for all fiscal matters.

The financial statements present the financial position of Compact in accordance with Statement 14, as amended, of the Governmental Accounting Standards Board, "The Financial Reporting Entity." The Compact has no component units.

Note 2 Summary of Significant Accounting Policies

The accounting and reporting policies of the Compact conform to accounting principles generally accepted in the United States of America (USGAAP) as applicable to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The following summary of significant accounting policies is presented to assist the reader in evaluating the County's financial statements.

Measurement Focus, Basis of Accounting and Financial Statement Presentation

Government-Wide and Fund Financial Statements The Compact government-wide financial statements include a Statement of Net Position and a Statement of Activities. These statements present summaries of Governmental Type Activities for the Compact accompanied by a total column.

The Statement of Activities demonstrates the degree to which the direct expenses of a given function or segment are offset by program revenues. *Direct expenses* are those that are clearly identifiable with a specific function or segment. *Program revenues* include (1) charges to customers or applicants who purchase, use or directly benefit from goods, services or privileges provided by a given function or segment and (2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function or segment.

Separate financial statements are provided for the governmental fund.

The government-wide financial statements are presented on an *economic resources measurement focus* and the *accrual basis of accounting*. Accordingly, all of the Compact's assets and liabilities, including capital assets, as well as infrastructure assets, and long-term liabilities, are included in the accompanying Statement of Net Assets. The Statement of Activities presents changes in net assets. Under the accrual basis of accounting, revenues are recognized in the period in which they are earned while expenses are recognized in the period in which the liability is incurred.

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Compact considers revenues to be available if they are collected within a reasonable period of time after the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

The primary revenue sources, which have been treated as susceptible to accrual by the Compact, are the state assessments.

The Compact reports the following major governmental funds:

General Fund This is the Compact's primary operating fund. It accounts for all activities of the Compact.

Certain eliminations have been made as prescribed by GASB Statement No. 34 in regards to interfund activities, payables, and receivables. All internal balances in the Statement of Net Position have been eliminated except those representing balances between the governmental activities and any business-type activities, which are presented as internal balances and eliminated in the total primary government column. In the Statement of Activities, internal service fund transactions, if any, have been eliminated; however, those transactions between governmental and business-type activities, if any, have not been eliminated.

Reconciliation of the Fund financial statements to the Government-Wide financial statements is provided in the financial statements to explain the differences created by the integrated approach of GASB Statement No. 34.

The Compact does not have any general fixed assets or infrastructure.

Fund Equity

In the fund financial statements, governmental funds report reservations of fund balance for amounts that are not available for appropriation or are legally restricted by outside parties for use for a specific purpose. Designations of fund balance represent tentative management plans that are subject to change.

Net Position

Net position represents the difference between assets and liabilities. Net investment in capital assets consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of any borrowing used for the acquisition or construction of improvements of those assets.

Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results may differ from those estimates.

Budgets and Budgetary Accounting

Annual budgets are adopted as required by the Compact and by-laws, as amended.

Budgets are adopted on a basis consistent with generally accepted accounting principles (GAAP). Budgetary comparisons in this report are presented on the GAAP basis of accounting.

Note 3

Deposits and Investments

Deposits

Colorado State Statutes, specifically the Public Deposit Protection Act (PDPA) of 1989, require all public monies to be deposited in financial institutions that have been designated as eligible public depositories. Eligible public depositories must pledge eligible collateral, as promulgated by the State banking board, having a market value in excess of 102% of the aggregate uninsured public deposits. Eligible collateral must be held in the custody of any federal reserve bank or any branch thereof or of any depository trust company which is a

member of the Federal Reserve System, and which is supervised by the State banking board. The Statutes further restrict such deposits to eligible public depositories having their principal offices within the State of Colorado.

Custodial Credit Risk

Deposits are exposed to custodial credit risk if they are not covered by depository insurance or PDPA and the deposits are:

- a. Uncollateralized,
- b. Collateralized with securities held by the pledging financial institution, or
- c. Collateralized with securities held by the pledging financial institution's trust department or agent but not in the depositor-government's name.

The Compact was not exposed to custodial credit risk in that all cash is deposited in one local financial institution that is covered by FDIC insurance and the Public Depository Protection Act (PDPA).

The Compact is not exposed to any other investment risks as defined in GASB 40.

Note 4

Fund Balances

The Compact has implemented GASB Statement No. 54, "Fund Balance Reporting and Governmental Fund Type Definitions." In the fund financial statements the following classifications describe the relative strength of spending constraints.

Non-Spendable Fund Balance

This is the portion of fund balance that cannot be spent because it is either not in spendable form (such as inventory and prepaid amounts) or is legally or contractually required to be maintained intact.

Restricted Fund Balance

This is the portion of fund balance constrained to being used for a specific purpose by external parties (such as grantors or bondholders), constitutional provisions, or enabling legislation.

Committed Fund Balance

This is the portion of fund balance constrained for specific purposes according to the limitations imposed by the Compact's highest level of decision-making authority, which is the Board.

Assigned Fund Balance

This is the portion of fund balance set aside for planned or intended purposes but is neither restricted nor committed. The intended use may be expressed by the Compact or their designee authorized to assign funds to be used for a specific purpose. Assigned fund balances in special revenue funds will also include any remaining fund balance that is not restricted or committed. This classification is necessary to indicate that those funds are, at a minimum, intended to be used for the purpose of that particular fund.

Unassigned Fund Balance

This is the residual portion of fund balance that does not meet any of the above criteria. The Compact will only report a positive unassigned fund balance in the General Fund.

When both restricted and unrestricted fund balance are available for use, it is the Compact's policy to use restricted amounts first. Unrestricted fund balance will be used in the following order: committed, assigned and unassigned.

**Arkansas River Compact Administration
Budget and Actual
General
For the year ended June 30, 2017**

	Budgeted Amounts		Actual Amounts, Budgetary Basis
	Original	Final	
REVENUES			
State Assessments	\$ 96,000	\$ 96,000	\$ 96,000
Interest Income	200	200	769
Total revenues	<u>96,200</u>	<u>96,200</u>	<u>96,769</u>
EXPENDITURES			
Current:			
Gauging Stations and Studies	62,400	62,400	59,238
Professional Services	15,200	15,200	16,178
Operating Expenses	1,800	1,800	6,719
Contingency	2,000	2,000	-
Total Expenditures	<u>81,400</u>	<u>81,400</u>	<u>82,135</u>
Excess (deficiency) of revenues over expenditures	<u>14,800</u>	<u>14,800</u>	<u>14,634</u>
Net change in fund balances	14,800	14,800	14,634
Fund balances - beginning	161,384	161,384	158,383
Fund balances - ending	<u>\$ 176,184</u>	<u>\$ 176,184</u>	<u>\$ 173,017</u>

Exhibit O

Annual Meeting

December 7, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James Rizzuto, La Junta

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

FY 2018 - 2019 BUDGET

(July 1, 2018 - June 30, 2019)

I. EXPENDITURES

A. PROFESSIONAL SERVICE CONTRACTS

1. Treasurer	\$2,000
2. Recording Secretary	\$2,000
3. Operations Secretary	\$6,100
4. Auditor Fee	\$3,000
5. Court Reporter Fee	\$2,000
6. Treasurer Bond	<u>\$100</u>

subtotal services \$15,200

B. GAGING STATIONS, STUDIES, & DATA COLLECTION

1. U.S.G.S. Colorado District Joint Funding [calendar year 2018]	\$37,000
2. U.S.G.S. Kansas District Joint Funding [calendar year 2018]	\$13,000
3. State of Colorado Satellite System [7/1/18 - 6/30/19]	\$12,400
4. CoAgMet Weather Station O&M Cost-share [7/1/18 - 6/30/19]	<u>\$5,000</u>

subtotal gaging \$67,400

C. OPERATING EXPENSES

1. Website Hosting	\$200
2. Telephone	\$100
3. Miscellaneous Office Expense	\$100
4. Postage/Copying/Supplies	\$100
5. Meetings	\$500
6. Travel	\$100
7. Rent	<u>\$600</u>

subtotal operating \$1,800

D. OTHER

1. Equipment	\$0
2. Contingency	\$2,000
3. Litigation	\$0
4. Special Projects and Studies	<u>\$0</u>

subtotal other \$2,000

TOTAL ALL EXPENDITURES \$86,400

II. INCOME

A. ASSESSMENTS

1. Colorado (60%)	\$54,000
2. Kansas (40%)	<u>\$36,000</u>

subtotal assessments \$90,000

B. OTHER

1. Interest Earnings	\$200
2. Miscellaneous	<u>\$0</u>

subtotal other \$0

TOTAL ALL INCOME \$90,200

III. CASH RESERVE BALANCE

A. ESTIMATED CASH BALANCE JULY 1, 2018 [from FY17-18 budget rev.1]	\$191,476
B. DECREASE FROM RESERVE	
C. ADDITION TO BALANCE	\$3,800
D. PROJECTED BALANCE JUNE 30, 2019	\$195,276

Adopted by the Arkansas River Compact Administration at its Dec. 7, 2017 Annual Meeting.

Stephanie Gonzales

Stephanie Gonzales, Recording Secretary and Treasurer

Date

12/7/17

Exhibit D

Exhibit P

Annual Meeting

December 7, 2017

D. HELTON CONSULTING, LLC
504 GREENHORN DRIVE
CANON CITY, COLORADO 81212
PHONE: (719) 345-3472
CELL (720) 201-2824

December 7, 2017

MEMORANDUM

TO: Arkansas River Compact Administration

FROM: Duane D. Helton

PURPOSE

The purposes of this memorandum are (1) to make a request to the Arkansas River Compact Administration on behalf of Arkansas River Farms to make a finding under Article V.H. of the Arkansas River Compact that its proposed diversion of up to 1,700 acre-feet of Stateline water into the Lamar Canal for storage in the West Farm Ground Pit during this current winter storage season will not materially deplete the quantity or availability of Arkansas River water to water users in Colorado Water District 67 and Kansas and (2) to provide background data and information for this request. The water that Arkansas River Farms is proposing to divert is Stateline water that otherwise would pass the Garden City gaging station on the Arkansas River.

BACKGROUND DATA AND INFORMATION

About two years ago, Arkansas River Farms acquired more than 17,000 shares in the Fort Lyon Canal Company for enhanced agricultural irrigation development in the Fort Lyon Canal service area. Arkansas River Farms is contemplating that this development will have relative firm water supplies with irrigation occurring primarily through center pivot sprinklers and therefore will be capable of producing relatively high value crops. As part of this development, Arkansas River Farms is in the process of trading 7,500 of these Fort Lyon Canal Company shares to LAWMA for the same number of LAWMA shares. The water supply for this agricultural development is made up of a combination of surface water supplies derived under the Fort Lyon Canal Company shares and water from pumped irrigation wells that are augmented under LAWMA replacement plans through ownership of LAWMA shares. Consequently, as a result of this development, Arkansas River Farms is a major land owner under the Fort Lyon Canal and a major stockholder in both the Fort Lyon Canal Company and LAWMA. Arkansas River Farms, LAWMA, and the Fort

Lyon Canal Company are closely cooperating and, in a way, are partners in this and other water supply efforts.

LAWMA is using its Fort Lyon shares to provide replacement water for use in its several replacement plans. These LAWMA shares have been assigned to 15 or 16 Fort Lyon Canal lateral headgates, and the Fort Lyon Canal Company delivers the LAWMA water to these lateral headgates prorata and in rotation, in the same way it delivers water to other Fort Lyon stockholders. The water delivered into the laterals will be delivered back to Arkansas River Farms through 10 augmentation stations and up to 5 recharge facilities. Once the water is back in the river either as surface flow through the augmentation stations or stream accretions from recharge, the water is split between its consumptive use component and its historical return flow component. The historical consumptive use component is then used as replacement water in the LAWMA replacement plans.

Also as part of this development, Arkansas River Farms has an arrangement with GP Aggregates, LLC to allow it to store water in the first phase of the West Farm Gravel Pit. This gravel pit is located just south of the Arkansas River approximately 1 mile east of the City of Lamar (See Attachment 1). The gravel pit was lined with a slurry wall, which was approved by the Colorado Division of Water Resources in February 2015 as meeting the State Engineer Guidelines for Lining Gravel Pits (See Attachment 2). According to the "As-Built" drawing for the first phase of the West Farm Gravel Pit the gravel pit has a storage capacity of approximately 1,700 acre-feet. The facility can be filled through the Lamar Canal and West Farm Lateral at a maximum rate of about 30 cfs. The inflows into the gravel pit will be measured at Parshall flumes located on the West Farm lateral just below the Lamar Canal and just up-ditch from the discharge into the gravel pit. Water can be pumped from this gravel pit through a portable, floating pump station and discharged back to the Arkansas River. It is expected that the portable, floating pumping station will have a maximum pumping rate of 10 to 15 cfs. Arkansas River Farms and GP Aggregates have arranged with LAWMA to operate the West Farm Gravel Pit Reservoir and to do the required accounting.

Since mid-October, Arkansas River Farms has been watching the flows in the Arkansas River at the gaging stations at Lamar, Coolidge, and Garden City. These flows have been in the range of from 25 to 50 cfs at the Lamar gaging station, 150-300 cfs at the Coolidge gaging station, and 45 to 130 cfs at the Garden City gaging station (See Attachments 3 through 5). Because of

these relatively high flow rates, I made a request to Steve Witte's office on behalf of Arkansas River Farms to allow Arkansas River Farms to divert up to 1,700 acre feet of the Stateline water passing the Garden City gaging station into the Lamar Canal for storage in the West Farm Gravel Pit. The water will be used in part by LAWMA for augmentation purposes and in part by the Fort Lyon Canal Company for irrigation purposes. The water to be used by LAWMA will be pumped back to the river and used for the direct replacement of well depletions and historical return flows. The water to be used by the Fort Lyon Canal Company will be pumped back to the river and exchanged upstream into the Fort Lyon Canal. The upstream exchanges into the Fort Lyon Canal will be made only when and to the extent that exchange opportunities exist and only with the approval of the Division 2 Office. The water to be exchanged into the Fort Lyon Canal will help offset the effect of the current restriction on storage in Adobe Creek Reservoir, the Fort Lyon's main storage facility, which most likely would have filled this year without the storage restriction.

In response to Arkansas River Farms request, Mr. Witte recommended that Arkansas River Farms should make a request to the Arkansas River Compact Administration's Operation Committee. This was done yesterday and we are following up that presentation with this formal written request to the Compact Administration.

ARKANSAS RIVER FARMS REQUEST

Arkansas River Farms is hereby making a formal request to the Compact Administration to make a finding that during this current winter storage season Arkansas River Farm's proposed diversion of up to 1,700 acre-feet of Stateline water that otherwise would pass Garden City into the Lamar Canal for storage in the West Farm Gravel Pit will not materially deplete the quantity and availability of the Arkansas River water to water users in Colorado Water District 67 and Kansas. Diversion into the Lamar Canal will be made only when and only to the extent that Stateline water is passing the Garden City gaging station. The exchanges of water out of the gravel pit upstream into the Fort Lyon Canal will be made only during times and at rates approved by the Division 2 Office. The accounting and reporting of the inflows and outflows from the West Farm gravel pit reservoir will be done by LAWMA and will fully comply with the Division 2 Office requirements.

Arkansas River Farms believes this proposed diversion of Stateline water is fully consistent with the water supply considerations embodied in the Exception Provision for Post-

1985 uses contained in Paragraph 2 of Appendix J.2 in the final decree in Kansas v. Colorado. Although John Martin Reservoir is not spilling at this time, it is expected it will this spring. Most importantly, Arkansas River Farms proposed diversion and storage of Stateline water will in no way have an effect on the accrual of water in John Martin Reservoir obviously because it is downstream from John Martin Dam.

Because this opportunity to divert Stateline water that otherwise would pass Garden City is limited, and because these opportunities do not occur very often, your prompt consideration of this request is requested and would be appreciated.

Cc: Steve Witte
Karl Nyquist
Bill Grasmick

**ATTACHMENT 1 WEST FARM PHASE 1
GRAVEL PIT RESEVOIR**

Arkansas River

West Farm Phase 1 Reservoir

Measuring Flume

West Farm Lateral

Lamar Canal

Lamar Canal Headgate

US Hwy 287 Scn

US Hwy 50 Scn

US Hwy 287

State Hwy 196

Co Rd 7

Co Rd 9

Co Rd Hh 5

Co Rd Hh 7

Co Rd Hh 9

Co Rd Hh 10

Co Rd Hh 11

Co Rd Hh 12

Co Rd Hh 13

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ATTACHMENT 2



COLORADO
Division of Water Resources
Department of Natural Resources

Water Division 2 - Main Office
310 E. Abriendo Ave, Suite B
Pueblo, CO 81004

February 16, 2015

J.C. York, P.E., Principal
J & T Consulting, Inc
305 Denver Avenue, Suite D
Fort Lupton, CO 80621

Re: West Farm Gravel Pit Slurry Wall
Slurry Wall 90-Day Performance Test Final Report
Sections 33 & 28, T22S, R46W, 6th PM
M-08-078
Water Division 2, Water District 67

Dear Mr. York:

The purpose of this letter is to approve the lining of the above referenced site based on your February 12, 2015 submittal of the Performance Test report and documentation. The measured outflow due to pumping indicate that this site **has been lined to the design standard** referenced in the August, 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits. **Meeting the design standard requires that all water inflows and outflows for this site must be accounted for on at least a monthly basis.** I understand from your letter report that GP Aggregates, LLC will be responsible for providing the monthly water accounting. Please provide the specific contact information of the person who will be responsible for this reporting at your earliest convenience, but no later than February 27, 2015.

Please call me if you have any questions.

Sincerely,

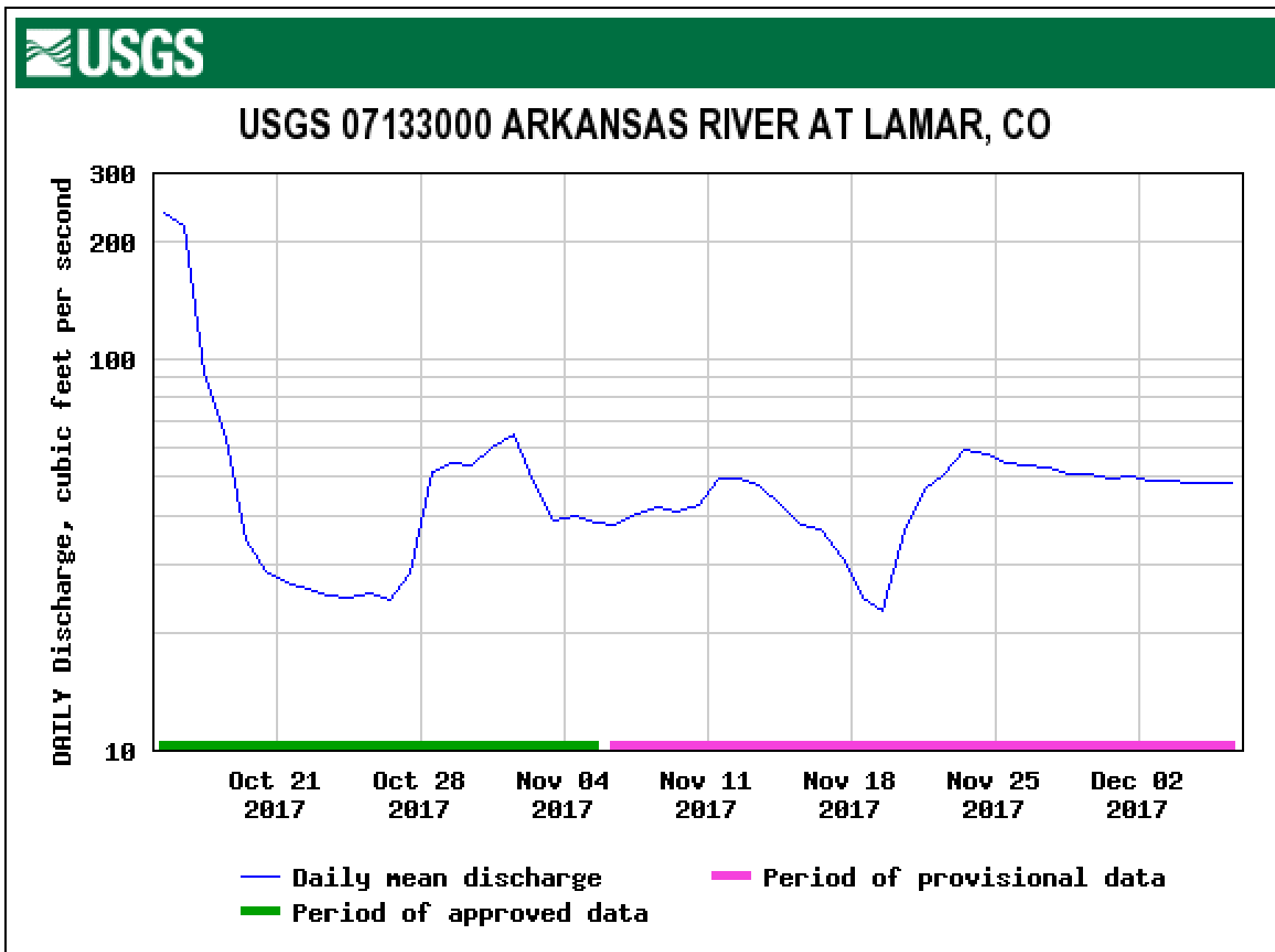
Bill W. Tyner, P.E.
Assistant Division Engineer

Enclosure

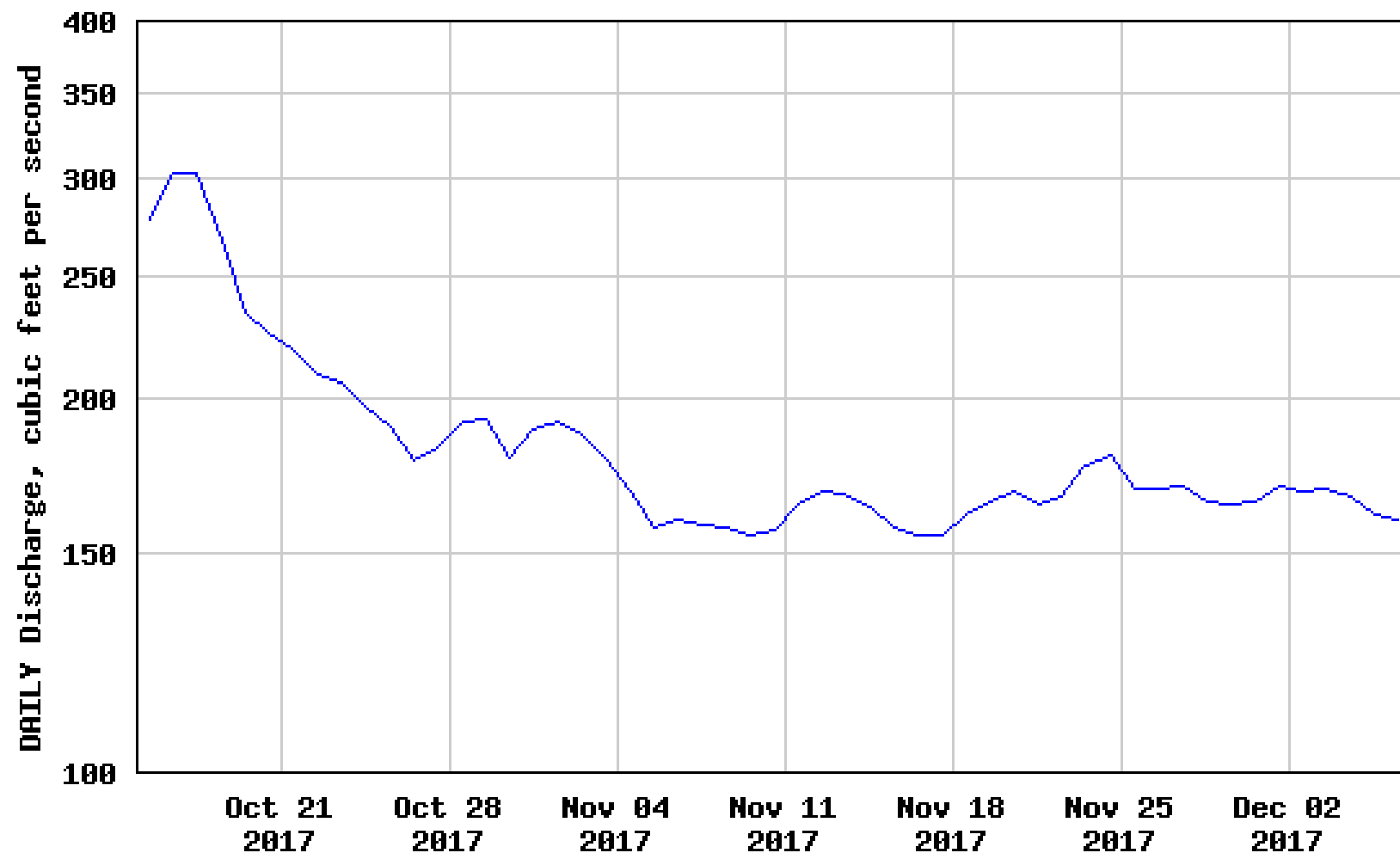
CC: Rebecca Nichols, Water Commissioner, Water District 67
Lonnie Spady, Water Commissioner, Water Districts 17/67
Charlie DiDomenico, Augmentation Coordinator
Melissa Peterson, Denver SEO Team 237
Michelle L. Hatcher, Clear Water Solutions
Rachel Zancanella, Engineering Support
Dan DiRezza, Ground Water Commissioner
Don Higbee, LAWMA



ATTACHMENT 3



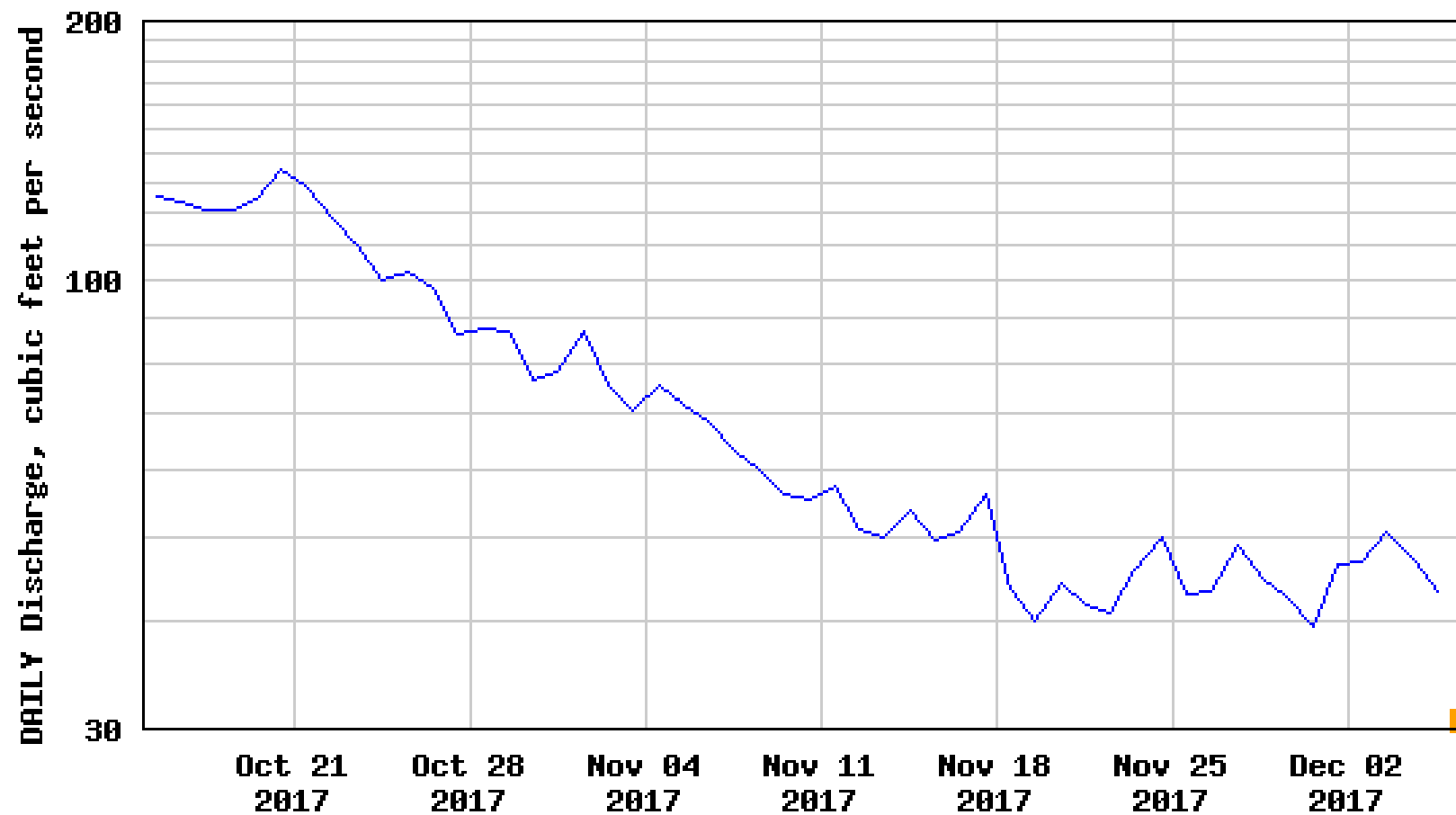
ATTACHMENT 4

**USGS 07137500 ARKANSAS R NR COOLIDGE, KS**

---- Provisional Data Subject to Revision ----



USGS 07139000 ARKANSAS R AT GARDEN CITY, KS



----- Provisional Data Subject to Revision -----

■ Data temporarily unavailable — Daily mean discharge

Exhibit Q

Annual Meeting

December 7, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James Rizzuto, La Junta

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

December 7, 2017

Rachel Duran
PO Box 529
Cimarron, KS 67835

Subject: Recognition of Service

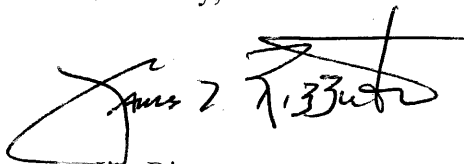
Dear Rachel,

The Arkansas River Compact Administration (ARCA) would like to thank you for your service to this Administration. Your contributions included building the ARCA website, assisting in the smooth running of our Annual Meetings, and assisting the State of Kansas in fulfilling its duties pursuant to the Compact.

Kevin Salter notes that people along the Arkansas River Valley ask about you and they want you to know you are missed.

ARCA extends its congratulations to you and wishes you the best in your future endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Rizzuto", with a stylized flourish at the end.

Jim Rizzuto
Chairman
Arkansas River Compact Administration

Exhibit Q

Exhibit R

Annual Meeting

December 7, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James T. Rizzuto, La Junta

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

December 7, 2017
Steve Miller
Boulder, Colorado

Subject: Recognition of Service

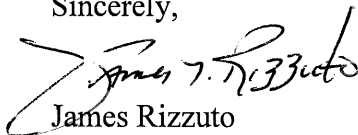
Mr. Miller:

The Arkansas River Compact Administration (ARCA) would like to formally recognize your dedication and the beneficial impact to the business of ARCA realized in your role as Colorado Water Conservation Board staff representative. In your tenure with the CWCB, you provided support to ARCA Committees and members of the Administration, consistently demonstrating integrity and a spirit of determination in your service to the State of Colorado and the Administration.

Your dedication to the water users impacted by the Compact led to recognition as a well-respected expert on matters within the Arkansas River Basin, where you've provided wise and helpful advice and assistance to ARCA representatives, Arkansas Basin farmers, and stakeholders from Colorado and Kansas alike.

The Administration would like to express its deepest gratitude and appreciation for your service, dedication, and courtesy. As your assistance has been instrumental to several of ARCA's milestones over the past decades, and in celebration of your retirement, this letter was approved by the Administration at the 2017 Annual Meeting in Lamar, Colorado. The Administration will also enter this letter of recognition into the Annual Meeting minutes, and have it reflected in the ARCA Annual Report.

Sincerely,



James Rizzuto
Chairman

Arkansas River Compact Administration

Exhibit R

**ARCA 2017 ANNUAL MEETING
RESOLUTIONS**

Number:	Description:	Offered By:
2017-01	Regarding John Martin Reservoir Permanent Pool	Rebecca Mitchell
2017-02	Regarding the Special Engineering Committee for 2018 and 2019	Rebecca Mitchell
2017-03	Regarding Amendment of the By-laws of the Arkansas River Compact Administration	Rebecca Mitchell

Resolution 2017-01

Annual Meeting

December 7th, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION		
Lamar, Colorado 81052		
For Colorado	Chair and Federal Representative	For Kansas
Lauren Ris (Acting), Denver	James Rizzuto, Swink, CO	David Barfield, Topeka
Lane Malone, Holly		Randy Hayzlett, Lakin
Scott Brazil, Vineland		Hal Scheuerman, Deerfield

**Arkansas River Compact Administration
Resolution No. 2017-01**

Regarding John Martin Reservoir Permanent Pool

WHEREAS, Section 204 of the Flood Control Act of 1965 authorized a “permanent pool for fish and wildlife and recreational purposes” at John Martin Reservoir (“JMR”); and

WHEREAS, Section 204 of the Flood Control Act of 1965 required that the State of Colorado “purchase and make available any water rights necessary under State law to establish and thereafter maintain the permanent pool”; and

WHEREAS, Section 204 of the Flood Control Act of 1965 required that the Arkansas River Compact Administration (“ARCA”) approve “written terms and conditions . . . [for] establishing, maintaining, and operating the permanent pool”; and

WHEREAS, by the Resolution Concerning John Martin Reservoir Permanent Pool (“1976 Resolution”) adopted on August 14, 1976, ARCA “approve[d] the creation in [JMR] of a permanent pool . . . and adopt[ed] the criteria . . . as procedures for the operation of [JMR]”; and

WHEREAS, the 1976 Resolution further provided that “water deliveries from other valid water rights owned or controlled by the State of Colorado may be added to the permanent pool water supply subject to the approval of [ARCA]”; and

WHEREAS, The Resolution Concerning an Operating Plan for John Martin Reservoir (Apr. 24, 1980, as amended) (“1980 Operating Plan”) recognizes the permanent pool authorized by the 1976 Resolution and makes the operation of the permanent pool subject to the terms of the 1980 Operating Plan; and

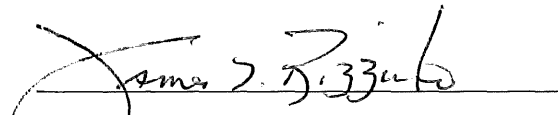
WHEREAS, pursuant to a Water Management Agreement between the Colorado Division of Parks and Wildlife and the Lower Arkansas Water Management Association (“LAWMA”), LAWMA will allow use of its Highland Canal water rights located in District 17 upstream of JMR and diverting from the Purgatoire River as a source of water supply for the permanent pool; and

WHEREAS, the States of Colorado and Kansas have agreed to the delivery of fully consumable water from LAWMA's Highland Canal water rights under conditions provided by the document entitled "**Permanent Pool Agreement for 2017**," attached to this Resolution as Exhibit 1;

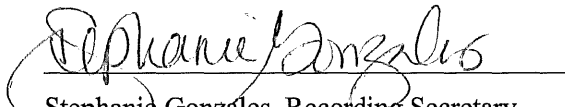
NOW THEREFORE, BE IT RESOLVED that pursuant to the terms of its 1976 Resolution the Arkansas River Compact Administration hereby approves the use of the Highland Canal water rights, formerly diverted from the Purgatoire River in District 17, as an additional source of water supply for the permanent pool at JMR through March 31, 2018, subject to the terms and conditions as described in the "**Permanent Pool Agreement for 2017**."

ADOPTED by the Arkansas River Compact Administration at the Special Meeting held telephonically on April 17, 2017.

The effective date of this Resolution shall be the date on which the Chief of Engineers of the Corps of Engineers, or his duly authorized representative, gives his/her approval by signing and dating below the space provided.

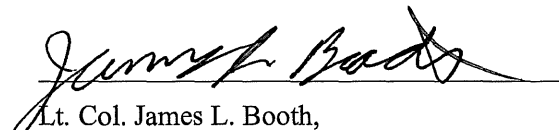

Jim Rizzuto, Chairman
Arkansas River Compact Administration

4/17/2017
Date


Stephanie Gonzales, Recording Secretary,
Arkansas River Compact Administration

4/20/2017
Date

Approved


Lt. Col. James L. Booth,
Commander and District Engineer,
Albuquerque District, U.S. Army Corps of Engineers
Duly Authorized Representative of the Chief of Engineers,
U.S. Army Corps of Engineers

5/18/2017
Date

Copy 1 of 4

Resolution 2017-02

Annual Meeting

December 7th, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chairman and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James T. Rizzuto, La Junta

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

RESOLUTION 2017 - 02

Regarding the Special Engineering Committee for 2018 and 2019

WHEREAS, pursuant to Bylaw Article V.5., the Arkansas River Compact Administration ("ARCA") by Resolution No. 2005-01 created the "Special Engineering Committee" ("Committee" or "SEC") at its December 2005 Annual Meeting to resolve four categories of "assigned tasks," including certain accounting and interpretation issues arising from the Resolution Concerning an Operating Plan for John Martin Reservoir ("1980 Operating Plan"); and

WHEREAS, the Special Provisions of the 2005 Resolution creating the Committee specify that: "Term: The Special Engineering Committee shall be authorized for a period expiring on Dec. 31, 2006. ARCA may extend this period by Resolution adopted at any regular or special ARCA meeting prior to such date"; and

WHEREAS, ARCA has extended the existence of the SEC each subsequent year, most recently in 2015 for a term expiring Dec. 31, 2017; and

WHEREAS, the Committee has resolved disputed issues placed before it during its term, and assigned tasks still remain before it with the potential for further agreement;

NOW THEREFORE, BE IT RESOLVED that ARCA does hereby extend the term of the Committee for two full years to expire on December 31, 2019. And further ARCA hereby revises the Special Provisions of the 2005 Resolution as set forth on the attached Exhibit 1;

BE IT FURTHER RESOLVED that the SEC will meet at least once before June 30, 2018. The SEC will consider the following prioritized subjects at meetings authorized by this resolution:

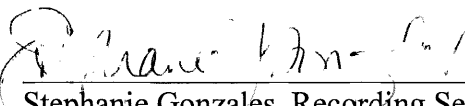
1. A dedicated discussion on flood/spill issues in the first quarter of 2018, preferably no later than February.
2. Working issues identified in 7) of the Permanent Pool Agreement for 2017 (23 March 2017):

- a. Establish a methodology to annually determine LAWMA's projected depletions, projected replacements, and the amount and sources of water committed to the Offset Account
 - b. Allow the use of the Highland Canal Water as a source of water for the Permanent Pool when the Offset Account is full. When the Offset Account is full, paragraph 2.a of Appendix A.4 of the decree entered in Kansas v. Colorado, No. 105, Original provides that there is no obligation to deliver replacement water to the Offset Account under Appendix A.4.
 - c. Determine what replacement credit is allowed for transit losses on Highland Canal Water deliveries to the Offset Account and Permanent Pool.
 - d. Examine the potential for exchange from Fort Lyon and Lamar Canal augmentation stations to the Offset Account in lieu of direct delivery to the Stateline, including how the evaporative losses on those exchanged credits are charged.
 - e. Explore how augmentation station deliveries of Granada Irrigation Company shares could be managed to facilitate replacement of in-state and Stateline depletions.
3. Winter inflow split
 4. Colorado multipurpose account
 5. Determine which issues must be resolved to begin the approval process of past Operations Secretary Reports.
 6. Establish a process for the Administration to make findings pursuant to Article V.H.
 - a. Discuss the request presented at the 2017 Operations Committee meeting by Arkansas Valley Farms.

ADOPTED by the Arkansas River Compact Administration at its 2017 Annual Meeting on December 7, 2017 in Lamar, Colorado.



James T. Rizzuto, Chair
Arkansas River Compact Administration



Stephanie Gonzales, Recording Secretary
Arkansas River Compact Administration

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2017 Revised Special Provisions for ARCA Special Engineering Committee

- 1. Members of Committee:** Each State shall designate two members to serve on the Special Engineering Committee ("SEC"), one which must be the Colorado State Engineer and one which must be the Kansas Chief Engineer. The Federal Representative and Chairman of ARCA shall be an ex-officio member of the Committee.
- 2. Extension of Term:** ARCA may extend the SEC term by Resolution adopted at any regular or special ARCA meeting.
- 3. Meeting procedures:** The Special Engineering Committee shall establish its own procedures for conducting its business. To the extent possible, notice of meetings shall be provided to all members of ARCA pursuant to the By-laws. It is expressly agreed that the Committee may meet in private and without notice, and that no written record of its activities is required. A quorum for meeting purposes shall consist of two members, one from each state, and the Federal Representative need not be in attendance.
- 4. Recommendations:** The function of the Special Engineering Committee shall be to develop recommendations to ARCA which upon adoption will reduce or eliminate disputes between the States. The Committee may package its recommendations as "all or none" or in any other combination that protects the respective mutual benefits that each State has obtained through the Committee process. No agreement reached by the Committee shall be effective until adopted by resolution of ARCA.
- 5. Assigned Tasks:** The Special Engineering Committee is hereby assigned the following tasks:
 1. A dedicated discussion on flood/spill issues in the first quarter of 2018, preferably no later than February.
 2. Working issues identified in 7) of the Permanent Pool Agreement for 2017 (23 March 2017):
 - a. Establish a methodology to annually determine LAWMA's projected depletions, projected replacements, and the amount and sources of water committed to the Offset Account
 - b. Allow the use of the Highland Canal Water as a source of water for the Permanent Pool when the Offset Account is full. When the Offset Account is full, paragraph 2.a of Appendix A.4 of the decree entered in Kansas v. Colorado, No. 105, Original provides that there is no obligation to deliver replacement water to the Offset Account under Appendix A.4.

- c. Determine what replacement credit is allowed for transit losses on Highland Canal Water deliveries to the Offset Account and Permanent Pool.
 - d. Examine the potential for exchange from Fort Lyon and Lamar Canal augmentation stations to the Offset Account in lieu of direct delivery to the Stateline, including how the evaporative losses on those exchanged credits are charged.
 - e. Explore how augmentation station deliveries of Granada Irrigation Company shares could be managed to facilitate replacement of in-state and Stateline depletions.
- 3. Winter inflow split
- 4. Colorado multipurpose account
- 5. Determine which issues must be resolved to begin the approval process of past Operations Secretary Reports.
- 6. Establish a process for the Administration to make findings pursuant to Article V.H.
 - a. Discuss the request presented at the 2017 Operations Committee meeting by Arkansas Valley Farms.
- 7. Provide recommendations on any other accounting, operation, or interpretation issue as may be referred to the SEC by any standing ARCA Committee.

Resolution 2017-03

Annual Meeting

December 7th, 2017

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chair and Federal Representative

For Kansas

Rebecca Mitchell, Denver
Lane Malone, Holly
Scott Brazil, Vineland

James Rizzuto, Swink, CO

David Barfield, Manhattan
Randy Hayzlett, Lakin
Hal Scheuerman, Deerfield

Arkansas River Compact Administration Resolution No. 2017-03

Regarding Amendment of the By-laws of the Arkansas River Compact Administration

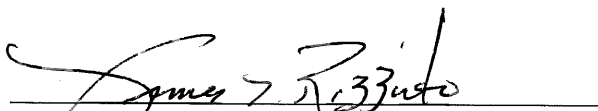
WHEREAS, Article VIII, Section B(1) of the Arkansas River Compact grants the Arkansas River Compact Administration the authority to adopt, amend and revoke by-laws, rules and regulations consistent with the Arkansas River Compact; and

WHEREAS, Article XI, Section 1 of the By-laws of the Arkansas River Compact Administration provides that amendments to the by-laws may be made at any meeting of the Arkansas River Compact Administration, provided that notice of the proposed amendment shall have been given in the notice of the meeting; and

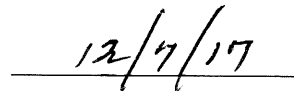
WHEREAS, proper notice of the proposed amendment of the Arkansas River Compact Administration By-laws was provided in the meeting notice dated November 27, 2017; and

NOW THEREFORE, BE IT RESOLVED that pursuant to the terms of the Arkansas River Compact and the By-laws of the Arkansas River Compact Administration, the Arkansas River Compact Administration hereby readopts the amended By-laws of the Arkansas River Compact Administration as attached hereto.

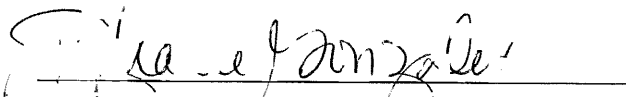
ADOPTED by the Arkansas River Compact Administration at its Annual Meeting held on December 7, 2017.



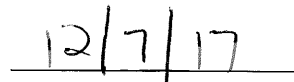
Jim Rizzuto, Chairman
Arkansas River Compact Administration



Date



Stephanie Gonzales, Recording Secretary,
Arkansas River Compact Administration



Date

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