ARKANSAS RIVER COMPACT ADMINISTRATION

COMPACT YEAR 2019

ANNUAL MEETING

December 5, 2019

HELD AT THE

OTERO JUNIOR COLLEGE, STUDENT CENTER

2001 SAN JUAN AVENUE

LA JUNTA, COLORADO

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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

Troy Dumler

P R O C E E D I N G S

MR. RIZZUTO: Okay. Thank you, and at this point, I'm going to call the Arkansas River Compact Administration 2019 Annual Meeting to order on December 5th at approximately 8:45 Mountain Standard Time.

First thing I'd like to do is have the members of the Administration introduce themselves, tell you a little bit about themselves. I'll start to my right with the Kansas delegation.

MR. DUMLER: Troy Dumler. I'm from Garden City, Kansas and am general manager of the Garden City Company, which has a controlling interest of the Great Eastern Ditch, and we also have rights on the Amazon Ditch in Kansas, and I'm a new Compact member this year.

MR. HAYZLETT: I'm Randy Hayzlett from Lakin, Kansas, a farmer and rancher there. I've served on the Compact for a number of years.

MR. BARFIELD: My name is David Barfield and I serve as a commissioner for Kansas by virtue of my position as Chief Engineer with the Division of Water Resources.

MS. MITCHELL: I'm Rebecca Mitchell and I

am the Director of the Colorado Water Conservation Board and then the Colorado Department of Natural Resources.

MR. MALONE: Lane Malone, ARCA rep. I farm and ranch east of Lamar, around the Bristol area.

MR. BRAZIL: Scott Brazil, ARCA rep, Pueblo. I farm in Vineland and I'm the AGUA president and sit on St. Charles Mesa Water Board also.

MR. RIZZUTO: And I'm Jim Rizzuto, federal rep, and I hail from Swink, Colorado.

With that, the first thing I'd like to do is encourage everyone to sign the attendance sheet, if you haven't done so. It's back there in the corner as you go out the door. That will become Exhibit A for today's procedures.

One thing also, when you speak, please introduce yourself and use the podium up here with the microphone, and at the same point in time, if you'll give a card to the court reporter so that she gets your name denoted correctly.

Also, if you have any reports to provide, please so do, and Rachel, I assume you'll pick them up if they have any reports, okay. All right.

First order of business, review and revisions of agenda. I have that the agenda has -- it's been proposed that we amend it for the addition of Item 5.D., Kansas Groundwater Management District 3. Are there any other amendments or additions to the agenda? Okay. Hearing none, if I could get a motion to adopt the agenda, a second, and then we'll have a vote.

MS. MITCHELL: So move.

MR. RIZZUTO: Okay. Moved by Colorado.

MR. HAYZLETT: Second.

MR. RIZZUTO: Seconded by Kansas. How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Okay. Adopted. The adopted agenda will be Exhibit B.

At this point in time, we'll have a report of the Chair and Vice-Chair. I'm going to start off with you, Randy. How's that?

MR. HAYZLETT: That's good. Not much to report. I just want to thank you, Jim, and the Otero College for hosting us here at this fine facility. We've enjoyed our time here, so thank you

very much for that. We appreciate that.

MR. RIZZUTO: Good. I'm glad, and welcome to everyone to La Junta and Otero Junior College.

As far as a chair report, first, I want to advise the board I'm in receipt of appointments by the governor of the respective states of Randy and Troy from Kansas, as well as Scott from the State of Colorado, and that will become part of the record. Rachel, did you have something?

MS. DURAN: I just want to clarify that for Colorado, it was for Lane.

MR. RIZZUTO: Oh, Lane? Okay. Also, one thing I'd like to say, in these meetings being set up, we have administrative staff who do a great job, both from Kansas and Colorado, and we owe a debt of gratitude to all of them, so they point us in the right direction and we know what we're doing during the course of not only this meeting, but throughout the course of the year, and I want to thank them collectively for everything that they do.

One person I want to highlight today is a young lady who took over in 2004 as secretary and then, in 2005, also took on the job of treasurer for the organization. She's involved in every aspect as

far as the paperwork, paying bills, coordinating meetings, locations, et cetera and does a lot of work behind the scenes, and we definitely owe her a debt of gratitude and I'd like us collectively, as a group -- I'll have her stand up to be recognized, but as a group, if we could all give her a big round of applause, Stephanie Gonzales.

(Applause.)

MR. RIZZUTO: Thank you, Stephanie, and again, thanks to the rest of the staff.

At this point, we'll move into reports of federal agencies, and the first one I have on my list is U.S. Geological Survey.

MR. KIMBROUGH: Good morning, Mr. Chairman and members of the Commission. Once again, my name is Bob Kimbrough. I'm with the U.S. Geological Survey and my office is the USGS Colorado Water Science Center and we're located on the Denver Federal Center in Lakewood, Colorado.

This morning, I just want to spend a few minutes reviewing streamflow conditions in the Arkansas River Basin that are collected in cooperation with the Arkansas River Compact Administration. As you know, we have a long-standing cooperative agreement with ARCA for

USGS to collect streamflow information, which we do at 11 streamgages shown here on the map, in a reach that extends from Fowler, Colorado to Coolidge, Kansas, just across the Stateline, and you can see John Martin Reservoir really in the middle of this reach that we're monitoring.

Of those 11 gages, five are on the mainstem Arkansas, shown in yellow: Arkansas River at Las Animas, below John Martin Reservoir, at Lamar, near Granada, and near Coolidge; and then we have gages on the mouths of four tributaries: Apishapa near Fowler, Purgatoire near Las Animas, Big Sandy Creek at Lamar, and Wild Horse Creek near Holly. Then we also have a recorded gage on the Frontier Ditch and then we have what is referred to as a crest-stage gage on Big Sandy Creek and it's located about eight miles upstream from the mouth. Next slide, please.

Before I get into streamflow conditions, I want to mention a couple of changes that we're proposing for the 2020 agreement, and yesterday, we did discuss these proposed changes with both the Engineering and Administrative and Legal Committees.

The first recommendation that we have is to discontinue the crest-stage gage on Big Sandy Creek, as shown here again on the map. A crest-stage gage

is a really simple type of a stream gage. It doesn't include any electronic equipment. Its sole purpose is to record that maximum crest or maximum water level stage for a flow event, and what we've learned with the -- with this being installed in 1996 is that high flow events are really rare at this site. In fact, we've only had one mark recorded by the crest-stage gage, and that was back in 2004, so we're really -- yesterday, we had a good discussion on, you know, is this gage providing value to ARCA, and I think you all will hear from the committees later on today.

We recommend that we discontinue the gage, you know, especially since we have a continuous recording gage at the mouth of Big Sandy Creek, and so we have a really good record of the contribution of streamflow to the Arkansas from the Big Sandy so, you know, we have -- we have a really good record at the mouth.

The second recommendation was we proposed to add funding to continue operation of the Water Quality Monitor downstream of John Martin Dam. At this particular monitor, it provides a continuous record of water temperature and specific conductance. Specific conductance is a really good

surrogate for total dissolved solids or the level of salinity in the river at this location.

This monitor has been operated since 1989, so we have a really long, continuous record of these parameters so, you know, once you -- you get 30 years of record, it's a really valuable dataset. There's a lot of benefit in continuing operation of the gage.

In 2019, our cooperative partner decided to drop their funding for this particular monitor. The Colorado Water Conservation Board stepped in and provided funding for 2019, so it is funded through the rest of this month and then funding expires, so we're hopeful that ARCA may consider picking up this particular monitor.

All right. Let's get in and look at streamflow conditions for a couple of the gages. This is where I really want to highlight six gages. Two are upstream of John Martin Reservoir, and these gages capture the majority of inflow into the reservoir, those being the Ark at Las Animas and the Purgatoire River near Las Animas, and then we'll look at some streamflow conditions for four mainstem sites.

So, first off, I will look at Arkansas River

at Las Animas. The total amount of water that passed the gage in Water Year 2019 was 200,000 Acre Feet, and that was 100%, 104% of the long-term average, so a really good, solid average year for flow in the Ark at Las Animas.

Water Year 2019, just to remind you, runs from October 1st of 2018 through September 30th of 2019, and the bottom graph shows how streamflow varied throughout the year for that time period for this particular site, and that solid black line is a running seven-day average of streamflow in cubic feet per second, and the units for cubic feet per second are on the Y axis, and I'll just point out that that is a logarithmic scale.

In the backdrop of the graph is the distribution of historical streamflows throughout the period of record for this site, and we've gone ahead and divided that into various percentile classes and color coded them. For example, flows that fell between the 25th and 75th percentile for the period of record are half the dataset USGS defines as flows in the normal range, and that's that light green band that you see in the middle of the graph.

Flows in the lower 25 percentile are defined

by USGS as being below normal, shown in the oranges and the reds, and then flows we define as above normal are shown in the shades of blue, so it gives you a really quick reference for putting 2019 into context, how did it compare to historical flows, and you can see for most of the Water Year, flows were in that normal range.

I do want to point out that flows got quite high in June and July, up in that much above normal range and that, you know, that was a result of healthy snowmelt runoff and really good snowpack in the Colorado Rockies last winter. Next slide, please.

Purgatoire River near Las Animas, total flow for the Water Year about 25,000 Acre Feet, about 58% of average. Flows throughout the winter kind of bounced back between below normal to normal, for increasing to brief -- for a brief time period above normal in June, again from a good healthy snowpack in the Purgatoire headwaters, and then flows declined steadily through the last few months of the Water Year and actually ended up much below normal, and that's really due in part to a very weak monsoon season. Just didn't get the good rainfall events in August and September, and that's what -- for those

of you who were in the audience yesterday, Bill Tyner discussed that a little bit. Next slide.

Now let's go to below John Martin. Total upflow from the dam was 262,000 Acre Feet, 129% of average, and if you look at the graph, your eyes are really drawn to what happened between November and April, when flows were less than one cubic feet per second and even fell below a tenth. That was the time in which maintenance was being conducted on the stilling basin. Once that maintenance was completed, flows jumped up and actually were above normal for the last few months of the Water Year.

Moving downstream, Arkansas River at Lamar, total flow was about 100,000 Acre Feet, 124% of average. Flows were above normal for most of the winter before falling to below normal in June, but then rebounding to above normal for a good part of the end of the Water Year.

If you look at this pattern, you'll see a similar pattern at the next gage downstream. Arkansas River near Granada, total flow just over 120,000 Acre Feet, 103% of average.

And then, lastly, Arkansas River near Coolidge, flows almost were equal to 140,000 Acre Feet for the year, 95% of average, and you can see

in the graph, flows were predominantly in that normal range for the entire Water Year.

And then this -- this table just summarizes some stats for this -- for the remaining stations. Apishapa River near Fowler, flow was about 67% of average. Big Sandy was about 130% of average for the Water Year. Wild Horse Creek, which is not operated in the winter, never has been, total flow is about 150% of average, and then the Frontier Ditch flows were 91% of average.

So in summary, Water Year streamflow for the two major inflows to John Martin Reservoir was 104% of average for the Arkansas River at Las Animas, but only 58% average in the Purgatoire River, and then downstream of John Martin Reservoir, mainstem flow decreased from a high of 129% just below the dam to 95% at Coolidge, Kansas.

So that completes my report of streamflow conditions for our cooperative agreement. Does the Administration have any questions?

MR. RIZZUTO: Questions? No. You've done a great job.

MR. KIMBROUGH: Alrighty. I have a table summarizing all the data in detail. I'll give that to Rachel, as well as a copy of the PowerPoint.

MR. RIZZUTO: All right. Thank you, Bob. The Geological Survey report will become Exhibit C to today's report.

Next, United States Army Corps of Engineers. Lieutenant Colonel, welcome, and thank you, on behalf of all of us, for your service to the country.

LIEUTENANT COLONEL CASWELL: Thank you, sir. Good morning, Mr. Chairman and members. My name is Lieutenant Colonel Larry Caswell and I'm the commander for the Albuquerque District of the Army Corps of Engineers. I thank you for the opportunity to present key topics from our report of this last year and items of current interest along the Arkansas River Basin.

Joining me from the District are Nabil Shafike, our Chief of the Water Management Section; Amy Louise, Arkansas River Basin Manager; Ryan Gronewold, our Planning Branch Chief. Also, we have Jonathan Tague from our John Martin Project, Ken Fowler from our Trinidad Project, and Van Truan from our Pueblo Regulatory Office.

Next slide just covers a quick agenda of what we're going to cover. We'll look at our river water ops of the past year, cover a couple of the key

maintenance projects that we've done, both at Trinidad and John Martin, and then take a brief look at some of the civil works projects and other programs that we have going on in the local area. Next slide, please.

So in 2019, the Arkansas River Basin snowmelt runoff was above normal throughout the entire basin. As of the 1st of March (sic), the basin-wide snowpack was above average at about 127% of the median, with the Upper Arkansas Basin reporting 137% of median and Purgatoire River Basin reporting 205 of median. Last year's snowpack resulted in a spring runoff that was the third highest after 1985 and 1995.

For 2019 Water Year, at John Martin Reservoir and Dam, storage started at about 133,126 Acre Feet and ended at 70,389 Acre Feet, so we ended the year with about 60,000 less Acre Feet than what we started with. Going through, the total outflow from the dam was 260,385 Acre Feet, so we released about 30,000 more than we had taken in that year. We did not operate for flood control at John Martin during the Water Year.

For 2019 Water Year, the Trinidad Dam and reserves (sic), storage started at 18,780 Acre Feet

and ended at 19,058 Acre Feet, so it roughly stayed. We ended the year with about what we started with. Total outflow, we had a small gain there, but we did not operate the flood control at Trinidad during the year.

Pueblo Dam and Reservoir, which falls under Section 7 of the 1944 Flood Control Act, PL 78-534, USACE participated in biweekly and weekly meetings with other stakeholders to discuss water operations for the snowmelt runoff. During 2019, the spring inflow at Pueblo Reservoir was the third highest inflow since 1985, after 1985 and 1995. No flood operations during the year for the Pueblo. So that's pretty much the Water Year.

Just looking at some of the operations that we've done, starting on the Trinidad Dam, if you see that light brown line down there, that's essentially the water line, and we were able to go through and do some replacement of riprap. The riprap there had been failing, just due to the quality of the stone and the age of it, and so we were able to resurface about 10% of the upward side at the Trinidad Dam, and so this should actually pull us out for quite a while. Depending on funding levels and the water level, we will continue to replace the riprap to

make sure that we have a good wear surface there on it.

Next slide down, we also were able to do some stabilization on the south side. We had some cultural artifacts down that way that were starting to get exposed, and so we're able to do some compacted earth overlaid with concrete and geotextile just to shore that up, and so that should give us a good base here to continue to protect some of our cultural resources, so it's been seeded over. It matches seamlessly.

John Martin, we had one of our largest repair projects we've done in quite a while. This is the first time that we've actually dewatered, cleaned, and done some maintenance in the stilling basin. Pulled out some Colorado record fish in the process. It was pretty awesome.

But just as you can see from the pictures, the dam getting close to 80 years old, still in excellent condition. The stilling basin, we've got 194 of those concrete baffles down there. In the picture, they look really small, but they're actually significantly taller than I am, but as you're looking at the pictures, you see very little impact of 80 years of use and essentially have a

high pressure water coming out, and it runs in the baffle blocks, which just slows it down and allows it to still out. So the dam is still in really great shape at this point and we're looking at a little bit more maintenance on the upstream here in the next couple years, but the good news is very little repairs that will make everything and still support the start of the irrigation season without any impacts.

So just moving on to the next slide, I wanted to remind the ARCA members that the Corps has Continuing Authorities Program, a program of nine legislative authorities, under which the Corps is authorized to plan, design and implement certain types of water resource projects without additional project-specific congressional authorization.

Just looking at two of them that we have, the first one is North Douglas Creek, which is located in the City of Colorado Springs, immediately east of I-25 and west of the confluence with Monument Creek. We're looking to stabilize about a thousand linear feet of North Douglas Creek that was severely eroded during the 2013 and 2015 flood events and continues to erode under just normal events. The erosion has damaged the major culvert under I-25 and Sinton

Road, and if we don't address it pretty quickly, could start to impact the roadway, and so looking forward to getting started on that project.

Our second one, which was initiated the summer of this past year, Fremont Sanitation District. The objective will be to repair and prevent further erosion of the south bank of the Arkansas River to protect the district's wastewater main and adjacent Canon City Area recreation area. So these are just two examples of projects we're able to partner with in the area.

Next slide down, just looking at our levee safety, good news. We had no levees designated as inactive under PL84-99, and just a reminder, the levees in the 84-99 program, it's not all the levees in the area. These are only the ones that are federally authorized, are constructed by USACE, are levees that have been requested to be included in the rehabilitation program, so no significant damage in this area and no removals due to the inactivity.

Last one is just looking at our emergency management coordination. The State of Colorado asked us to look at the impacts of the Spring Canyon -- Spring Creek fire, excuse me, and so we looked at some of these through the hydrology and

whatnot and determined that for the next two to five years, there's a significant increased possibility of flooding due to the reduced infiltration rate, so based on the 100-year event models, we expect about 7,000 cubic feet per second could enter Walsenburg from the Cucharas River and approximately 10,000 cubic feet could enter La Veta from the Middle Creek and Cucharas areas, so we conduct a little bit of training with residents there for sandbags and everything else, but I expect this impact to still be there as a potential increase for flooding for the next two to five years.

Sir, this completes my report. I'd be happy to answer any of your questions.

MR. RIZZUTO: Questions? Colorado? Great.

LIEUTENANT COLONEL CASWELL: Thank you very much.

MR. RIZZUTO: Thank you. The report by the U.S. Army Corps of Engineers will become Exhibit D.

Next, United States Bureau of Reclamation. Roy.

MR. RIEKER: All right. I'll get things kicked off here and then pass it over to Roy. Also,

my name is Jeff Rieker. I'm the new area manager for the Eastern Colorado Area office with the Bureau of Reclamation. Good morning to the Administration and all of you who are here today.

Just by way of a little bit of background, the Eastern Colorado Area office oversees Reclamations activities throughout the Front Range and the plains of Colorado, ranging from the border with Wyoming to the north, to the border with New Mexico to the south, and also our collection and diversion facilities on the West Slope, and so we've got quite a big area there. We've got a great team assembled to oversee all those activities and I am really excited to be a part of this team now, and here with me today, we've got Chris Gnau with our water scheduling group, who is very involved with our Trinidad project, and Roy Vaughan, who is the manager of our Pueblo field office and very involved with the Fry-Ark project, and so with that, I'm going to hand it over to Roy to present the remainder of our report. So, Roy, come on up.

MR. VAUGHAN: Thank you. I'm a little bit hoarse this morning, so you'll have to bear with me. So I'm going to go through the -- the 2019 Fry-Ark Water Year. Imports were some of the

highest we've seen in three years, 96,000. You've seen a lot of this because of the prior presentations, but I'll touch on it briefly. That's 170% of our 40-year average. Last five years, we've had four years above average, so you'll see that our reservoirs continue to get fuller. Snowpack was great and just continued to build. We started importing May 3rd and went through August.

This is Turquoise Lake, the -- I guess that's the gold line on that and the purple line, so the gold line is 2018, purple line is 2019, and the heavy black line is average. So you can see we started the low early where this time last year and finished above and well above average with Turquoise.

Twin Lakes, kind of the same story. Pueblo Reservoir, go ahead. Same story there. We're well above average at the end of the Water Year. The summary of that is Turquoise is currently 122% of average, Twin Lakes is 103% of average, Pueblo is 121% of average.

This is just the way the Water Year came off. It kind of shows everything in a quick little shot, but the heavy red line is average, the dark blue line is in the Arkansas Basin, the snowpack in the

way it came off, so you can see we got a pretty significant Water Year, as everybody's been talking about.

Colorado, basically the same way. We got a little (inaudible). The correlation between the colors are what we imported in those Water Years. So our forecast for February 1st, 70,600; March 1st, 67-9; April, 91-5; and May, 84,000, and we well exceeded our May forecast, based on those late precipitation events.

This is Boustead Tunnel. Not all that interesting, but this basically is the way the water came off. We said it started in May, came off pretty hard, slowed down. Then when it warmed up, we got a really hard runoff for quite a while, had a cool-down, then it heated up again and then we had, as you can see at the end, we had some late precip. That's that lighter blue line.

Arkansas Basin this year, I don't know how valuable it is. It's pretty early. The blue, heavy blue line down at the bottom is -- is where we're at currently, 124% of average, which we all know doesn't mean a lot this early in the season.

This is the Colorado. It's kind of the same thing. We're a little above average.

Winter Operations. We're currently moving project water down from -- 200 from Twin and 3 CFS from Turquoise, which is just a minimum flow. We anticipate moving around 60,000 to make space in our upper reservoirs for our imports, and we'll adjust that based on snowpack and, you know, the demand.

Maintenance. We have a maintenance project as well going on at Pueblo, so Lillard and Clark Company has been awarded the contract to replace the seals on the upstream face of the dam in between the buttresses. It's a massive head buttress dam made up of 23 independent buttresses that can move on there separately. They're not connected. Concrete section 1750 feet long. It's a multimillion dollar, multiyear project we started this summer.

So just to give you an idea of what they're going to be doing, and this is on the downstream face, but in between those two arrows are one buttress, and on the upstream face, there's a -- go ahead and go to the next one. This is looking down, so a foot in, about a little over a foot in, there's a copper seal in between the buttresses.

Then downstream another foot, there's a -- go ahead and push, I think. Yeah. Got some animation going on here. One more. So we got a five-inch

drain about a foot downstream and then one more. They've got a PDC water stop downstream of that, so that's what they're looking at repairing. They're putting some metal and rubber on the upstream face to try to stop that infiltration of the water in between the buttresses.

So the Hydro Plant update, I think you saw a little something from Southeast, but they began building their plant in 2017 through a Lease of Power Privilege with Reclamation. First started generating in May, '19, and it's a 7.5-megawatt plant. One more, and that's what it looks like, almost complete.

Temporary excess capacity storage contracts EA have been completed. We're still continuing to operate the temporary storage contracts. If you want to review the EA, you can contact Terry Stroh out of our Loveland office.

Long-term storage contracts. This year, we entered into two 40-year long-term storage contracts with Donala Water District, as well as the Bureau of Land Management. Robert Rice is the contact for information concerning those out of the Eastern Area office in Loveland.

Master Contract, we talked about this a little

bit last year. We entered into a Master Contract with Southeast for almost 30,000. This year, 6,595 Acre Feet was stored. That's Robert Rice as well, for more information.

Arkansas Valley Conduit. The Environmental Impact Statement has been completed and the Record of Decision was signed. Reclamation and Southeast have been working on modification to the project that would reduce the cost. The value engineering study was completed in the summer of 2019. The contract to study regionalization was awarded in September, 2018 to CDM Smith. Feasibility study reports and cost estimates are expected in mid-2020, and Sam Braverman out of the Eastern Area office is the contact point for this.

A little update. I guess the only thing new that's going on here is the land acquisition for Gary Bostrom, William Creek -- well, formerly Williams Creek Reservoir, is ongoing and will complete -- be completed by 2020 with construction Phase 2 beginning in 2019, so they started their delivery of water and they continue to. I think there's two projects left.

Mussels, good news. Everything's done. There's no adult substrate. There was no adults

found on substrate samples and the results are negative this year for mussel larvae again in Pueblo Reservoir. Pat McCusker is the contact at the area office for that.

I'll take questions.

MR. RIZZUTO: Okay. Questions?

MR. BARFIELD: Actually, I have a couple.

MR. VAUGHAN: Oh, no, no, no. I was just kidding.

MR. BARFIELD: On the Ark Valley Conduit, what's the general schedule that's anticipated, going forward?

MR. VAUGHAN: I'll put my boss on the spot. How's that?

MR. RIZZUTO: Jeff?

MR. RIEKER: So as Roy had outlined, we are continuing right now, almost on a daily basis, to work with Southeastern to look at those cost-saving measures. As folks may have heard, there was a finance package approved by the Water Conservation Board recently that would help with that as well, and so we're looking at how that may affect things. So with that and within Reclamation, we're also looking at our new term budgets to determine exactly what we can bring to bear in the

next couple of years towards design efforts and that type of thing.

So with all of these activities in play right now, I don't have a direct answer as far as, you know, when you might actually see, you know, activities starting on the ground out there, but there is quite a bit going on at this moment surrounding the project, so we're hopeful that that is, you know, a good amount of progress that will get us towards an end product there.

MR. BARFIELD: Okay. Thank you. And the other one was just with Roy, I guess, or he can defer.

MR. VAUGHAN: That was a lot better answer than "I don't know."

MR. BARFIELD: So the Southern Delivery System, so construction begins in 2029?

MR. VAUGHAN: On the reservoir.

MR. BARFIELD: Okay. So it's that far out?

MR. VAUGHAN: Yeah. They're acquiring land and doing there's -- I think there's two other scheduled reservoirs. I'm not sure if they're going to complete the -- the final one, but the Gary Bostrom one is -- is going to be under construction,

hopefully completed by 2019, is the last thing I heard.

MR. BARFIELD: This says "Construction to begin in 2029."

MR. VAUGHAN: Well, yeah, I'm sorry. Not -- not completed, but to begin.

MR. BARFIELD: Okay.

MR. VAUGHAN: And, Kelson, is that -- is that kind of the same timetable? (Need name of person - Kelson?)

UNIDENTIFIED SPEAKER: So far, yeah.

MR. VAUGHAN: That's the last I heard. Sorry about that.

MR. BARFIELD: Thank you very much.

MR. RIZZUTO: Colorado? I have a couple questions, one on the conduit. If I read correctly in the newspaper, 100 million was appropriated. What's the time frame for utilization of that hundred million and, secondly, what does that buy?

MR. RIEKER: You want to take that?

UNIDENTIFIED SPEAKER: You can start and I can take it. Go ahead.

MR. RIEKER: Yeah. I mean, I guess from Reclamation's perspective, of course, we are continuing to learn more about exactly what that

might do and how it might interface with any federal funding that comes forward, but given that this just occurred within the last couple weeks, there's a lot of discussions underway right now to further determine how that will interface with the federal funding would occur, so with that --

MS. MITCHELL: Yeah, and I think it's -- Rebecca Mitchell, by the way. I think it's important to recognize that of a hundred million that was awarded from the Colorado Water Conservation Board, 90 million was a loan package and 10 million was a grant option was really to push the AVC project forward and support Southeastern in their efforts to get this done and provide clean water. It was very much focused on water quality and -- and so this is the State's way of supporting that.

MR. RIZZUTO: Thank you. Then I have one other question, maybe, to Roy. On the joint seals, you mentioned that's a project maintenance-type project.

MR. VAUGHAN: Yes, sir.

MR. RIZZUTO: What's the time frame on that and are funds appropriated to accomplish that?

MR. VAUGHAN: As far as we know, so we've

awarded two phases, which are being funded. Well, we're going to take a look and see how successful we've been. Then we have a final phase that we can or cannot exercise, so it's probably going to be about a three-year project.

MR. RIZZUTO: Pardon?

MR. VAUGHAN: It will probably be about a three-year project, and then depending on, everybody knows how appropriation goes, if they say they want to cut 15%, that could be part of the cut, so --

MR. RIZZUTO: Okay.

MR. VAUGHAN: -- the final phase, anyway.

MR. RIZZUTO: All right. Other questions? Okay. Great. Thank you.

MR. VAUGHAN: Thank you.

MR. RIZZUTO: The U.S. Bureau of Reclamation report will be Exhibit E to the report. Next, National Weather Service.

MR. ANDERSON: Good morning, everyone. Thank you for allowing me to come today and share some of our work with you. My name is Tony Anderson. I'm the service hydrologist with the National Weather Service office in Pueblo.

I was asked to come here a couple years ago, I think 2017. I missed last year. I apologize, I was

sick, although this year's report was much more fun to do than last year's. I was delivering bad news for about 15 months last year and it was not a good time, but anyway, go ahead with the slide.

The National Weather Service does water supply forecasting, starting in January of every year. We're going to look at five of our sites. We actually do, I think it's 17 sites, 17 forecast points, where we forecast water supply. Go ahead.

You've seen some of these slides before if you were here in 2017. Some of you are new, but the data is still rough- -- roughly the same. The "Don't kill the messenger" was put in last year, in 2018.

The forecasts are for April through September runoff and we issue them in the first week of the month, starting in January, and we run through June for Colorado. This may change in the future as our ability to do forecasts improves on an updated basis, so we may be able to do them twice a month or four times a month.

Let's see. Go back one more. Oh, the precipitation estimates that we -- that you'll see here in a minute are used, are developed at the River Forecast Center in Tulsa, and those are done

for the United States on a four kilometer grid. Go ahead.

The forecasts at the two Las Animas stations on the Purgatoire and the Arkansas are observed flow forecasts, so we're trying to forecast how much water will go past the gage. I've done Salida, Trinidad and Pueblo Reservoir inflow. We are forecasting native flow, so we're trying to estimate what came off the basin. Go ahead.

This data is the precipitation data generated at our River Forecast Centers. It's available online. You can actually download it, but you -- kind of gives you a picture of what the precipitation looked like this year. We had a couple low spots, east of Pueblo and then up and around north of Salida, maybe, but it wasn't an exceptional year in total, but the timing was beautiful. Go ahead.

This is the percent of normal for the year. So overall, it looked like a fairly normal year, but the timing with the snow falling in February and March and then continuing on through April and May was significant for our water supply this year. Go ahead.

Let's click through all these real quick to

put everything up there on the -- you're going to see about five of these slides. The yellow lines indicate our probable max and probable min for the forecast. Go back. There we go.

The blue line is normal or the blue line is what we actually observed for the season, black line is the normal, and the red line indicates the forecasts for each of the first weeks of the month. Go ahead.

Okay. At Salida, we started low. We were looking at a fairly normal year in January and February, and then we got hit with March, and you can see the forecast jumped and we pushed up towards actually fairly close to the -- what we actually observed. You can see the accumulation on the blue line. That's actually shifted almost a full month forward. Normally, those two big jumps are in May and June and, this year, they came in June and July, and it made for some interesting times. Go ahead.

Pueblo was a little more stable and we were -- the last three months of the year, that is some fine forecasting. I did this job for about 10 years, back in Tulsa. I can tell you that is a very good forecast that those guys generated. The first three are actually not bad. Go ahead.

Okay. The Purgatoire at Las Animas. Can you go back to that one? Did we jump forward one? Go back. Okay. Go forward. Well, we missed one. Okay. That's my bad. Okay.

Purgatoire River at Las Animas, not as good, and a lot of this was probably management that we could not account for in our forecasting. A lot of water management took place and we just weren't able to account for that. We're trying to work on that. We've been doing the Las Animas forecasts for about six years and we've been doing the other forecasts for about 30, so we're better at those. Go ahead.

Okay. Just a different way of looking at it, give you a comparison to the normal. The -- on the Purgatoire River up at Trinidad, we're 126% of normal native flow, and observed flow was -- and this is for April through September, not through Water Year numbers that you saw from the USGS earlier, but we're about 78% of normal of observed flow at Las Animas on the Purgatoire. Go ahead.

Okay. Looking at the Arkansas, native flow up top was spectacular. Salida, we were looking at 150% and 129% at Pueblo, and then 106% of observed flow and, once again, that was for the April through September and at Las Animas.

Something we started doing back when I was in Tulsa was looking at the efficiency. We look at our precip data for the watershed and then we look at the runoff data and see just how much of what fell within the basin came off. It's just a different way of looking at the -- at the system, and you kind of expect it to decrease as you move downstream. When we looked at the Arkansas in -- Arkansas River in Arkansas, the final number was about 10%, but as you can see in Salida, we are around 38% efficiency. Once again, this is Water Year precip and April through September runoff, so there will be some differences as we move down.

It dropped down to 14% at Pueblo, and then look at going down into the Arkansas at Las Animas, we got through all of the diversions. It was down to 1%, and on the Purgatoire, we were 7.3% on the Trinidad, and then the observed flow at Las Animas was 0.6% of what we observed rainfall. Go ahead.

Starting to look forward, I wish I had good news, I wish I had bad news, because I hate saying we don't have a strong signal, but we don't have a strong signal right now. The snowpack's pretty good. We're about 117% of normal, but we're early on. You all know the distribution of our snowpack.

February and March will -- will tell the tale. The -- looking -- go ahead, if you would.

Looking forward at the Climate Prediction Center outlooks for the next three months, we're -- on the left is temperature, on the right is precipitation, and we're looking -- we have a -- we have a warm signal in terms of temperature, but it's not a terribly strong warm signal, so we're expecting -- probably expecting to be a little warmer, and the EC in the middle of the right-hand chart means equal chances -- equal chances of above normal, below normal, and normal precipitation, which means we don't have a signal, and I wish I could say more than that, but I can't. Go ahead.

Moving, jumping forward to the outlook for February, March and April, the three big months of our snowpack accumulation, once again, warm, almost identical patterns. Warm temperature, or a signal for a warm temperatures, and a equal chances on the precipitation. So once again, the signal just isn't there, and that matches up pretty well with the El Nino/La Nina situation, because we're in a neutral condition in the South Pacific and it's expected to maintain that neutrality through the winter, so no real signal from El Nino and we're not seeing much

of a signal, so I wish I could tell you it's going to be good or bad, but I can't.

That's what I've got. I don't have a formal report for the board. If you would like one, we can arrange that, and we can -- I've had a request to change or supplement our forecasts with an April through July forecast, and we'll be working on that with the River Forecast Center and with the party that requested it. If there are any questions, I'll be glad to take them. If not, thank you for letting me come.

MR. RIZZUTO: No questions? Good. Tony, thank you.

MR. ANDERSON: Thank you.

MR. RIZZUTO: Next, we'll proceed to reports from local water users. First, I'll call upon the Purgatoire River Water Conservancy District.

MR. KASTNER: Thank you, Mr. Chairman. Steve Kastner, General Manager of the Purgatoire River Water Conservancy District.

I'm here today with Connie Mantelli, our new office manager. Our long-time office manager, Thelma Lujan, is retiring at the end of this month after 32 years and so, other than Thelma, this is

your chance to meet our entire staff today.

Yesterday, I presented to the Operations Committee some updates on two issues or events going on at Trinidad Reservoir regarding sedimentation accounting and excess capacity and joint use pool usage. I will not repeat that today. Today, I will show a few slides on summary of what happened this past irrigation season.

This first graph is a continuation of one I've shown before for recent years in the District, the distribution between Project Administration diversions and Priority Administration diversions. 2019, we have total of 50,000 Acre Feet of diversions which, as you can see, is a good year for us. 27,000 were under Project Administration and 23,000, approximately, were under Priority Administration. We -- we flipped back and forth a couple times during the year due to some storage events in our Model Pool of our model reservoir right, coming into priority briefly a couple times. Next slide.

Here's a graph. The orange line is our monthly total diversions as the year went on. That totals 50,000, and you can just see the pattern of the year. We started in -- well, one ditch started

the first of April, and all the ditches started about the third week of April. The blue line is the end-of-month content of our Model Pool storage supply. It peaked right before irrigation season at around 7,000 Acre Feet and then, due to the 200% snowpack we had this year, was not really drawn heavily upon until the end of July. The District's diversion needs were satisfied by snowpack runoff this year and in a lot of the June and July period, we passed a lot of water through the District. There was more than enough for us and we could not fully utilize that whole time our storage rights, so a lot of water went through the District this year in June and July. Next slide.

Here's a graph I presented before as well. These are the flows. The blue are the flows through the City of Trinidad at the Purgatoire at Trinidad gage, and the orange are the flows through the Thatcher gage on the Purgatoire, which is below the District. Typically, these lines are pretty much in parallel. They follow each other. When I plotted it this year, I was surprised. I thought the Thatcher flows would be up, just as I knew that flows through the city were going to be up this year due to the snowpack, but the Thatcher flow has

dropped, and so I -- I checked the City of Trinidad flows and they corresponded with the releases from the dam. Well, I think that's -- that's accurate and, as far as I know, the gage at Thatcher is working fine.

So what -- what I did notice, looking at the flows through Thatcher and comparing it to previous years was, as was mentioned yesterday by Bill Tyner, pretty much a lack of monsoonal events. June and -- or July and August, we get thunderstorms, we get sharp high peaks, and they contribute a lot to the annual flow through Thatcher, and they just weren't present and I plotted -- I didn't bring a slide of this, but I plotted the last half dozen years at Thatcher and this year, and it looks like an EKG report, if you're in the hospital, of your heart rate, and the patient did well the last six years until this year and he died, or just flatlined, so that's -- that's the story there. Next slide, Kevin.

Myself and the -- Jeff Montoya, the Water Commissioner, we survey dried-up acreages and irrigated acreages in the district. We're limited to 19,499. These are the last several years. The latest information is from 2018 which, pretty

consistent, about 13,500 total acreage in use. We did survey this summer for 2019. The results are not available yet, but I'd expect the same or maybe slightly higher, given the amount of snowpack available this year.

And I think that's it for slides. I have a couple other comments. For the third year, the District did have a irrigation improvement goal plan. We're up to, from three years ago, zero, we're up to 16 center pivot sprinklers now, 1650 Acre Feet diverted through the sprinklers this year. Return flow deficit water is provided by leased water from the City of Trinidad. That plan seems to be working -- working. I don't hear any complaints.

One last item. The District did, under the sponsorship of Senator Cory Gardner, introduce into the Senate this year in June a proposed legislation to increase the term of our repayment of our construction loan. It also allows for some excess capacity leasing from Reclamation and any revenues from that would go to the -- paying off the project, so we're kind of stocking a committee now, due to a senator from West Virginia who wants to know more about western water rights and the -- the financial status of other projects and their possible impact

by climate change, as I understand it, or we're pressuring things as best we can to keep that legislation moving, because we only have a year and we have to go to the House next and they seem to be occupied by other things right now.

And that, Mr. Chairman, is my report, unless there's questions.

MR. RIZZUTO: All right. Thanks, Steve. Questions? Kansas? Colorado? One question from myself. The term of the loan, what are you trying to get the extension to?

MR. KASTNER: The project was authorized for a 75-year term and we're asking for 25 additional years.

MR. RIZZUTO: And you're in the last -- or how many years do you have left?

MR. KASTNER: We're about halfway through the original 75 years, so we're looking at --

MR. RIZZUTO: So if Congress doesn't act on it, you're not going to --

MR. KASTNER: We won't die, but we'll -- we'll probably come back our next chance and try again.

MR. RIZZUTO: Okay. Good. Thank you.

MR. KASTNER: Thank you.

MR. RIZZUTO: Next I have on the list Southeast Colorado Water Conservancy District, but if my recollection is correct, Chris Woodka was here yesterday and said he would not be able to present, but he left some reports, I believe. Does someone have -- on the back table, so you can pick up the report from Southeastern Water Conservancy District.

Next, I'll call upon the Lower Arkansas Valley Water Conservancy District and --

MR. SALTER: You want to make -- you want to make that part of the exhibit to the Annual Meeting, the written report of the Southeastern District?

MR. RIZZUTO: Yes, we can.

MR. SALTER: I do have an electronic copy of that.

MR. RIZZUTO: Okay. If you could, then that would be part of the report and an exhibit. Okay.

MR. WINNER: For the record, my name is Jay Winner. I'm the General Manager of the Lower Arkansas Valley Water Conservancy District. For those of you that don't know, the Lower Arkansas Valley is in the state of Colorado, just a reminder.

I really want to thank Rebecca Mitchell at

CWCB for their loan/grant combination of $100 million for clean drinking water for the people in the Lower Arkansas Valley. Clean water is important to everybody, whether it's for drinking water, reservoirs, or any streams.

There's this question out there about are you better to be uphill with a shovel or downhill with a lawyer? Well, recently, we found out that it was better to be downhill with a lawyer. As I'm sure you guys are aware of, Lower Arkansas Valley Water Conservancy District, State of Colorado, EPA, Pueblo County, sued Colorado Springs concerning a violation of the Clean Water Act.

Water quality will be the next dynamic that we face within the state of Colorado. We need to accept that sooner than later. We went to trial. It wasn't much of a trial; didn't last very long. We called very few of our witnesses, because their excuse was "It wasn't my job." The judge ruled in our favor. It's going to be a very high, nine figures. Not seven figures. Nine figures is what it's going to cost, by the time it's said and done.

Well, now we're going to be facing another conundrum, and that is going to be water quality when it comes to undecreed contract changes. I've

always wondered about this. You know, when somebody buys water here, that if they want to put it in a system, you have to put it through an RO system. You can't drink it, but you're able to exchange it all the way up here without a decree, I think with that water right in their system ***not sure I understood this correctly***. Well, we're the ones that have to clean up the water. I've always wondered this when I said, you know, "Is this legal or not?" So we're in the process. We're working with people from the State and we'll be finding out whether or not who is responsible for water quality when it comes to these type of exchanges. So far, we're getting the exact same response that we got from Colorado Springs: "Not my job." I hope this will get settled sooner than later and we don't find out, once again, it's best to be downstream with a lawyer.

Now I want to turn it over to Mike Weber. He's going to show you some of the many projects that we're working on, which a lot of them have to do with water quality. That will be the next dynamic that we're going to face. Thank you.

MR. WEBER: For the record, Mike Weber, Colorado Water Conservancy District. Thank you for

having me up here. I'm going to walk through the projects we've been working on over the past few years. These first few slides, you guys have heard a lot about, at least about Rule 10, and you guys heard a lot about the multistorage project that we've been working on. You heard about that yesterday, so I'm going to touch on those real briefly, kind of give you the statistics and the figures behind that, and then I'll get into the water quality piece and why we've been working on it and where -- what we've done so far.

So just to recap the Lease Fallowing projects, the Catlin Pilot Project was in its fifth year, just finished up. Delivered 302 Acre Feet of water delivered to Fountain and Security. I was looking through the numbers last night and this is actually remarkable, because we actually delivered more water this year than we did last year, and some people say "Well, it's good Water Year." Well, I want you to know that the Catlin Canal actually turned out for 45 days this year, so whenever you turn that canal out for 45 days, you would think the numbers would be lower, but we overdelivered by it was 298 Acre Feet last year and 302 this year, so that's, in my mind, pretty impressive. All the farmers have

verbally confirmed they will move forward into next year's operations.

We did start a second Lease Fallow project. We're calling it the IWSA. This started on July 12th, again, right in that 45 days where the canal system shut out, so we were only able -- we were only able to deliver 117 Acre Feet of water, and this is by approval that it will operate this way for three years, so there isn't a verbal commitment year by year. It is this is how we will operate for the next three years and then we'll have to figure something else out.

That's what's going on with the Lease Fallow projects. I will get into some more of what we're doing with Lease Fallow in the middle with water quality.

Rule 10. You guys know about what we've done with Rule 10. I'm not going to go over this a whole lot, other than we've doubled our growth in the seven -- past seven years with how many sprinklers we've put up, and we do have some lateral lining systems that are going in, as well as the sprinklers and the drip systems, so it's kind of another piece of irrigation improvement that's going into that piece.

You guys heard a lot about the multipurpose storage yesterday. I'm not going to cover a lot of it. I do want to say that they're trying to implement a project, and I put a mistake in here. This should be a pilot project that they want to implement moving forward, in the talks and everything that's going on. There have been four conference calls with ARCA and everything that's been going on, and it sounds like there's one projected, I don't know the date or anything, for early 2020. We will hope that that goes through because it will lead into this next piece, which is water quality, and be a piece within water quality.

So I'm going to take a step back and really address why we -- why we got into water quality, who our partners are and who's kind of driving this force between water quality and everything we've got going on. Regulation 85 is determined by the Colorado Department of Health and Environment that says any point source discharged must meet a certain permit regu- -- regulation within what they're doing. It also has this clause in there that says if voluntary nonpoint source BMPs are not effective by 2022, May 31st, 2022, the commission may elect to regulate nonpoint source discharges. Nonpoint

source discharges are agriculture. I mean, that is what we deal with down here, and that's what we're dealing with the storm water runoff, that type of thing.

So that got our attention and we went "Oh, okay. We need to kind of get out in front of this by 2022." We partnered with EPA, CPHE, that kind of side of things, to look at water quality.

We then looked at the Food Safety Modernization Act that is looking at actually a proactive approach, as opposed to read and react, to figure out what's wrong and then figure out a secure to it. The FSMA is essentially trying to say "Where is the problem and how can we fix it?" and the problem actually dates back to being a lot of what you're going to see in a minute, which is water quality.

The last one is the USDA. The USDA has been working with us on a lot of this kind of information as well. They don't have any policy that implements any of this, but they are looking at water quality as they move forward.

So back in 2017 is when we started. Really, 2016, the conversation started, but our first projects were in 2017. We developed all of our

projects in a way that would collect baseline data, implement the BMP, calculate the load reductions for the BMPs, and then we're getting into the next piece, which is developing storm maps and working with the cities on this new idea of pollutant training, and I'll get into that at the very end.

These are the 37 projects that we have under contract at this moment in time. There's a whole list of them here and I'm going to go through a few of them, just kind of detailing out what they are. These are all registered in our Rule 10 Plans if they have any requirement on that piece. Anything that has been implemented has been documented in our Rule 10 Plan. Anything that is not, we were working with and we're making sure that we're meeting all of those needs from a water quantity standpoint, but this is a water quality piece that we've been working on.

Lateral lining and sealing, we have one project underway, or it's actually been completed, about a half-mile of a lateral. A large 36-inch pipe was replaced with that piece. We have three more of those anticipated. They're under contract. They just haven't been done yet.

A head stabilization pond sealing. We're

actually taking the ponds and sealing them off. The number on that, I just looked last night. I thought we only had eight of them under contract, but there's actually 12 of them under contract, so that number is growing very rapidly.

Irrigation improvement, and this is a wide variety of things. This is where we actually got started. This is center pivots, drip irrigation. We're looking at lateral roll sprinklers, especially for rectangular fields where you can't put a center pivot very easily, and walking sprinklers.

So a walking sprinkler is something that's actually going to walk with you and you can move it from field to field, but it works as a sprinkler system as well. I have not implemented any walking sprinklers. We're still in the collection of baseline data on those projects.

Soil health, and this is what we're really getting into. Cover crops, grazing techniques, fertilizer reduction, and I want to say fertilizer reduction is a way to reduce the amount of nitrogen and phosphorus coming off of a field, and I'll show you why here in a minute. Mulching, pollinator strips, nutrient and sediment reductions, carbon harvesting, all of the things that you hear from

NRCS about what is soil health. We're trying to implement that and put a water quality nexus to it, and there is one. I just can't tell you exactly what it is, because I don't have the data because we're still in the phases of trying to collect that baseline data, but visually, you can see something improve on the water as it comes off.

Lease Fallow. We have been approved to actually monitor the benefits of Lease Fallow towards water quality and the way it runs off. We have two test plots right now. We're looking to add six more, and the Tamarisk removal and wetland restoration.

So in order to do all this, we kind of have to understand, well, what is the problem? Where's it coming from? I pulled all this data, and it actually was part of a CWCB grant that was funded through the Arkansas River, or Arkansas River -- Arkansas River Collaborative Working Group or I -- (???) is what I know it as. I don't know the acronym off the top of my head, for some odd reason. It's slipped me, but the grant was to pull all publicized data, put it into a (???) map, don't analyze the data, just giving us raw data, and show where the hot spots are. Simply that.

So we pulled all data from store (????), from Colorado Data Sharing Network, from USGS, from Colorado State University, Colorado School of Mines, NRCS, anybody we could find with publicized data, put it into one huge database, and we created a map.

This is total selenium from all observed stations, all kinds of scholars. This has all been publicized. It doesn't look that glaring. You can see some hot spots, but if you go to the next slide, I had to do dissolved selenium, because there's a standard on it. The total is a little bit different. The standard for dissolved selenium is 4.6 micrograms per liter. Everything in red is above that standard.

As you can tell, our selenium standards are way higher than what they should be, and the cities are getting that because they are under permits to clean up the water as it is discharged into there based off of these numbers. Nonpoint sources not regulated, but as you can tell, a lot of our land is nonpoint source, and this is where it could be leading to.

I also threw together just nitrate and phosphate, because the State of Colorado has

regulated nitrate and phosphate as well, so here, you can see nitrate. You can see, as you move downstream, a lot of nitrates getting back into the system, especially in the middle of the area here.

The next one, I believe, is phosphate. Again, phosphate's higher in kind of the middle. It actually cleans up as you go downstream, and there's some theories behind that. One of the theories that we've read historically is actually John Martin Reservoir helps with phosphate, but it does not help with nitrate, so just some -- just some publicized data that's out there that you can actually look at. You can pull this data. It's all public data. It's none of my data. This is publicized data that's out there.

So with all that, we are targeting areas that are hot spots for all of these to try and decrease the load allocation. This is the first of the pipelines that we put in. We took the ditch on the left, put it into an underground pipe, and as you can tell, there's no more ditch. It's gone. But we are having to replace augmentation on this system. It is in a Rule 10 Plan. It is moving forward.

This next picture is actually what head stabilization ponds look like after they've been

lined. Every time a lined pond goes in, it is corrected in Rule 10. We essentially take a zero for that pond because there is no seepage that we can take credit for, but they are implementing these -- these actual liners in place right now.

I want to throw some statistics out there to you as well. Colorado State University created the system. They call it eRAMS. eRAMS is a system that looks at phosphate and nitrate as it runs off of a field and how you can improve those two constituents.

These are five -- six locations that we're looking at. You can identify it by area, give it your own name, Huck, watershed, whatever you want to identify it by. We identified these six. The thing I want to point out here is the work that we're doing, we can show load reduction in pounds per year of six to 20% reduction in nitrate and phosphate. Incredible numbers if we can achieve this.

I don't have any numbers because we're still in the implementation phase and I don't have the numbers from implementation to actually what reduction we can get, but this is what's estimated we can get out of nitrate and phosphate. Selenium, they don't have it calculated in their model right

now.

The last piece I'm going to put on there is now we've figured out we can actually do some work, there's models to show that we can make improvements, how can we work with the cities? Because the cities down here, they're discharging and they cannot meet their permit requirements.

One of the ideas is pollutant training. Pollutant training is the idea that you make an improvement on a nonpoint source land and then you give that credit back to the city for their permit. It's a little bit difficult because the State of Colorado says that you have to be within a restricted area. EPA actually says that you can look at the river as a whole, so we're kind of working in the defined areas, but it's looking at the river as a whole. So let's clean up the river and benefit those cities in a way that we do it.

These are the three cities identified in the point source discharge pollutant training right now that we're working with. You'll notice Lamar is downstream of John Martin Reservoir, not up here, and there's a reason for that. Their point source discharge is actually meeting their permit requirements and they are not under DSV as of yet,

but the second they come under DSV, that will change.

And I think that's all I've got, if there's any questions.

MR. RIZZUTO: Okay. Questions? Colorado?

MR. WINNER: Thank you.

MR. RIZZUTO: Very good. Thank you. Kansas Groundwater Management District 3.

MR. RUDE: Good morning, Mr. Chairman, members of the commission. My name is Mark Rude. I'm Executive Director of the Southwest Kansas Groundwater Management District Number 3 office in Garden City. I apologize on one hand for having conflicts and not being able to present at the committee meetings yesterday and I will attempt to be very brief in my comments here this morning.

Let me just start by saying I provided you with just some quick color printouts of the slides and a copy of a resolution that I will reference here in a moment. Thank you, Kevin.

By way of just quick orientation, in Kansas Groundwater Management Districts, there are five of them. GMD-3, as we like to refer to ourselves, is in southwest Kansas there, as I said, office in

Garden City, covering most of southwest Kansas, and so that gives you a little orientation of where we are.

There's a little bit of Kansas, Ark River. I think it's Arkansas River once it crosses the Stateline, but that's not in the district. That may change in the future. We're having discussions on that. Next.

Again, by way of orientation, this is a pie chart of county water use or groundwater use. I think it's actually all water use. No, groundwater use, and it was 2012 that was the last really severe drought, and it really shows where the groundwater pumping happens in Kansas. Next slide.

The Groundwater Management District has a 15-member board. We've been working for a number of years in updating our management program for the water resources in southwest Kansas and we continue to work on that. As revisions are made, they are posted on the website there. Next slide.

One of the emphasis, as was said earlier in the presentations, but certainly in agriculture, efficiency is pretty key. The value of that water continues to go up. The supply diminishes with demand, and we've got to get better at what we do.

One of the things that our board members have been involved in is really looking at the mobile drip. That takes some quality of water, but on the High Plains, managing by the drop, there's some real future in that, as opposed to the old ways of application, and -- and we focus on, really, conservation is one of those terms that you can trip over if you're not sure how you're using it, and so in our management program, we divided out into efficiency, conservation as efficiency improvements, and conservation as leaving water in storage or in the aquifer, and different -- different activities focus on different parts of those, too.

You can be very conservative. As basically as some of the rules in the Ark Valley in Colorado point out, you can get more conservative, but if you take return flows away from the next guy, that can be a problem, too. You can up consumption with -- with efficiencies if you don't manage the other part, which is storage and supply.

A number of years ago, we got a grant from some of the damage funds from the old *Kansas v. Colorado* case to be preserved from legislative budgeting process, moved that to our budget and so we've been, with the help of an advisory committee

and the ditches, applying those funds and leveraging them, in some cases with the good partners of with Reclamation and the Water Smart Program, to do projects, and so we've been doing that. We've about got those funds used up. We make an annual report to the legislature, Kansas legislature, and those are posted online and available.

Three current projects. The Roth technology farm, we're really looking at the usability of the water quality and trying to get some coefficient, some sense of that. Farmers ditch head gate, working on that, and then preferred interstate supply evaluation effort in attempting to provide the discussions between the two states on a list of interstate water needs from the water users. Next.

Of course, for a number of years, we've talked about water quality in the river, and Don Whittemore with the Kansas Geological Survey has done a lot of work with that. We made an effort several years ago to see if we could build some collaborative efforts with some help from the basin planning process with Reclamation, and that wasn't -- it wasn't time for that yet, apparently, but we continue to seek collaborative approaches to addressing the water quality in the basin. Next slide, Kevin.

As Don's work has pointed out, salinity, there's a number of minerals in that water that get concentrated through the evapotranspiration and multiple use processes as the water comes down the basin. The source of, particularly uranium we've talked about recently, weathering of the marine cretaceous shales and in human sources are fairly insignificant. Next click, Kevin.

But some of the causes of that high salinity and load is really human, as -- as most of us know. The more you use the water, the more the -- it concentrates that -- those dissolved solids. Next slide, Kevin.

Just sort of a -- very similar to earlier slides we just saw with the Lower Ark, this is from work with USGS on probability of uranium exceeding drinking water standards in groundwater, and so it just kind of highlights where some of those, I think the term used was hot spots, are in the basin. Next slide.

With Don Whittemore's estimates on tons of uranium coming across the Stateline in recent years, we're hovering there around 10 tons per year and that, of course, either goes out onto the fields or goes into the High Plains Aquifer. Essentially,

we've created a closed basin in the Lower Ark; except for very extreme flood conditions, water that comes into the district, but it does not leave. It's destined for storage or use, and this is not meant to be -- offend anybody in Kansas or in Colorado, but when that water comes into the District and has that effect of going into the aquifer, that river flow has sort of a functional equivalent of a point source discharge into the aquifer. I think we all kind of know that. Next slide.

This share basin, as we've been talking about this morning on the water quality issues, is a shared issue, and some work this last legislative session with the Kansas legislature produced a resolution in each of the two houses, and I've got copies on the back table and provided that to the commissioners. I think it might have been provided from the legislature to the Compact Commission earlier. I'm not sure, but essentially, a rah-rah (???) that we work together, that the local and the state entities in both states work together with the efforts of Congress, and particularly, it directs the Kansas delegation to work with Congress to adequately fund Reclamation and some efforts to

address the issues. Next slide, Kevin.

I guess I've got it highlighted here in this slide. Focus on compiling information and useable sources and demands, develop basin tools, system reliability and impact analysis on current and future capacity of all infrastructure, developing adoption strategies to improve operations and infrastructure, develop recommendations to address water quality challenges, and provide safe drinking water. Request the state and local partners in Colorado and Kansas to work together. We've just got to find ways to do that because, as I said earlier, it's a closed basin and -- and we're all sharing this -- this effect of not only the value and the demand for the water, but also the effects on water quality and its usability. Next slide.

Then just to be a little out there, I guess, and envisioning, the board of Southwest Kansas GMD-3 has been, for several years here, talking about how to further develop the concepts of -- well, really, that were started in a High Plains study authorized in the WRDA Bill in 1976, clear back there, and then the 1982 High Plains study, which was really an effort to look at the High Plains states and agriculture and the water and the energy and where

is that taking this, the food security concerns of the United States and the role that the High Plains provides, with all of that use of the High Plains Aquifer, and made projections to year 2020, way into the future.

Well, here we are, and in the concept is, first of all, part of that High Plains study, two of the five management strategies was looking at water transportation, interbasin and intrabasin transfers, and the Army Corps of Engineers had a specific role in that and some ideas were generated, so we are proponents of federal legislation to see if we can't get another look at the High Plains study, particularly the water transportation aspect of that.

It's sort of unique in this environment where we have, I wouldn't say unprecedented, but certainly very good Bureau of Reclamation leadership in guiding or leading western state collaborations on drought response plans in the Colorado River Basin, and then the continued good leadership of the Army Corps of Engineers in trying to address the recurring flooding issues in the east of the High Plains, and wouldn't this be a good time to also look at -- take another look at water transportation

uphill across the High Plains, in light of all of the wind development and the de- -- declining costs for energy projections that are out there. Next slide, Kevin, and then if you'd click that one more time.

Of course, the High Plains study and the work of the Corps looked at multiple transfers across the High Plains from the east, and we think there's real merit to looking at something across Kansas and up the Ark River Basin, possibly utilizing existing infrastructure. You get, again, visioning ideas from Congressman Tipton and others that we'd like to double the size of Pueblo Reservoir. Well, it actually makes some sense in the regard of the water supply need, but what do you fill it with, and sort of puts a fear factor into GMD-3 unless we get another source of water to fill that space, and so the concept seems reasonable to ask for some assistance from Congress to take a look at these realities that we're dealing with in the Ark River Basin, and we've talked to the Southeastern District about this. Don't want to step on their toes in all of the political capital that they're putting into trying to get the Ark Valley Conduit completed, but certainly there's some merit to this and it's the

kind of thing that takes a long time to work through, and a 2015 effort to update the Route B alternative across Kansas found half again more water available in the Missouri than the original study, and there's reasons for that under the Pick-Sloan, but it seems like the right time to advocate for that kind of thing, and so we throw that out there as well. Next slide, Kevin.

The original route that was put out there in the '82 study is not the right project. There's no question about it, but today, we have so much more data. There's so much more diverse ways of looking at the value of the resource for ecology, restoration and river flow and distributive storage, rather than massive single reservoirs, and then with the energy component, again, we think there's real merit for taking another look at this.

With that, I'll conclude my comments and answer any questions you may have. Thank you for your time.

Mr. Chairman, I did want to say one more thing I meant to lead with. Thank you for your service and the service of the commissioners here, because at the local level, we just could not have the communications without this, so thank you.

MR. RIZZUTO: Thank you. Questions? Kansas is good. Colorado is good. Thanks.

MR. RUDE: Thank you.

MR. RIZZUTO: Compact Compliance/Decree Issues Updates. First item, Ten-Year Compact Compliance Accounting Table, 2009 to 2018, joint report of the States.

MR. THOMPSON: Thank you, Chairman and the commissioners. I guess Kevin and I trade this off. I'll do it this year. Again, my name is Kelly Thompson. I'm with the Colorado Division of Water Resources.

I believe the commissioners have seen this table a number of times, but this is our Compact Accounting that compares how the effects of well pumping in the state of Colorado to the replacements we make for those -- for that well pumping and how that affects useable Stateline flows into Kansas, and so you can see we do this over a 10-year period.

It adds up our accretion or depletion that we get out of the H-I Model. We add to that the deliveries from the Offset Account that are taken to the Kansas Stateline, and then we subtract from that the depletions from what we call post-'85 wells and adds those over into the far right-hand column,

which is the overall accretion or depletion.

For 2018, which is our last evaluation, we did have a -- a significant accretion to useable Stateline flows for that year, but we did drop off a -- an accretion from 2008 that was -- that was pretty similar, so our total for the Ten-Year period is about the same as it was last year. We still do have this about a 14,000 foot -- Acre Foot credit on the accretion side, and so this was produced by experts from both states.

I really want to acknowledge the work of the Kansas experts and all the Colorado staff that helped put this together, but Kansas and Colorado would agree that this is -- this is our -- our table for this period, and so I guess we'd submit this table to the -- to the commission.

Thank you. I don't know if you have any questions.

MR. RIZZUTO: Questions? Okay. Actually, that will become part of the exhibits. Exhibit G, if I'm on track. Okay, Kelly.

MR. THOMPSON: Thank you.

MR. RIZZUTO: All right. Next, Colorado's Presumed Depletion Factor Evaluation, so welcome back, Kelly.

MR. THOMPSON: Again, Kelly Thompson. Thank you. Yeah, so the presumptive depletion factors, PDFs, again are what we use in our replacement plans, in our well replacement plans to relate pumping amounts to stream depletion amounts at the river, and we are, as a state, directed to re-evaluate this number each year for the supplemental flood and furrow-type irrigation. So again, after we complete the H-I Model, we use it to evaluate the consumptive use and the resulting stream depletions that are caused by the well- -- the wellhead pumping amounts, so I guess relating the depletion amount to the pumping amount, and so it can kind of be considered an efficiency, in a way.

But in 2012, we started out with the 39%, but that number has stabilized over the last few years at about 36% for that supplemental flood/furrow irrigation, and again for 2020, it would be recommending an amount of 36% be used in the replacement plans for next year.

And so, again, Colorado produced this evaluation to Kansas, looked it over and agreed to this number, so that would be our recommendation, and I'd also say that Kansas and Colorado have --

have agreed to the general methodology that we use to produce these numbers and I don't think we need to go into the details of it much, but yeah, we have sort of agreed to the methodology, so that's -- that's good for us. I don't know if there's any questions on this.

MR. RIZZUTO: Questions? Seeing none, good. Thank you.

MR. THOMPSON: Thank you.

MR. RIZZUTO: That will be Exhibit H. Okay. With that, we're going to take a 10-minute humanitarian recess, so we'll be back at approximately 25 to 11.

(A break was then taken from 10:21 a.m. to 10:36 a.m.)

MR. RIZZUTO: I'll call the Annual Meeting of the Arkansas River Compact Administration to order after our recess. At this point, the chair will recognize Kansas for a motion.

MR. HAYZLETT: Thank you, Mr. Chairman. Had a request on the previous presentation from Southwest Kansas Groundwater Management District 3 on the resolution that he distributed here and has available on my desk, if we could make that a matter of an exhibit in the record, so with that would be

Exhibit I.

MR. RIZZUTO: It would be Exhibit I, and Colorado, do you have any --

MS. MITCHELL: Second that.

MR. RIZZUTO: Second it, and we'll vote on this one.

MR. HAYZLETT: Okay.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: Okay. That's adopted, so Kansas Groundwater Management District report will be Exhibit I.

MR. BARFIELD: House resolution.

MR. RIZZUTO: House resolution, right, yes. Okay. Next, I'll call on David Barfield, report of Special Engineering Committee.

MR. BARFIELD: Very good. Thank you. Yes, I've been asked to provide a report on the work of the Special Engineering Committee for this last Compact Year.

The Special Engineering Committee was created by the Compact Administration in 2005 and has existed since then. Its task is to sort of work on

special assignments that ARCA has identified as needing additional work by the states in particular, and the states operate under special rules that are provided to sort of facilitate this sometimes very detailed work that needs to go on between the states.

The Colorado State Engineer is a part of this Special Engineering Committee, he and his staff, to facilitate the work along with Kansas representation as well. And, you know, we've made a lot of progression and a lot of difficult issues over the years, and so two years -- two meetings ago, the Compact Administration extended for two more years the SEC's work and provided a list of tasks for the SEC to seek to make some progress on.

In this last Compact Year, we principally worked on two issues, the first of which was to sort of finish up the work on the Permanent Pool issue, and culminated in February of last year, when ARCA had a special meeting to adopt a resolution to allow for a new source of water for the Permanent Pool from the Highland Canal.

And in addition, in February, State Engineer -- Colorado State Engineer Kevin Rein and myself basically reached agreement, two different

agreements, one to sort of facilitate the specific terms by which the Highland could be used for the Permanent Pool, and the other to sort of memorialize -- memorialize agreements we had on two -- two sort of disputed issues we've had over the years on -- on the Highland as well, so that was sort of the -- the early part of the year.

More recently, in recent months, we've been sort of returning our focus to the Colorado -- proposed Colorado account. Colorado -- or Kansas, I'm sorry -- Kansas provided Colorado with some feedback on some work that we thought would facilitate the State's consideration of that proposed account, and Colorado, as we'll hear about later, I think, will -- has been busy with that work, sort of providing more details on the -- you know, we have a host of proposed participants and uses and sources of water potentials for transfers and so forth. Anyway, Colorado is doing work in that area.

As we'll hear later on, the states anticipate authorizing the SEC to meet again for the next two years and again, specific assignments, and certainly prominent among them will be additional work on the Colorado proposed account and related issues, so...

Kansas, we've heard a lot about water quality this morning already, and Kansas is -- is particularly interested in facilitating things that will help with water quality and there's parts of this account that -- that we believe will do that, so that will be a priority, I think, for the coming year in particular, so...

MR. RIZZUTO: Any questions of David? None? Okay. We'll move on to the report and recommendations of the Engineering Committee, David Barfield.

MR. BARFIELD: Okay. And we actually have a document that will be included as an exhibit that provides more detail here. I will just sort of verbally walk through that summary.

We had a very good Engineering Committee meeting, going through a number of different reports and such. It started off with Kelly Thompson with Colorado Division of Water Resources providing an update on the progress of the past year on the system -- support system on the Arkansas, and they've -- they've made significant progress on a number of tasks and there's an increasing array of data that's available on their website, and that project will continue to move forward under their

work plan.

Bill Tyner of Colorado DWR provided an update on the use of the Highland Canal for the Permanent Pool, pursuant to ARCA's agreement earlier this year, and there was an operation and that helped sustain the Permanent Pool through -- through the year.

Jack Goble of the Lower Ark Valley Water Conservancy District provided an update on the status of the State's discussions on the proposed Colorado multipurpose account and the funding that CWCB has provided to facilitate that additional work I just spoke about.

By Kevin Salter of Kansas DWR provided a status update on efforts to replace a -- a flume on the Frontier Ditch. Amy Louise of the Corps of Engineers presented the Corps' report, especially on operations at Trinidad and John Martin Reservoir for the past year, the implementation of new Elevation-Area-Capacity tables for both Trinidad and John Martin, and other issues.

Jonathan Tague of the Corps updated the committee on the John Martin stilling basin project, as we heard about this morning. Jack (sic) Rieker of the Bureau introduced himself to the committee as

the new manager for the Eastern Colorado Area Office and reminded us of the draft resolution that the Bureau provided last year that seeks to clarify the role and processes for the Trinidad Ten-Year Review that would be coming up in the future here.

Krystal Brown of the U.S. Geologic Survey reported on predicted versus annual flows through USGS gages, talked about beaver issues on the Apishapa River and the Purgatoire River near Las Animas, discussed the -- the problem or the Big Sandy stage gage that has been had and the reasons why that's being discontinued from the Cooperative Program, and also spoke about the USGS specific conductance on the Arkansas River and how it correlates to dissolved solids and water quality and on the loss of funding for the gage below John Martin, the water quality gage.

Kevin Salter and Bill Tyner provided an update on implementation of the new Elevation-Area-Capacity tables provided for Trinidad and John Martin in, you know, in the Compact Accountings that we do, and the new way of implementing that table that was done in Compact Year 18-19 to make the sediment adjustment fair.

With respect to recommendations of the

committee in the end to ARCA, we would concur that the Big Sandy crest gage should be removed from the Cooperative Program and that -- that ARCA should consider funding of the USGS water quality gage below John Martin Reservoir and that the SEC should continue to work on the proposed multipurpose account.

MR. RIZZUTO: Questions of David? Do we need to take action on those recommendations?

MR. HAYZLETT: Not till the Administration (inaudible).

MR. RIZZUTO: Okay. All right. Next, Operations Committee, Operations Secretary Report.

MR. HAYZLETT: Exhibit --

MR. RIZZUTO: Bill Tyner.

MR. TYNER: Thank you, Chairman Rizzuto and representatives to the Administration. Bill Tyner, the Operations Secretary and the Division Engineer with the Arkansas River Basin.

I wanted to take just a moment to congratulate David on the fact that he is going to get a chance to enjoy a well-deserved retirement coming up this next year perhaps, if he doesn't change his mind, and I wanted to also just to recall that we've kind of been at this a long time.

I became involved in the Compact Administration activities back kind of in the heart of the Kansas-Colorado lawsuit and dealt through that period where we were still kind of at war with each other and going through proceedings out in Pasadena and waiting on rulings to see how things came out, and then also, we've had the rewarding experience of working through all those Special Engineering Committee activities, the flurry that we had at the end of the lawsuit to resolve a lot of the issues that the Special Master directed the two states to, you know, go work together and find a way to solve this, and that Special Engineering Committee process led us to sit down and talk face-to-face, most of the time with no attorneys in the room, sometimes with attorneys that come in afterwards to help us put the words together just -- just right, but we solved a lot of issues and I appreciate that this process has -- has gone forward.

I know it's very tempting to try to solve things through lawsuits and sometimes, especially in interstate lawsuits, the result isn't really what either state would have liked to have had occur at the end. It seems like we've had much more

rewarding experiences when we've been able to just sit down and understand each other's points of view on issues and come to the best solution that can be come to, and so we really appreciate that that has happened, most recently with this Permanent Pool approval that occurred on Valentine's Day of 2019, and we look forward to continuing to work with you on the Colorado Multiuse Account and then appreciate the relationship that you and Kevin Rein have developed as you've worked on both the Republican River Compact issues and the Arkansas River Compact issues.

The -- our water users here in Colorado are at their very best when they are able to work together collaboratively to solve big problems, and I think that that's going to be the best way that our water quality issues are going to be taken care of here. I think it's quite important and notable that both states have this keen interest kind of peaking at the same time and I look forward to the meeting that we have proposed to happen sometime early in 2020, where we'll allow some of the work that's been done by Colorado State University and by the Lower District here in Colorado to be presented to Kansas folks who have that -- that special interest and

want to -- want to attend that meeting, so thank you for giving me just a minute to talk about that before I give the specifics of my report.

And then one -- one more quick delay. Again, I just want to reference the fact that this is one of the Compact meetings that Kevin Rein, our State Engineer, doesn't have to be up here being a part of an administration activity. He gets to just kind of come and listen and participate, but because of that, I -- I especially appreciate the fact that he is involved to the large extent that he is in what we do here in the Arkansas, and it has been super helpful to carry on work in the Special Engineering Committee.

Dan Steuer has ended up, he's with the Colorado Attorney General's office. He introduced himself earlier. He's got kind of a unique situation where he's also working with Kevin in both the Arkansas and the Republican on some issues, and so thanks for Dan being here.

Kelly Thompson gives presentations and sometimes you all don't know how important he is to making sure Compact Compliance continues to be properly documented and trusted by Kansas but, you know, Kelly runs the H-I Model, works closely with

Dale Book and Kevin Salter and Rachel Duran and other experts from Kansas who review all the detail that goes into coming up with that Ten-Year Compliance Table result at the end, and Kelly does a lot in the background in the Arkansas Basin to try to help us improve things, improve our transparency on water administration, so I'm glad that Kelly is here today from Division of Water Resources.

From our office in Pueblo, I have both of the assistant division engineers that have been hired over the past year. They both were hired from within the organization and I think both got a chance to be introduced last year, but I just want to emphasize again, Rachel Zancanella and Lori Lest are picking up duties that -- that I previously had, and Rick Lore (???) is picking up duties that Rachel previously had, and we are -- we are in a great learning process and we're constantly improving how we're able to do things. I wanted to acknowledge their -- their work this year.

John Van Oort and Phil Reynolds from our Pueblo office are keys to the daily work that happens. I want to thank Kevin Salter and Rachel Duran for that cooperative daily work that occurs, not only for John Martin Reservoir, but for Trinidad

Reservoir operations and Pueblo Reservoir operations, but John and -- John and Phil and Kevin most of the time work out what could be issues and, a lot of times, I don't even hear about them until after the fact, after they've said, "Oh, here's what we worked out on this issue," and I -- if Kevin's happy, then I'm happy.

So additionally, and I for sure don't want to miss anybody, Bethany Arnold is also here from our office. She's a water resources engineer that deals with our well associations and just does a fantastic job making sure we stay in compliance on well pumping, and then Water Commissioners that are -- that are here today, Lonnie Spady, our Lead Water Commissioner for District 17 and 67 in the lower end of the basin; Brandy Cole, who we stole away from Kansas -- I'm sorry about that, guys -- and she is our Water Commissioner in District 67. Jeff Montoya is our Water Commissioner down on the Purgatoire in District 19. Jeanette Myers, Deputy Water Commissioner in 17 and 67, is also here today.

I don't think I missed anybody, but I did. I realized, after reading transcripts from 20 years ago, it's kind of nice to have the importance of the work that others do acknowledged in the transcript,

so I appreciate the opportunity to do that.

Now, for my very brief report, so I -- I was fast yesterday. I will now be fast.

At the beginning of the Compact Year 2019, John Martin Reservoir, from an accounting standpoint, and I want to specify that -- that you might see some small differences sometimes between what the Corps reports or the USGS reports and what we report, but keep in mind, there's always an accounting balance in the reservoir and then a physical content balance in the reservoir when you have a nonchanneled reservoir, because it may not always get things perfect when you're doing the accounting.

So the accounting balance at the beginning -- at the beginning of Compact Year 2019 was 132,946 Acre Feet. Conservation storage only occurred during the period from November 1st, 2018 through April 25th, 2019, without any subsequent summer storage events. And, guys, we have seen several folks talk about we just did not have the intense rainfall events that would normally trigger conservation storage later in the year during 2019.

A total of 40,814 Acre Feet was stored during this winter storage period on into April.

Additionally, two transfers from the Colorado upstream consumable subaccount, the Offset Account to replace the depletions from well pumping, were made to conservation storage, and those transfers total 221 Acre Feet.

I want to pause and thank again the Corps of Engineers for their great work on the stilling basin, John Martin Reservoir, and especially for their timeliness in completing that work in that window of storage. As it turned out, we had a little bit of a cool spring and we actually didn't have a release out of John Martin, I think until, Jonathan, like the 13th of April, I believe, and so -- but still, they were on time. If a ditch had wanted water on April 1st, they could have taken it, and that's -- that was great work.

Storage of other water, besides conservation storage, under Section III of the 1980 Operating Plan during the winter period totaled 10,300 Acre Feet. That water is maybe normally kind of associated with the Pueblo Winter Water Storage Program. From this total storage, 35% was distributed first to pay back a deficit on the delivery of Kansas Section II water that occurred during the drought year of 2018.

I mentioned to the committee, the Operations Committee, yesterday that during that drought year, the water that Kansas called to the Stateline could not be completely delivered, so that deficit of 3,123 Acre Feet had to be paid back into the Kansas Section II account, and the storage charge water from Section III water fulfills that obligation.

Once that Kansas deficit was paid back, and that occurred on March 1st of 2019 during storage, the 35% charge refilled the Transit Loss Account for the remaining two weeks of that storage period by adding 470 Acre Feet, to bring a total to 509 -- 589 Acre Feet by March 14th, 2019. No water from the 35% charge was distributed to Kansas or Colorado Section II accounts, since the Transit Loss Account had not been filled to 1700 Acre Feet.

During the irrigation season, Amity Canal's Great Plains water right came into priority frequently, allowing an additional 47,226 Acre Feet of Section III water to be stored. From this additional storage of Section III water, the 35% charge was used to fill the Transit Loss Account and refill it, this account, a number of times as required by use of the Transit Loss Account to support the Kansas Section II delivery that occurred

in 2019. So from May through August, approximately 5,297 Acre Feet were added to the Transit Loss Account from the storage charge on Amity's Great Plains water right, and that helped with the Kansas delivery to the Stateline in 2019.

The Offset Account received approximately 12,398 Acre Feet through either inflows or transfers. Rachel Zancanella is going to talk a little bit about, in a little more detail, in her presentation coming up. Kansas called for a release of water from the Offset Account totaling approximately 9,685 Acre Feet.

The Permanent Pool had a slight decrease across the Compact Year of 623 Acre Feet. However, the Highland Canal water right did replenish evaporation from the account totaling 1,336 Acre Feet; again, a huge benefit by having that source of water. The Permanent Pool would have dropped below 6,000 Acre Feet without it.

Kansas relied heavily on the use of Section II water during 2019, releasing 62,960 Acre Feet and, again, there was no delivery -- delivery deficit on that release because of the ability to use the transit loss to help alleviate losses, but also, as Kevin Salter mentioned in a committee meeting

yesterday, the delivery was pretty steady.

Colorado ditches relied on more native supplies in priority diversions because of the good snow- -- snowmelt runoff that occurred as illustrated from the presentations by USGS and the Corps. Colorado ditches utilized approximately 29,515 Acre Feet of Section II water in 2019.

The Corps of Engineers, I mentioned this briefly earlier, but it did just a great job on -- on the work that they did below John Martin. Very communicative with us. We were able to have update conference calls throughout that entire period and, again, that -- that is a good example of a federal agency who really tried hard to make sure that they did what they had to do to do their job well, but recognized the extreme importance of this resource to the -- the two states involved that use the water.

At the end of the Compact Year, the content in John Martin Reservoir county content was 70,003 Acre Feet. A new elevation area capacity survey was implemented just to staff for that fact, and Kevin and -- Kevin primarily gave a presentation on that methodology yesterday. That resulted in a slight increase in the accounting contents because of the

accuracy of this elevation survey that was last done by the Corps.

And finally, with respect to Trinidad Reservoir, thanks to Chris Gnau from the Bureau, I don't miss my assignment that I should report each year on the amount of water that was used to replace evaporation for the permanent fishery pool in Trinidad Reservoir under one of our agreements, and 338 Acre Feet of water was employed to partially offset the 951 Acre Feet of evaporation from the larger Permanent Pool in -- in Trinidad that exists there. Also, as we heard yesterday, Trinidad Reservoir also implemented a new area capacity table on November 1st, which also resulted in an increase in the accounting content for the accounts in the reservoir at that time.

That concludes my report. I would be glad to answer any questions.

MR. RIZZUTO: Okay. Questions? Okay, Bill. Thank you.

Next, Assistant Operations Secretary report, Kevin Salter.

MR. SALTER: A bit of housekeeping to kind of my role for the meeting. Did you want to go ahead and make the abbreviated version of the

Operations Secretary's report part of the minutes as an exhibit?

MR. RIZZUTO: We can do that. That would be Exhibit J; am I correct? I'm looking at Rachel to make sure I'm on. Okay.

MR. SALTER: So I will kind of continue with the break from doing my report. Kind of looking back at some of the history and I want to make sure to welcome everybody to the 71st Annual Meeting of ARCA. The first one was held in Lamar in May of 1940- -- or December of 1949, a year after the Compact was signed by those people in the state and the federal representative that negotiated the Compact.

So the Compact was signed December, 1948. It was sent to both legislatures and was adopted in Kansas and Colorado and then, finally, Congress adopted it in May, 1949. So we're into the 70th year of the Compact as it was adopted in May, 1949, by Congress.

I also want to note that this is the first meeting in which we're meeting in a room named after the federal chair, so -- and then the other thing, Steve Kastner mentioned Thelma Lujan, her 32 years at the Purgatoire River Water Conservancy District.

As long as I've been involved in the Ark River Basin, Thelma has been a steady source of information. It was neat to hear her talk about how she started and that when she first started, she didn't know what a CFS was, and then the importance of converting from CFS to Acre Feet, and I think at the end of those -- end of 32 years, she really understands that importance.

It's kind of one of those things you kind of think back about, too, that there's a lot of other people than those people sitting in the room that make this basin work, as far as the water goes. That goes from the water users that are putting it to use, both in Kansas and Colorado, to the ditch riders who make sure that those waters get distributed amongst those water users, to the ditch secretaries that keep track of the ditch operations, and you just kind of keep moving up the lines and those folks, so those are people that we should probably think to recognize from time to time.

Both Bill Tyner and I presented detailed written reports to the Operations Committee. We kind of didn't go into much detail yesterday, but a little bit more detail than we would go into today. Again, it is nice that Bill thanked all those

people, and I have to reiterate some of those thanks to the Division 2 staff. If you look at the Division 2 staff, there's all those folks there, and then on the ground in Kansas, right now we just have Rachel and myself, so without the help of Division 2 in working through some of those issues, it would be difficult for us to kind of stay on top of some of those things. And as Bill noted, a lot of times, Phil Reynolds, John Van Oort and myself and Rachel can kind of take and work through some issues and get those things resolved before they become a real issue that we'd have to bring maybe before this Compact Administration.

One of the things we did last year is at an April meeting, we invited some other agency folks, and I think that would be a good thing to continue moving along with.

I'll echo Bill's thanks to the Corps and their work with the stilling basin, and also even with the Elevation-Area-Capacity Table, because there had to be some communication back and forth as far as the implementation of that area capacity table, and then when we look to the future, we'll have to look at some of that same cooperation.

One of the things that we heard from water

users, some very specific particular water users, was the way that we were reallocating reductions in storage and reservoirs wasn't very fair because it would happen usually November 1st, and only those people that had water November 1st got hit, so that started a chain of communication between the states and how we might be able to do this better.

Brent Campbell that used to work for my office started a spreadsheet that worked on this reallocation method that we used this year, and that was picked up and followed on by Rachel Duran that actually did the implementation that we employed in John Martin Reservoir on November 1st. So, again, thanks to those staff and the staff of Division 2 to make sure that, you know, we were doing things right and we kind of came down to the -- the right number.

I just put this graph up here, again, just to kind of give you a visual of what Bill Tyner talked about that, you know, that is the graph of John Martin Reservoir, bounded by the top dark line. Then it's the individual accounts in the reservoir, so that dark blue at the very bottom, that is Compact conservation storage, so we only had Compact conservation storage during the winter storage season, until it was exhausted in the summer season.

You can see the next account up, the red, dark red, that is the Colorado division. That's Colorado District 67 ditch accounts, and that didn't change a whole lot, but they still divert quite a bit of water, but that was just because of the native flows that were available to them.

On the Kansas side, we weren't quite so lucky with those native flows, because that light green is the Kansas Section II account, and we brought that account down to 49 Acre Foot when we (inaudible) our release.

Then we have the other accounts that are listed above that, including the very kind of turquoise color at the very top of the Permanent Pool. So, again, I think it's hard to kind of judge my numbers, but I like the graph to kind of see what's actually happening within the reservoir.

I've also time to look at a graph. Go to the next one. Thanks, Bill. This is the Kansas release. We did get some of the benefit of those native flows, because that orange line there represents the Stateline flow. The dark blue, maybe looking a little purple line, that's the kind of delivery envelope that Colorado and Kansas agreed to that needed delivery needed to be made in, and you

can see that the delivery was above the release a lot of the time.

It was very helpful this year that we didn't have to stop and start releases due to precipitation events. On the other side of it is we didn't have precipitation events to stop and start releases on, so we did call our release in its entirety between the middle of June and the first part of September.

I think there's some work for us to do in this upcoming Compact Year and I think both states will kind of rise to those challenges of getting those done, but that is my brief report to the Administration today.

MR. RIZZUTO: Questions for Kevin? None? Kevin, thank you. That will be Exhibit K. Offset Account Report, Rachel.

MS. ZANCANELLA: Good morning. Thank you, Chairman Rizzuto. My name is Rachel Zancanella, Division 2 Assistant Division Engineer for the Colorado Division of Water Resources.

This is the summary of the Offset Account Report for 2018-19. Inflows to John Martin Reservoir's Offset Account were 11,619.06 Acre Feet. Transfers in, 793.77 Acre Feet. Transfers out, 93.07 Acre Feet. Releases for one release for

Kansas was 9,665.51 Acre Feet, and evaporation losses were 2,625.86 Acre Feet. The Stateline consumptive use credit was 8,063 Acre Feet. If you would, Kevin, switch to the second slide.

To follow up on comments from Bill's prior report, again, on February 14th, a long-term permanent supply for the off- -- for the Permanent Pool was resolved and operated this year. That included a delivery from the Highland Canal of 1,336 Acre Feet, and that's all I have. Thank you.

MR. RIZZUTO: Okay. Questions for Rachel? None? Her report will be Exhibit L.

Next, Offset Account Review, Joint Report of the States, 2012 through 2016, Bill Tyner and Kevin Salter. Let's see. Kevin.

MR. SALTER: I guess I'm -- I'm closest to the mic. This is a report that was actually supposed to be made to the Administration in 2017, if I remember right, Bill, and because of things, staff changes and that, we didn't get that done. We had some staff that had a good start on it; we could just never get it quite to the finish line. Rachel Duran did a real good job of pushing us this year and we're really, really close in getting it done. I think Bill said that he's got some numbers that

he's reviewing now to make sure that those tables are correct, that we get the right numbers in the report, so I would hope that the next opportunity, we ought to be able to present that report to the Administration.

One of the things that both Bill and I kind of would like to see is get a report done and they need to have a little time to review it and come up with some good recommendations on the Offset Accountings Operations moving forward. So we don't have the report for you again this year, but we hope to have one to you soon.

MR. RIZZUTO: We've been holding our breath. So next year?

MR. SALTER: We hope.

MR. RIZZUTO: Thank you. Okay. Report and Recommendations, Lane.

MR. MALONE: Lane Malone, ARCA rep. I'd like to introduce our new rep from Kansas that I work with will be Troy Dumler, and he's taking Hal Scheuerman's place, and Hal is here and appreciate all he's done for us. Wish him luck in what he's going to go on with.

I'm just going to give a brief summary of our meeting. We received the Compact report from the

Operations Secretary, Bill Tyner, and Assistant Secretary, Kevin Salter. The committee received the 2019 report of the Offset Account from Rachel, and she already -- she also provided us with an update on the implementation of the Irrigation Improvement Rules.

We heard from Steve Kastner. He kind of gave us some updates on the Trinidad Reservoir, discussions on the capacity space, the Joint Use Pool, and about the sediment accumulation in the reservoir on a real-time basis.

There was a -- there was a discussion on a potential meeting with the Operations Committee in April to go over some of the remaining issues on the -- the water matrix, that we want to try to get some of them cleared up. Then the committee deferred to 2019 Operations Secretary board to the Special Engineering Committee to work -- to work towards resolution of issues that are holding up the unapproved Operations Secretary's reports. I guess that's all I have.

MR. RIZZUTO: Questions of Lane? If I'm correct, all of the reports, after we go through them, can be incorporated into one exhibit, so we'll move on now to Administrative and Legal Committee.

First thing, I would call on Stephanie Gonzales, Recording Secretary and treasury report, or treasurer's report.

And one thing I neglected to say, on the Offset Account Report given by Rachel, that would be Exhibit L.

MS. GONZALES: Okay. Thank you, Mr. Chairman. I, too, would like to thank you for hosting this meeting. This facility is very nice and rightly named after you.

MR. RIZZUTO: I had to pay for it, though, so any contributions, I would accept. No.

MS. GONZALES: So, very quickly, I would like to thank you for your words earlier. It's been a pleasure working with the Compact. I guess I hadn't really paid attention to how long it's been. Time flies when you're having fun, so I do appreciate coming to this meeting and being a part of it. But I also would like to thank Rachel and Kevin, who are really the brains behind agendas and notices, and their work to get this meeting prepared is tremendous, so I appreciate you both.

To summarize my presentation yesterday, the audit was completed, financials have been submitted, and they were prepared by Ron Farmer, R. Farmer,

LLC, with a report of no findings. I will sign the engagement letter and return that to Mr. Farmer's office. Next year's fee is proposed at the same rate, so we will go forward with that.

The 2019 and 20 -- 2019-2020 state assessments will be sent out tomorrow with the amendments for the fiscal year as discussed yesterday, and the U.S. joint funding agreements for both states have been received and reviewed and will be signed upon approval of the Administration, and I do believe that's all I have to report.

MR. RIZZUTO: Okay. Any questions of Stephanie? None? Thank you.

MS. GONZALES: Thank you.

MR. RIZZUTO: Next, the report and recommendations, Administrative and Legal Committee, Rebecca Mitchell.

MS. MITCHELL: Thank you. This is the report from the Administrative and Legal Committee. Just briefly summarizing our committee meeting yesterday, first off, Rachel from the Kansas Division of Water Resources provided an update on the status of the transcripts and -- and the meeting summary from the February, 2019 special meeting. Meeting transcripts for '98, '99, 2017 and 2018 are

ready for ARCA approval, which we can talk about that in the recommendations.

Also, Andrew Rickert provided an update on the status of the ARCA Annual Reports. The 1997 template is going to be provided to the Legal and Admin Committee here soon and we'll use it as we move forward in all the annual reports.

Again, Rachel Duran provided an update on the ARCA website platform and -- and discussed the cost and the addition of a malware add-on, and then Stephanie went over some of the things, the auditor's report and then a treasurer's report, which she just briefly discussed here, but also, Stephanie went over the USGS cooperative agreements.

There was some discussion of changes in the Colorado USGS cooperative agreements, a/k/a the joint funding agreement, regarding the removal of Big Sandy crest gage and the addition of a water quality gage just below John Martin Reservoir.

Also, Andrew Rickert went over the highlights of the fiscal year of 2021 budget and two resolutions were put before the committee: The first one entitled Honoring Hal Scheuerman, and the second regarding the Special Engineering Committee.

We also went over the nomination of ARCA

officers and committee chair appointments and those were done through that committee, and then there was, lastly, a discussion on our meeting dates for the 2020 ARCA Annual Meeting, and as well as the possible Admin and Legal Committee meeting sometime in early 2020 to review the templates, and that is the report from the committee.

Can I move on to recommendations?

MR. RIZZUTO: (Nods head affirmatively.)

MS. MITCHELL: Okay. The first recommendation that I would move would be to recommend the approval of the 1998, 2017, 2018 Annual Meeting minutes, and the 2019 special meeting summary.

MR. RIZZUTO: Is that a motion? Is there a second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Passed. Next.

MS. MITCHELL: The next recommendation from the committee was to recommend the approval of

fiscal year 2018-2019 auditor's report. I recommend signing the engagement letter for the auditor's services.

MR. RIZZUTO: Motion has been made. Second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Second by Randy. Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Passes.

MS. MITCHELL: The third recommendation was a recommendation that Stephanie Gonzales be directed to sign the Colorado and Kansas USGS joint funding agreements. The Colorado joint funding agreement to be signed would remove the Big Sandy crest-stage gage and add the water quality gage below John Martin Reservoir.

MR. RIZZUTO: A motion. Is there a second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Second by Randy. Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Passes.

MS. MITCHELL: The fourth was a recommend -- to recommend the adoption of fiscal year 2020-2021 budget and assessment. That would include the new Colorado USGS joint funding agreement amounts, as well as an adjustment to the ARCA Recording Secretary and Treasurer's compensation in the amount of 250 per position.

MR. RIZZUTO: That is a motion. Second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Randy seconds. Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Passes.

MS. MITCHELL: Thank you, Stephanie. The fifth was to recommend adoption of a resolution titled Honoring Hal Scheuerman. I think we have to read that into the record.

MR. RIZZUTO: We do. And I think is Troy going to do that? Okay.

MR. DUMLER: Rachel, they're going to

make me do this because I'm the new guy, but it's actually a privilege to read this resolution for Hal Scheuerman. I'm taking over Hal's position here as a member of the Compact, and so the resolution states:

Whereas, Hal Scheuerman, farmer and life-long resident of the Deerfield, Kansas area, has served on the Arkansas River Compact Administration as a representative of the state of Kansas and the water users of the Arkansas River Valley in Kansas from 2015 through 2018;

Whereas, he faithfully performed his duties and represented the interests of the State of Kansas; and

Whereas, his service to the Arkansas River Compact Administration has been greatly appreciated; and

Now therefore, be it resolved by the Arkansas River Compact Administration that it hereby acknowledges with gratitude the dedicated service of Hal Scheuerman to the Administration and expresses its appreciation to him for his dedication.

Be it further resolved that the Administration honor Mr. Scheuerman's service by including this resolution and appropriate dedicatory remarks in the

Administration's annual report for 2019 and hereby instructs the Recording Secretary to provide a copy of this resolution to Mr. Scheuerman and the Governor of Kansas.

Adopted by the Arkansas River Compact Administration at its 2019 Annual Meeting on December 5th, 2019, held in La Junta, Colorado.

MR. RIZZUTO: Okay. Thank you, Troy, and that will be entered as Resolution 2019-02 and, at this time, Hal, we made you wait until the end of the meeting. Hopefully, you appreciate that, but please come up. Let's all give Hal a hand for his service.

(Applause)

MR. RIZZUTO: Okay. And I'll let the Kansas delegation present that to Hal and even give Hal a minute or two to say anything he'd like to.

MR. SCHEUERMAN: Can everybody hear me? I haven't been on here very long. There's a lot of people spent a lot more time here than I have. I've been active in water issues ever since I was a little kid, been a lot of discussion around the kitchen table for years about water. So, anyway, I just wanted to thank everybody for the opportunity to do this. Not everybody can say that they've

worked with Mr. Barfield, Mr. Tyner, and not to forget, Mr. Witte, so thank you.

MR. RIZZUTO: Thanks, Hal. Okay. Anything else?

MR. HAYZLETT: Need a second on that?

MR. RIZZUTO: Okay. Motion to move the resolution for Hal.

MR. HAYZLETT: So move.

MR. RIZZUTO: Second?

MS. MITCHELL: Second it.

MR. RIZZUTO: Discussion? All in favor? Or I'm sorry. How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Okay. Adopted.

MS. MITCHELL: We also recommend an adoption of a resolution titled Regarding the Special Engineering Committee for 2020 and 2021, that this resolution extends the term of the committee for two full years. It would be set to expire on December 31st, 2021.

Just as a reminder, they -- the Special Engineering Committee prioritized subjects such as dedicated discussion on flood and spill issues,

winter inflow split, Colorado Multipurpose Account Pilot Project, and determine which issues must be resolved to begin their approval process of past Operations Secretary Reports.

That is the focus of the Special Engineering Committee. I don't believe I need to read this whole resolution into the record, but we do have a copy of it.

MR. RIZZUTO: Okay.

MS. MITCHELL: And I would move the adoption of the resolution titled The Special Engineering Committee for 2020 and 2021.

MR. RIZZUTO: Okay. Second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Okay. That will be denoted as Resolution 2019-03. Okay.

MS. MITCHELL: We have a couple. Just the slate of officers. Sorry. A few other things came out of the legal and admin- -- Admin and Legal Committee. We recommended the following slate of

officers for 2020: The Vice-Chair being Randy Hayzlett; Recording Secretary and Treasurer, Stephanie Gonzales; Operations Secretary, Bill Tyner; and Assistant Operations Secretary, Kevin Salter. I don't believe we need a motion for that.

We also recommended the following slate for committee chairs: Admin and Legal would be Randy Hayzlett as chair. I would serve as a member. Operations would be Troy Dumler as the chair, with Lane Malone as a member. The Engineering Committee would be Scott Brazil as chair and David Barfield as a member. I don't believe we need a motion for that, also.

We have -- hold on. Keep going. We're going to keep going.

MR. RIZZUTO: Okay.

MS. MITCHELL: We also had a recommended dates of December 8th for committee meetings and December 9th, 2020, for the annual meetings. Both meetings would be held in Lamar, Colorado. I would move that.

MR. RIZZUTO: Okay. Second?

MR. HAYZLETT: Second.

MR. RIZZUTO: Second. Discussion? How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: Okay. Passes. Okay.

MR. SALTER: And I need to go back. This is Kevin. I would go back to the slate of officers and I would suggest that the Administration go ahead and elect those officers.

UNIDENTIFIED SPEAKER: You want a motion for that?

MR. RIZZUTO: Okay. So motion to select or name the officers. Is there a motion, as presented?

MR. HAYZLETT: So move.

MS. MITCHELL: Seconded.

MR. RIZZUTO: I thought we were going to have to table it. Okay. Discussion? Hearing none, how does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Okay. Passes. Okay. The committee reports, we probably need to adopt that and then make an exhibit as one; is that correct? Okay. So I would need a motion for the adoption of

the committee reports.

MR. HAYZLETT: So move.

MR. RIZZUTO: Okay.

MS. MITCHELL: Second.

MR. RIZZUTO: Discussion? How does Colorado vote?

MS. MITCHELL: Aye.

MR. RIZZUTO: How does Kansas vote?

MR. HAYZLETT: Aye.

MR. RIZZUTO: Passes. That would be Exhibit M. Okay. And then we have auditor's report, USGS joint funding agreements and budgets to adopt as exhibits. Am I correct?

MS. DURAN: Generally, yeah.

MR. RIZZUTO: Generally? Okay. So auditor's report would be N, USGS joint funding agreement would be O, and budgets would be P. Does that make sense?

Okay. And then I have one other exhibit. Earlier, I mentioned the appointment of Troy and Randy from Kansas and Lane from Colorado, by the governor, to be a part of the Administration. I believe we need to make that an exhibit in the report, so unless there's any concern, that would be Q as an exhibit.

Okay. All right. Next we move to new business. Is there any new business to come before the Administration today?

MR. BARFIELD: I'd like to make just a comment --

MR. RIZZUTO: Okay.

MR. BARFIELD: -- since this is the last chance. I just -- Bill Tyner made some remarks. I just want to acknowledge those kind remarks and really concur with just his -- his statements about just the cooperative work, and it's -- it's been a challenge. You know, everything in the Ark River is complicated and difficult and takes time to work through but, again, I believe that work has been gratifying and I think a benefit to the states and certainly not done yet, and there's been a lot of thanks to -- to various people, and I certainly concur and agree with the people that are on the Kansas side have been part of reaching those agreements have been more than, obviously, just me.

Randy's been very active with the committee over the years and, obviously, staff in Garden City and Chris Beightel, program manager in Manhattan, and Kenny Titus here. You know, just like to thank -- thank them as well for their -- their

contributions, so thank you.

MR. RIZZUTO: Thank you, David. Any other new business or anything from board members?

Time for public comment. If there's any public comment, this is your opportunity.

Okay. The last thing on the agenda is a motion to adjourn. Before we do, I want to thank everyone who was in attendance, thank everyone who's responsible for putting this meeting together and the work that goes on throughout the course of the year that culminates here with the annual meeting. Thank everyone for meeting here in La Junta. We look forward to being in Lamar next year and, if I'm correct, the following year will be in Kansas.

So with that, I wish everyone the best of Christmas seasons and a happy New Year. Thank you. We are adjourned.

(Proceedings concluded at 11:38 a.m. Mountain Standard Time.)

STATE OF KANSAS)

COUNTY OF RENO)

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

Certified to on this 21st day of May, 2019.

_____
ADVANCED COURT REPORTING SERVICES
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Plevna, Kansas 67568
(620) 664-7230

ARCA 2019 ANNUAL MEETING
EXHIBITS/ATTACHMENTS TO MINUTES

Letter	Description	Offered By
A.	Attendance Sheet	Jim Rizzuto
B.	Adopted Agenda	Jim Rizzuto
C.	USGS Report	Jim Rizzuto
D.	USACE Report	Jim Rizzuto
E.	USBR Report	Jim Rizzuto
F.	SECWCD Report	Kevin Salter
G.	Ten-year Compact Compliance Accounting table (2009-2018)	Kelley Thompson
H.	Colorado's PDF (presumed depletion factor) Evaluation Report	Jim Rizzuto
I.	Kansas GMD House Resolution	Randy Hayzlett
J.	Operations Secretary Report (summary, full copy available electronically)	Kevin Salter
K.	Assistant Operations Secretary Report	Jim Rizzuto
L.	Offset Account Report (summary, full copy available electronically)	Jim Rizzuto
M.	Committee Reports	Jim Rizzuto
N.	Auditor's Report	Jim Rizzuto
O.	USGS Joint Funding Agreements	Jim Rizzuto
P.	ARCA Budgets	Jim Rizzuto
Q.	ARCA Representative Appointment Credentials	Jim Rizzuto

Exhibit A

Annual Meeting

December 5, 2019

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING

Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
[illegible] cha[illegible] [illegible]ber	[illegible]wer Arkansas Valley [illegible] [illegible]rvancy District	801 Swink A[illegible]E Rocky Ford, CO 810[illegible]	719-254-5115	[illegible]awebe[illegible]@lowerav[illegible] com
Amber [illegible]	[illegible]itch & Reservoir Company Alliance (DARCA)	PO Box 68 McC[illegible] CO 81057	719 688 9941	darcaconference@gmail.com
[illegible]any Arnold	Colorado Division of Water Resources	310 E Abriendo Pueblo, CO 81004	719-542-3368	bethany.arnold@state.co.us
Philip Reynolds	Colo DWR	"	719-542-3343	philip.reynolds@state.co.us
Lane Malone	ARCA	33827 Rd [illegible] Holly, Colo.	719-940-0646	[illegible]
Randy Hayzlett	ARCA KS	1112 Rd T Lakin KS	620-271-4008 620 355-7064 F	hayzlett@pld.com
Troy Dumler	ARCA KS	PO Box 599 Garden City, KS 67846	620-276-3246	troy.dumler@sbcglobal.net
Bob Kimbrough	USGS	Denver, CO	303-236-6902	rakimbro@usgs.gov
Lori Lest	CDWR	310 E Abriendo Pueblo CO 81004	719 542 3368 2602	lori.lest@state.co.us
Amy Louise	USACE	2101 Jefferson Plaza ABQ NM 87109	505-342-3342	Amy.Louise@usace.army.mil

Exhibit A

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING

Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
IAN TRUAN	CORPS OF ENGINEERS	201 W. 8th St. Pueblo, CO 81003	719-250-5700 719-543-5490	Ian.a.truan@usace.army.mil
Roy VAUGHAN	Reclamation		719-561-9855	RVAUGHAN@USBR.GOV
David Engelhardt	KDA-DWR			david.engelhardt@ks.gov
Chris Beightel	KDA-DWR			
CHRIS GRAN	USBR	Loveland CO	970-461-5432	cgran@usbr.gov
Jeff Rieker	Reclamation	Loveland	970-461-5300	jrieker@usbr.gov
Hal Scheuerman	GMD3 KS	Deerfield, KS	620-260-6540	
Stanley Hines	Frontier Ditch	Goodland KS		
Rachel Zancanella	CDWR	Pueblo	719 542 3368	rachel.zancanella@state.co.us
STEVE KASTNER	PRWCD	TRINIDAD	719 242 7227	PRWCD2@YAHOO.COM

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Jack Goble	LAVWCD	801 Swink Ave R.F., CO		jgoble@lavwcd.com
Dan Steuer	CO Atty Genl			
Kelley Thompson	CO DWR	–		–
Rachel Duran	KS DWR	Garden City, KS	620-276-2901	Rachel.duran@KS.Gov
Krystal Brown	USGS	201 E 9th St Pueblo, CO 81003	719-562-2841	kbrown@usgs.gov
Nathan Sullivan	USGS	1204 Canterbury Hays, KS 67601	785-764-6266	nsulliva@usgs.gov
Ryan Gronewold	USACE			Ryan.P.Gronewold@usace.army.mil
Larry Caswell	USACE			larry.d.caswell@usace.army.mil
Kalsoum Abbasi	Colorado Springs Utilities		719-668-8758	kabbasi@csu.org
Israel Ortega	City of Aurora		(719)-568-7725	iortega@auroragov.org

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING

Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Kurt Wiard	KS AG			Kurtis.wiard@ag.ks.gov
Kim Falen	USACE	Trinidad, CO	719-946-7990	Kimberly.c.falen@usace.army.mil
Jay Winn	Lawyer	RF	469-8935	
Brandy Cole	KS DWR			
Jonathan Tague	USACE		719-336-3476	jonathan.b.tague@usace.army.mil
Bill W. Tyner	CO DWR		719-542-3368 x2110	bill.tyner@state.co.us
Terry Howard	Amity	Holly 204 S main	719-537-6621 SAME	amity super@gmail.com
Glenn Wilson	Amity		719-688-4997	glennaderes
Trevor Ahring	GMD 3	Garden City, KS	620-275-7147	trevora@gmd3.org
Marla Rude	GMD 3	Garden City, KS	620-275-7147	mrude@gmd3.org

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING

Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Nabil Shafik	US ACE	4101 Jefferson Plz Albuquerque, NM	505-342-3421	nabil.g.shafik@usace.army.mil
Rena Griggs	CPW	4355 Sinton Rd Co Spgs 80907		rena.griggs@state.co.us
Gregg Suhler	Dynamic Predictables	POB 1365 Columbia MO 65205-1365	573-815-0520 (E)	suhlerg@dynapred.com
Lonnie Spady	CDWR	La Junta	719 384 1000	lonnie.spady@state.co.us
Tony Anderson	NWS	3 Eaton Way Pueblo, CO 81001	719-948-9429	Tony.Anderson@noaa.gov
Jeanette Myers	Colo DWR			Jeanette.myers@state.co.us
LYNDEN GILL	LAVWCD	34705 CR 24 MCCLAVE, Co	719 688 1176	surecrop@centurytel.net
Kevin Salter				
Stephanie Gonzales	ARCA	PO Box 1106 Lamar CO 81052	719-688-0799	arca.co.ks@gmail.com
Bette McFarren	LJTD	5th + Colorado La Junta, CO	719-384-[illegible]	bmcfarren@ljtd-email.com

ATTENDANCE LIST

2019 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING

Friday, December 05, 2019, 8:30 A.M. (MST), La Junta, Colorado

NAME	REPRESENTING	ADDRESS	PHONE & FAX	EMAIL
Scott Brazil	ARCA	1896 38th Lane Pueblo	719-250-7113	SJBRAZIL@LIVE.COM
Connie Maxwell	PRWCD	359 E Main Trinidad		PRWCD@yahoo.com

Exhibit B

Annual Meeting

December 5, 2019

ARKANSAS RIVER COMPACT ADMINISTATION
2019 ANNUAL MEETING
Thursday, Dec. 5, 2019, 8:30 am (MST)

Otero Junior College, La Junta, CO
DRAFT AGENDA (subject to change)
Presiding: James Rizzuto, Chairman

Before the meeting comes to order, introduction of representatives and visitors

1. **Call to Order: Chairman, James Rizzuto**

2. **Review and revisions of agenda**

3. **Report of Chair and Vice-Chair** – James Rizzuto and Randy Hayzlett

4. **Reports of Federal Agencies**
   A. U.S. Geological Survey
   B. U.S. Army Corps of Engineers
   C. U.S. Bureau of Reclamation
   D. National Weather Service

5. **Reports from Local Water User and State Agencies**
   A. Purgatoire River Water Conservancy District
   B. Southeastern Colorado Water Conservancy District
   C. Lower Arkansas Valley Water Conservancy District
   D. Kansas Groundwater Management District #3

6. **Compact Compliance / Decree Issues Updates**
   A. Ten-year Compact Compliance Accounting table (2009-2018) – Joint Report of the States
   B. Colorado's PDF (presumed depletion factor) Evaluation

7. **Report of Special Engineering Committee**

8. **Report and Recommendations of Engineering Committee** – David Barfield

9. **Operations Committee**
   A. Operations Secretary Report – Bill Tyner
   B. Assistant Operations Secretary Report – Kevin Salter
   C. Offset Account Report – Rachel Zancanella
   D. Offset Account Review, Joint Report of the States (2012-2016) – Bill Tyner & Kevin Salter
   E. Report and Recommendations from December 4, 2019 meeting – Lane Malone

10. **Administrative & Legal Committee**
    A. Recording Secretary and Treasurer Report – Stephanie Gonzales

Exhibit B

B. Report and Recommendations from December 4, 2019 meeting – Rebecca Mitchell

11. New Business

12. Public Comment

13. Adjourn

Exhibit C

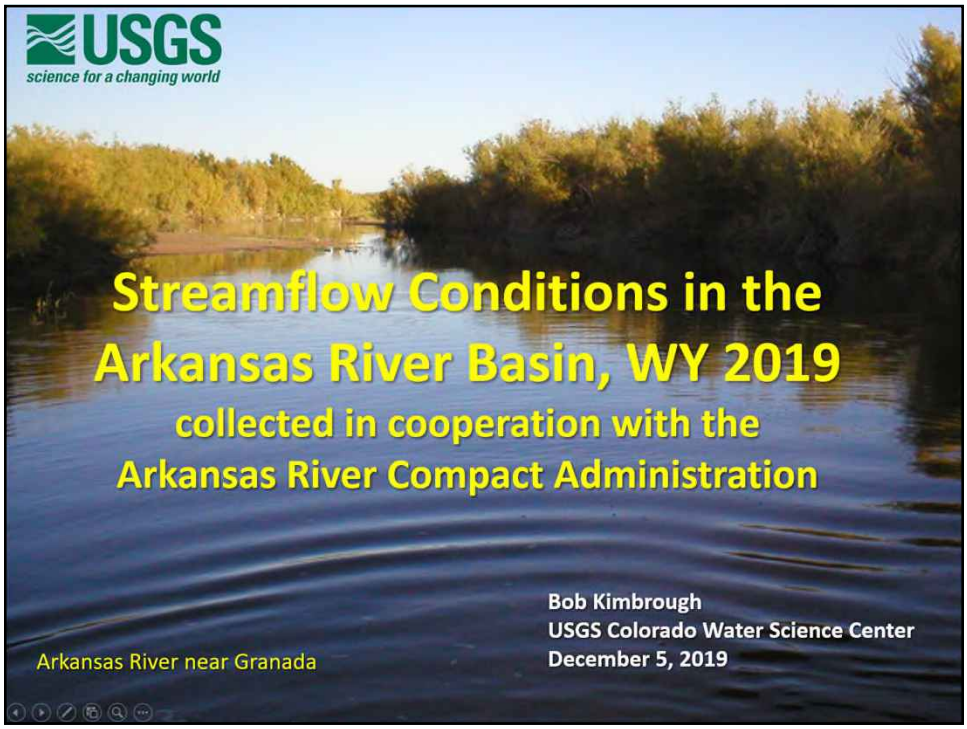
Annual Meeting

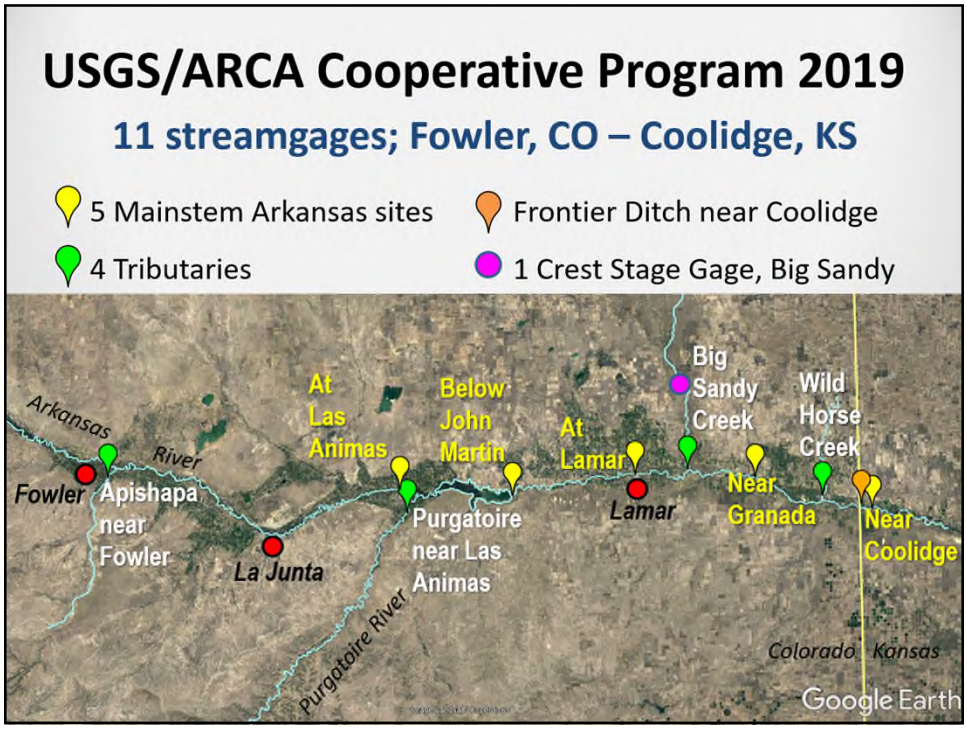
December 5, 2019

Summary of streamflow at USGS/ARCA stations
Water Year 2019 (Oct 1, 2018 - Sept 30, 2019)

Station Number	Station Name	Period of record included in the long-term average (water years)	WY2019 Annual total flow, in acre-feet	WY2018 Annual total flow, in acre-feet	2019 as % of 2018	2019 as % of long-term average
07119500	Apishapa River near Fowler	1923-25, 1940-2019	11,870	15,490	77%	67%
07124000	Arkansas River at Las Animas	1975-2019	200,000	102,200	196%	104%
07128500	Purgatoire River near Las Animas	1978-2019	25,050	39,750	63%	58%
07130500	Arkansas River below John Martin Reservoir	1949-2019	262,000	245,100	107%	129%
07133000	Arkansas River at Lamar	1949-55, 1960-2019	100,490	91,510	110%	124%
07134100	Big Sandy Creek near Lamar	1969-82, 1996-2019	13,250	15,420	86%	131%
	Base flow	1996-2019	10,790	11,670	92%	142%
	Above Base flow	1996-2019	2,460	3,750	66%	68%
07134180	Arkansas River near Granada	1982-2019	121,500	122,900	99%	103%
07134990	Wildhorse Cr. above Holly, October, April-Sept	2002-19	5,600	6,280	89%	154%
	April – September	2002-19	3,860	5,140	75%	139%
07137500	Arkansas River near Coolidge, KS	1951-2019	139,900	159,300	88%	95%
07137000	Frontier Ditch near Coolidge, KS	1951-2019	7,820	7,530	104%	91%

Exhibit C


USGS
science for a changing world
Streamflow Conditions in the Arkansas River Basin, WY 2019
collected in cooperation with the Arkansas River Compact Administration
Bob Kimbrough
USGS Colorado Water Science Center
December 5, 2019
Arkansas River near Granada


USGS/ARCA Cooperative Program 2019
11 streamgages; Fowler, CO – Coolidge, KS
5 Mainstem Arkansas sites
Frontier Ditch near Coolidge
4 Tributaries
1 Crest Stage Gage, Big Sandy
Arkansas River
Fowler
Apishapa near Fowler
La Junta
At Las Animas
Below John Martin
Purgatoire near Las Animas
Purgatoire River
At Lamar
Lamar
Big Sandy Creek
Near Granada
Wild Horse Creek
Near Coolidge
Colorado
Kansas
Google Earth

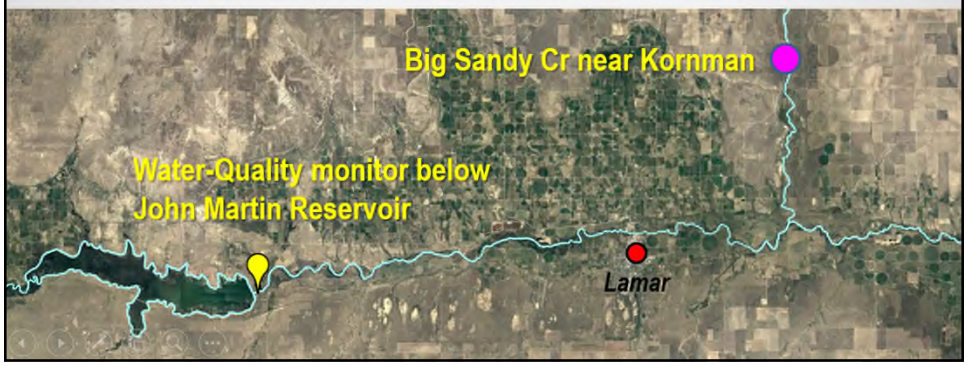
Proposed Changes for 2020

Discussed with Engineering and Administrative & Legal Committees on Dec 4, 2019

Discontinue – Crest Stage Gage, Big Sandy Cr near Kornman

Addition – Water Quality Monitor below John Martin Reservoir

- Water Temperature and Specific Conductance
- Continuous record since 1989



WY 2019 streamflow conditions

WY 2019 (Oct 1, 2018 – Sept 30, 2019)

Upstream of JMR – 2 sites

- Arkansas River at Las Animas, Purgatoire River

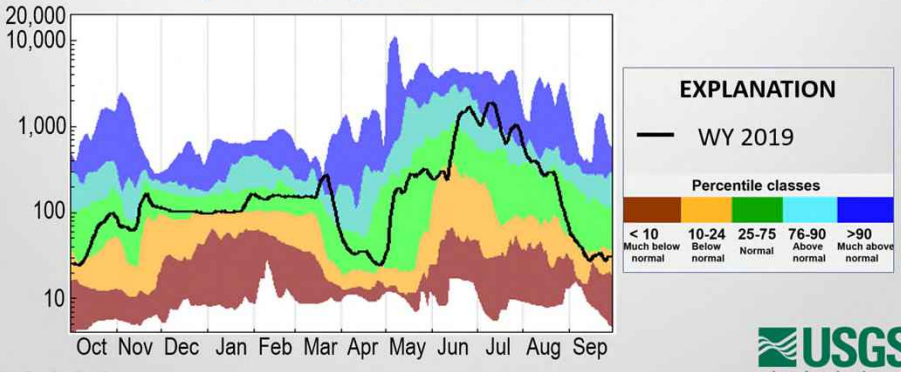
Downstream of JMR – 4 main stem sites

WY 2019 streamflow conditions

Arkansas River at Las Animas

200,000 Acre-Feet, 104% of average

7-day average flow, cubic feet per second



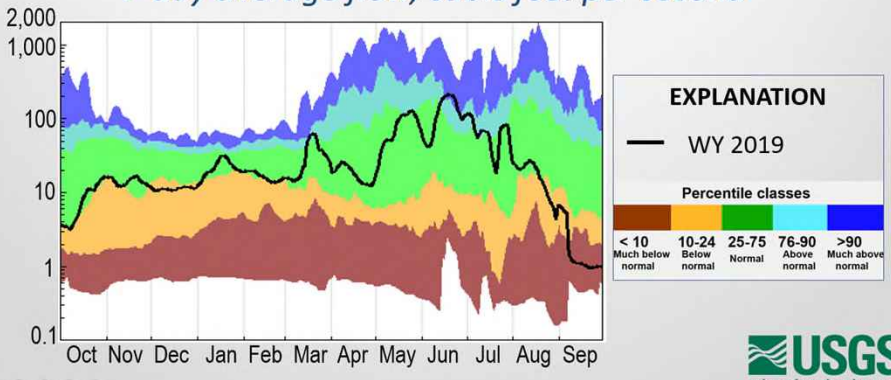
USGS science for a changing world

WY 2019 streamflow conditions

Purgatoire River near Las Animas

25,050 Acre-Feet, 58% of average

7-day average flow, cubic feet per second



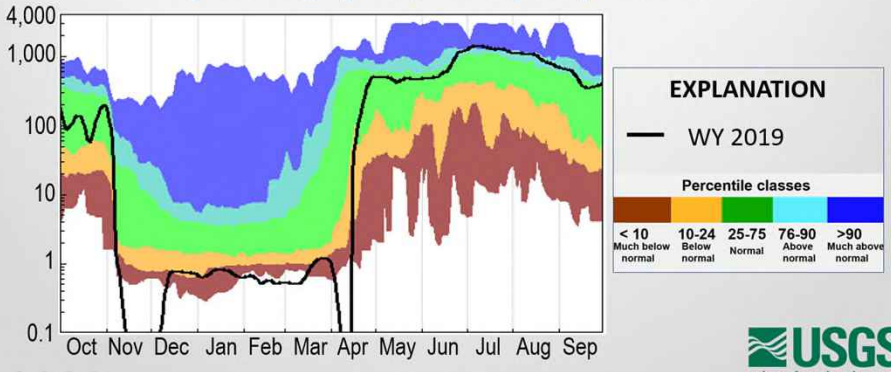
USGS science for a changing world

WY 2019 streamflow conditions

Arkansas River below John Martin Reservoir

262,000 Acre-Feet, 129% of average

7-day average flow, cubic feet per second



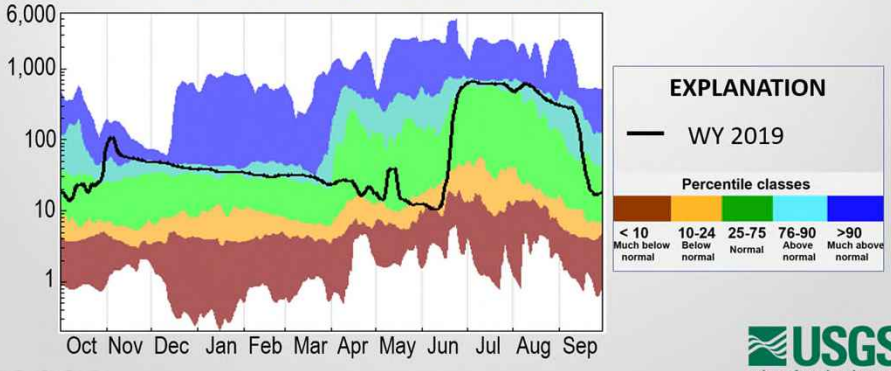
USGS science for a changing world

WY 2019 streamflow conditions

Arkansas River at Lamar

100,490 Acre-Feet, 124% of average

7-day average flow, cubic feet per second



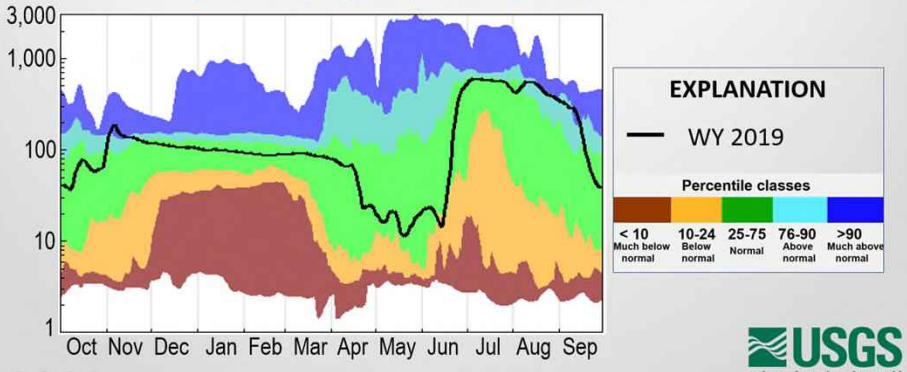
USGS science for a changing world

WY 2019 streamflow conditions

Arkansas River near Granada

121,500 Acre-Feet, 103% of average

7-day average flow, cubic feet per second



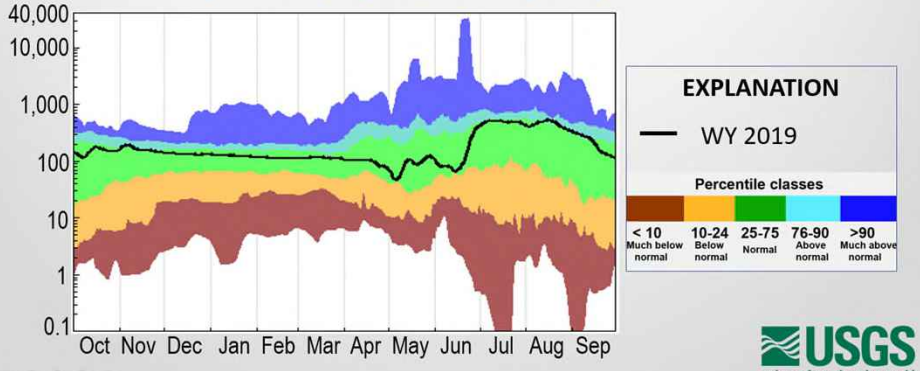
USGS science for a changing world

WY 2019 streamflow conditions

Arkansas River near Coolidge, KS

139,900 Acre-Feet, 95% of average

7-day average flow, cubic feet per second



USGS science for a changing world

WY 2019 streamflow conditions

Station	WY19 Annual Flow, in ac-ft	Percent of Average
Apishapa River near Fowler	11,870	67%
Big Sandy Creek near Lamar	13,250	131%
Wildhorse Cr. above Holly (Oct, Apr-Sept)	5,600	154%
Frontier Ditch near Coolidge	7,820	91%

USGS science for a changing world

Summary

- WY19 streamflow for the two major inflows to JMR was 104% of average in the Arkansas River at Las Animas and 58% in the Purgatoire River
- Downstream of JMR, mainstem flow at 4 sites decreased from 129% just below the reservoir to 95% at Coolidge, KS

USGS

Exhibit D

Annual Meeting

December 5, 2019

Arkansas River Basin

US Army Corps of Engineers®
Albuquerque District

2019 Water Management and Civil Works Activities

Exhibit D

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Contents

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1. General

During Water Year 2019 (1 November 2018 – 31 October 2019), activities of the U.S. Army Corps of Engineers (USACE), Albuquerque District, in the Arkansas River Basin consisted of water operations, operations and management, civil works, flood risk management, regulation under Section 404 of the Clean Water Act, and wildfire response and post fire flooding concerns.

2. Water Management Operations

In 2019, the Arkansas River Basin snowmelt runoff was above normal throughout the entire basin. As of May 1st, the basin wide snowpack was above average at 127% of median with the Upper Arkansas Basin reporting 137% of median and the Purgatoire River Basin reporting 205% of median.

Figure 1: Trinidad Lake, 2017. USACE photograph

a. Trinidad and John Martin Dam and Reservoir Elevation Area Capacity Tables

In an effort to update the elevation area capacity (EAC) tables for both John Martin Reservoir and Trinidad Lake, bathymetric surveys were conducted in 2017 and 2018, respectively. Due to the increased accuracies in terrain mapping provided by Multi-Beam Sonar (bathymetry) and LiDAR (2015 for Trinidad and 2016 for John Martin), higher values are consistently observed for perimeter, area, and volume summaries due to improved accounting. The new method establishes a baseline for future comparisons to more accurately measure sedimentation movements and volumes. The updated surveys shows there is no impact to the flood control capacity for both projects. The new EAC tables were implemented for both reservoirs on 1 November 2019.

Based on the information obtained from the 2017 bathymetry and 2016 LiDAR, 85,216 acre-feet of sediment has been deposited in John Martin Reservoir. The average annual deposition rate is approximately 1136 acre-feet per year. There have been 18 sediment surveys completed since 1944. There were two completed in the 1940s, six in the 1950s, three in the 1960s, 1972, two in 1980s, two in 1990s, 2009 and 2017.

Five sediment surveys have been completed since 1977 for Trinidad Reservoir. They were completed in 1986, 1994, 1997, 2009 and 2018. Based on sediment surveys, total accumulated sediment (1977 to 2018) is 6,733 acre-ft with an average rate of

about 164 acre-ft per year. Total reserved space for sediment in Trinidad Lake is 39,000 acre-feet.

b. Trinidad Dam and Reservoir

For Water Year 2019, elevation started at 6181.9 ft with storage of 18,780 acre-ft and ended at 6182.3 ft with storage of 19,058 acre-ft. Storage peaked at 25,374 acre-feet (elevation of 6190.7 ft) on 16 July 2019. The maximum daily inflow was 420 cfs on 2 July and the maximum daily release was 481 cfs on 26 June 2019. The total inflow for Trinidad Reservoir was 63,814 acre-ft and total outflow was 60,350 acre-ft. USACE did not operate for flood control at Trinidad Dam and Reservoir in 2019.

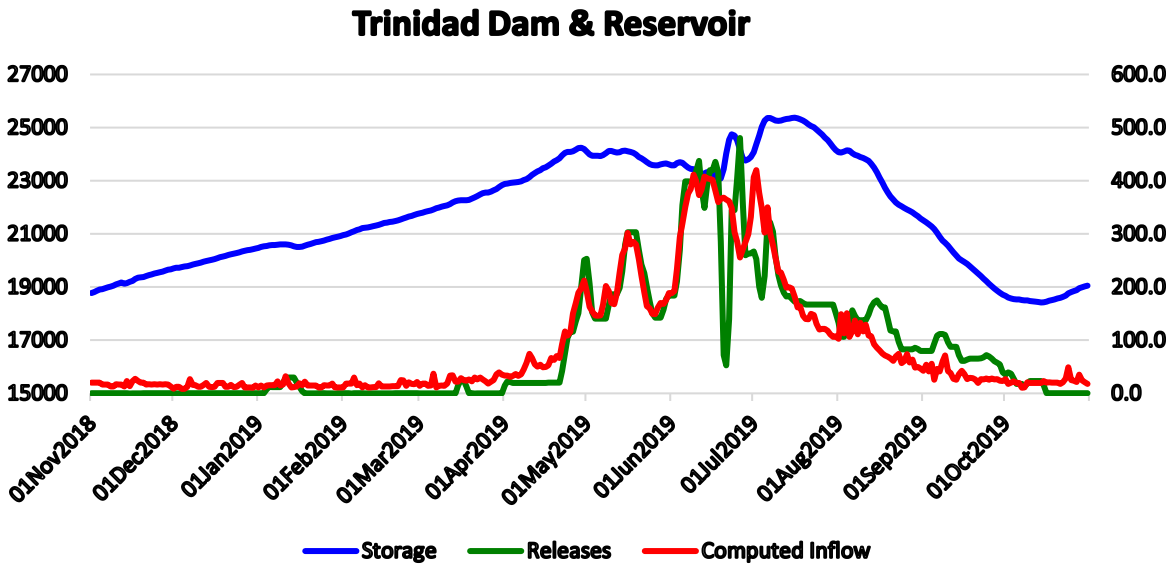


Figure 2: 2019 Trinidad Dam and Reservoir Water Operations

c. John Martin Dam and Reservoir

For Water Year 2019, elevation started at 3828.7 ft with storage of 133,126 acre-ft and ended at 3817.20 with storage of 70,389 acre-ft. Storage peaked at 176,951 acre-feet (elevation of 3,834.8 ft) on 14 April July 2019. The maximum daily inflow was 1,899 cfs on 21 June and the maximum daily release was 1,439 cfs on 2 July 2019. The total inflow for John Martin Reservoir was 231,980 acre-ft and total outflow was 260,385 acre-ft. USACE did not operate for flood control at John Martin Dam and Reservoir in 2019.

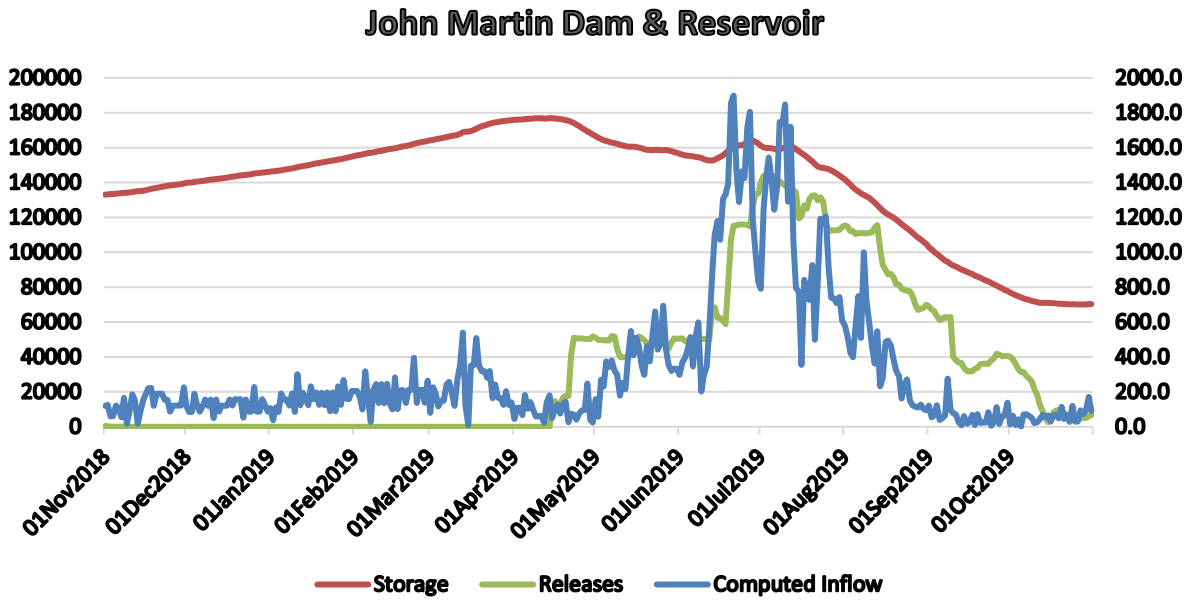


Figure 3: 2019 John Martin Dam and Reservoir Water Operations

On 15 August 2019, the John Martin Dam and Reservoir Tabletop Exercise was conducted in accordance with frequency requirements provided by ER 1110-2-1156 - every 2 years for John Martin Dam. The tabletop exercise provided a forum to communicate project risk to stake holders along the Arkansas River while a scenario allowed participants to practice actions to take in the event of an emergency at the dam. Emergency managers from Lamar, CO, Bent County, CO, Hamilton County, KS and Dodge City, KS attended the exercise. John Martin staff provided a tour of dam to stakeholders after the exercise.

Figure 4: Assessing downstream communities

Figure 5: USACE and Stakeholders coordinate flood procedures and coordination

3. Operations and Maintenance

a. Trinidad Dam and Reservoir

During 2019, several projects were completed at Trinidad Dam and Reservoir as described below:

a. New riprap was placed on the upstream face of the embankment where the original riprap had been degraded. The original riprap was not durable enough to withstand wave-action forces. This project placed a band of new, durable granite in the range where lake elevations were at the time of construction. Ultimately, the goal is to overlay the entire upstream face of the dam depending on funding and lake level.

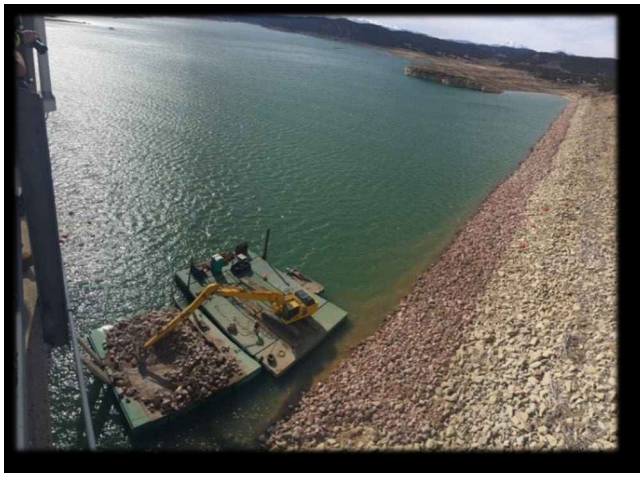


Figure 6: Barges and excavator being used to transport and place riprap on upstream slope.

b. A slope stabilization project was completed to protect banks adjacent to the south shore area from erosion during high lake elevations. The Project involved a considerable amount of earthwork. The slopes were reinforced with compacted earth material then covered with concrete matting which contains geotextile fabric. Disturbed areas, due to construction, were seeded with native mix.

Figure 7: flexible concrete matting used for slope stabilization adjacent to the south shore.

b. John Martin Dam and Reservoir

During 2019, operations and maintenance projects were completed at John Martin Dam and Reservoir as described below:

a. For the first time since dam construction was complete, the stilling basin was emptied and all accumulated sediment was removed. The total amount of removed sediment was approximately 55,000 cubic yards. The emptied stilling basin allowed for inspection of all baffle blocks, concrete, and over 2,000 drain holes. The baffle blocks were in exceptional condition. Some minor spalling on the concrete was repaired. All drain holes were found to be partially clogged and were cleaned. Proper functioning drain holes allow water pressure beneath the dam to be relieved and decreases the buoyant forces. The project was completed on time (27 March 2019) and did not impact the start of the irrigation season.

Figure 8: Stilling basin emptied, all sediment removed, and drain holes functioning properly.

Figure 9: Stilling basin being filled.

4. Civil Works

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 two active CAP projects in the Arkansas River Basin in 2019.

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.

Section 206

Section 206 of 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, however, two requests were received from the City of Colorado Springs in 2018. These projects remain in the request pending funding to start feasibility studies.

The requested projects occur along Spring Creek near Pikes Peak Avenue and at Shooks Run. The projects would result in restoration of stream and riparian structure and function to include habitat improvement, stabilized stream morphology and sediment management

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 has requested a new start Section 14 along North Douglas Creek located in the City of Colorado Springs, CO, immediately east of I-25 and west of the confluence with Monument Creek. The project would stabilize 1,100 linear feet of North Douglas Creek that severely eroded during 2013 and 2015 Flood Events and continues to erode with normal flow events. Erosion has damaged the major drainage culvert under I-25 and Sinton Road. If the erosion and bank failure continues, the roadway infrastructure could be damaged and impact the major north-south highway in Colorado.

A new start Section 14 project with the Fremont Sanitation District, Fremont County, was initiated in the summer of 2019. The objective of the project is to repair and prevent further erosion of the south bank of the Arkansas River to protect the District's wastewater main and the adjacent Canon City Area Recreation and Parks District recreation trail.

Figure 10: Erosion along south bank of Arkansas River in Fremont County.

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 2019.

5. 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. The USACE Levee Safety Program was authorized in WRDA 2007 and established by the National Levee Safety Act of 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 ICW/RP (PL8499). For 2019, no active projects in the ICW/RP were removed from the program based on inspection.

The National Levee Database (NLD) is used to track both USACE and Non-USACE levee system inventory and other flood risk management features. The NLD is viewable to the public through the following internet link; https://levees.sec.usace.army.mil/#/. The database contains pertinent information (length, height, crest width, etc.) concerning levee systems as well as flooding risk information for the systems. The database viewer uses both an interactive text search and graphical search functions to locate levee systems of interest.

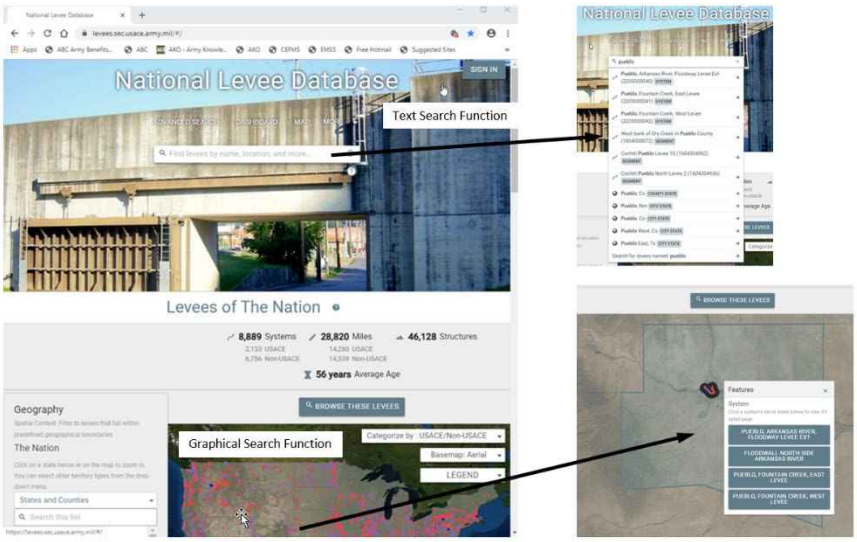


Figure 11: NLD Search Functions

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 2019 within the Arkansas River Basin.

6. Regulatory Program

The USACE has regulatory authority under Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States. The Albuquerque District, Southern Colorado Office (SCO) reviewed a total of 155 activities in the Arkansas River Basin during Water Year 2019, including 87 activities authorized under general (Regional or Nationwide) permits and 1 activity authorized under a Standard Individual Permit. General permits are activity-specific permits that are used to authorize projects that result in minimal adverse impacts on the aquatic environment. Standard Individual Permits are required for activities having more than minimal adverse impacts and/or for activities that do not meet the terms and conditions of a general permit.

Persons or agencies who are planning to conduct work in any waterway in the basin are advised to contact SCO at 201 W. 8th Street, Suite 350, Pueblo, Colorado 81003 or telephone 719-744-9119. Information, including all public notices, is also available on the USACE Albuquerque District web home page at: https://www.spa.usace.army.mil/Missions/Regulatory-Program-and-Permits/

7. 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.

Spring Creek Fire

The 2018 Spring Creek Fire burn scar (107,967 acres) is near the communities of La Veta, and Walsenburg in Huerfano County, CO. The burn scar created an unusual and imminent threat of flooding and debris flows. This fire created a burn scar 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. The Albuquerque District's Readiness and Contingency Operations Office (RCO) and Hydraulics and Hydrology (H&H) at the request from the Colorado Division of Homeland Security and Emergency Management (CDHSEM) provided technical assistance by performing hydrologic and hydraulic watershed modelling. The Albuquerque District's H&H group has completed the modeling and a report and briefing of the results was given to the CDHSEM and the Recovery Team. Based on the 100 Year Event model results, it is expected that approximately 7,240 cfs would be entering the town of Walsenburg from Cucharas River and approximately 10,650 cfs

would be entering town of La Veta from Middle Creek and Cucharas River. In addition the RCO and H&H provided sandbag training for the communities of La Veta and Walsenburg.

Figure 12: Spring Fire

Assistance can be obtained by contacting the U.S. Army Corps of Engineers, Albuquerque District, Readiness and Contingency Operations Office, 6200 Jefferson Street NE, Albuquerque, New Mexico 87109-3435 or telephone 505-342-3686 during our normal business hours between 7 am and 4 pm, weekdays.

Exhibit E

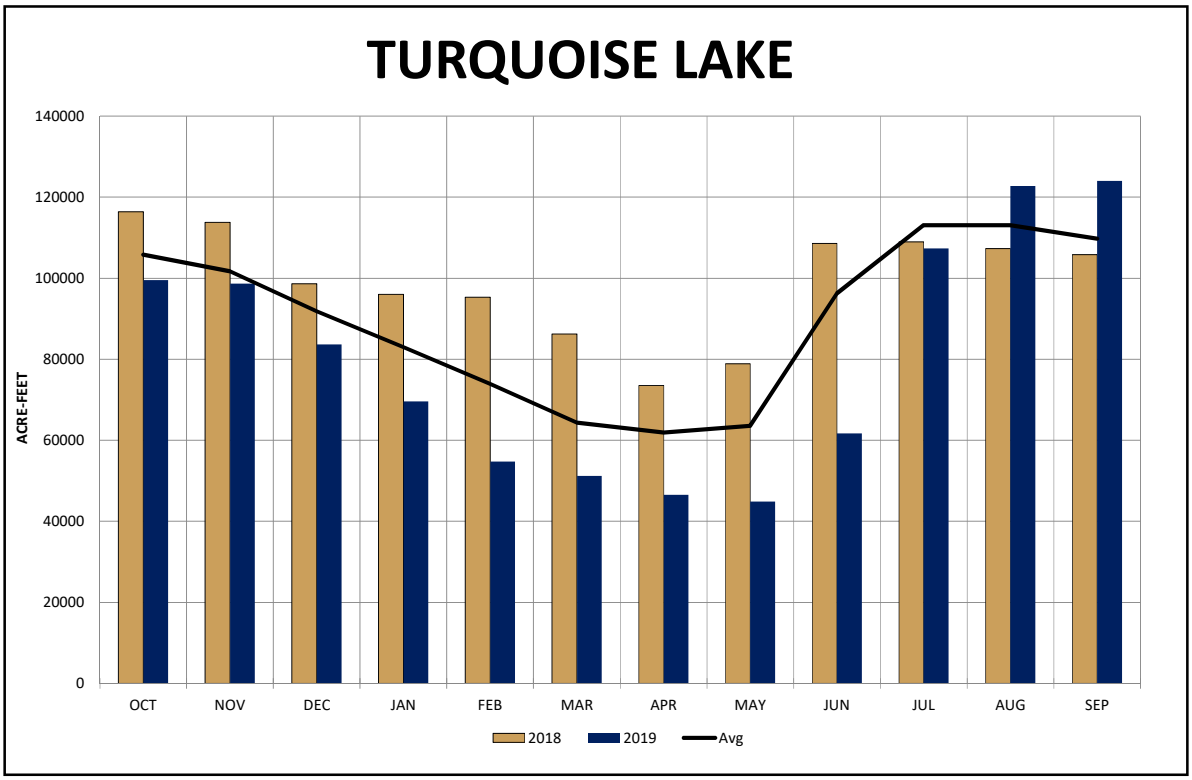
Annual Meeting

December 5, 2019

Fry-Ark Project 2019 Water Year

- The 2019 imports were 95,722 AF, the third highest on record. That is approximately 170% of our 40 year average.
- This is after 4 out of 5 years of above average imports.
- Snowpack in the collection system was a well above average for all of the winter with significant accumulations into May and snow still occurring in late June.
- The collection system opened May 3. Runoff peaked in June and continued into August.

Exhibit E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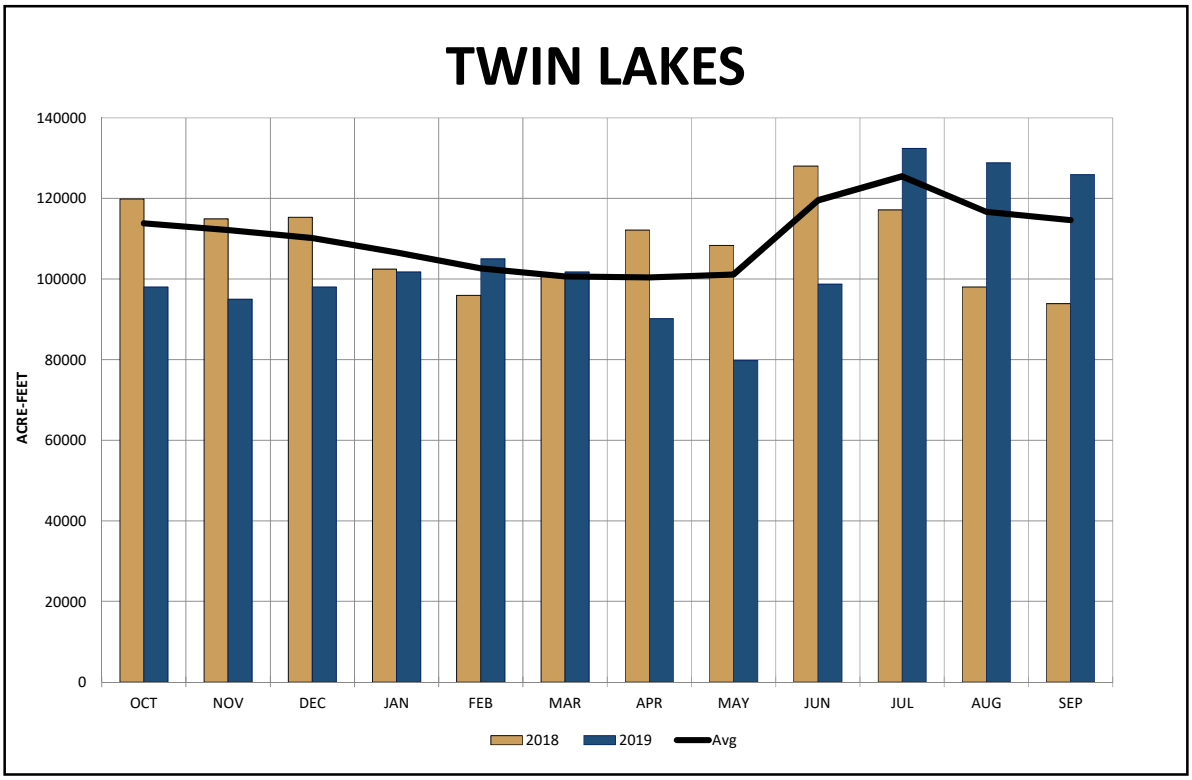
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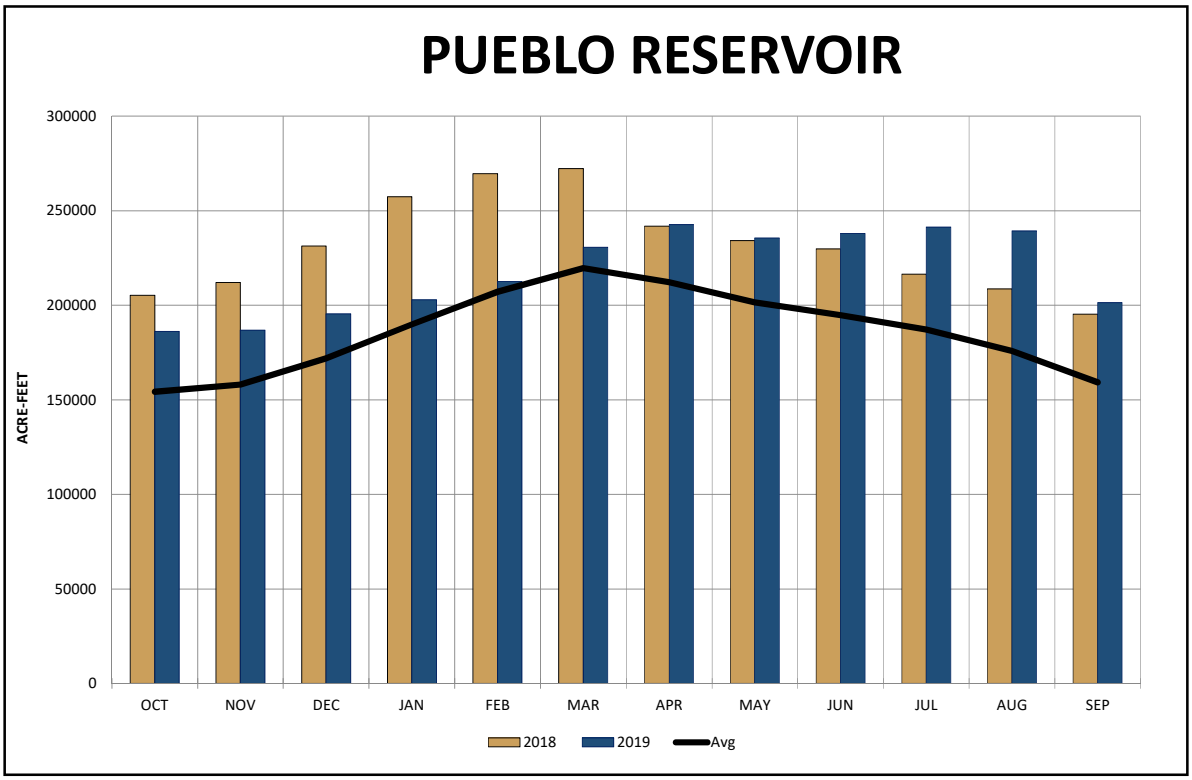
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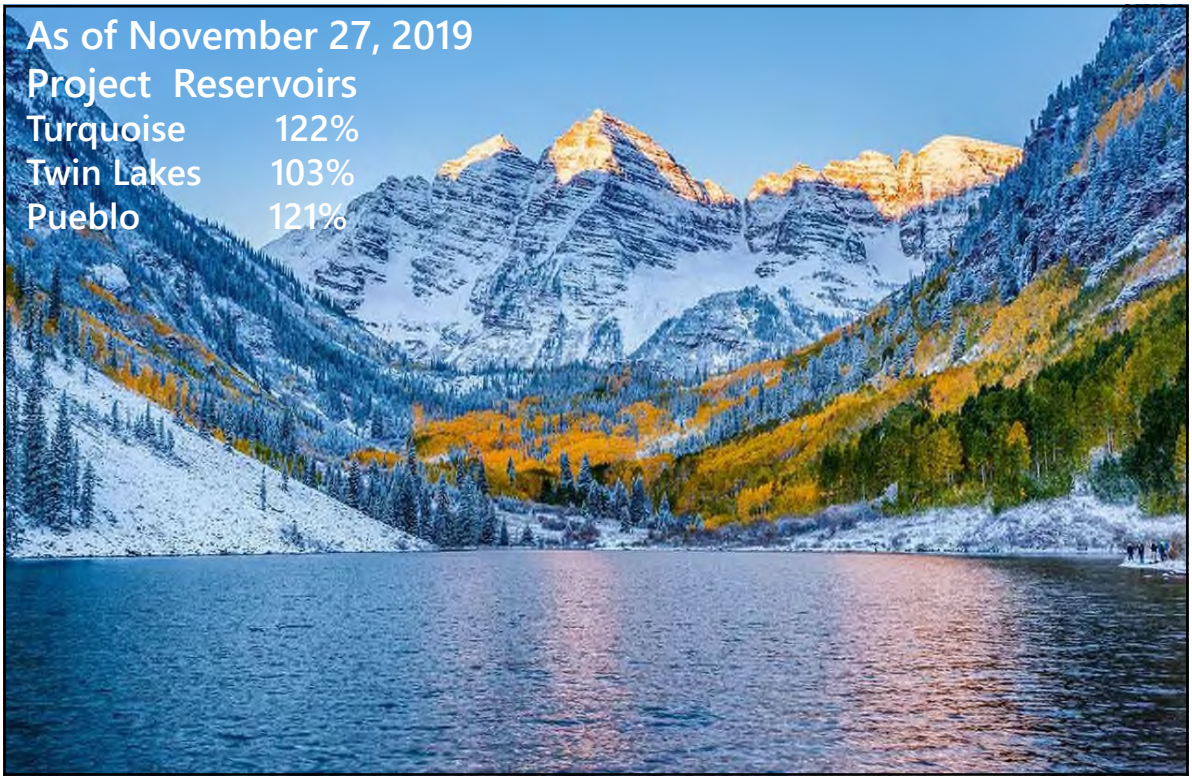
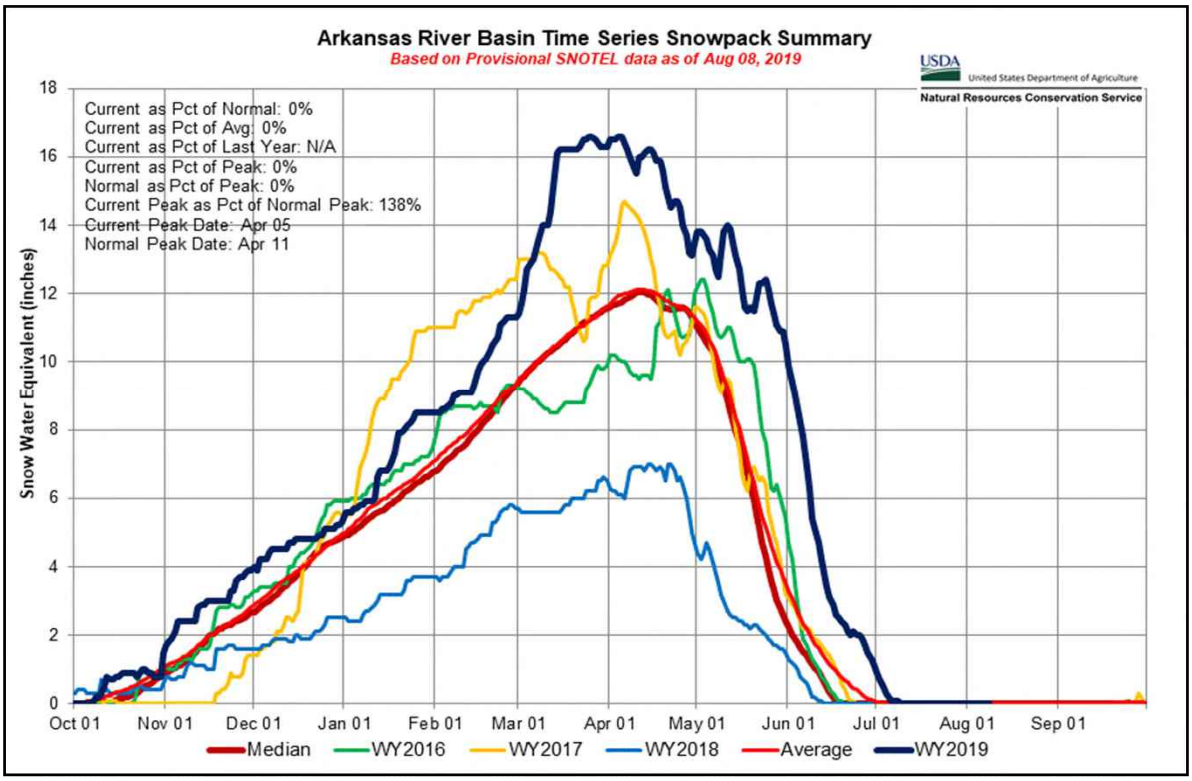
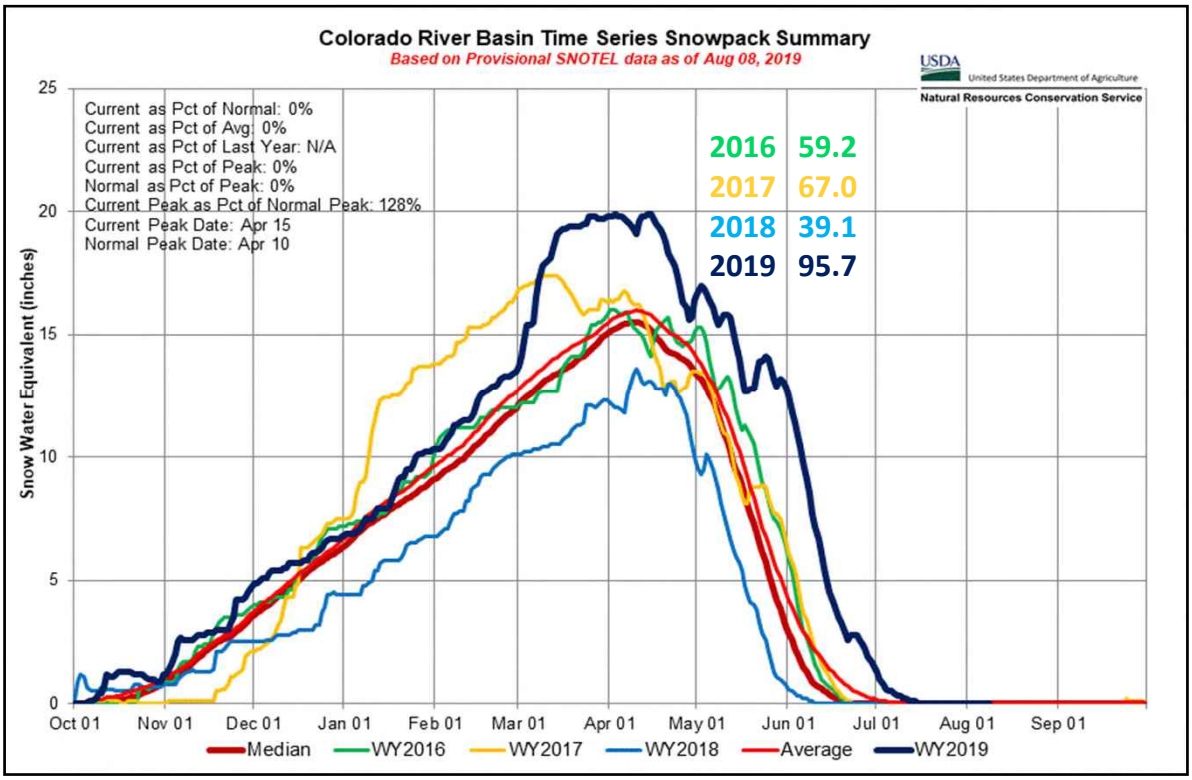
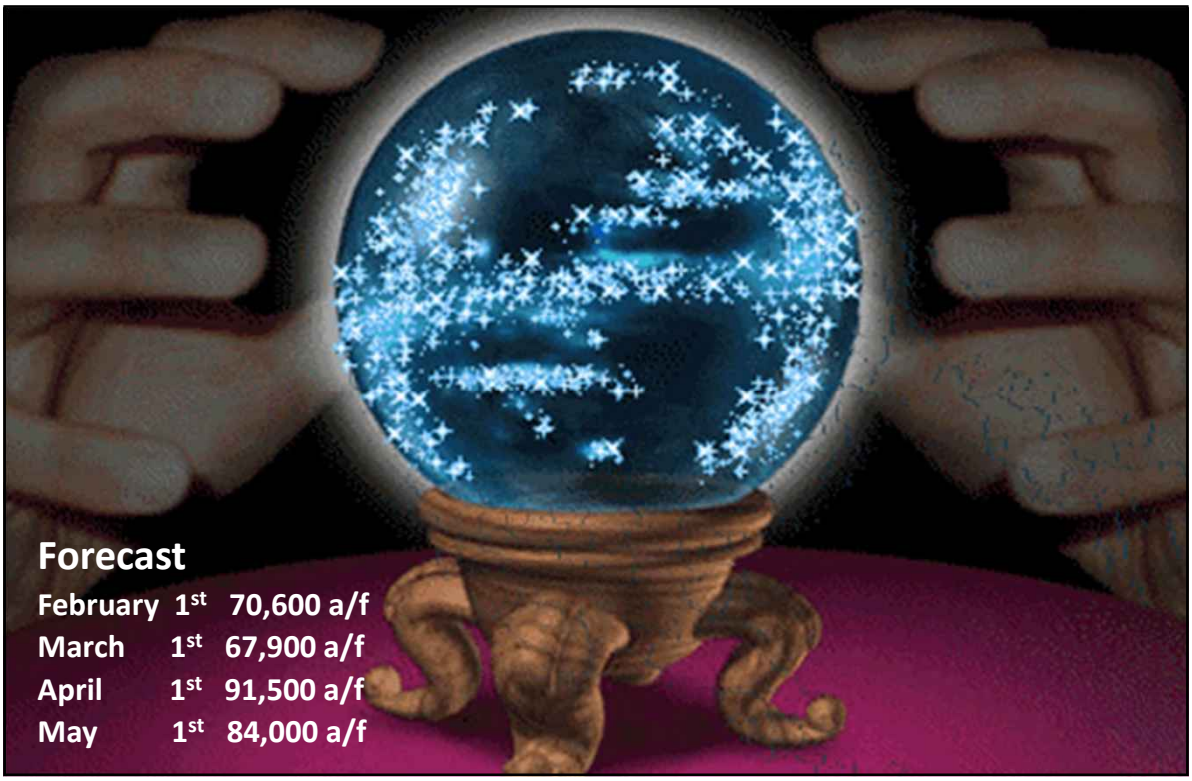
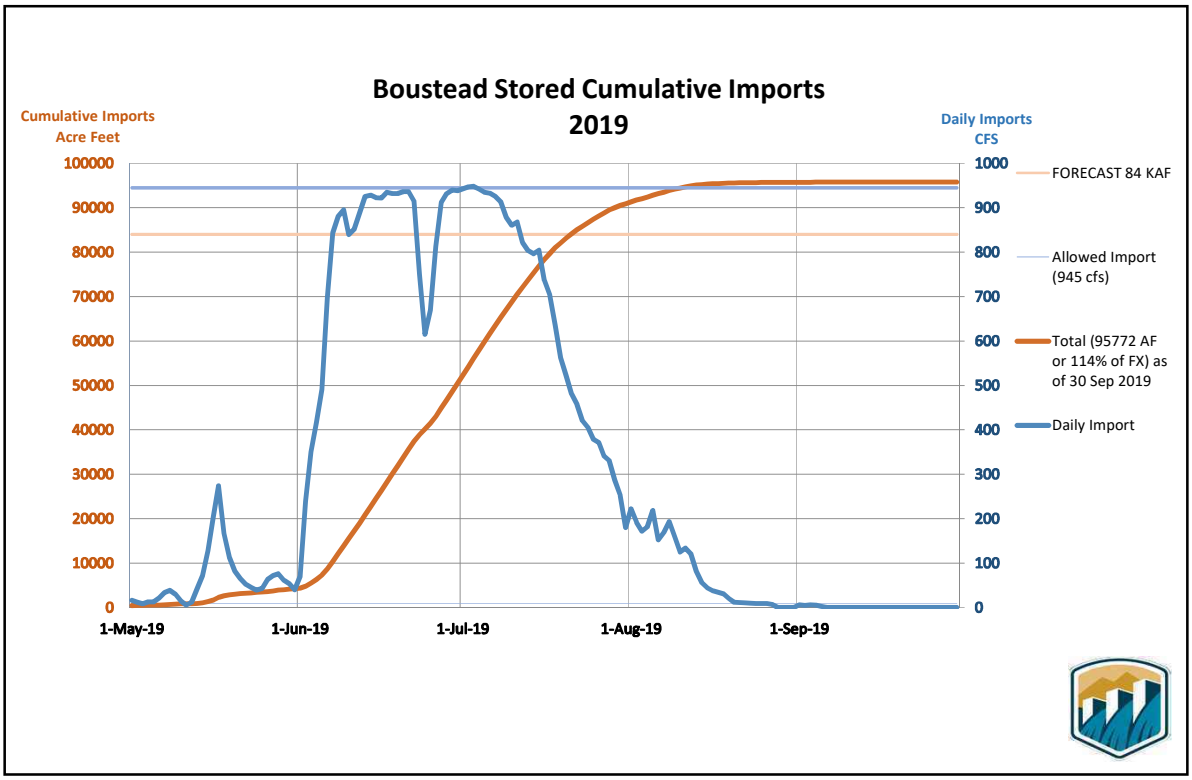
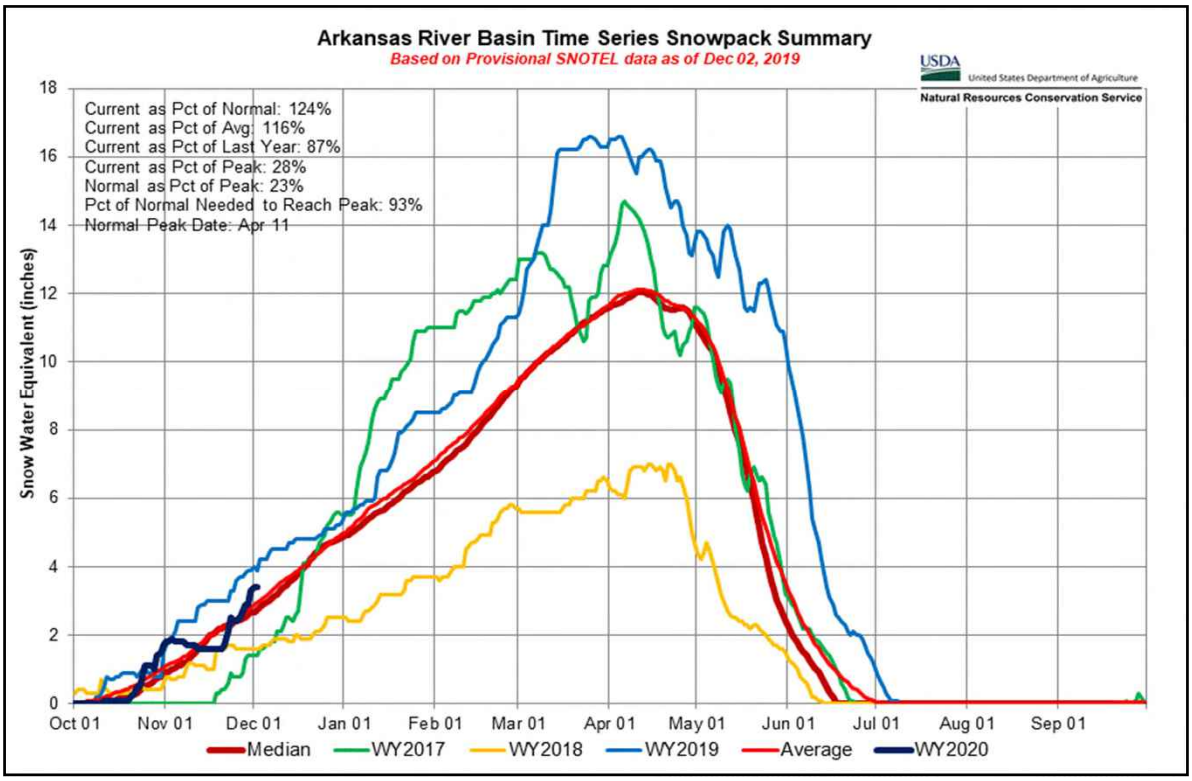

As of November 27, 2019
Project Reservoirs
Turquoise 122%
Twin Lakes 103%
Pueblo 121%

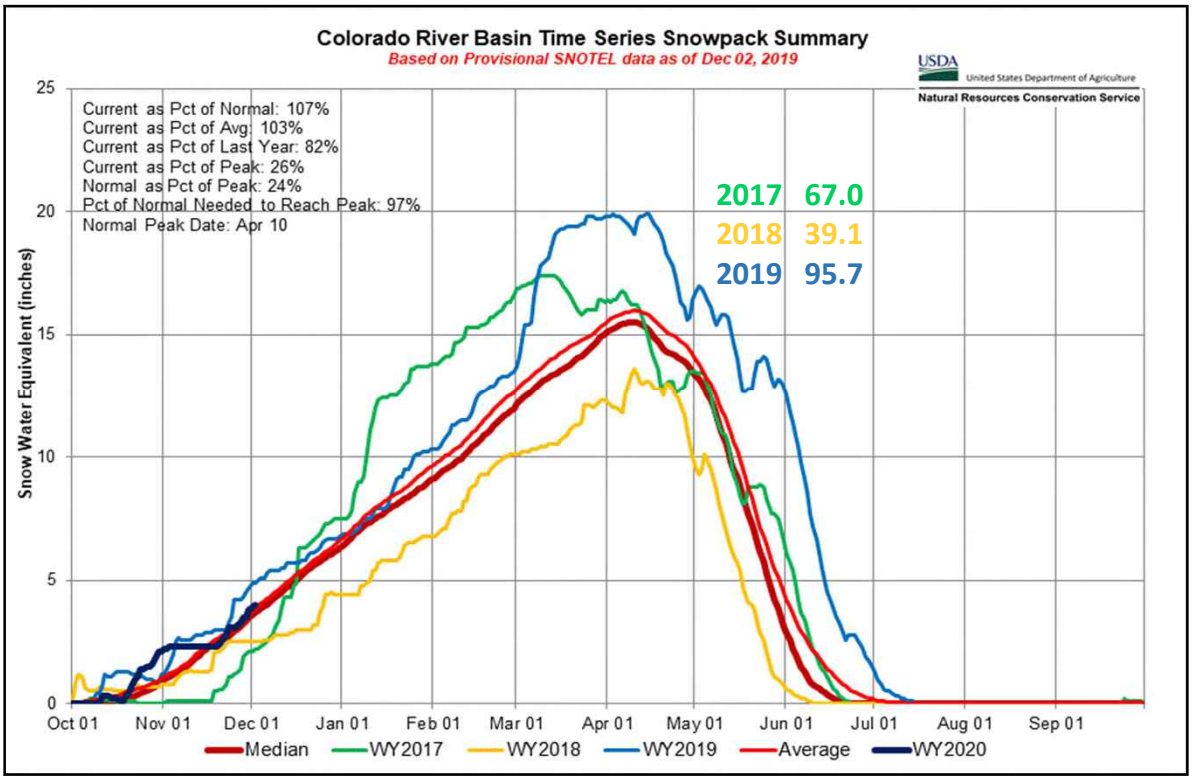

Arkansas River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Aug 08, 2019
USDA United States Department of Agriculture
Natural Resources Conservation Service
Current as Pct of Normal: 0%
Current as Pct of Avg: 0%
Current as Pct of Last Year: N/A
Current as Pct of Peak: 0%
Normal as Pct of Peak: 0%
Current Peak as Pct of Normal Peak: 138%
Current Peak Date: Apr 05
Normal Peak Date: Apr 11
Snow Water Equivalent (inches)
0
2
4
6
8
10
12
14
16
18
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2016
WY2017
WY2018
Average
WY2019


Colorado River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Aug 08, 2019
USDA United States Department of Agriculture
Natural Resources Conservation Service
Current as Pct of Normal: 0%
Current as Pct of Avg: 0%
Current as Pct of Last Year: N/A
Current as Pct of Peak: 0%
Normal as Pct of Peak: 0%
Current Peak as Pct of Normal Peak: 128%
Current Peak Date: Apr 15
Normal Peak Date: Apr 10
2016 59.2
2017 67.0
2018 39.1
2019 95.7
Snow Water Equivalent (inches)
0
5
10
15
20
25
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2016
WY2017
WY2018
Average
WY2019


Forecast
February 1st 70,600 a/f
March 1st 67,900 a/f
April 1st 91,500 a/f
May 1st 84,000 a/f


Boustead Stored Cumulative Imports
2019
Cumulative Imports
Acre Feet
Daily Imports
CFS
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1000
900
800
700
600
500
400
300
200
100
0
1-May-19
1-Jun-19
1-Jul-19
1-Aug-19
1-Sep-19
FORECAST 84 KAF
Allowed Import (945 cfs)
Total (95772 AF or 114% of FX) as of 30 Sep 2019
Daily Import


Arkansas River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Dec 02, 2019
USDA United States Department of Agriculture
Natural Resources Conservation Service
Current as Pct of Normal: 124%
Current as Pct of Avg: 116%
Current as Pct of Last Year: 87%
Current as Pct of Peak: 28%
Normal as Pct of Peak: 23%
Pct of Normal Needed to Reach Peak: 93%
Normal Peak Date: Apr 11
Snow Water Equivalent (inches)
0
2
4
6
8
10
12
14
16
18
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2017
WY2018
WY2019
Average
WY2020

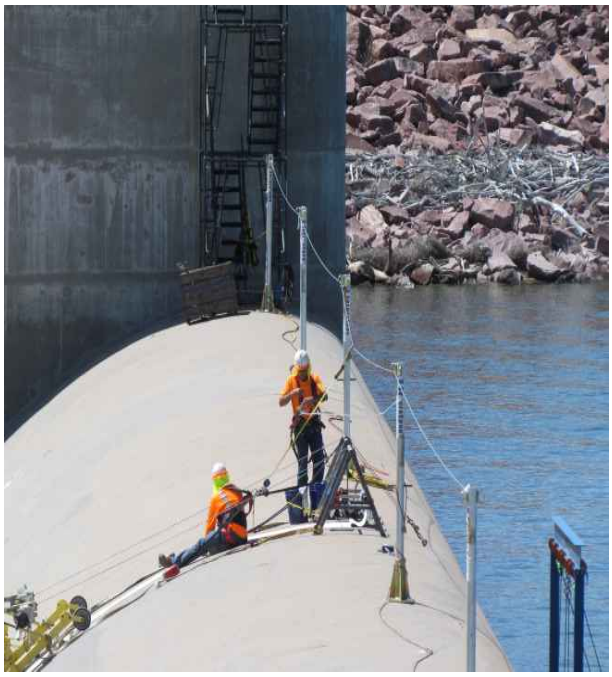

Colorado River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Dec 02, 2019
USDA United States Department of Agriculture
Natural Resources Conservation Service
Current as Pct of Normal: 107%
Current as Pct of Avg: 103%
Current as Pct of Last Year: 82%
Current as Pct of Peak: 26%
Normal as Pct of Peak: 24%
Pct of Normal Needed to Reach Peak: 97%
Normal Peak Date: Apr 10
2017 67.0
2018 39.1
2019 95.7
Snow Water Equivalent (inches)
0
5
10
15
20
25
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2017
WY2018
WY2019
Average
WY2020

Winter Operations

- Currently releasing 200 cfs from Twin and 3 cfs from Turquoise to Pueblo.
- We anticipate moving a total of 60,000 AF from our upper reservoirs to Pueblo.
- Movement of water will be adjusted according to the forecast and customers needs.

Maintenance

- Lillard and Clark Company has been awarded the contract to replace the seals on the upstream face of the Dam in-between the buttresses.
- Massive Head Dam made up of 23 independent buttresses.
- Concrete section 1,750 feet long.
- Multi-million dollar multi-year project.
- Work begun this summer.



Hydro Plant Update

- **The Lease of Power Privilege is with the SECWCD to construct and operate a 7.5 megawatt Hydro Electric Power Plant on Reclamation lands located directly below Pueblo Dam.**
- **Construction on the Hydro Plant began in September 2017 and was completed in May 2019.**

Temporary Excess Capacity Storage Contracts EA

- Required for the Fryingpan-Arkansas Project's Temporary Excess Capacity Program to continue.
- The document is available online at: *https://www.usbr.gov/gp/ecao/nepa/fryark.html.*
- For additional information or questions, please contact Terence Stroh at: *tstroh@usbr.gov*

New Long Term Storage Contracts

- Reclamation has entered into a 40-Year Excess Capacity Storage and Conveyance Contract with the Donala Water and Sanitation District for the use of excess capacity in Pueblo Reservoir. The Environmental Assessment has been completed and the contract has been signed. For additional information please contact Robert Rice at: *rrice@usbr.gov*
- Reclamation has also entered into a 40-Year Excess Capacity Storage contract with the Bureau of Land Management for the use of excess capacity in Pueblo Reservoir. The Environmental Assessment has been completed and the contract has been signed. For additional information please contact Robert Rice at: *rrice@usbr.gov*

Master Storage Contract

- The Long Term Excess Capacity Master Contract Environmental Impact Statement has been completed and the Record of Decision was signed.
- The Master Contract was executed with the SECWCD and utilization of storage begin in 2017.
- 6,595 A/F was stored under the contract in 2019. For additional information please contact Robert Rice at: *rrice@usbr.gov*

Arkansas Valley Conduit

- The Arkansas Valley Conduit Environmental Impact Statement has been completed and the Record of Decision was signed.
- Reclamation and SECWCD have been working on modifications to the project that would reduce costs.
  - Value Planning Study was completed in Summer 2019.
  - Contract to study Regionalization was awarded in September 2018 to CDM Smith. Feasibility Study Reports and Cost Estimates are expected mid-2020.

For questions specific to the project, please contact Sam Braverman at: *sbraverman@usbr.gov*

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 Williams Creek Reservoir) is ongoing and will be completed in 2020 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*

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 at: *PMcCusker@usbr.gov*

Exhibit F

Annual Meeting

December 5, 2019

SOUTHEASTERN COLORADO WATER CONSERVANCY DISTRICT

Fryingpan-Arkansas Project 2019 Report

Prepared for the Arkansas River Compact Administration

December 4, 2019

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 2019, a total of 95,772 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 63,000 acre-feet of Fry-Ark Project Water. Of this, 48,668 acre-feet went to agriculture, while 14,332 acre-feet went to municipal and industrial water providers.

The District also sold 18,053 acre-feet in return flows, including 17,338 acre-feet to agriculture and 715 acre-feet to M&I.

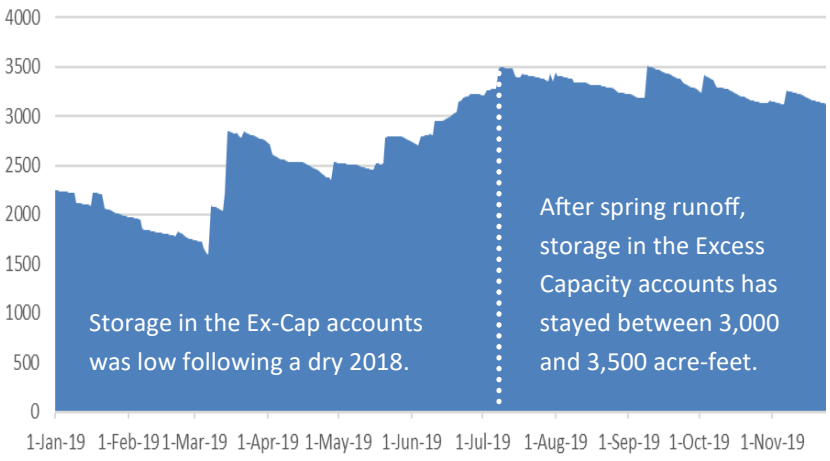
Under Allocation Principles, M&I is entitled to 54.49 percent of Fry-Ark allocations, however cities did not require their full allocation in 2019.

Water flows into Turquoise Lake from the Boustead Tunnel.

Fryingpan-Arkansas Allocations

2019	First-use	Return flows
M&I	14,332 AF	715 AF
AG	48,668 AF	17,338 AF

Excess Capacity Master Contract Accounts Storage, Pueblo Reservoir, 2019



2. Excess-Capacity Master Contract

The District signed an Excess Capacity Master Contract with the Bureau of Reclamation in 2016.

The Contract allows the District to store up to 29,938 acre-feet of non-Project water owned by its stakeholders in Pueblo Reservoir annually for 40 years. A total of 16 water providers requested 6,565 acre-feet of storage in 2019. Storage will increase to 6,575 acre-feet in 2020.

Jim Broderick (left), Executive Director of the Southeastern Colorado Water Conservancy District, receives a token of appreciation from Southeastern President Bill Long at the dedication of the James W. Broderick Hydropower Plant in September 2019.

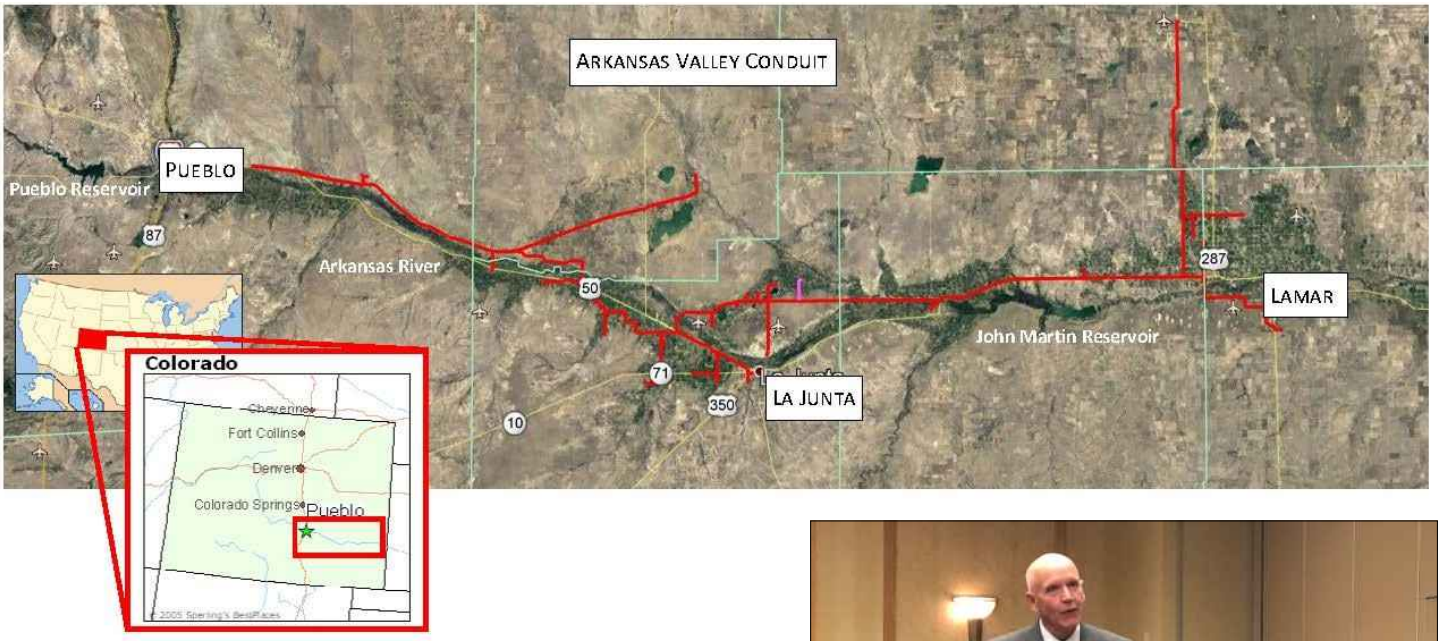
3. James W. Broderick Hydropower Plant

The James W. Broderick Hydropower Plant at Pueblo Dam began generating electricity in May 2019.

The plant is capable of generating up to 7.5 megawatts at flows ranging from 35-810 cubic feet per second. Annual generation will average 28 million kilowatt hours. In 2019, the Hydro Plant will generate 18 million kWh in less than seven months of operation.

Construction on the $20 million plant began in 2017 under a Lease of Power Privilege with the U.S. Bureau of Reclamation, a contract with Mountain States Hydro and a $17.2 million loan from the Colorado Water Conservation Board. Power will be sold to Fountain and Fort Carson.

In April, the Southeastern Board voted to name the Hydro Plant for Executive Director Jim Broderick. A dedication for the plant was held on site in September 2019.



4. Arkansas Valley Conduit

The Arkansas Valley Conduit (AVC), is a 130-mile pipeline that will serve 50,000 people in 40 communities east of Pueblo. The AVC is part of the Fryingpan-Arkansas Project, but has not been built because of participants' ability to pay.

In the last three years, the District has worked with the Bureau of Reclamation to reduce the cost and time needed to reach water providers, particularly those facing enforcement action for radioactive contamination.

Federal funding for the AVC was reduced in 2018-19, and one of the reasons was the need for a strong commitment to the project by the state. In 2019, the Colorado Legislature unanimously passed a resolution supporting the return of federal appropriations to the AVC. In November, the Colorado Water Conservation Board approved a $100 million finance package for the AVC, which will become part of the 2020 Water Projects bill.

The AVC will provide about 10,000 acre-feet of fresh drinking water annually to rural communities that rely on groundwater. Water from deep wells contains radioactive contaminants, while water from the shallow aquifer is high in selenium, nitrates and salinity. Treatment is expensive, and creates solid and liquid waste disposal issues.

The AVC cost estimate is in the $500 million-$600 million range. If fully funded, it will take 15-20 years for construction.

Southeastern District President Bill Long talks about the importance of the AVC at the Colorado Water Conservation Board meeting in Denver in November 2019.

District officials meet with Colorado Senator Cory Gardner about the need for federal funding of the AVC in April 2019.

5. Fry-Ark tour for state officials

In September, the District hosted a two-day tour of the Fryingpan-Arkansas Project for officials in the Governor's office, Attorney General's office, and the Department of Natural Resources.

Construction on the Fry-Ark Project began in 1963, and was substantially complete in 1981. The Project is designed to bring 69,200 acre-feet of water annually into the Arkansas River basin.

Major features include the North and South Collection systems in the Upper Colorado River basin, Ruedi Reservoir, Boustead Tunnel, Turquoise Reservoir, Mount Elbert Conduit, Mount Elbert Forebay, Mount Elbert Power Plant, Twin Lakes, and Pueblo Reservoir.

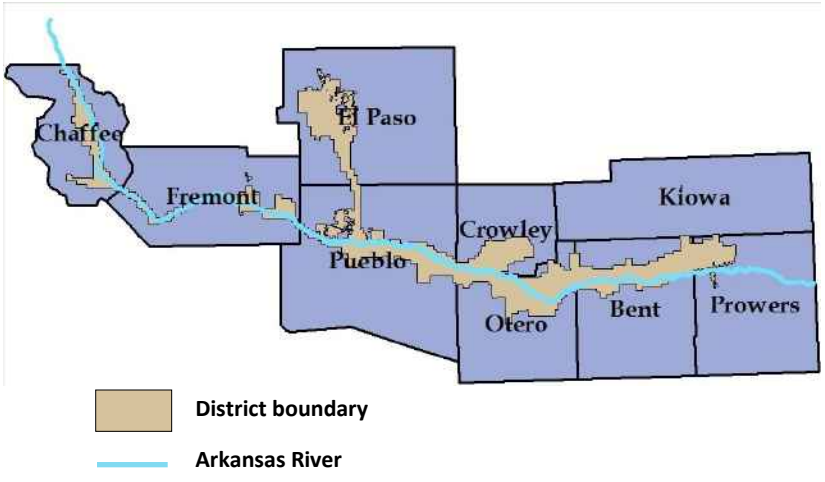
During the tour, the officials were able to catch a glimpse of all parts of the Fry-Ark Project.

The tour for state officials was a way to explain this decades-old project to a new generation of water officials.

State officials explore the Fry-Ark Collection System.

6. About the District

The Southeastern Colorado Water Conservancy District was formed in 1958 to develop and administer the Fryingpan-Arkansas Project. The District covers parts of nine counties, and allocates transmountain water for Municipal & Industrial and Irrigation uses. The District's 15-member Board is appointed by District Court judges to four-year terms.



Southeastern Colorado Water Conservancy District Board of Directors

El Paso County	**Pueblo County**	**Bent County**	**Fremont County**
Ann Nichols	Seth Clayton	Bill Long	Tom Goodwin
Curtis Mitchell	Alan Hamel	**Chaffee County**	**Kiowa-Prowers**
Mark Pifher	Patrick Garcia	Greg Felt	Dallas May
Andy Colosimo	**At Large**	**Crowley County**	**Otero**
Pat Edelmann	Kevin Karney	Carl McClure	Howard "Bub" Miller

Exhibit G

Annual Meeting

December 5, 2019

Ten-year Accounting of Depletions and Accretions to Usable Stateline Flow
2009 - 2018

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	2009	-148	5,511	0	5,511	1,256	4,255	-4,403
2	2010	410	10,241	0	10,241	1,548	8,693	-8,283
3	2011	1,841	6,436	0	6,436	1,717	4,719	-2,878
4	2012	4,044	0	0	0	1,479	-1,479	5,523
5	2013	2,594	0	0	0	1,505	-1,505	4,099
6	2014	4,332	2,728	0	2,728	1,635	1,093	3,239
7	2015	2,779	2,695	0	2,695	2,337	358	2,421
8	2016	4,328	4,044	0	4,044	3,043	1,001	3,327
9	2017	-1,916	8,847	0	8,847	3,300	5,547	-7,463
10	2018	-9,062	4,543	0	4,543	3,346	1,197	-10,259
Total		9,202	45,045	0	45,045	21,166	23,879	**-14,677**
	Shortfall for 2019							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 2018 are based on input file UPDATE18_June19.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 H

Annual Meeting

December 5, 2019

COLORADO
Division of Water Resources
Department of Natural Resources

2019 Annual Presumptive Stream Depletion Factor (PDF) Evaluation Report
Hydrologic Institutional (H-I) Model Area, Arkansas River Basin

August, 2019

Introduction and Summary

Presumptive depletion factors, or PDFs, are used by the Colorado Division of Water Resources Division 2 in the administration of water replacement plans in the Arkansas River Basin to relate amounts of groundwater pumping from a well to amounts of stream depletions. Colorado's 1996 Use Rules define groundwater-only PDFs for flood and sprinkler irrigation. However, Amended Appendix A.4 of the Kansas v. Colorado decree directs the state of Colorado to conduct an annual evaluation of the PDF for supplemental flood/furrow irrigation following the annual update of the Hydrologic Institutional Model (H-I Model).

For the 2019 Annual PDF Evaluation, Colorado concludes that a supplemental flood/furrow irrigation PDF of **36.0%** is most appropriate and should be used by Division 2 for replacement plans in year 2020. PDFs for supplemental flood/furrow irrigation for recent water replacement plan years are shown in the following table.

Presumptive Depletion Factors for Water Replacement Plan Years

Replacement Plan Year	PDF for Supplemental Flood/Furrow Irrigation
2012	39.0%
2013	38.1%
2014	36.5%
2015	36.0%
2016	35.5%
2017	36.0%
2018	36.0%
2019	36.0%
2020	**36.0%**

Note: Other PDFs are 50% for sole-source flood/furrow, 75% for sprinkler, and 100% for drip irrigation

Methods and Results

Amended Appendix A.4 provides a methodology framework for the annual PDF evaluations, but the methodology is updated and more fully described in a report titled "Annual Presumptive Stream Depletion Factor (PDF) Evaluation Methodology for the Hydrologic Institutional Model Area, Arkansas River Basin, Colorado" (PDF Evaluation Methodology, 2015 revised 2019). The

methodology incorporates updates to the H-I Model; primarily those acknowledging higher groundwater irrigation application efficiencies from sprinkler and drip systems.

The process described in the PDF Evaluation Methodology Document was followed to complete the 2019 PDF Evaluation. The GWAM model was used to determine idealized reach replacements given PDF values which were provided to a modified version of the HI model with a revised update file. Annual depletions and accretions to usable stateline flow were estimated from historic (with actual pumping and ideal replacements represented) and compact (without pumping or replacements) runs of the modified HI model. Supplemental irrigation PDFs were tested until the minimum PDF was found which produced no cumulative shortfall to usable stateline flows over any 10-year period. Annual and ten-year sums of accretions and depletions for the limiting PDF values are shown in the following table.

2019 PDF Evaluation Results

Year of Review Period	Calendar Year	Annual Usable Stateline Depletions (+)/ Accretions (-) (acre-feet)		10-Year Period	10-year Sum of Usable Stateline Depletions (+) / Accretions (-) (acre-feet)	
		SF.PDF: 35.0%	SF.PDF: 36.0%		SF.PDF: 35.0%	SF.PDF: 36.0%
1	1999	-962	-1048			
2	2000	-312	-370			
3	2001	-756	-883			
4	2002	-919	-1111			
5	2003	1249	1147			
6	2004	-171	-257			
7	2005	-392	-474			
8	2006	-463	-575			
9	2007	-558	-631			
10	2008	-1733	-1840	1999-2008	-5017	-6042
11	2009	-1544	-1672	2000-2009	-5599	-6666
12	2010	-94	-44	2001-2010	-5381	-6340
13	2011	239	144	2002-2011	-4386	-5313
14	2012	2194	2115	2003-2012	-1273	-2087
15	2013	1153	1091	2004-2013	-1369	-2143
16	2014	1114	1054	2005-2014	-84	-832
17	2015	-239	-282	2006-2015	**69**	-640
18	2016	-3064	-3227	2007-2016	-2532	-3292
19	2017	-14381	-14727	2008-2017	-16355	-17388
20	2018	-1035	-1070	2009-2018	-15657	-16618

Note: indicated PDF is for supplemental flood/furrow irrigation
PDF of 50% sole-source flood/furrow, 75% for sprinkler, and 100% for drip irrigation used
PDF of 35.0% indicates shortfall in bold and is insufficient while PDF of 36.0% is sufficient

Exhibit I

Annual Meeting

December 5, 2019

STATE OF KANSAS

HOUSE RESOLUTION No. 6018

A RESOLUTION requesting the federal government address water quality issues in the Arkansas River Basin in Southeast Colorado and Southwest Kansas and the prevalence of radionuclides in the waters of the Arkansas River Basin.

WHEREAS, The waters of the Arkansas River are declining in quality, due to naturally occurring sources that are exacerbated by irrigation and return flow practices concentrated in the Arkansas River Valley, east of Pueblo, Colorado; and

WHEREAS, In each of the last two years, approximately 10 tons of uranium have been delivered in downstream river flows from Colorado to groundwater in Southwest Kansas. The affected region in Kansas includes Hamilton, Kearny, and Finney counties; and

WHEREAS, Affected communities in Colorado and Kansas require assistance to remedy decades of poor water quality, which continues to worsen; and

WHEREAS, Federal standards on safe drinking water are intended to protect the health and safety of the public. Accordingly, it is within the interest of the federal government to partner with state and local water providers to develop remedies for the Basin; and

WHEREAS, Public assistance is vital to providing safe drinking water to Kansans in the Basin, whose water supply is currently contaminated in affected communities and is threatened to be contaminated in other communities by naturally occurring radionuclides beyond the standards established by the Safe Drinking Water Act, public law 93-523; and

WHEREAS, Without additional funding, Kansas' affected communities cannot develop water management practices and necessary infrastructure to address the water quality concerns; and

WHEREAS, The U.S. Bureau of Reclamation has an established interest in providing alternative fresh water sources to portions of the affected Basin in Colorado. Currently, efforts are underway to accomplish this goal; and

WHEREAS, In 2014, the U.S. Bureau of Reclamation completed an Upper Arkansas River Basin Public Water Supply Alternatives Viability Analysis of Water Supply Alternatives for Hamilton, Kearny, and Finney counties in Kansas. The analysis addressed water quality and availability in the Basin and identified alternatives, including the regionalization of supply pipeline alternatives. However, such supply pipeline alternatives are largely unaffordable due to participants' inability to cover construction costs; and

WHEREAS, In 2015, the U.S. Bureau of Reclamation completed an Arkansas Basin from John Martin Reservoir to Garden City, Kansas, Final Plan of Study, acknowledging the shared water quality problems in Colorado and Kansas: Now, therefore,

Be it resolved by the House of Representatives of the State of Kansas: That the State of Kansas hereby requests that the Kansas congressional delegation work with the U.S. Congress to provide funding and direction to the U.S. Bureau of Reclamation to implement the efforts identified in the 2014 and 2015 studies, including, but not limited to:

1. Further compiling information on existing, usable sources, and projected demands;

2. developing Basin tools, including scientifically defensible hydrologic and economic modeling tools;

3. completing system reliability and impact analyses to assess the current

Exhibit I

and future capability of existing natural and manmade infrastructure and operations to meet demands and useable water supply challenges;

4. identifying adaptation strategies to improve operations and infrastructure and to address current and future water availability and quality challenges in the Basin; and

5. developing recommendations to address the water quality challenges and to provide reliable, clean sources of drinking water in the affected areas of the Basin; and

Be it further resolved: That we request the Kansas Water Office, Southwest Kansas Groundwater Management District No. 3, and other state and local partners in Kansas and Colorado to work with the U.S. Bureau of Reclamation to complete these tasks and to address the concerns regarding the contamination of the Arkansas River Basin.

I hereby certify that the above RESOLUTION originated in the HOUSE, and was adopted by that body

March 26, 2019

Speaker of the House.

Chief Clerk of the House.

Exhibit J

Annual Meeting

December 5, 2019

ANNUAL REPORT
OF THE
OPERATIONS SECRETARY

CONCERNING THE OPERATION
OF
JOHN MARTIN RESERVOIR

COMPACT YEAR 2019

SUBMITTED TO THE

OPERATIONS COMMITTEE

ARKANSAS RIVER COMPACT ADMINISTRATION

REVISED DECEMBER 16, 2019

Exhibit J

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    - HighlandCalcs2019_Summary

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  - Table II Winter Water Holding Account
  - Table III Offset Account
  - Table IV Permanent Pool
  - Table V Flood Pool
  - Table VI Ft. Lyon Canal Article III Water
  - Table VII Las Animas Consolidated Article III Water
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  - Table IX Kansas Article II
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- Daily Accounting Records for Each Month: Nov. 2018 – Oct. 2019

Section 4

- Daily Pass-Through Accounting for John Martin Reservoir Nov. 2018 – Oct. 2019

December 5, 2019

Mr. Lane Malone, Chairman
Arkansas River Compact Administration – Operations Committee, 2018 - 2019

Dear Sir,

The purposes of this report is to provide you with an accounting summary of the operation of John Martin Reservoir for the (2019) Compact Year. This report also documents certain activities and accomplishments that occurred within the year in cooperation with the Assistant Operations Secretary and pursuant to the directions of the Operations Committee.

Summary of Operations
November 1, 2018 to October 31, 2019

The 2019 compact year started with a balance for all accounts totaling 132,945.80 acre-feet. The compact year closed on October 31, 2019 with an ending balance for all accounts in John Martin Reservoir totaling, 70,003.13 acre-feet. (See Section 2 – Accounting Supplements - Daily Status Report for 11-01-2018 and Daily Status Report for 10-31-2019).

CONSERVATION STORAGE

In accordance with the 1980 Operating Plan, the 2019 compact year began at 00:00 hours on November 1, 2018 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, 2018 through March 31, 2019, 40,814.21 acre-feet (net) was stored as Compact Water. An additional 93.07 acre-feet (93.07 acre-feet - Offset Accounts transfer) was added to Conservation Storage prior to the end of winter storage. Distribution into accounts began on April 7, 2019, in accordance with Subsection II A of the revised 1980 Operating Plan and continued at the prescribed rates until exhausted on April 25, 2019. The transfer of 39,719.50 acre-feet as prescribed by Section II D of the 1980 Operating Plan (including 3,944.58 acre-feet of summer stored water from April 1, 2019 through April 25, 2019 and 93.07 acre-feet of Offset Account transfers). See Section 2 – Table I and Accounting Supplement - Distribution of Compact Stored Water April 2019

In contrast, the previous year's storage totaled 65,681.55 acre-feet (net). The 1950 to 1975 historical average amount of Winter Compact Water storage was 22,209 acre-feet in the period prior to the beginning of the Pueblo Winter Water Program operations.

During the 2019 Summer Compact Storage season, there were no events that resulted in additions to Conservation Storage beyond April 25, 2019.

During the year, the maximum end of day content of 176,834.00 acre-feet occurred on April 13 and April 15, 2019.

"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 (68.76 cfs was measured on November 5, 2018 by CDWR and 75.7 cfs was measured on November 5, 2018) by the USGS. The base flow was determined to be 64.86 cfs per cooperative agreement between (CDWR) and Kansas Division of Water Resources (KDWR). For documentation purposes, CDWR had conducted an inspection of the Las Animas Consolidated Ditch and had determined that the Las Animas Consolidated Ditch was not bypassing any flows around the ARKLASCO gauge. KDWR did not attend this inspection but agreed with the CDWR assessment of this inspection. Measurements were also conducted by the USGS on November 20, 2018 (128 cfs) and by the CDWR on November 20, 2018 (121.77 cfs) which assisted in USGS working the records. The Compact Storage/Pueblo Winter Water Program (PWWP) split percentages were calculated daily from November 15, 2018 through December 10, 2018 using current day enhanced flows to base line flows. After flow rates stabilized on December 10, 2018, computations were made and the Compact/PWWP split percentages were 65.40% for Compact Water and 34.60% 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, 2018, 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.

- There was a deficit of 3,123 acre-feet to pay back to Kansas for the delivery of Kansas Section II water between June 11, 2018 and July 27, 2018. The pay back was completed on March 1, 2019.
- A total of 469.69 acre-feet was transferred into the Transit Loss account during the period from March 1, 2019 through March 14, 2019. The amount in that Transit Loss account on March 14, 2019 was 589.13 acre-feet. See Section 2 – Table X to see summer time inflows to the Transit Loss account.
- Since the Transit Loss account did not fill during the PWWP, neither the Kansas Section II account nor the Water District 67 winter water storage charge accounts received water between November 17, 2018 and March 15, 2019. (See Section 2 – Table IX and XI)

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, 2019, when the distribution of 6,587.79 acre-feet occurred to the appropriate accounts pursuant to Section III D of the 1980 Operating Plan. See Section 2 - Tables VI, VII and VIII.

Amity's Great Plains Storage right, which was in and out of priority between May and August, allowed them to store 47,225.81 acre-feet (gross) in John Martin Reservoir. From this storage amount, 16,529.06 acre-feet was storage charge (35%) and this storage charge water went first to fill the Transit Loss account to 1,700 acre-feet, and then was distributed to Kansas and Colorado Section II accounts.

Las Animas Consolidated Canal moved PWWP water that had been stored in Lake Meredith to John Martin Reservoir starting on June 28, 2019 at 11:00 am. A 7.5% transit loss was assessed from Lake Meredith to John Martin Reservoir. (See Section 2 – Notice of Approval_Las Animas Consolidated (PWWSP water in Meredith delivery to JMR_06282019))

OFFSET

The following is a brief description of deliveries to the Offset Account during the 2019 Compact Year. From November 1, 2018 through October 31, 2019, there were seven deliveries/transfers of water to the Offset Account in addition to the transfer for the storage charge. The transfer and seven deliveries/transfers are summarized in the following table.

Source	Delivery Start Date	Delivery End Date	Amount to Offset Account (acre-feet)	Net Consumable Water (acre-feet)	Net Return Flow Water (acre-feet)
LAWMA (CS-U Delivery)	January 22, 2019	March 19, 2019	2739.67	2739.67	0
LAWMA (Keesee Article II Transfer)	March 31, 2019	March 31, 2019	13.74	11.94	1.80
LAWMA (Sisson Article II Transfer)	June 30, 2019	June 30, 2019	780.03	500	280.03
CWPDA (Municipal Fully Consumable)	July 1, 2019	July 11, 2019	1156.26	1156.26	0
LAWMA (Fort Lyon)	November 1, 2018	October 31, 2019	3406.73	3406.73	0
LAWMA (Highland)	April 2, 2019	October 31, 2019	2502.81	2502.81	0
LAWMA (Keesee)	April 26, 2019	October 31, 2019	1813.60	1813.60	0
TOTALS			**12412.84**	**12131.01**	**281.83**

There was one release from the Offset Account for a total release of 9,665.51 acre-feet. The total consumable portion released was 8,967.42 acre-feet. Finally, the net consumable credit at the Stateline for both releases was of the 8,045 acre-feet.

PERMANENT POOL

The permanent recreation pool decreased by 623.03 acre-feet (net) during compact year 2019. There was 1,335.51 acre-feet stored in the Permanent Pool from the Highland Canal per ARCA Resolution 2019-01. This Resolution was approved at a special telephonic meeting of ARCA on February 14, 2019 and adopted the Highland Canal water right as an ongoing source of water to the Permanent Pool. 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 19, 2019 and continued through September 9, 2019 when the release was stopped. Kansas supplemented this release with a release from the Offset Account, which began on July 9 , 2019 and continued through September 9, 2019. A total of 72,645.42 acre-feet was released, composed of 62,979.89 acre-feet of Article II water and 9,665.51 acre-feet of Offset water. 4,022.23 acre-feet was released from the Transit Loss Account during this delivery. See Section 2 – Tables III, IX and X.

The Section II release of 62,979.89 acre-feet resulted in no delivery deficit. The determination of deficit was 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. Credits from the Offset Account delivery were calculated based on 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 release of water from the Offset Account during this delivery amounted to 9,665.51 acre-feet that resulted in the delivery of 8,045 acre-feet of consumable water. The computational worksheets pursuant to these agreements are included herein as Section 2 Accounting Supplement_KSRelease_06192019-09092019(Final).

COLORADO ARTICLE II RELEASES

A total of 29,514.75 acre-feet was 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.

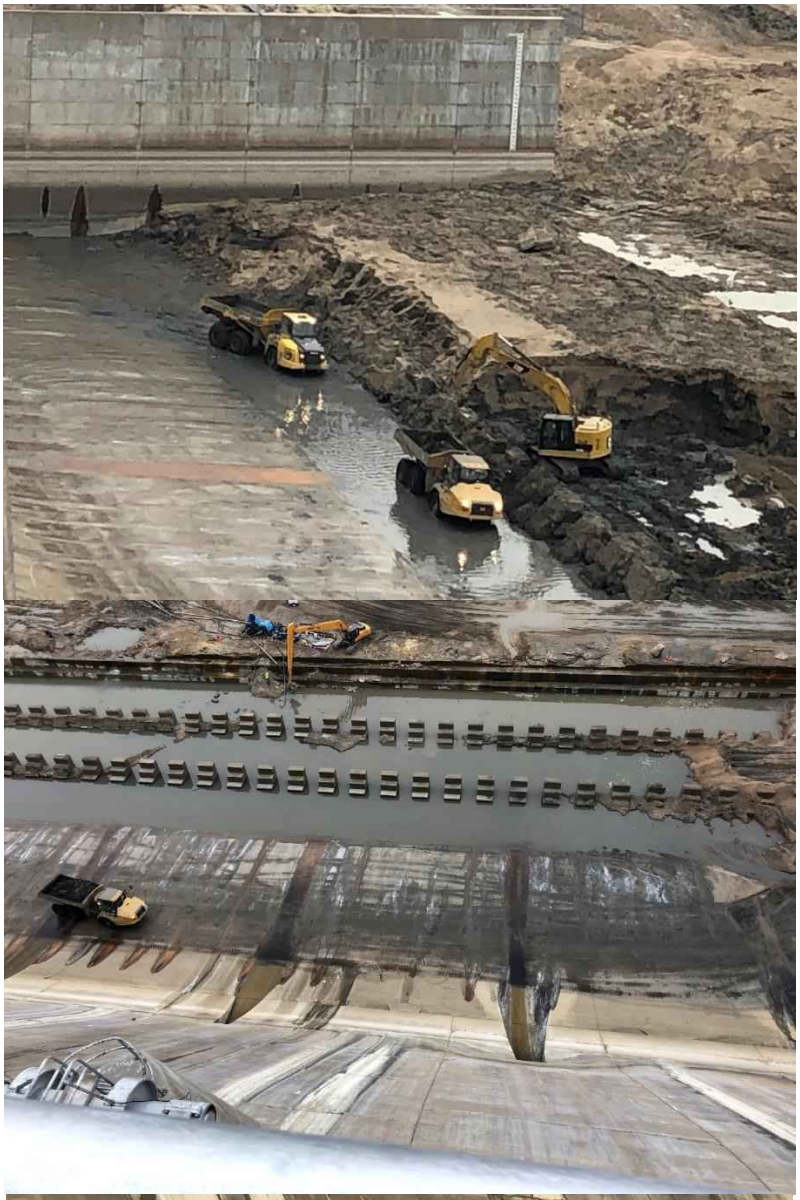
ADDITIONAL OPERATIONAL DETAILS

Section 3 of this report contains the daily accounting for the compact year.

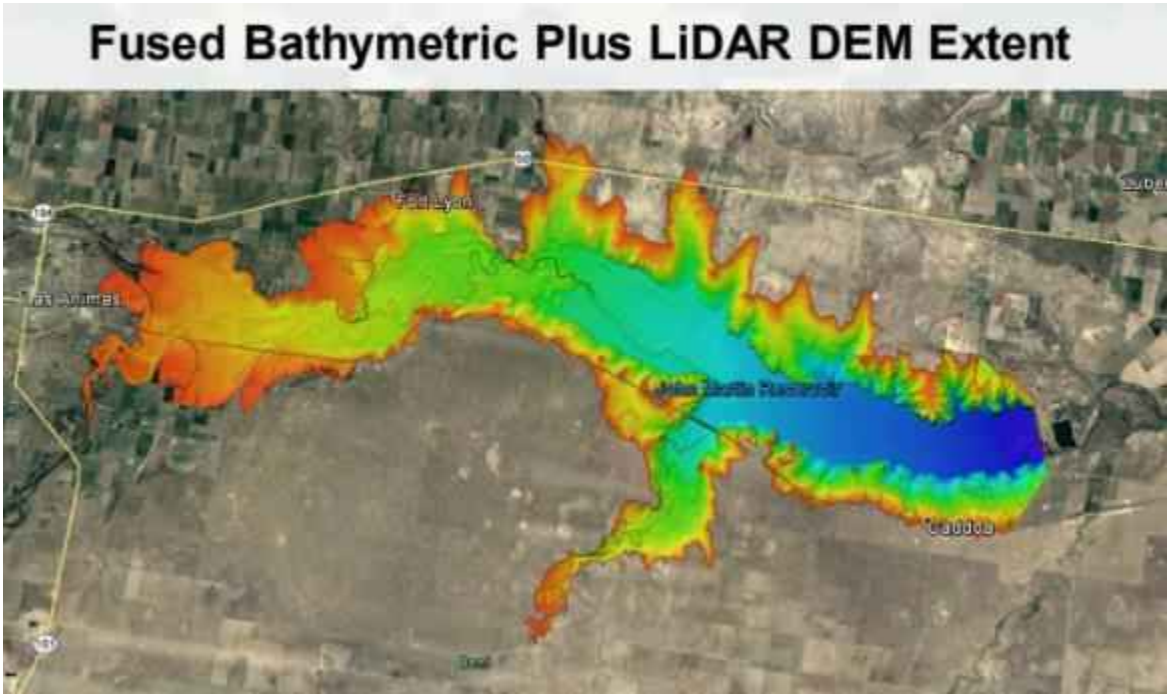
On June 19, 2019, CDWR changed the call to Conservation Call (5/31/1949). It was determined a few days later that the 5/31/1949 call should not have happened due to flows into John Martin Reservoir. The small amount of water that was stored was released below John Martin Reservoir. Storage occurred in Trinidad Reservoir because of the errant river call and CDWR had Trinidad Reservoir release the water they had stored. (See Section 2 – Letter to Kansas concerning Conservation storage River Call Correction 06192019)

Summary of Notable Activities for Compact Year 2019

Cleaning and inspection of the stilling pool below John Martin Reservoir started around November 1, 2019 after the gates were closed. This project was long overdue because the last time the stilling pool did not have water in it was in 1949 when the reservoir was built and this project allowed inspection and repair of the dam abutments. Monthly progress meetings were held between KDWR, CDWR and the U.S. Army Corps of Engineers (USACE). The stilling pool project was completed in time to make a release to the Lamar Canal on April 15, 2019. See the USACE report for more details. This operation included a fish salvage by Colorado Parks and Wildlife to move catchable species back above the dam.



On November 1, 2019 at 00:00, a new Elevation Area Capacity Table for John Martin Reservoir was implemented. A new method was used by the USACE to survey John Martin Reservoir utilizing LiDAR DEM mapping above the existing water line and multi-beam SONAR below the water surface collected using a specially equipped boat. This technique was used in November 2017 to update the survey for John Martin Reservoir. This new method is believed to be more accurate than the traditional methods previously used. With this more accurate method, the USACE got a better picture of the capacity of John Martin Reservoir at various elevations, resulting in an Elevation Area Capacity (EAC) table that typically showed more available storage volume at each elevation than was thought to exist from previous surveys. When the new EAC table was implemented on November 1, 2019, the result was an increase in stored water. Prior to 2019, Kevin Salter, Bill Tyner and John Van Oort discussed methods to implement the new EAC in a way that was fair to all accounts in John Martin Reservoir. Brent Campbell who worked for KDWR at the time, built a spreadsheet methodology to divide the change among accounts in John Martin Reservoir in proportion to the extent the accounts had water in them during the twelve months of Compact Year 2019. Kevin Salter and Rachel Duran refined the spreadsheet and maintained the monthly data utilized in the new methodology.



At the beginning of Compact Year 2020 on November 1, 2019, the implementation of the new EAC was accomplished resulting in an increase in the stored volume in John Martin Reservoir based on the new survey. The report by the Assistant Operation Secretary provides more detail about the new methodology and provides detailed accounting related to the implementation.

The table below reflects all of the prior surveys of John Martin Reservoir as implemented.

John Martin Reservoir
Elevation-Area-Capacity Table Survey and Adoption Dates

			Data for Elevation 3851.0 ft	
	Survey Date	Adopted Date	Capacity (ac-ft)	Area (acres)
0	April, July 1942	1 April, 1942	423,136	12,160
1	July, Sept. 1944	1 October, 1944	402,110	11,955
2	May-48	1 October, 1948	394,640	12,094
3	October-51	1 April, 1952	383,730	12,145
4	Partial Surveys	1 September, 1952	383,730	12,145
5	Partial Surveys	1 February 1954 [1]	383,730	12,145
6	Partial Surveys	1 March, 1956	366,588	12,145
7	Partial Surveys	1 December 1956 [2]	366,588	12,145
8	August-57	1 June, 1958	366,969	12,045
9	March-62	1 November, 1962	364,443	11,948
10	September-66	1 April, 1967	353,903	12,030
11	August-68	1 January, 1969	347,633	11,559
12	March-72	1 November, 1972	350,951	11,655
13	June-80	12 August, 1981	345,271	11,590
14	July-86	1 February, 1988	338,639	11,445
15	June-94	1 November, 1994	335,693	11,394
16	May-99	1 November, 1999	333,912	11,449
17	August-09	1 November, 2013	330,703	11,484
18		1 November, 2019	337,977	11,772

[1] Revised tables up to elevation 3,799.0 only
[2] Revised tables up to elevation 3,807.0 only

Trinidad Reservoir

Per the Trinidad Operating Principles--The **Colorado State Engineer** will report and account contemporaneously and annually to the Arkansas River Compact Administration on the initial filling and replacement of evaporation and seepage in the **permanent fishery pool**.

- **Initial Fill of the 11,467 Acre-Foot Pool**
  - Limited to fill by imported (Colorado River Basin) water or Fully Consumable native water after approval by Colorado Water Court of historical consumptive use
  - Initial fill completed in 1999
- **Evaporation and Refill for Compact Year 2019**
  - Evaporation from 11,467 Pool = 951 Acre-feet
  - Refill of evaporation = 338 Acre-feet

On November 1, 2019, a new Elevation Area Capacity Table for Trinidad Reservoir was implemented. The LiDAR DEM and multi-beam SONAR system was used to update the Trinidad Reservoir Elevation Area Capacity Table, which resulted in an increase of 771 acre-feet at the elevation as implemented on November 1, 2019 at 00:00.

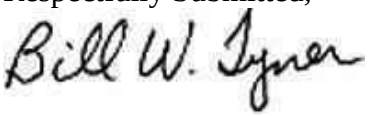
Summary of Key Meetings during Compact Year 2019

The Operations Secretary and Assistant Operations Secretary met two times during the 2019 Compact year. Meetings were held on April 30, 2019 at the Colorado Parks and Wildlife Visitor's Center near John Martin Reservoir and on November 12, 2019 at the Lamar Community Center in Lamar. 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. These meetings primarily focused on resolving issues that prevent approval of the CY2006-CY2018 Operations Secretary's Reports including the split of inflows during the winter.

The Special Engineering Committee (SEC) met on eight occasions between November 1, 2018 and October 31, 2019. These meetings were all conference calls on November 6, 2018, January 11, 2019, January 23, 2019, February 5, 2019, February 14, 2019, August 22, 2019, September 5, 2019 and October 17, 2019. The primary focus for the SEC during 2019 was related to the Highland Canal as a source to the Permanent Pool until approval on February 14, 2019. Discussions after February 2019 centered on the proposed Colorado Multi-Purpose Account in John Martin Reservoir and those discussions will continue in Compact Year 2020.

Section 4 of this report 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.

Respectfully Submitted,



Bill W. Tyner, P.E.
Arkansas River Compact Administration
Operations Secretary

SECTION 1

MEMORANDUM OF AGREEMENT RELATED TO THE HIGHLAND CANAL WATER RIGHT AND RESOLUTION OF LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION MATRIX ISSUES NOS. 9 AND 12

This MEMORANDUM OF AGREEMENT RELATED TO THE HIGHLAND CANAL WATER RIGHT AND RESOLUTION OF LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION MATRIX ISSUES NOS. 9 AND 12 ("Agreement") is entered into this 21st day of February, 2019, by and between the State of Colorado and the State of Kansas (collectively the "States").

WHEREAS, the States have reached agreement on the use of the Lower Arkansas Water Management Association's ("LAWMA") Highland Canal water rights ("Highland Canal Water") for the Permanent Pool pursuant to the MEMORANDUM OF AGREEMENT RELATED TO THE DELIVERY OF HIGHLAND CANAL WATER INTO THE PERMANENT POOL AT JOHN MARTIN RESERVOIR ("Permanent Pool Agreement");

WHEREAS, Highland Canal Water is an important source of water for the Offset Account and Permanent Pool at John Martin Reservoir;

WHEREAS, the State of Kansas has raised outstanding issues regarding Highland Canal Water, based on LAWMA's change of water right decrees pursuant to Colorado Water Court, Case Nos. 2002CW181 and 2010CW85.

WHEREAS, the States have jointly developed a LAWMA Issues Matrix to identify the various issues that remain unresolved;

WHEREAS, the issues addressed by this Agreement are commonly known to the States in the LAWMA Issues Matrix as Issue Nos. 9 and 12;

WHEREAS, the State of Kansas has stated Issue No. 9 as "*LAWMA Decree should provide standards for determining the unconsumed portion of transit loss on deliveries of Highland Canal water to the Offset Account in John Martin Reservoir.*";

WHEREAS, the State of Kansas has stated Issue No. 12 as "*The LAWMA Decree should provide sufficient limits on the Highland Ditch credits, including proper volumetric limits, to prevent injury to Kansas.*"; and

WHEREAS, as a result of work on the Permanent Pool Agreement, the States have reached agreement on LAWMA Matrix Issues Nos. 9 and 12 raised by the State of Kansas regarding LAWMA's change of water right decrees.

NOW THEREFORE, BE IT AGREED,

1. Issue No. 9 is resolved by the Colorado State Engineer's agreement to implement and enforce terms and conditions consistent with **Attachment A** in all future LAWMA Plan Approvals.

2. Issue No. 12 is resolved by the Colorado State Engineer's agreement to implement and enforce terms and conditions consistent with **Attachment B** in all future LAWMA Plan Approvals.

3. By March 1st of each year, LAWMA shall provide to the Colorado Division of Water Resources, along with their Rule 14 Replacement Plan Application and their Annual Augmentation Plan Projection, the Annual Source Analysis pursuant to the Permanent Pool Agreement. The Annual Source Analysis, LAWMA's Rule 14 Replacement Application, and LAWMA's Annual Augmentation Plan Projection shall be provided by the State of Colorado to the State of Kansas no later than March 5th of each year. This shall be a continuing obligation independent of the status of the Permanent Pool Agreement.

4. LAWMA agrees to provide a clear and concise report to the State of Colorado on LAWMA's Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account, separated by pre-1986 and post-1985 depletions. Such report shall be delivered to the State of Colorado and forwarded to the State of Kansas by Colorado by the 15th of each month from April through October, recognizing that the data available to LAWMA's engineer will be estimated for some replacement sources and may be updated in subsequent reports. These reports shall be formatted to include, at a minimum, the following information:

   > For _(month/year)_ there are _____ acre-feet of pre-1986 Stateline depletions and _____ acre-feet of post-1985 Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account. For the calendar year, there are a total of _____acre-feet of pre-1986 Stateline depletions and _____ acre-feet of post-1985 Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account.

   This shall be a continuing obligation independent of the status of the Permanent Pool Agreement.

5. All terms contained in this Agreement shall remain in full force and effect regardless of the status of the Permanent Pool Agreement.

6. Nothing in this Agreement shall be construed to alter in any way the State of Colorado's obligation to maintain compliance with the Arkansas River Compact.

7. Approval of this Agreement does not waive either State's position on allowable uses of Highland Canal Water.

8. Approval of this Agreement does not waive either State's position concerning the interpretation of Appendix A.4 of the decree entered in *Kansas v. Colorado*, No. 105, Orig.

Kevin G. Rein, P.E.
Colorado State Engineer

David W. Barfield, P.E.
Kansas Chief Engineer

1 of 2 originals

Attachment A

In determining the unconsumed transit loss credits claimed by LAWMA under the decrees in Case Nos. 02CW181 and 10CW085 or any approved Substitute Water Supply Plan for in-state replacement credit in the monthly accounting maintained by the State of Colorado, the following procedure shall be applied: For Purgatoire River flows in the range of 1 cfs to 12 cfs, a factor ranging from 55% to 60% shall be applied pro-rata by flow; for flows between 12 cfs and 25 cfs a factor ranging from 60% to 75% shall be applied pro-rata by flow; for flows between 25 cfs and 40 cfs a factor ranging from 75% to 80% shall be applied pro-rata by flow; for flows above 40 cfs a factor of 80% shall be applied. The unconsumed transit loss credit shall be limited to that amount delivered to the Arkansas River after deducting the historical return flow obligation and the consumable credit to be delivered to the Offset Account or Permanent Pool.

Attachment B

Volumetric Limits for the Highland Canal shares changed in Case No. 02CW181 Paragraph 28.G:

The volumetric limits for the Highland Canal water rights are based upon river headgate diversions and diversions shall be calculated and measured as set forth in Sections 28.A. and B. of this Decree to apply the volumetric limits. LAWMA will limit the river headgate diversions for the Highland Canal water rights during April 2 through October 31 to a cumulative amount of 136,120 acre-feet in any twenty-year period, provided however that no more than one-half of this amount will be diverted in the first ten years after entry of this Decree, to a maximum of 12,257 acre-feet during April 2 through October 31 of any year and to the following maximum and cumulative monthly amounts:

MONTH	April	May	June	July	August	September	October
MAXIMUM AMOUNT (acre-feet)	1,445	1,854	2,172	2,369	2,570	1,996	1,142
CUMULATIVE AMOUNT IN ANY TWENTY YEAR PERIOD (acre-feet)	14,802	18,769	24,096	25,356	32,316	19,680	11,196

Volumetric Limits for the Highland Canal shares changed in Case No. 10CW085 Paragraph 28.G:

The volumetric limits for the Highland Canal water rights are based upon bypassed river headgate diversions attributable to LAWMA's interest in the Highland Canal water rights described in paragraph 8.C.vii above and shall be calculated and measured as set forth in paragraphs 17.A. and B. of this Decree to apply the volumetric limits. LAWMA shall limit the bypassed river headgate diversions for the Highland Canal water rights during April 1 through October 31 to a cumulative amount of 6,682 acre-feet in any twenty-year period, provided however that no more than one-half of this amount will be diverted in the first ten years after entry of this Decree. LAWMA shall also limit bypassed river headgate diversions for the Highland Canal water rights to a maximum of 602 acre-feet during April 1 through October 31 of any year and to the following maximum and cumulative monthly amounts:

MONTH	April	May	June	July	August	September	October
MAXIMUM AMOUNT (acre-feet)	71	91	107	116	126	98	56
CUMULATIVE AMOUNT IN ANY TWENTY YEAR PERIOD (acre-feet)	727	921	1,183	1,245	1,586	966	550

No more than one-half of each monthly cumulative twenty-year limit set forth in the above-table will be diverted in the first ten years after entry of this Decree. Additionally, LAWMA shall limit the bypassed river headgate diversions for the Highland Canal water rights Priority Nos. 27 and 97 during April 1 through October 31 to a cumulative amount of 6,243 acre-feet in any twenty-year period, provided however that no more than one-half of this amount will be claimed as a bypassed diversion in the first ten years after entry of this Decree.

MEMORANDUM OF AGREEMENT RELATED TO THE DELIVERY OF HIGHLAND CANAL WATER INTO THE PERMANENT POOL AT JOHN MARTIN RESERVOIR

This MEMORANDUM OF AGREEMENT RELATED TO THE DELIVERY OF HIGHLAND CANAL WATER INTO THE PERMANENT POOL AT JOHN MARTIN RESERVOIR ("Agreement") is entered into this 21st day of February, 2019, by and between the State of Colorado and the State of Kansas (collectively the "States").

WHEREAS, the Arkansas River Compact was entered into between the States and consented to by the United States in 1948 to equitably divide and apportion the waters of the Arkansas River and their utilization, among other purposes, between the States;

WHEREAS, the Flood Control Act of 1965 authorized a permanent pool for wildlife and recreation purposes at John Martin Reservoir ("Permanent Pool");

WHEREAS, various other acts by the States and by the Arkansas River Compact Administration ("ARCA") have recognized the authority for creating and operating the Permanent Pool;

WHEREAS, a ready source of water supply has not always been available to the State of Colorado for the Permanent Pool;

WHEREAS, the Highland Canal water rights ("Highland Canal Water") are an important source of water for the Offset Account at John Martin Reservoir;

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, located in District 17 upstream of John Martin Reservoir and diverting from the Purgatoire River, as a source of water supply for the Permanent Pool; and

WHEREAS, for the mutual benefit of the States, the State of Colorado and the State of Kansas wish to authorize the delivery of Highland Canal Water into the Permanent Pool under the conditions contained in this Agreement.

NOW THEREFORE, BE IT AGREED,

1. Highland Canal Water may not be delivered to the Permanent Pool pursuant to this Agreement until ARCA approves the use of Highland Canal Water as a source of water for the Permanent Pool.
2. Each year that this Agreement is in effect, the State of Colorado and LAWMA agree to deliver an amount of fully consumable water ("Delivery Requirement") to the Offset Account in John Martin Reservoir between March 1st and November 15th, as determined each year pursuant to this Agreement.

3. This Agreement will be in effect during each calendar year that LAWMA delivers Highland Canal Water to the Permanent Pool and the terms and conditions of this Agreement will only apply at times when the Agreement is in effect.

4. By March 1st of each year, LAWMA shall provide to the Colorado Division of Water Resources, along with their Rule 14 Replacement Plan Application and their Annual Augmentation Plan Projection, an annual source analysis in the format shown in the file "LAWMA_SourceAnalysisForHighlandPermanentPool_EstimateV1.0" ("Annual Source Analysis") or a subsequent version as agreed to by the States pursuant to this Agreement. The Annual Source Analysis is hereby incorporated by reference. The Annual Source Analysis, LAWMA's Rule 14 Replacement Application, and LAWMA's Annual Augmentation Plan Projection shall be provided by the State of Colorado to the State of Kansas no later than March 5th of each year. This Annual Source Analysis will propose an Annual Target Amount and a Minimum Delivery Amount.

5. Water in the Kansas Charge subaccount and any non-consumable storage subaccounts in the Offset Account shall not be considered a part of the Annual Target Amount or Minimum Delivery Amount deliveries under this Agreement.

6. The March 1 Offset Account storage balance for the consumable subaccounts, with the exception of the Kansas Charge subaccount, will be used to determine a Minimum Delivery Amount as part of the Annual Source Analysis. If on March 1, the Offset Account storage balance is 4,000 acre-feet or less, the Minimum Delivery Amount will be 6,000 acre-feet. If on March 1, the Offset Account storage balance is between 4,001 acre-feet and 10,000 acre-feet, the Minimum Delivery Amount will be the difference between 10,000 acre-feet and Offset Account storage balance on March 1. If on March 1, the Offset Account storage balance is more than 10,000 acre-feet, the Minimum Delivery Amount will be zero. However, if the amount released by Kansas from the Offset Account during the prior calendar year for Stateline delivery was 2,000 acre-feet or less, the Minimum Delivery Amount as calculated above will be further reduced by 2,000 acre-feet or shall be zero, whichever is greater.

7. During the month of March each year the States shall confer with one another and LAWMA, and either accept or recommend modification of the values used in the Annual Source Analysis and determine the final values for the Annual Target Amount and the Minimum Delivery Amount. The Delivery Requirement will be the greater of Annual Target Amount or Minimum Delivery Amount and shall be set by agreement between the Assistant Operations Secretary and Operations Secretary acting on behalf of each State by March 31st of each year. If the States and LAWMA cannot reach agreement prior to March 31st in any year, Highland Canal Water will not be delivered to the Permanent Pool during that calendar year and none of the other requirements of this Agreement shall be in effect for that calendar year, unless otherwise agreed to in writing by the States and LAWMA.

8. Any agreement related to the values coming out of the Annual Source Analysis does not constitute agreement with LAWMA's underlying accounting.

9. This Agreement shall not prohibit deliveries to the Offset Account in excess of the Delivery Requirement, nor shall this Agreement limit the ability to deliver Highland Canal Water to the Offset Account.

10. At least two thirds of the Delivery Requirement shall be delivered to the Offset Account by July 1st.

11. LAWMA agrees to provide a clear and concise report to the State of Colorado on LAWMA's Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account, separated by pre-1986 and post-1985 depletions. Such report shall be delivered to the State of Colorado and forwarded to the State of Kansas by Colorado by the 15th of each month from April through October, recognizing that the data available to LAWMA's engineer will be estimated for some replacement sources and may be updated in subsequent reports. These reports shall be formatted to include, at a minimum, the following information:

> For _(month/year)_ there are _____ acre-feet of pre-1986 Stateline depletions and _____ acre-feet of post-1985 Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account. For the calendar year, there are a total of _____acre-feet of pre-1986 Stateline depletions and _____ acre-feet of post-1985 Stateline depletions that exceed LAWMA's replacement water deliveries made directly to the Stateline without use of the Offset Account.

12. In the case of a spill of the Offset Account, or if a spill of the Offset Account appears likely, any quantity of water required by this Agreement to be delivered to the Offset Account may be delayed for the purpose of avoiding a spill of such deliveries. The terms and conditions of any such delay shall be first proposed in writing by LAWMA. There shall be no allowable delay in delivery until such terms and conditions are approved in writing by the Chief Engineer of the State of Kansas.

13. LAWMA and the Colorado Division of Parks and Wildlife must obtain approval for a Substitute Water Supply Plan ("SWSP") pursuant to §37-92-308(4) or §37-92-308(5) of the Colorado Revised Statutes or obtain an applicable change of use decree from Colorado Water Court prior to delivery of Highland Canal Water to the Permanent Pool.

14. After ARCA has approved the use Highland Canal Water as a source of water for the Permanent Pool and upon receipt of an approved SWSP or Colorado Water Court approval, Highland Canal Water may be delivered to the Permanent Pool on a daily basis to the extent it is not needed to fulfill the commitment to the Offset Account pursuant to the terms of this Agreement.

15. Highland Canal Water shall not be delivered to the Permanent Pool in months when any portion of Highland Canal Water is used for in-state replacement.

16. Replacement credit will not be claimed as special water input to the H-I Model for the unconsumed transit losses incurred when Highland Canal Water is being delivered to the Permanent Pool. LAWMA may claim in-state replacement credit in the monthly accounting maintained by the State of Colorado for unconsumed transit losses allowed by either of the LAWMA decrees entered in Case Nos. 02CW181 and 10CW085, District Court, Water Division No. 2, State of Colorado, or an approved SWSP, provided that such claims do not exceed the allowable amounts contained in **Attachment A** (MEMORANDUM OF AGREEMENT RELATED TO THE HIGHLAND CANAL WATER RIGHT AND RESOLUTION OF LOWER ARKANSAS WATER MANAGEMENT ASSOCIATION MATRIX ISSUES NOS. 9 AND 12).

17. LAWMA or the Colorado Division of Parks and Wildlife, through Colorado Division of Water Resources staff, shall notify the State of Kansas and the ARCA Operations Secretary prior to beginning delivery of Highland Canal Water to the Permanent Pool.

18. The ARCA Operations Secretary shall keep accurate records of all deliveries into the Permanent Pool, provide such information to the State of Kansas upon request, and include an annual summary of all Permanent Pool operations in the Operation Secretary's annual report to ARCA.

19. Nothing in this Agreement shall be construed to alter in any way the State of Colorado's obligation to maintain compliance with the Arkansas River Compact.

20. Approval of this Agreement does not waive either State's position on allowable uses of Highland Canal Water.

21. Approval of this Agreement does not waive either State's position concerning the interpretation of Appendix A.4 of the decree entered in *Kansas v. Colorado*, No. 105, Orig.

22. The States agree to review at each ARCA Annual Meeting the terms of this Agreement and ensure they are being implemented as intended and with the desired effect, including whether any modification of the Agreement is necessary. The review shall be conducted by the Engineering Committee, unless otherwise assigned by ARCA, and the results shall be reported by the committee during its annual meeting report. The annual review may be waived if agreed to by both States.

23. Any proposed changes to the Annual Source Analysis, including any changes to the spreadsheet upon which the Annual Source Analysis is based, shall be considered during the ARCA Annual Meeting review of this Agreement. The States shall agree to any proposed changes by memorializing them in writing in a formal addendum that shall be attached to this Agreement. All approved changes shall take effect for the next Annual Source Analysis after approval by the States. Changes to the Annual Source Analysis shall not require approval by ARCA.

24. Following the annual review and ARCA Annual Meeting, this Agreement may be suspended by either State if notice is provided to ARCA and the other State by

January 15th of the calendar year in which the Agreement shall be suspended. Such notice shall be in writing and contain both a preliminary statement about why the Agreement has been suspended and any specific issues for discussion between the States. If the Agreement remains suspended for three consecutive years, then the Agreement shall terminate unless otherwise agreed upon in writing by the States.

25. All notices, reports, and other documents required by this Agreement may be delivered by email or any other electronic means acceptable to the States.

Kevin G. Rein, P.E.
Colorado State Engineer

David W. Barfield, P.E.
Kansas Chief Engineer

2 of 2 originals

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 Randy Hayzlett, Lakin Troy Dumler, Garden City	David Barfield, Topeka

Arkansas River Compact Administration
Resolution No. 2019-01

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 certain conditions ;

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 so long as the States of Colorado and Kansas maintain a written agreement between them which allows such use and sets forth any applicable terms and conditions of that use.

ADOPTED by the Arkansas River Compact Administration at the Special Meeting held telephonically on February 14, 2019.

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, concurs with this Resolution by signing and dating below in the space provided.

Jim Rizzuto, Chairman
Arkansas River Compact Administration

2/15/2019
Date

Stephanie Gonzales, Recording Secretary,
Arkansas River Compact Administration

2/21/2019
Date

Concurrence

Lt. Col Dale Caswell, Jr
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

8 MAR 19
Date

Copy 1 of 4

Highland Accounting Summary

(values in ac-ft)

	Direct Flow Consumptive Use Credits			Delivery To		
	02CW181	10CW85	Total	Bypassed for In-State Replacement	Delivered to the Permanent Pool	Delivered to the Offset Account
April	480.06	23.57	503.63	0.00	0.00	503.63
May	905.93	44.47	950.40	0.00	202.43	747.97
June	945.69	46.42	992.11	0.00	380.85	611.26
July	882.17	43.30	925.48	0.00	450.16	475.32
August	427.46	20.98	448.44	0.00	283.76	164.69
September	16.11	0.79	16.90	0.00	16.90	0.00
October	1.03	0.05	1.08	0.00	1.08	0.00
	3,658.45	179.59	3,838.04	0.00	1,335.18	2,502.86

SECTION 2

JOHN MARTIN RESERVOIR

Water Year 2019

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	5734.15	0.00	0.00	22.39	0.00	5711.76
December	5711.76	5419.36	0.00	0.00	58.25	0.00	11072.87
January	11072.87	7032.71	0.00	0.00	88.49	0.00	18017.09
February	18017.09	6917.64	0.00	0.00	203.93	0.00	24730.80
March	24730.80	11765.77	93.07	0.00	437.67	0.00	36151.97
April	36151.97	3944.58	0.00	39719.50	377.05	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	128.22	0.00	0.00	0.00	128.22
Totals:		40814.21	221.29	39719.50	1187.78	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	2131.13	0.00	743.85	3.10	0.00	1384.18
December	1384.18	2129.86	0.00	745.44	14.55	0.00	2754.05
January	2754.05	2361.84	0.00	826.66	21.22	0.00	4268.01
February	4268.01	2289.97	0.00	801.52	47.87	0.00	5708.59
March	5708.59	1405.42	0.00	7079.70	34.31	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:		10318.22	0.00	10197.17	121.05	0.00	

JOHN MARTIN RESERVOIR

Water Year 2019

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	7679.93	38.43	0.00	0.00	66.28	0.00	7652.08
December	7652.08	0.00	0.00	0.00	53.95	0.00	7598.13
January	7598.13	321.96	0.00	0.00	45.93	0.00	7874.16
February	7874.16	1450.10	0.00	0.00	82.51	0.00	9241.75
March	9241.75	1035.23	13.74	93.07	142.68	0.00	10054.97
April	10054.97	638.20	0.00	0.00	221.61	0.00	10471.56
May	10471.56	1416.41	0.00	0.00	254.16	0.00	11633.81
June	11633.81	1964.18	780.03	0.00	412.40	0.00	13965.62
July	13965.62	2712.19	0.00	0.00	522.78	4562.05	11592.98
August	11592.98	1051.07	0.00	0.00	346.26	4210.84	8086.95
September	8086.95	584.10	0.00	0.00	297.33	892.62	7481.10
October	7481.10	407.19	0.00	0.00	179.97	0.00	7708.32
Totals:		11619.06	793.77	93.07	2625.86	9665.51	

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	7841.91	0.00	0.00	0.00	67.42	0.00	7774.49
December	7774.49	0.00	0.00	0.00	54.71	0.00	7719.78
January	7719.78	0.00	0.00	0.00	46.35	0.00	7673.43
February	7673.43	0.00	0.00	0.00	73.71	0.00	7599.72
March	7599.72	0.00	0.00	0.00	108.51	0.00	7491.21
April	7491.21	0.00	0.00	0.00	159.86	0.00	7331.35
May	7331.35	194.53	0.00	0.00	169.46	0.00	7356.42
June	7356.42	376.65	0.00	0.00	245.87	0.00	7487.20
July	7487.20	453.44	0.00	0.00	286.01	0.00	7654.63
August	7654.63	282.51	0.00	0.00	273.79	0.00	7663.35
September	7663.35	26.36	0.00	0.00	299.62	0.00	7390.09
October	7390.09	2.02	0.00	0.00	173.23	0.00	7218.88
Totals:		1335.51	0.00	0.00	1958.54	0.00	

JOHN MARTIN RESERVOIR

Water Year 2019

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	390.00	0.00	3.42	0.00	386.58
April	386.58	0.00	0.00	0.00	8.17	87.43	290.98
May	290.98	0.00	0.00	0.00	6.63	0.00	284.35
June	284.35	0.00	0.00	0.00	9.27	0.00	275.08
July	275.08	0.00	0.00	0.00	10.15	0.00	264.93
August	264.93	0.00	0.00	0.00	9.27	0.00	255.66
September	255.66	0.00	0.00	0.00	2.40	253.26	0.00
October	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals:		0.00	390.00	0.00	49.31	340.69	

JOHN MARTIN RESERVOIR

Water Year 2019

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	88.86	0.00	0.00	0.00	0.70	0.00	88.16
December	88.16	0.00	0.00	0.00	0.62	0.00	87.54
January	87.54	0.00	0.00	0.00	0.58	0.00	86.96
February	86.96	0.00	0.00	0.00	0.85	0.00	86.11
March	86.11	0.00	859.05	0.00	8.81	0.00	936.35
April	936.35	0.00	0.00	0.00	19.95	35.12	881.28
May	881.28	0.00	0.00	0.00	16.67	336.20	528.41
June	528.41	22.29	0.00	8.43	15.75	52.55	473.97
July	473.97	1047.31	0.00	396.28	41.17	0.00	1083.83
August	1083.83	0.00	0.00	0.00	24.40	831.86	227.57
September	227.57	0.00	0.00	0.00	7.54	41.05	178.98
October	178.98	0.00	0.00	128.22	3.75	47.01	0.00
Totals:		1069.60	859.05	532.93	140.79	1343.79	

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	2925.63	0.00	0.00	0.00	25.16	0.00	2900.47
December	2900.47	0.00	0.00	0.00	20.40	0.00	2880.07
January	2880.07	0.00	0.00	0.00	17.28	0.00	2862.79
February	2862.79	0.00	0.00	0.00	27.51	0.00	2835.28
March	2835.28	0.00	5338.74	0.00	87.70	0.00	8086.32
April	8086.32	0.00	0.00	0.00	172.61	0.00	7913.71
May	7913.71	767.92	0.00	268.78	183.88	0.00	8228.97
June	8228.97	22716.69	0.00	7950.87	418.42	229.74	22346.63
July	22346.63	22577.35	0.00	7902.07	1176.82	134.52	35710.57
August	35710.57	1163.85	0.00	407.34	1193.31	7370.29	27903.48
September	27903.48	0.00	0.00	0.00	749.00	18250.70	8903.78
October	8903.78	0.00	0.00	0.00	87.29	6268.47	2548.02
Totals:		47225.81	5338.74	16529.06	4159.38	32253.72	

JOHN MARTIN RESERVOIR

Water Year 2019

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	49255.06	0.00	743.85	0.00	425.20	0.00	49573.71
December	49573.71	0.00	745.44	0.00	351.07	0.00	49968.08
January	49968.08	0.00	826.66	0.00	302.38	0.00	50492.36
February	50492.36	0.00	801.52	0.00	488.73	0.00	50805.15
March	50805.15	0.00	20.35	0.00	725.53	0.00	50099.96
April	50099.96	0.00	15887.79	0.00	1248.81	0.00	64738.95
May	64738.95	0.00	1.83	0.00	1473.74	0.00	63267.04
June	63267.04	0.00	1429.19	0.00	2007.24	10672.90	52016.09
July	52016.09	0.00	2145.54	0.00	1400.59	27619.34	25141.70
August	25141.70	0.00	117.23	0.00	496.92	20877.66	3884.35
September	3884.35	0.00	0.00	0.00	25.90	3809.99	48.46
October	48.46	0.00	0.00	0.00	1.15	0.00	47.31
Totals:		0.00	22719.40	0.00	8947.26	62979.89	

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	123.30	0.00	743.85	743.85	1.02	0.00	122.28
December	122.28	0.00	745.44	745.44	0.93	0.00	121.35
January	121.35	0.00	826.66	826.66	0.77	0.00	120.58
February	120.58	0.00	801.52	801.52	1.14	0.00	119.44
March	119.44	0.00	491.91	20.35	7.40	0.00	583.60
April	583.60	0.00	0.00	0.00	12.44	0.00	571.16
May	571.16	0.00	268.78	1.83	14.38	0.00	823.73
June	823.73	0.00	3414.11	0.00	42.61	2960.99	1234.24
July	1234.24	0.00	1579.72	0.00	61.44	1061.18	1691.34
August	1691.34	0.00	34.35	0.00	59.92	0.00	1665.77
September	1665.77	0.00	0.00	0.00	64.97	0.00	1600.80
October	1600.80	0.00	0.00	0.00	37.52	0.00	1563.28
Totals:		0.00	8906.34	3139.65	304.54	4022.17	

JOHN MARTIN RESERVOIR

Water Year 2019

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	0.00	0.00	0.00	
December		0.00	0.00	0.00	0.00	0.00	
January		0.00	0.00	0.00	0.00	0.00	
February		0.00	0.00	0.00	0.00	0.00	
March		0.00	0.00	0.00	0.00	0.00	
April		0.00	0.00	0.00	0.00	0.00	
May		0.00	0.00	0.00	0.00	0.00	
June		0.00	0.00	0.00	0.00	0.00	
July		0.00	0.00	0.00	0.00	0.00	
August		0.00	0.00	0.00	0.00	0.00	
September		0.00	0.00	0.00	0.00	0.00	
October		0.00	0.00	0.00	0.00	0.00	
Totals:		0.00	0.00	0.00	0.00	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	64964.95	0.00	0.00	0.00	493.08	0.00	64471.87
December	64471.87	0.00	0.00	0.00	453.74	0.00	64018.13
January	64018.13	0.00	0.00	0.00	384.51	0.00	63633.62
February	63633.62	0.00	0.00	0.00	611.46	0.00	63022.16
March	63022.16	0.00	13770.64	13784.38	899.39	0.00	62109.03
April	62109.03	35.69	23796.02	0.00	1550.15	9618.58	74772.01
May	74772.01	0.00	10500.73	10500.73	1576.20	8498.54	64697.27
June	64697.27	0.00	3116.00	780.03	2061.82	4078.76	60892.66
July	60892.66	0.00	4573.09	0.00	2278.16	4323.22	58864.37
August	58864.37	0.00	255.76	0.00	1998.17	2661.04	54460.92
September	54460.92	0.00	0.00	0.00	2118.32	319.30	52023.30
October	52023.30	0.00	6169.44	6169.44	1218.89	15.30	50789.11
Totals:		35.69	62181.68	31234.58	15643.89	29514.75	

John Martin Daily Report — 11/1/2018

Acct		Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage									
City									
City/LAMAR		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation									
Summer Compact		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact		11/1/2018	0.00	335.11	0.00	0.00	0.00	0.00	335.11
Other Water									
Winter Water Holding Acc		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D67 Winter Water Storage Pool		11/1/2018		0.00	0.00	0.00	0.00	0.00	
Permanent Pool		11/1/2018	7,841.91	0.00	0.00	0.00	0.00	5.24	7,836.67
Flood Pool		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	**Totals:**		**7,841.91**	**335.11**	**0.00**	**0.00**	**0.00**	**5.24**	**8,171.78**
Agreement									
InterState									
Kansas	Kansas	11/1/2018	49,255.06	0.00	0.00	0.00	0.00	32.95	49,222.11
Transit Loss		11/1/2018	123.30	0.00	0.00	0.00	0.00	0.08	123.22
Section III									
Amity		11/1/2018	2,925.63	0.00	0.00	0.00	0.00	1.96	2,923.67
Ft. Lyon		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas		11/1/2018	88.86	0.00	0.00	0.00	0.00	0.06	88.80
CO Sec II									
Prev Winter Stored	Keesee	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Ft Bent	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Amity	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Lamar	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Hyde	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	X-Y	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Buffalo	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Sisson	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Stubbs	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Manvel	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored	Manvel	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO Sec II									
Cmt Winter Stored	Keesee	11/1/2018	843.22	0.00	0.00	0.00	0.00	0.56	842.66
Cmt Winter Stored	Ft Bent	11/1/2018	608.71	0.00	0.00	0.00	0.00	0.41	608.30
Cmt Winter Stored	Amity	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmt Winter Stored	Lamar	11/1/2018	6,163.86	0.00	0.00	0.00	0.00	4.12	6,159.74
Cmt Winter Stored	Hyde	11/1/2018	479.62	0.00	0.00	0.00	0.00	0.32	479.30
Cmt Winter Stored	X-Y	11/1/2018	1,881.64	0.00	0.00	0.00	0.00	1.26	1,880.38
Cmt Winter Stored	Buffalo	11/1/2018	3,100.07	0.00	0.00	0.00	0.00	2.07	3,098.00
Cmt Winter Stored	Sisson	11/1/2018	442.82	0.00	0.00	0.00	0.00	0.30	442.52
Cmt Winter Stored	Stubbs	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmt Winter Stored	Manvel	11/1/2018	539.78	0.00	0.00	0.00	0.00	0.36	539.42
Cmt Winter Stored	Manvel	11/1/2018	345.64	0.00	0.00	0.00	0.00	0.23	345.41
CO Sec II									
Summer Stored	Keesee	11/1/2018	4,869.47	0.00	0.00	0.00	0.00	3.26	4,866.21
Summer Stored	Ft Bent	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored	Amity	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored	Lamar	11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored	Hyde	11/1/2018	3,519.87	0.00	0.00	0.00	0.00	2.35	3,517.52
Summer Stored	X-Y	11/1/2018	13,766.38	0.00	0.00	0.00	0.00	9.21	13,757.17
Summer Stored	Buffalo	11/1/2018	18,085.29	0.00	0.00	0.00	0.00	12.09	18,073.20
Summer Stored	Sisson	11/1/2018	2,998.70	0.00	0.00	0.00	0.00	2.01	2,996.69
Summer Stored	Stubbs	11/1/2018	461.55	0.00	0.00	0.00	0.00	0.31	461.24
Summer Stored	Manvel	11/1/2018	3,550.48	0.00	0.00	0.00	0.00	2.37	3,548.11
Summer Stored	Manvel	11/1/2018	3,374.02	0.00	0.00	0.00	0.00	2.26	3,371.76
Agreement	**Totals:**		**117,423.96**	**0.00**	**0.00**	**0.00**	**0.00**	**78.54**	**117,345.42**
OffsetAccount									
Consumable									
Upstream		11/1/2018	1,485.04	0.00	0.00	0.00	0.00	0.99	1,484.05
Downstream		11/1/2018	6,163.93	0.00	0.00	0.00	0.00	4.12	6,159.81
Kansas		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ReturnFlow									
Return Flow		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RF Transit Loss		11/1/2018	30.96	0.00	0.00	0.00	0.00	0.02	30.94
Keesee Winter		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffsetAccount	**Totals:**		**7,679.93**	**0.00**	**0.00**	**0.00**	**0.00**	**5.13**	**7,674.80**
Reservoir	**Totals:**		**132,945.80**	**335.11**	**0.00**	**0.00**	**0.00**	**88.91**	**133,192.00**
Colorado Article II Summary									
Keesee		11/1/2018	5,712.69	0.00	0.00	0.00	0.00	3.82	5,708.87
Ft Bent		11/1/2018	608.71	0.00	0.00	0.00	0.00	0.41	608.30
Amity		11/1/2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar		11/1/2018	6,163.86	0.00	0.00	0.00	0.00	4.12	6,159.74
Hyde		11/1/2018	3,999.49	0.00	0.00	0.00	0.00	2.67	3,996.82
X-Y		11/1/2018	15,648.02	0.00	0.00	0.00	0.00	10.47	15,637.55
Buffalo		11/1/2018	21,185.36	0.00	0.00	0.00	0.00	14.16	21,171.20
Sisson		11/1/2018	3,441.52	0.00	0.00	0.00	0.00	2.31	3,439.21
Stubbs		11/1/2018	461.55	0.00	0.00	0.00	0.00	0.31	461.24
Manvel		11/1/2018	7,809.92	0.00	0.00	0.00	0.00	5.22	7,804.70
Colorado Article II	**Totals:**		**65,031.11**	**0.00**	**0.00**	**0.00**	**0.00**	**43.49**	**64,987.62**

John Martin Daily Report

10/31/2019

Acct	Date	PrevBal.	Inflow	TIn	TOut	Rel.	Evap	Balance
Storage								
City								
City/LAMAR	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conservation								
Summer Compact	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Winter Compact	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Water								
Winter Water Holding Account	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D67 Winter Water Storage Charge	10/31/2019		0.00	0.00	0.00	0.00	0.00	
Pool								
Permanent Pool	10/31/2019	7,223.50	0.10	0.00	0.00	0.00	4.72	7,218.88
Flood Pool	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Storage	**Totals:**	**7,223.50**	**0.10**	**0.00**	**0.00**	**0.00**	**4.72**	**7,218.88**
Agreement								
InterState								
Kansas Kansas	10/31/2019	47.34	0.00	0.00	0.00	0.00	0.03	47.31
Transit Loss	10/31/2019	1,564.30	0.00	0.00	0.00	0.00	1.02	1,563.28
Section III								
Amity	10/31/2019	2,549.69	0.00	0.00	0.00	0.00	1.67	2,548.02
Ft. Lyon	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Las Animas	10/31/2019	128.30	0.00	0.00	0.00	0.00	0.08	128.22
CO Sec II								
Prev Winter Stored Keesee	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Ft Bent	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Amity	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Lamar	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Hyde	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored X-Y	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Buffalo	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Sisson	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Stubbs	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Manvel Consu	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prev Winter Stored Manvel Return	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO Sec II								
Cmt Winter Stored Keesee	10/31/2019	402.94	0.00	0.00	0.00	0.00	0.26	402.68
Cmt Winter Stored Ft Bent	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmt Winter Stored Amity	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmt Winter Stored Lamar	10/31/2019	2,530.57	0.00	0.00	0.00	0.00	1.65	2,528.92
Cmt Winter Stored Hyde	10/31/2019	227.71	0.00	0.00	0.00	0.00	0.15	227.56
Cmt Winter Stored X-Y	10/31/2019	893.34	0.00	0.00	0.00	0.00	0.58	892.76
Cmt Winter Stored Buffalo	10/31/2019	1,488.74	0.00	0.00	0.00	0.00	0.97	1,487.77
Cmt Winter Stored Sisson	10/31/2019	210.09	0.00	0.00	0.00	0.00	0.14	209.95
Cmt Winter Stored Stubbs	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cmt Winter Stored Manvel Consu	10/31/2019	210.05	0.00	0.00	0.00	0.00	0.14	209.91
Cmt Winter Stored Manvel Return	10/31/2019	210.03	0.00	0.00	0.00	0.00	0.14	209.89
CO Sec II								
Summer Stored Keesee	10/31/2019	4,748.23	0.00	0.00	0.00	0.00	3.10	4,745.13
Summer Stored Ft Bent	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Amity	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Lamar	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summer Stored Hyde	10/31/2019	3,286.48	0.00	0.00	0.00	0.00	2.15	3,284.33
Summer Stored X-Y	10/31/2019	12,861.67	0.00	0.00	0.00	0.00	8.40	12,853.27
Summer Stored Buffalo	10/31/2019	14,838.76	0.00	0.00	0.00	0.00	9.70	14,829.06
Summer Stored Sisson	10/31/2019	2,115.08	0.00	0.00	0.00	0.00	1.38	2,113.70
Summer Stored Stubbs	10/31/2019	402.16	0.00	0.00	0.00	0.00	0.26	401.90
Summer Stored Manvel Consumabl	10/31/2019	3,341.17	0.00	0.00	0.00	0.00	2.18	3,338.99
Summer Stored Manvel Return Flo	10/31/2019	3,055.28	0.00	0.00	0.00	0.00	2.00	3,053.28
Agreement	**Totals:**	**55,111.93**	**0.00**	**0.00**	**0.00**	**0.00**	**36.00**	**55,075.93**
OffsetAccount								
Consumable								
Upstream	10/31/2019	2,175.31	0.00	0.00	0.00	0.00	1.42	2,173.89
Downstream	10/31/2019	5,472.97	7.40	0.00	0.00	0.00	3.58	5,476.79
Kansas	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kansas Charge	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ReturnFlow								
Return Flow	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RF Transit Loss	10/31/2019	57.68	0.00	0.00	0.00	0.00	0.04	57.64
Keesee Winter	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffsetAccount	**Totals:**	**7,705.96**	**7.40**	**0.00**	**0.00**	**0.00**	**5.04**	**7,708.32**
Reservoir	**Totals:**	**70,041.39**	**7.50**	**0.00**	**0.00**	**0.00**	**45.76**	**70,003.13**
Colorado Article II Summary								
Keesee	10/31/2019	5,151.17	0.00	0.00	0.00	0.00	3.36	5,147.81
Ft Bent	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Amity	10/31/2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar	10/31/2019	2,530.57	0.00	0.00	0.00	0.00	1.65	2,528.92
Hyde	10/31/2019	3,514.19	0.00	0.00	0.00	0.00	2.30	3,511.89
X-Y	10/31/2019	13,755.01	0.00	0.00	0.00	0.00	8.98	13,746.03
Buffalo	10/31/2019	16,327.50	0.00	0.00	0.00	0.00	10.67	16,316.83
Sisson	10/31/2019	2,325.17	0.00	0.00	0.00	0.00	1.52	2,323.65
Stubbs	10/31/2019	402.16	0.00	0.00	0.00	0.00	0.26	401.90
Manvel	10/31/2019	6,816.53	0.00	0.00	0.00	0.00	4.46	6,812.07
Colorado Article II	**Totals:**	**50,822.31**	**0.00**	**0.00**	**0.00**	**0.00**	**33.20**	**50,789.11**

Distribution of Compact Stored Water April 2019

	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
	0:00 hrs				24:00 hrs	0:00 hrs						24:00 hrs
Date	(af)	(af)	(af)	(af)		(af)	(af)	(af)	(af)	(af)	(af)	
3/31/2018					36151.97							
4/1/2018	36,151.97	1.86			36,150.11							83.91
4/2/2018	36,150.11	28.85			36,121.26	83.91	0.05	196.77				280.63
4/3/2018	36,121.26	12.08			36,109.18	280.63	0.02	192.40				473.01
4/4/2018	36,109.18	26.93			36,082.25	473.01	0.19	104.84				577.66
4/5/2018	36,082.25	25.98			36,056.27	577.66	0.40	335.59				912.85
4/6/2018	36,056.27	25.94			36,030.33	912.85	0.64	181.76				1,093.97
4/7/2018	36,030.33	25.91	661.17	991.75	34,351.50	1093.97	0.77	258.98				1,352.18
4/8/2018	34,351.50	22.04	991.75	1,487.63	31,850.08	1352.18	0.85	167.39				1,518.72
4/9/2018	31,850.08	21.25	991.75	1,487.63	29,349.45	1518.72	1.00	95.64				1,613.36
4/10/2018	29,349.45	20.33	991.75	1,487.63	26,849.74	1613.36	1.12	101.64				1,713.88
4/11/2018	26,849.74	18.60	991.75	1,487.63	24,351.76	1713.88	1.19	91.69				1,804.38
4/12/2018	24,351.76	16.87	991.75	1,487.63	21,855.51	1804.38	1.25	0.00				1,803.13
4/13/2018	21,855.51	15.15	793.40	1,190.10	19,856.86	1803.13	1.25	230.77				2,032.65
4/14/2018	19,856.86	13.75	793.40	1,190.10	17,859.61	2032.65	1.41	337.36				2,368.60
4/15/2018	17,859.61	8.55	793.40	1,190.10	15,867.56	2368.60	1.16	15.18				2,382.62
4/16/2018	15,867.56	11.80	793.40	1,190.10	13,872.26	2382.62	1.77	184.00				2,564.85
4/17/2018	13,872.26	13.89	793.40	1,190.10	11,874.87	2564.85	2.57	245.43				2,807.71
4/18/2018	11,874.87	9.15	793.40	1,190.10	9,882.22	2807.71	2.16	140.29				2,945.84
4/19/2018	9,882.22	9.15	793.40	1,190.10	7,889.57	2945.84	2.73	227.82				3,170.93
4/20/2018	7,889.57	7.31	793.40	1,190.10	5,898.76	3170.93	2.94	238.74				3,406.73
4/21/2018	5,898.76	5.32	793.40	1,190.10	3,909.94	3406.73	3.07	4.34				3,408.00
4/22/2018	3,909.94	2.32	793.40	1,190.10	1,924.12	3408.00	2.02	157.29				3,563.27
4/23/2018	1,924.12	0.30	769.53	1,154.29	(0.00)	3563.27	0.55	126.86		23.87	35.81	3,629.90
4/24/2018	(0.00)				(0.00)	3629.90	2.64	75.85		793.40	1190.10	1,719.61
4/25/2018	(0.00)				(0.00)	1719.61	1.97	150.04		747.07	1,120.61	-
4/26/2018	(0.00)				(0.00)	0.00						-
4/27/2018	(0.00)					0.00						-
4/28/2018	-					0.00						-
4/29/2018	-					0.00						-
4/30/2018	-					0.00						-
5/1/2018												
5/2/2018												
Total		341.47	14,323.45	21,485.19			33.72	3,944.58	-	1,564.34	2,346.52	

Summary of Key Information for Section II - Offset Delivery June-September 2019

12/9/2019

Date	Flow Data: Mean Daily Stateline (SL) Flow	Flow Data: Mean Daily Stateline (SL) Flow	Flow Data: SL flow less antecedent flow	Release Data: Offset Consumable Release	Release Data: Offset Non-Consumable Release	Release Data: Section 2 Release	Release Data: Transit Loss Release	Muskingum routing: Total Release	Muskingum routing: Total Release Times 1.05	Muskingum routing: Routed release	Muskingum routing: Routed release, lagged one day	Delivery Calculations: Stateline Delivery Hydrograph	Delivery Calculations: Equivalent Stateline Flow Hydrograph
			199.4										
	CFS	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF
5/31/2019	100	197	0	0	0	0	0	0	0	0	0	0	0
6/1/2019	91	180	0	0	0	0	0	0	0	0	0	0	0
6/2/2019	94	186	0	0	0	0	0	0	0	0	0	0	0
6/3/2019	99	196	0	0	0	0	0	0	0	0	0	0	0
6/4/2019	99	197	0	0	0	0	0	0	0	0	0	0	0
6/5/2019	116	230	30	0	0	0	0	0	0	0	0	0	0
6/6/2019	107	212	13	0	0	0	0	0	0	0	0	0	0
6/7/2019	93	184	0	0	0	0	0	0	0	0	0	0	0
6/8/2019	88	175	0	0	0	0	0	0	0	0	0	0	0
6/9/2019	82	163	0	0	0	0	0	0	0	0	0	0	0
6/10/2019	87	172	0	0	0	0	0	0	0	0	0	0	0
6/11/2019	91	181	0	0	0	0	0	0	0	0	0	0	0
6/12/2019	87	173	0	0	0	0	0	0	0	0	0	0	0
6/13/2019	79	157	0	0	0	0	0	0	0	0	0	0	0
6/14/2019	79	156	0	0	0	0	0	0	0	0	0	0	0
6/15/2019	121	241	41	0	0	0	0	0	0	0	0	0	0
6/16/2019	137	272	73	0	0	0	0	0	0	0	0	0	0
6/17/2019	141	279	80	0	0	0	0	0	0	0	0	0	0
6/18/2019	137	273	73	0	0	0	0	0	0	0	0	0	0
6/19/2019	181	359	160	0	0	509	54	509	535	25	0	0	0
6/20/2019	150	298	98	0	0	873	248	873	916	238	25	25	25
6/21/2019	203	402	203	0	0	873	248	873	916	496	238	203	238
6/22/2019	284	562	363	0	0	873	248	873	916	656	496	363	496
6/23/2019	404	802	603	0	0	873	248	873	916	755	656	603	656
6/24/2019	433	858	659	0	0	873	248	873	916	817	755	659	755
6/25/2019	431	854	655	0	0	873	248	873	916	855	817	655	817
6/26/2019	438	868	669	0	0	873	248	873	916	878	855	669	855
6/27/2019	443	879	680	0	0	873	248	873	916	893	878	680	878
6/28/2019	453	899	700	0	0	1000	288	1000	1050	908	893	700	893
6/29/2019	453	899	700	0	0	1091	317	1091	1145	967	908	700	899
6/30/2019	517	1026	826	0	0	1091	317	1091	1145	1035	967	826	967
7/1/2019	573	1136	937	0	0	1091	317	1091	1145	1077	1035	937	1035
7/2/2019	622	1234	1034	0	0	1091	0	1091	1145	1103	1077	1034	1077
7/3/2019	585	1160	961	0	0	1091	0	1091	1145	1119	1103	961	1103
7/4/2019	583	1156	957	0	0	1091	0	1091	1145	1129	1119	957	1119
7/5/2019	592	1174	974	0	0	1091	0	1091	1145	1135	1129	974	1129
7/6/2019	588	1167	968	0	0	1091	248	1091	1145	1139	1135	968	1135
7/7/2019	596	1181	982	0	0	1091	248	1091	1145	1142	1139	982	1139
7/8/2019	617	1223	1024	0	0	1091	248	1091	1145	1143	1142	1024	1142
7/9/2019	615	1220	1020	0	198	893	0	1091	1145	1144	1143	1020	1143
7/10/2019	608	1207	1007	0	198	893	0	1091	1145	1145	1144	1007	1144
7/11/2019	597	1184	985	0	198	893	0	1091	1145	1145	1145	985	1145
7/12/2019	584	1158	958	95	103	893	0	1091	1145	1145	1145	958	1145
7/13/2019	565	1120	920	198	0	893	0	1091	1145	1145	1145	920	1120
7/14/2019	561	1113	914	198	0	893	0	1091	1145	1145	1145	914	1113
7/15/2019	569	1129	929	198	0	893	0	1091	1145	1145	1145	929	1129
7/16/2019	566	1123	923	198	0	893	0	1091	1145	1145	1145	923	1123
7/17/2019	561	1112	913	198	0	893	0	1091	1145	1145	1145	913	1112
7/18/2019	559	1109	909	198	0	893	0	1091	1145	1145	1145	909	1109
7/19/2019	535	1061	862	198	0	893	0	1091	1145	1145	1145	862	1061
7/20/2019	531	1054	855	198	0	893	0	1091	1145	1145	1145	855	1054
7/21/2019	560	1110	911	198	0	893	0	1091	1145	1145	1145	911	1110
7/22/2019	601	1191	992	198	0	893	0	1091	1145	1145	1145	992	1145
7/23/2019	580	1150	950	198	0	893	0	1091	1145	1145	1145	950	1145
7/24/2019	572	1134	934	198	0	893	0	1091	1145	1145	1145	934	1134
7/25/2019	613	1216	1016	198	0	743	0	941	988	1138	1145	1016	1145
7/26/2019	603	1196	997	198	0	645	0	843	885	1076	1138	997	1138
7/27/2019	539	1068	869	198	0	645	0	843	885	1003	1076	869	1068
7/28/2019	512	1016	816	198	0	645	0	843	885	958	1003	816	1003
7/29/2019	489	969	770	198	0	645	0	843	885	930	958	770	958
7/30/2019	468	928	729	198	0	645	0	843	885	913	930	729	928
7/31/2019	476	944	745	198	0	645	0	843	885	902	913	745	913
8/1/2019	486	964	765	198	0	645	0	843	885	896	902	765	902
8/2/2019	488	968	769	198	0	723	0	921	967	896	896	769	896
8/3/2019	503	998	799	198	0	853	0	1051	1104	929	896	799	896
8/4/2019	545	1082	883	198	0	853	0	1051	1104	996	929	883	929
8/5/2019	566	1123	923	198	0	853	0	1051	1104	1037	996	923	996
8/6/2019	584	1159	960	198	0	853	0	1051	1104	1062	1037	960	1037
8/7/2019	595	1180	980	198	0	853	0	1051	1104	1078	1062	980	1062
8/8/2019	633	1256	1057	198	0	853	0	1051	1104	1088	1078	1057	1078
8/9/2019	643	1274	1075	136	0	816	0	952	1000	1089	1088	1075	1088
8/10/2019	657	1302	1103	119	0	774	0	893	937	1052	1089	1089	1089
8/11/2019	617	1223	1023	119	0	774	0	893	937	1008	1052	1023	1052
8/12/2019	620	1229	1030	99	0	793	0	893	937	981	1008	1008	1008
8/13/2019	591	1172	973	119	0	774	0	893	937	964	981	973	981
8/14/2019	668	1326	1127	119	0	674	0	793	833	949	964	964	964
8/15/2019	707	1403	1203	119	0	615	0	734	771	902	949	949	949
8/16/2019	681	1350	1151	119	0	615	0	734	771	852	902	902	902
8/17/2019	594	1179	980	119	0	615	0	734	771	821	852	852	852
8/18/2019	544	1080	880	119	0	615	0	734	771	802	821	821	821
8/19/2019	514	1020	821	119	0	615	0	734	771	790	802	802	802
8/20/2019	498	988	789	119	0	615	0	734	771	783	790	789	790
8/21/2019	469	930	730	119	0	615	0	734	771	778	783	730	783
8/22/2019	456	904	704	119	0	615	0	734	771	775	778	704	778
8/23/2019	429	850	651	119	0	615	0	734	771	773	775	651	775
8/24/2019	452	896	696	119	0	615	0	734	771	772	773	696	773
8/25/2019	448	888	689	119	0	615	0	734	771	772	772	689	772
8/26/2019	422	837	638	107	0	545	0	653	686	767	772	638	772
8/27/2019	404	801	602	99	0	496	0	595	625	733	767	602	767
8/28/2019	377	748	549	99	0	496	0	595	625	692	733	549	733
8/29/2019	351	697	498	99	0	496	0	595	625	666	692	498	692
8/30/2019	344	683	484	99	0	496	0	595	625	651	666	484	666
8/31/2019	350	695	495	99	0	496	0	595	625	641	651	495	651
9/1/2019	354	703	503	99	0	496	0	595	625	635	641	503	641
9/2/2019	347	688	489	99	0	496	0	595	625	631	635	489	635
9/3/2019	328	652	452	99	0	438	0	537	564	626	631	452	631
9/4/2019	314	623	424	99	0	397	0	496	521	600	626	424	623
9/5/2019	302	599	400	99	0	397	0	496	521	570	600	400	599
9/6/2019	293	581	382	99	0	397	0	496	521	551	570	382	570
9/7/2019	287	569	369	99	0	397	0	496	521	540	551	369	551
9/8/2019	285	566	366	99	0	397	0	496	521	532	540	366	540
9/9/2019	289	574	374	99	0	397	0	496	521	528	532	374	532
9/10/2019	315	624	425	0	0	0	0	0	0	500	528	425	528
9/11/2019	298	591	391	0	0	0	0	0	0	310	500	391	500
9/12/2019	230	456	256	0	0	0	0	0	0	192	310	256	310
9/13/2019	201	399	199	0	0	0	0	0	0	119	192	192	192
9/14/2019	184	365	166	0	0	0	0	0	0	73	119	119	119
9/15/2019	168	333	134	0	0	0	0	0	0	0	70	70	70
9/16/2019	0	0	0	0	0	0	0	0	0	0	0	0	0
9/17/2019	0	0	0	0	0	0	0	0	0	0	0	0	0
9/18/2019	0	0	0	0	0	0	0	0	0	0	0	0	0
			Totals	8967	698	62980	4022	72645	76278	76158	76155	65173	75743

Antecedent Flow Calculations

Initial Average=	238.86		
YES	7		
YES	8		
YES	9		
YES	10		
YES	6		
NO	5		
NO	3		
NO	4		
NO	1		
NO	2		
Adjusted Average	167.97	839.87	
YES		5.00	
YES			
YES			
YES			
NO			
NO			
NO			
NO			
NO			
Adjusted Average	170.89	683.58	
Final Baseflow	86.16	4.00	
Computations for < 6 days			
Enter date of 6th day	6/15/2019	240.58	
Enter date of 5th day	6/16/2019	272.19	
Enter date of 4th day		0.00	
Average with 6 days	199.39		

Paragraph 3.b.iii check	
Average for prior days 11-20	189.42
Is value twice the computed Antecedent Flow Value?	No
Muskingum Day 6 =	#N/A
Para. 3.b.iii AF Value	#N/A

Total Offset =	9666
Transit Loss on Consumable =	922
Granada Transit Loss Credit Percentage =	100.0%
Transit Loss Model Input JMR to Lamar =	63
Transit Loss Model Input Lamar to Granada =	320
Transit Loss Model Input Granada to Stateline =	309
Total Transit Loss Model Input =	692

Muskingum Derivation of factors

K (hr)=	60	cO=	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

Offset Delivery Efficiency =	89.71%
Offset Net Delivery =	8671
Offset Consumable Delivery =	8045
ESF Delivery Efficiency =	104.3%
Section II Delivery =	62980
Section II Delivery Transit Loss =	0
Evaporation Delivery Credit	0

STATE OF COLORADO

Van Oort - DNR, John <john.vanoort@state.co.us>

RE: Las Animas Consolidated (PWWSP water in Meredith)

1 message

Salter, Kevin [KDA] <Kevin.Salter@ks.gov> Thu, Jun 27, 2019 at 8:48 AM
To: "Van Oort, John" <john.vanoort@state.co.us>
Cc: Bill Tyner <Bill.Tyner@state.co.us>, Lonnie Spady <Lonnie.Spady@state.co.us>, Jeff Baylor <jeffbaylor@hotmail.com>, Hughes Bruce <bhughes@ccanal.net>, "Belt, Richard L" <Richard.L.Belt@xcelenergy.com>, Ark Ops <rop@state.co.us>, "Barfield, David [KDA]" <David.Barfield@ks.gov>, "Beightel, Chris [KDA]" <Chris.Beightel@ks.gov>, "Meyer, Mike [KDA]" <Mike.Meyer@ks.gov>, "Friedman, Brandon [KDA]" <Brandon.Friedman@ks.gov>, "Duran, Rachel [KDA]" <Rachel.Duran@ks.gov>, Randy Hayzlett <hayzlett@pld.com>, Troy Dumler <troy.dumler@sbcglobal.net>

Good morning. I apologize for not responding last night.

The delivery of LACC water from Meredith to John Martin is acceptable with the conditions laid out in your email below (June 26th at 6:05 pm Central).

I would appreciate receiving the accounting of this operation and if possible a check of the actual to the calculated transit losses.

Thanks! …..Kevin

From: Van Oort, John [mailto:john.vanoort@state.co.us]
Sent: Wednesday, June 26, 2019 6:05 PM
To: Salter, Kevin [KDA]
Cc: Bill Tyner; Lonnie Spady; Jeff Baylor; Hughes Bruce; Belt, Richard L; Ark Ops
Subject: Las Animas Consolidated (PWWSP water in Meredith)

EXTERNAL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Kevin,

The Lake Meredith storage right has come into priority and therefore they are expecting to spill Winter Water held there for LACC et. al. on an "if & when" basis, per the Pueblo Winter Water Storage decree (84CW179).

The LACC has 1130 (+ or -) ac/ft which would suffer transit losses to John Martin and then be assessed the 35% storage charge as if it had been delivered to JM prior to March 15.

If not allowed to be stored in JM, the LACC has requested that it be exchanged to Pueblo Reservoir, where they will be required to pay the SECWCD the normal cost for Winter Water storage. At the present time, I believe this exchange can be accommodated as an administratively approved exchange.

I think that the condition that would prevent subsequent exchange out of John Martin back to Meredith would be acceptable to the LACC and I can give you my assurance that the only subsequent exchange of this water from John Martin would be to the LACC headgate.

Let me know if you have additional questions. If you are inclined to consent to such special request, on behalf of LACC I would like to request that if at all possible, you will inform me by say 08:00 tomorrow morning (6/27/2019).

Thanks for your consideration,

John Van Oort

Division 2 - River Operation Coordinator

COLORADO
Division of Water Resources
Department of Natural Resources

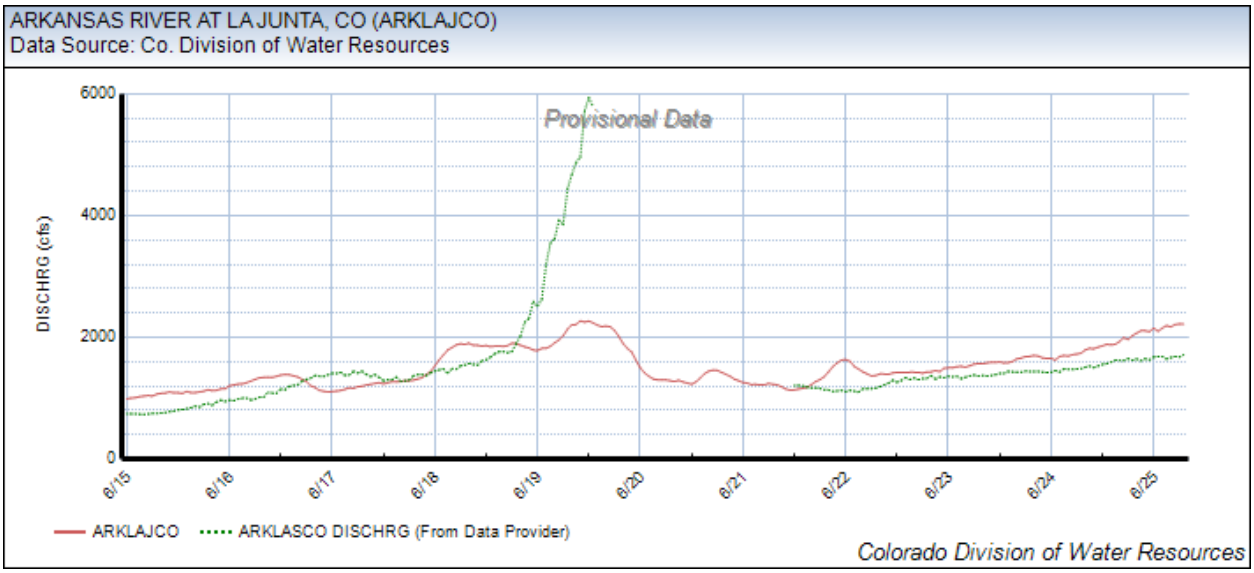
P 719.542.3368 x2103 | C 719.252.4381

310 E. Abriendo Ave. Suite "B" Pueblo Colorado, 81004

john.vanoort@state.co.us | www.water.state.co.us

Hello everyone,

On June 19, 2019 we went into Conservation Storage (5/31/1949) in John Martin Reservoir. This decision was made based on flows seen running through ARKLASCO (Arkansas River at Las Animas) (See Hydrograph below). Prior to making this call, I had contacted Kevin Salter who I knew was going to be cross the Arkansas River at Las Animas that morning, to ask him to verify this flows seen at ARKLASCO. Kevin's observation was, there is water from bank to bank but was not sure of the flow rate. As you can also see be the hydrograph below, the river gage was out of commission until June 21, 2019.



With the call on the river going to 5/31/1949, Trinidad Reservoir was entitled to start storing. At which time the discharge from Trinidad Reservoir was reduced to 80 cfs from 345 cfs around 16:30 on June 19, 2019. At the same time, a majority of the PRWCD (Purgatory River Water Conservancy District) turned out. Had the call not gone to 5/31/1949 these ditches would have continued diverting. Trinidad Reservoir continued to store water until June 22, 2019 at 19:00.

On June 24, 2019 it was determined that the call should not have gone to 5/31/1949. This decision was made base on two different facts. 1). ARKLASCO was updated by USGS which indicated that the peak was less than 2000 cfs not 5920 cfs. 2). Storage in JMR on June 19, 2019 was 803.23 ac/ft and 768.63 ac/ft on June 20, 2019. Based on these facts, Kevin Salter, Bill Tyner and John Van Oort made the decision to pull back the 5/31/1949 call and to administer the river as if the 5/31/1949 call had not been made.

With the decision to pull back the 5/31/1949 river call (mentioned above), pursuant to C.R.S. 37-80-120 Trinidad Reservoir would need to release the water stored between June 19, 2019 and June 22, 2019 minus what the District ditches would have diverted. To accomplish this, I had asked Jeff Montoya to increase Purgatory River at Fisher Crossing (PURFICCO) as listed below.

- June 25, 2019 -- Purgatory River at PURFICCO should be increased to 250 cfs
    - 132 cfs (Baseline at PURFICCO) plus 118 cfs (Storage minus what would have being diverted) = 250 cfs
- June 26, 2019 Purgatory River at PURFICCO should be increased to 275 cfs
    - 132 cfs (Baseline at PURFICCO) plus 143 cfs (Storage minus what would have being diverted) = 275 cfs
- June 27, 2019 Purgatory River at PURFICCO should be increased to 272 cfs
    - 132 cfs (Baseline at PURFICCO) plus 140 cfs (Storage minus what would have being diverted) = 272 cfs
    - 139.90 cfs of the 140 cfs is being exchanged from Meredith Reservoir to Trinidad Reservoir as mentioned in an email sent on June

Please contact me if you have any questions.

Thanks,

FULL REPORT CAN BE DOWNLOADED ELECTRONICALLY ON THE ARKANSAS RIVER COMPACT ADMINISTRATION WEBSITE

Exhibit K

Annual Meeting

December 5, 2019

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado	Chairman and Federal Representative	For Kansas
Rebecca Mitchell, Denver	James T. Rizzuto, Swink	David Barfield, Manhattan
Lane Malone, Holly		Randy Hayzlett, Lakin
Scott Brazil, Vineland		Troy Dumler, Garden City

December 1, 2019

Mr. Lane Malone, Chairman
Mr. Troy Dumler, Member
Operations Committee
Arkansas River Compact Administration

Re: Compact Year 2019 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 Delivery, the Pueblo Winter Water Storage Program (PWWSP), Pass-thru & Status Accounting, and Water Issues Matrix.

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. General communications are described below and some topics will be addressed in more detail later in the report.

The Operations and Assistant Operation Secretaries met twice, on April 30th and November 12th. Staff from the Corps and Colorado Parks and Wildlife (CPW) attended the April meeting. The Corps staff provided additional information on how the latest elevation-area-capacity (EAC) tables were generated. We were also able to discuss issues related to the upcoming irrigation season. I would suggest that the Corps and CPW staff be invited to future Spring meetings.

We were also involved in a number of ARCA Special Engineering Committee (SEC) meetings this year. Of the issues that have been directed to the SEC, the focus for this Compact Year was on two issues: use of the Highland Canal water rights as an evaporation replacement source for the John Martin Reservoir (JMR) permanent pool and a proposed Colorado water user's multi-purpose account. More recently, the focus has been on Colorado multi-purpose account.

Besides meetings, the States continue to communicate on a regular basis on a variety of topics including John Martin Accounting System (JMAS) data updates, PWWSP operational issues, Offset Account operations, Kansas release, and runoff conditions within the Arkansas River Basin. Such communication I believe reduces disputes by addressing issues as they arise.

John Martin Reservoir

JMR Stilling Basin: The JMR stilling basin was dewatered and examined for the first time since the reservoir was built. The States and the Corps had monthly conference calls to monitor the progress, other interested parties like the USGS were also included on these calls. I appreciate the Corps efforts to keep us informed and provide pictures to go along with the updates. The work on the stilling basin was completed in time for the start of the irrigation season even with additional unanticipated work that needed to be completed.

I had the opportunity to tour the John Martin Reservoir Dam this November. It reminded me of all the time and effort the Corps puts in to maintain this dam. I don't often think about the efforts behind calling for a release of water stored in John Martin Reservoir and it was a nice reminder. Thanks to the Corps for their efforts.

JMR Elevation-Area-Capacity (EAC): The States have worked for more than a year to implement a fairer way to reallocate storage changes in the reservoir. This discussion started with a comment from account holders that had water and took the majority of any reduction in storage when a new EAC was implemented. The reason for the comment was previously when a new EAC table was implemented, the adjustment for sediment was prorated based on accounts containing water on that day. The account holders didn't feel like that reallocation of storage due to sedimentation accumulation was fair as other accounts that used the reservoir were seemingly unaffected.

The States developed a concept for which first Brent Campbell and then Rachel Duran implemented through a spreadsheet that distributes the storage change based on end of month storage in each account. Using this spreadsheet, two methodologies were developed depending on whether there was a storage gain or reduction resulting from the new EAC. This spreadsheet was reviewed by John Van Oort and Phil Reynolds with the Division 2 office.

On November 1, 2019, the Corps implemented a new EAC table. This new EAC showed a gain in storage at every elevation within the reservoir. This was a result of a more complete survey of the reservoir. See Figure 1 attached.

Previously the EAC tables were based on cross-sectional areas which were replicated with each resurvey. This time there was 3D rendering of JMR using multi-beam sonar for below water and LiDAR for above water surface. My understanding is that there were some areas of the reservoir that was interpolated between the two methods as the boat could not survey water depths less than 7 feet. This way of surveying the reservoir will provide a more detailed understanding of where sedimentation is occurring.

This gain in storage was unexpected and the expectation for the next resurvey is that storage will be reduced. We would appreciate any feedback on how the States agreed to reallocate the change in storage, keeping in mind that the next resurvey will likely result in a decrease in storage, thus a decrease in the accounts. The States will document how the reallocation spreadsheet was used this year and how it would be used with a reduction in storage.

JMR Content: Figure 2 attached provides a graphical representation of JMR and the accounts contained within for CY2019. The maximum end of day content occurred on April 14th with 177,068 AF in storage. The minimum end of day content occurred on October 31st with 70,389 AF in storage based on the EAC in use at the time.

With the implementation of the new EAC table, JMR content was 73,065 AF at the beginning of day on November 1, 2019, which reflects the gain in storage of 2,676 AF at that elevation due to the resurvey. This storage gain was distributed to the accounts in John Martin Reservoir as shown in the table below.

Adjustments to JMR Main Accounts

Account	10/31/19 End of Day Content (AF)	Account Increase (AF)	Percent of Increase
Compact Conservation Storage	128.22	145.28	5.4%
Winter Water Account (PWWSP)	0.00	21.85	0.8%
Offset Account	7,708.32	186.06	7.0%
Permanent Pool	7,218.88	150.47	5.6%
CO Section III -- Total	2,548.02	232.69	8.7%
Kansas Section II	47.31	710.89	26.6%
Transit Loss Account	1,563.28	18.10	0.7%
CO Section II Account -- District 67 totals	50,803.91	1,211.24	45.3%
Total	**70,017.93**	**2,676.57**	100.0%

Kansas Delivery

Kansas entered the irrigation season (April 1st) with approximately 50,097 AF in its Section II account and ended (October 31st) with 47 AF. During CY2019, Kansas had one release that will be briefly described below.

A Kansas Section II Account release was started on June 19th. Kansas began a concurrent release from the Offset Account from July 9th. Releases from both accounts continued uninterrupted until September 9th. The release rates from the Kansas Section II and Offset Account varied throughout this run as irrigation demand changed and precipitation occurred. Figure 3 attached is a graphical summary of this release. The Kansas Section II release lasted approximately 82 days and the Offset Account lasted approximately 63 days. The release spreadsheet was reviewed and accepted by both offices to arrive at the final delivery numbers.

Pueblo Winter Water Storage Program

As noted in past reports, the States have committed to continue 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. We have agreed to exchange some work product by mid-January (2020) and to meet after that exchange.

Colorado and Kansas have tried to visit 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. These visits were prompted by water found being bypassed around the Arkansas River near Las Animas gage in a previous year(s). During CY2019 Lonnie Spady, Division 2, visited the Consolidated Ditch and found only small amounts of water being returned to the Arkansas River by this ditch. He reported his findings at the November 14, 2018 meeting between the OS and AOS.

CY2020 PWWSP: The Consolidated Ditch was not visited this year as this ditch ceased diversions from the Arkansas River on November 1st and hasn't diverted since. Lonnie Spady, Division 2, provided pictures and reported only the seep ditch at the bottom end of the Consolidated Ditch was returning a small amount of water during the OS-AOS meeting of November 12th.

Something that occurred in CY2020 that will likely be described in more detail next year is that the Fort Lyon Canal sluiced/sanded their headgate area between November 11th and 15th. The period of November 1st to the 15th is used to determine the baseflow which was part of the how the split between Compact Conservation storage and PWWSP is determined between November 15th and March 15th for water passing through the Arkansas River at Las Animas USGS gage.

Pass-thru and Status Accounting

A spreadsheet is used to track: river flows; JMAS (John Martin Accounting System) inflows and releases; Corps JMR evaporation, storage, and releases. The spreadsheet calculates: (a) gaged and ungaged inflows, (b) pass-thru, and (c) 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. This spreadsheet was updated by Garden City Field Office staff.

Last year it was recognized that there were measured inflows from augmentation stations that flow into JMR below the Arkansas River at Las Animas and Purgatoire River near Las Animas USGS gages. The spreadsheet was modified to include these augmentation flows into JMR reduced by the estimated transit loss. That modified pass-thru spreadsheet was provided to the OS on November 15th for inclusion in the Operations Secretary's report.

ARCA Special Engineering Committee (SEC)

Both States were active in the Special Engineering Committee (SEC) over the past Compact Year. Several meetings were held with the primary focus on JMR Permanent Pool and the proposed Colorado multi-purpose account.

JMR Permanent Pool: The authorization of Highland Canal water rights as a source of water to make up evaporation and add to the permanent pool was the focus at the start of this Compact Year. ARCA approved this as a permanent source by resolution at the February 14, 2019 Special Meeting. This was the culmination of many years (decades) of exploring different potential sources and after a few years where this source was operated under pilot project status.

Colorado Multi-purpose Account: SEC is now focused on a proposed new account in JMR for Colorado water users. There are multiple sources and purposes for various entities in Colorado that would like to utilize such an account, if approved. The States are in preliminary discussions on this.

There are other SEC work tasks, including flood spill issues and PWWSP that will likely be addressed in the upcoming Compact Year.

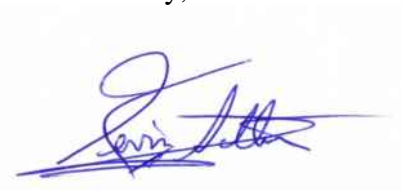
Water Issues Matrix

As previously reported, 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. An updated Water Issues Matrix was not produced for this report.

Summary

This past Compact Year has offered its challenges. Communication between the States has been valuable to work through issues that arose and to continue to work on those long standing issues. The communication with was equally as valuable when dealing with our federal partners on JMR stilling well inspection, implementation of new EACs, with flow measurements along the Arkansas River, and other issues. I look forward to working with the Operations Secretary and others on the issues set before us in this upcoming year.

Sincerely,



Kevin L. Salter, P.E.
Assistant Operations Secretary

Figure 1 JMR storage difference between the November 2013 and November 2019 EAC tables

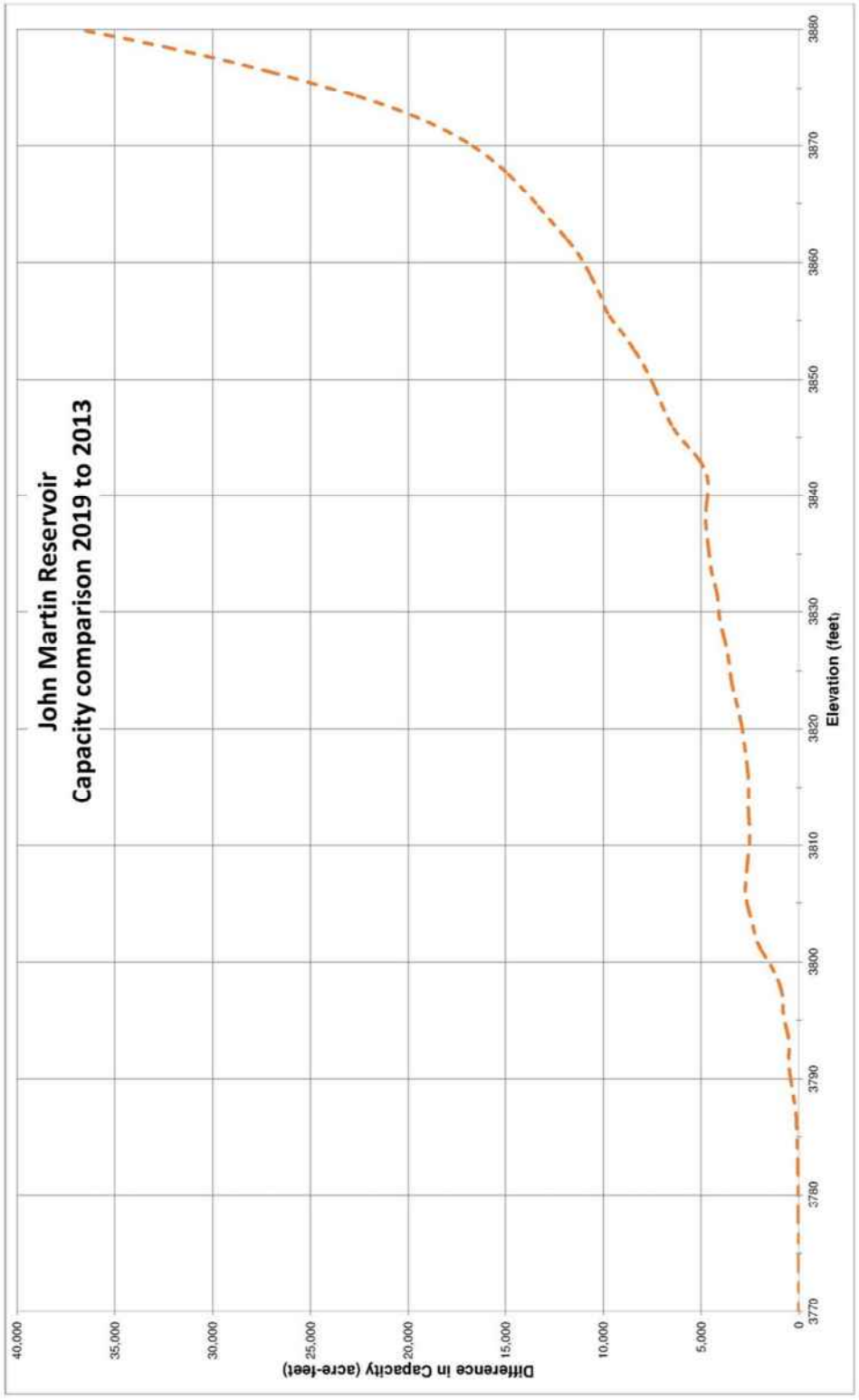


Figure 2 Graphical representation of John Martin Accounts over CY2019

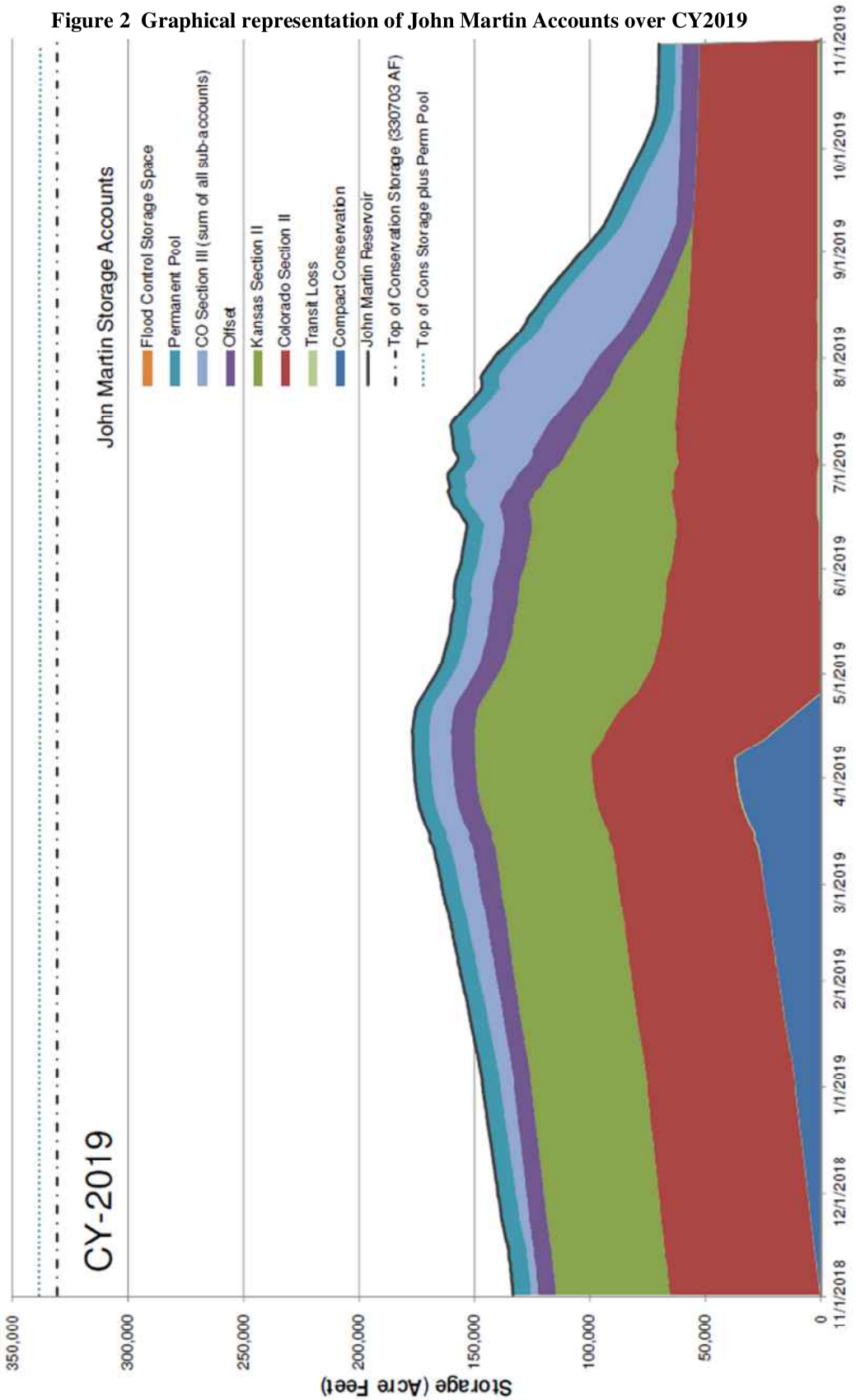


Figure 3 Hydrograph of the Kansas CY2019 Release at the Stateline

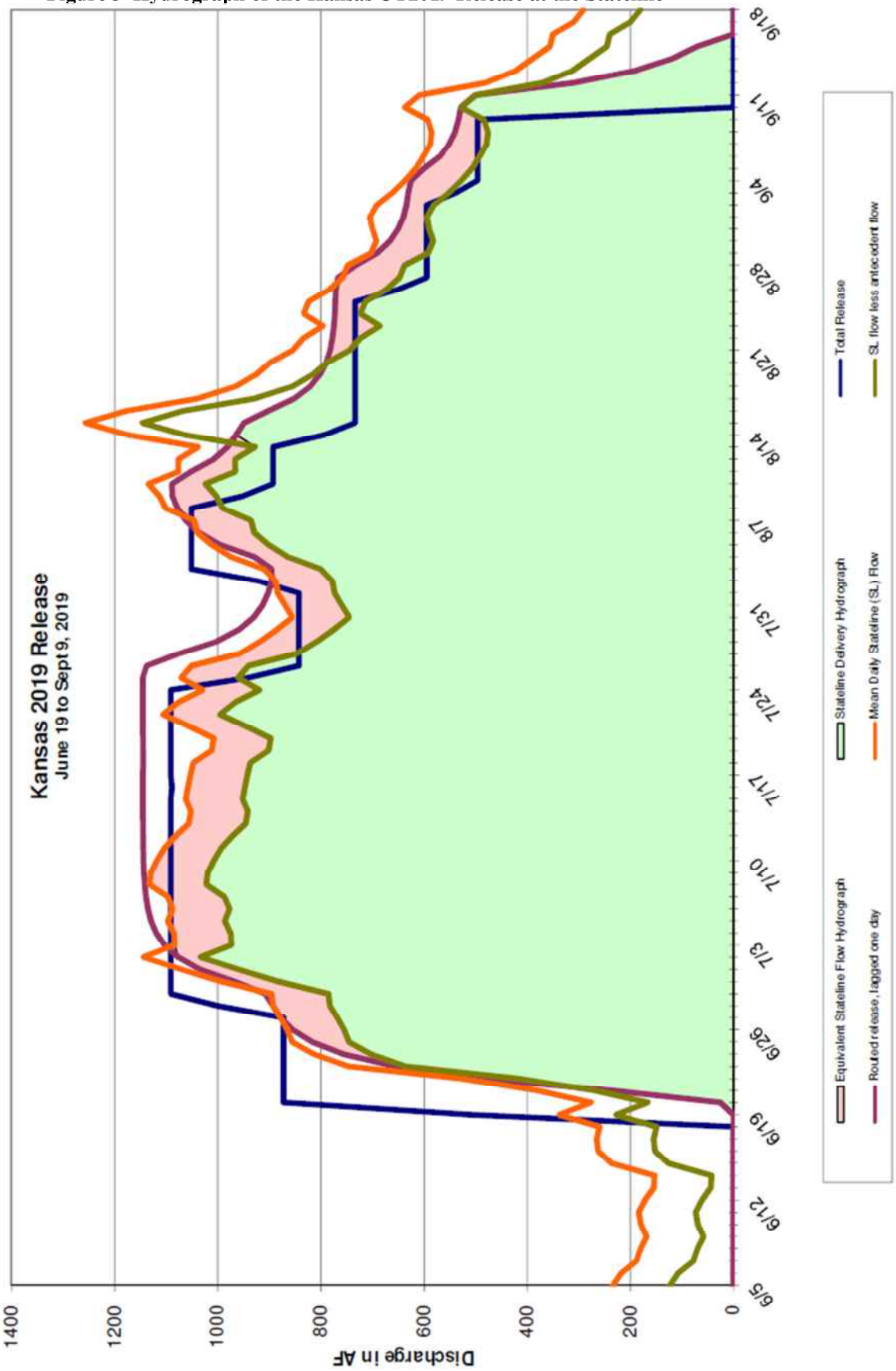


Exhibit L

Annual Meeting

December 5, 2019

Report of the Colorado State Engineer Concerning Accounting of the Operations of an Offset Account in John Martin Reservoir for Colorado Pumping 2019

COLORADO
Division of Water Resources
Department of Natural Resources

Submitted to the
Engineering and Operations Committees
Arkansas River Compact Administration
Revised January 7, 2020

Exhibit L

Revised January 7, 2020

December 1, 2019

Report of the Colorado State Engineer

Offset Account Operations

November 1, 2018 to October 31, 2019

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, 2018 through October 31, 2019 and has been prepared pursuant to paragraph 11 of the Amended Resolution.

At 0000 hours, November 1, 2018 the Offset Account contained 7674.80 acre-feet. From November 1, 2018 through October 31, 2019 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, initially concluding on March 19, 2019 and balancing the transfer to account for evaporation losses on March 31, 2019. 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, 2018 through October 31, 2019, there were seven deliveries/transfers of water to the Offset Account in addition to the transfer for the storage charge. The transfer and six deliveries/transfers 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 (CS-U Delivery)	January 22, 2019	March 19, 2019	2739.67	2739.67	0
LAWMA (Keesee Article II Transfer)	March 31, 2019	March 31, 2019	13.74	11.94	1.80
LAWMA (Sisson Article II Transfer)	June 30, 2019	June 30, 2019	780.03	500	280.03
CWPDA (Municipal Fully Consumable)	July 1, 2019	July 11, 2019	1156.26	1156.26	0
LAWMA (Fort Lyon)	November 1, 2018	October 31, 2019	3406.73	3406.73	0
LAWMA (Highland)	April 2, 2019	October 31, 2019	2502.81	2502.81	0
LAWMA (Keesee)	April 26, 2019	October 31, 2019	1813.60	1813.60	0
TOTALS			**12412.84**	**12131.01**	**281.83**

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 July 9, 2019 through September 9, 2019 and is summarized as follows:

Summary of Release (July 9, 2019 – September 9, 2019)
(From Calculations per Offset Agreement)

Release from Kansas Storage Charge subaccount = 458.18 acre-feet

Release from Kansas Consumable Water subaccount = 0.00 acre-feet

Release from Colorado Upstream/Downstream Consumable Water subaccounts = 8967.42 acre-feet

Release from Return Flow/Return Flow Transit Loss subaccounts = 239.91 acre-feet

Total quantity released = 9665.51 acre-feet

Credit for Colorado Consumptive Use Water

0.8971 x 8967.42 (Consumptive Use Water) = 8670.93 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, 2019 the Offset Account contained 7708.32 acre-feet.

The Colorado State Engineer and the Kansas Chief Engineer have coordinated Offset Account operations successfully through their respective delegates throughout the year.

Bill W. Tyner

Bill W. Tyner for
Colorado State Engineer

December 1, 2019

Revised: January 7, 2020

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Report of the Colorado State Engineer – Offset Account Operations

Section1

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

- January 22, 2019 letter to Kevin Salter regarding the Initial Notice of Offset Account Delivery for the LAWMA for CS-U consumable water from Fountain Creek.
- April 2, 2019 letter to Kevin Salter regarding the Initial Notice of Offset Account Delivery for the LAWMA Storage Charge to the Kansas Subaccount.
- April 4, 2019 letter to Kevin Salter regarding the Initial Notice of Offset Account Delivery for the Highland Canal consumable water.
- April 4, 2019 letter to Kevin Salter regarding Initial Notice of Offset Account Delivery for the Fort Lyon Canal consumable water.
- April 4, 2019 letter to Kevin Salter regarding Initial Notice of Offset Account Transfer for LAWMA Section II (Keesee) water.
- June 28, 2019 letter to Kevin Salter regarding Initial Notice of Offset Account Delivery for LAWMA Section II (Sisson) water.
- June 28, 2019 letter to Kevin Salter regarding Initial Notice of Offset Account Delivery for the CWPDA delivery of consumable water from Lake Meredith.
- July 10, 2019 letter to David Barfield regarding the summary of water delivered or transferred by LAWMA consisting of delivery of consumable CS-U water from Municipal CU Return flows from Fountain Creek to the Downstream consumable account and transfers to the Consumable Downstream subaccount, the Kansas Charge subaccount, Return Flow subaccount and Transit Loss subaccount.
- August 6, 2019 letter to David Barfield regarding the summary of water delivered by CWPDA to the Offset Account.
- January 20, 2020 revised version of the October 30, 2019 letter to David Barfield regarding the summary of water released from the Offset Account for delivery to the Stateline as called for by the Kansas Chief Engineer.

- October 30, 2019 letter to David Barfield regarding the summary of water released from the Offset Account for delivery to the Stateline as called for by the Kansas Chief Engineer.
- November 27, 2019 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 2019
- November 27, 2019 letter to David Barfield regarding accounting summary for delivery of LAWMA's Keesee Ditch consumptive use water to the Offset Account for April – October 2019.
- November 27, 2019 letter to David Barfield regarding accounting summary for delivery of LAWMA's Highland Canal consumptive use water to the Offset Account for April – October 2019.

Section 4

Monthly Reports of Colorado Pumping and Offset Account Operations

- March 15, 2019 letter to David Barfield and Stephanie Gonzales- November 2018 Report
- March 15, 2018 letter to David Barfield and Stephanie Gonzales- December 2018 Report
- March 15, 2018 letter to David Barfield and Stephanie Gonzales- January 2019 Report
- June 28, 2019, letter to David Barfield and Stephanie Gonzales- February 2019 Report
- June 28, 2019 letter to David Barfield and Stephanie Gonzales – March 2019 Report
- June 28, 2019 letter to David Barfield and Stephanie Gonzales – April 2019 Report
- October 11, 2019 letter to David Barfield and Stephanie Gonzales – May 2019 Report
- October 11, 2019 letter to David Barfield and Stephanie Gonzales – June 2019 Report
- October 11, 2019 letter to David Barfield and Stephanie Gonzales – July 2019 Report
- October 11, 2019 letter to David Barfield and Stephanie Gonzales – August 2019 Report
- November 27, 2019 letter to David Barfield and Stephanie Gonzales – September 2019 Report
- November 27, 2019 letter to David Barfield and Stephanie Gonzales – October 2019 Report

Section 1

JOHN MARTIN RESERVOIR
OFFSET ACCOUNT

TABLE 1
OFFSET ACCOUNT TOTALS

WATER YEAR	CONTENTS	PHYSICAL	ACCOUNT	ACCOUNT		ACCOUNT	ACCOUNT	PHYSICAL	CONTENTS
2019	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	7679.93	38.43		0.00	66.28	0.00			7652.08
DECEMBER	7652.08				53.95				7598.13
JANUARY	7598.13	321.96			45.93				7874.16
FEBRUARY	7874.16	1450.10			82.51				9241.75
MARCH	9241.75	1035.23	13.74		142.68		93.07		10054.97
APRIL	10054.97	638.20	0.00		221.61				10471.56
MAY	10471.56	1416.41			254.16				11633.81
JUNE	11633.81	1964.18	780.03		412.40				13965.62
JULY	13965.62	2712.19			522.78			4562.05	11592.98
AUGUST	11592.98	1051.07			346.26			4210.84	8086.95
SEPTEMBER	8086.95	584.10			297.33			892.62	7481.10
OCTOBER	7481.10	407.19			179.97				7708.32
TOTALS		11619.06	793.77	0.00	2625.86	0.00	93.07	9665.51	

JOHN MARTIN RESERVOIR
OFFSET ACCOUNT

TABLE A
CONSUMABLE WATER

WATER YEAR 2019	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	7648.97	38.43		65.98			7621.42
DECEMBER	7621.42			53.64			7567.78
JANUARY	7567.78	321.96		45.65			7844.09
FEBRUARY	7844.09	1450.10		82.22			9211.97
MARCH	9211.97	1035.23	11.94	142.18	93.07		10023.89
APRIL	10023.89	638.20		221.00			10441.09
MAY	10441.09	1416.41		253.51			11603.99
JUNE	11603.99	1964.18	500.00	411.46			13656.71
JULY	13656.71	2712.19		517.49		4322.14	11529.27
AUGUST	11529.27	1051.07		344.02		4210.84	8025.48
SEPTEMBER	8025.48	584.10		294.91		892.62	7422.05
OCTOBER	7422.05	407.19		178.56			7650.68
TOTALS		11619.06	511.94	2610.62	93.07	9425.60	

TABLE B
RETURN FLOW WATER WITH TRANSIT LOSS

WATER YEAR 2019 MONTH	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	30.96			0.30			30.66
DECEMBER	30.66			0.31			30.35
JANUARY	30.35			0.28			30.07
FEBRUARY	30.07			0.29			29.78
MARCH	29.78		1.80	0.50			31.08
APRIL	31.08			0.61			30.47
MAY	30.47			0.65			29.82
JUNE	29.82		280.03	0.94			308.91
JULY	308.91			5.29		239.91	63.71
AUGUST	63.71			2.24			61.47
SEPTEMBER	61.47			2.42			59.05
OCTOBER	59.05			1.41			57.64
TOTALS		0.00	281.83	15.24	0.00	239.91	

JOHN MARTIN RESERVOIR
OFFSET ACCOUNT

TABLE A.1
CONSUMABLE WATER
COLORADO UPSTREAM

WATER YEAR 2019	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	1485.04			12.77			1472.27
DECEMBER	1472.27			10.37			1461.90
JANUARY	1461.90			8.81			1453.09
FEBRUARY	1453.09	102.17		14.39			1540.87
MARCH	1540.87			21.65	93.07		1426.15
APRIL	1426.15	12.61		30.52			1408.24
MAY	1408.24			32.05			1376.19
JUNE	1376.19			44.90			1331.29
JULY	1331.29	1156.26		87.13			2400.42
AUGUST	2400.42			84.02			2316.40
SEPTEMBER	2316.40			90.35			2226.05
OCTOBER	2226.05			52.16			2173.89
TOTALS		1271.04	0.00	489.12	93.07	0.00	

TABLE A.2.
CONSUMABLE WATER
COLORADO DOWNSTREAM

WATER YEAR 2019 MONTH	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	6163.93	38.43		53.21			6149.15
DECEMBER	6149.15			43.27			6105.88
JANUARY	6105.88			36.66			6069.22
FEBRUARY	6069.22	1169.89		63.16			7175.95
MARCH	7175.95	1035.23		113.44			8097.74
APRIL	8097.74	625.59		179.81			8543.52
MAY	8543.52	1416.41		210.29			9749.64
JUNE	9749.64	1964.18	500.00	350.93			11862.89
JULY	11862.89	1555.93		426.01		3863.96	9128.85
AUGUST	9128.85	1051.07		260.00		4210.84	5709.08
SEPTEMBER	5709.08	584.10		204.56		892.62	5196.00
OCTOBER	5196.00	407.19		126.40			5476.79
TOTALS		9848.02	500.00	2067.74	0.00	8967.42	

JOHN MARTIN RESERVOIR
OFFSET ACCOUNT

TABLE A.3
KANSAS CONSUMABLE

WATER YEAR 2019	CONTENTS BEGINNING OF MONTH	PHYSICAL INFLOW	ACCOUNT TRANSFER-IN Consumptive	EVAPORATION	ACCOUNT TRANSFER-OUT Consumptive	PHYSICAL RELEASE	CONTENTS END OF
MONTH	A.F.	A.F.	A.F.	A.F.	A.F.	A.F.	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			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 2019	CONTENTS BEGINNING OF	PHYSICAL INFLOW	ACCOUNT TRANSFER-IN Consumptive	EVAPORATION	ACCOUNT TRANSFER-OUT Consumptive	PHYSICAL RELEASE	CONTENTS END OF
MONTH	MONTH A.F.	A.F.	A.F.	A.F.	A.F.	A.F.	MONTH A.F.
NOVEMBER	0.00			0.00			0.00
DECEMBER	0.00			0.00			0.00
JANUARY	0.00	321.96		0.18			321.78
FEBRUARY	321.78	178.04		4.67			495.15
MARCH	495.15		11.94	7.09			500.00
APRIL	500.00			10.67			489.33
MAY	489.33			11.17			478.16
JUNE	478.16			15.63			462.53
JULY	462.53			4.35		458.18	0.00
AUGUST	0.00			0.00			0.00
SEPTEMBER	0.00			0.00			0.00
OCTOBER	0.00			0.00			0.00
TOTALS		500.00	11.94	53.76	0.00	458.18	

JOHN MARTIN RESERVOIR
OFFSET ACCOUNT

TABLE B.1
RETURN FLOW

WATER YEAR 2019	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	30.96			0.30			30.66
DECEMBER	30.66			0.31			30.35
JANUARY	30.35			0.28			30.07
FEBRUARY	30.07			0.29			29.78
MARCH	29.78		1.80	0.50			31.08
APRIL	31.08			0.61			30.47
MAY	30.47			0.65			29.82
JUNE	29.82		280.03	0.94			308.91
JULY	308.91			5.29		239.91	63.71
AUGUST	63.71			2.24			61.47
SEPTEMBER	61.47			2.42			59.05
OCTOBER	59.05			1.41			57.64
TOTALS		0.00	281.83	15.24	0.00	239.91	

TABLE B.2
RETURN FLOW
TRANSIT LOSS

WATER YEAR 2019 MONTH	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	30.96			0.30			30.66
DECEMBER	30.66			0.31			30.35
JANUARY	30.35			0.28			30.07
FEBRUARY	30.07			0.29			29.78
MARCH	29.78		0.09	0.50			29.37
APRIL	29.37			0.61			28.76
MAY	28.76			0.65			28.11
JUNE	28.11		39.00	0.94			66.17
JULY	66.17			2.46			63.71
AUGUST	63.71			2.24			61.47
SEPTEMBER	61.47			2.42			59.05
OCTOBER	59.05			1.41			57.64
TOTALS		0.00	39.09	12.41	0.00	0.00	

FULL REPORT CAN BE DOWNLOADED ELECTRONICALLY ON THE ARKANSAS RIVER COMPACT ADMINISTRATION WEBSITE

Exhibit M

Annual Meeting

December 5, 2019

Arkansas River Compact Administration
Engineering Committee
Meeting Summary and Action Items
December 4, 2019
La Junta, Colorado

The committee requested Andrew Rickert and Rachel Duran to produce a brief summary of presentations made and a list of recommendations for this committee meeting.

Meeting Summary

Kelley Thompson, Colorado Division of Water Resources (CDWR), provided an update on progress related to the Arkansas Decision Support System. This included a description of the progress on GIS component, consumptive use and surface water models, and administration tools. An increasing array of data is available on the Colorado Decision Support System (CDSS) website. Arkansas is the final basin for the Colorado DSS project.

Bill Tyner, CDWR, provided an update on the use of Highland Canal water for the Permanent Pool in John Martin Reservoir (JMR) in 2019. This source helped sustain the Permanent Pool.

Jack Goble, Lower Arkansas Valley Water Conservancy District (LAVWCD), provided an update on the status of discussion between the states related to the proposed Colorado multipurpose account in JMR. CWCB recently funded a third grant to help fund a Phase III scope of work with the intent of providing a plan to conduct a pilot project that would support a permanent approval.

Kevin Salter, Kansas Department of Water Resources (KDWR), provided a status update on efforts to replace the 50+ year old Frontier ditch flume. No cost estimate available at this time.

Amy Louise, U.S. Army Corps of Engineers (USACE), presented to the committee the 2019 reservoir operations for Trinidad and John Martin Reservoirs, implementation of the Elevation-Area-Capacity tables for Trinidad Lake and JMR, and other issues.

Jonathan Tague, USACE, updated the committee on the John Martin Dam Stilling Basin Project. This is the first time sediment removal has been done since completion of John Martin Reservoir.

Jack Reiker, U.S. Bureau of Reclamation (USBR), introduced himself as the new area manager for the Eastern Colorado Area Office and reiterated the draft resolution presented to the committee in 2018 for roles and processes for the Ten-year Review for the next review period for 2015-2024.

Krystal Brown, U.S. Geological Survey (USGS), reported on predicted and actual flows through USGS gages, resolution of the beaver issue on the Apishapa River, and current beaver issue on the Purgatoire River near Las Animas gage. After discussion with the States, the consensus is that the Big Sandy Crest Stage (Big Sandy Creek near Kornman) gage should be removed from the USGS Cooperative Agreements. She presented on the location of multiple USGS gages that

Exhibit M

measure the specific conductance in the Arkansas River Basin and how that correlates to dissolved solids and water quality. USGS is asking that ARCA help fund the specific water quality gage below JMR.

Kevin Salter, KDWR, and Bill Tyner, CDWR, provided an update on the implementation for the new Elevation Area Capacity (EAC) tables provided by USACE for Trinidad and John Martin Reservoirs. A new way of implementing the table was done for CY18-19 in an attempt to make the sediment adjustment fairer. This method determined a percentage adjustment per account based on account balances throughout the entire Compact Year.

Committee Recommendations to ARCA

1. Recommend removal of the Big Sandy Crest Stage (Big Sandy Creek near Kornman) gage from the USGS Cooperative Agreements.

2. Recommend approval to fund the USGS water quality gage below JMR.

3. Recommend the SEC continue to work on the proposed Colorado Multi-Purpose Account.

David Barfield, Chair

Date: 12-5-19

Scott Brazil, Member

Date: 12-5-19

Arkansas River Compact Administration
Operations Committee
Meeting Summary and Action Items
December 4, 2019
La Junta, Colorado

Meeting Summary

The committee received the Compact Year (CY) 2019 reports of the Operations Secretary (Bill Tyner) and Assistant Operations Secretary (Kevin Salter).

The committee received the 2019 report for the Offset Account from Rachel Zancanella, CDWR.

Rachel Zancanella, CDWR, provided an update on the implementation of the Irrigation Improvement Rules.

Steve Kastner, PRWCD, presented on current events at Trinidad Reservoir that included discussion of excess capacity space in the Joint Use Pool, an exchange operation that occurred in June 2018 and a concept for accounting for sedimentation accumulation in the reservoir on a real-time basis.

There was some discussion of a potential meeting of the Operations Committee in April to go over remaining issues on the Water Issues Matrix.

Committee Recommendations to ARCA

1. Committee defers the 2019 Operations Secretary report to the Special Engineering Committee to work towards resolution of issues that are holding up unapproved OS reports.

Lane Malone, Chair

Date: 12-4-19

Troy Dumler, Member

Date: 12-4-19

No. 1 of 4 originals

Arkansas River Compact Administration
Administrative & Legal Committee
Meeting Summary and Action Items
December 4, 2019
La Junta, Colorado

The committee requested Andrew Rickert and Rachel Duran to produce a short summary of presentations made and a list of recommendations for this committee meeting.

Meeting Summary

The committee reviewed the Annual meeting agenda; added 5.D. Kansas Groundwater Management District #3.

Rachel Duran, Kansas Division of Water Resources (KDWR), provided an update on the status of transcripts from prior annual meetings (1998, 1999, 2017, 2018) and meeting summary from February 14, 2019 special meeting. All are ready for ARCA approval with the exception of the 1999 annual meeting transcript.

Andrew Rickert, Colorado Water Conservation Board (CWCB), provided an update on the status of the ARCA annual reports. The 1997 template will be provided to the committee in the near future.

Rachel Duran, KDWR, provided an update on the ARCA website platform transition that included changes in cost and discussion of a malware add-on. The committee approved purchase of the malware add-on

Stephanie Gonzales, ARCA Recording Secretary and Treasurer, presented the auditor's report and provided her report as ARCA Recording Secretary and Treasurer. This included discussion of the Colorado and Kansas assessments for FY18-19 that were in excess of the adopted budget. The adopted FY18-19 budget held the assessments at $90,000 (60% Colorado, 40% Kansas), however, the letters that were sent out assessed the states at $96,000 per their respective percentages. This error was corrected by decreasing the FY19-20 assessments by the overage of $6,000 so that the assessments would be $84,000 for FY19-20. The assessments would return to $90,000 for FY20-21. A debit card for ARCA was obtained and will only be used for paying for expenses that cannot be paid by check.

Stephanie went over the USGS Cooperative Agreements. There was discussion of changes in the Colorado USGS Cooperative Agreements (aka Joint Funding Agreement) regarding removal of the Big Sandy crest gage and addition of the water quality gage below John Martin Reservoir.

Andrew Rickert went over highlights for the FY20-21 budget.

Two proposed resolutions were put before the committee, entitled *Honoring Hal Scheuerman* and *Regarding the Special Engineering Committee for 2020 and 2021.*

Nominations of ARCA officers and committee chair appointments were done within this committee.

Lastly, there was discussion on possible dates and locations for the 2020 ARCA Annual meeting as well as a possible Admin & Legal committee meeting sometime in 2020 to review the ARCA Annual report template for 1997.

Committee Recommendations to ARCA

1. Recommend approval of the 1998, 2017 and 2018 annual meeting minutes and the 2019 special meeting summary.

2. Recommend approval of the Fiscal Year (FY) 2018-19 Auditor's Report and recommend signing the engagement letter for the auditor's services.

3. Recommend that Stephanie Gonzales be directed to sign Colorado and Kansas USGS Joint Funding Agreements (JFA). The Colorado JFA to be signed would remove the Big Sandy crest stage gage and add the water quality gage below JMR.

4. Recommend adoption of the Fiscal Year (FY) 2020-2021 Budget and Assessment that would include the new Colorado USGS JFA amounts as well as an adjustment to the ARCA Recording Secretary and Treasurer's compensation in the amount of $250.00 per position.

5. Recommend adoption of the resolution titled *Honoring Hal Scheuerman.*

6. Recommend adoption of the resolution titled *Regarding the Special Engineering Committee for 2020 and 2021.*

7. Recommend the following slate of officers for CY 2020:

    a. Vice-chairman.....Randy Hayzlett
    b. Recording/Secretary- Treasurer.....Stephanie Gonzales
    c. Operations Secretary.....Bill Tyner
    d. Assistant Operations Secretary.....Kevin Salter

8. Recommend the following slate for committee chairs for CY 2020:

    a. Admin & Legal..... Randy Hayzlett as Chair (Rebecca Mitchell as member)
    b. Operations..... Troy Dumler as Chair (Lane Malone as member)
    c. Engineering..... Scott Brazil as Chair (David Barfield as member)

9. Recommend the dates of December 08, 2020 for the committee meetings and December 09, 2020 for the annual meeting. Both meetings to be held in Lamar, Colorado.

Rebecca Mitchell
Rebecca Mitchell, Chair

Date: 12-4-2019

Randy Hayzlett
Randy Hayzlett, Member

Date: 12-04-2019

Exhibit N

Annual Meeting

December 5, 2019

Arkansas River Compact Administration

Financial Statements

June 30, 2019

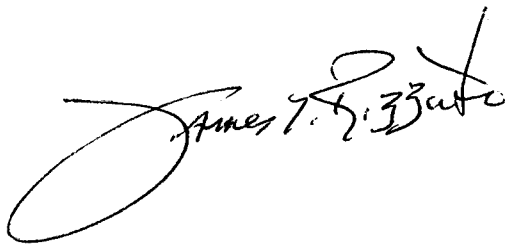

Exhibit N
1 of 4 originals

Arkansas River Compact Administration
Annual Financial Report
For the Year Ended June 30, 2019

Table of Contents

Independent Auditor's Report

The Governing Body
Arkansas River Compact Administration

We have audited the accompanying financial statements of the governmental activities of Arkansas River Compact Administration (the "Compact"), as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Compact's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

The Compact'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 of the Compact, as of June 30, 2019, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

p o box 1173 203 east oak st. lamar, colorado 81052 (719) 336-7428 (719) 336-2982

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the budgetary comparison information on page 14 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 formation, 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 affect by this missing information.

rfarmer, llc

November 5, 2019

Arkansas River Compact Administration
Statement of Net Position
June 30, 2019

	Governmental Activities	Total
ASSETS		
Cash and Equivalents	$ 214,800	$ 214,800
Total Assets	214,800	214,800
LIABILITIES		
Total liabilities	-	-
NET POSITION		
Unrestricted	214,800	214,800
Total net position	$ 214,800	$ 214,800

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, 2019

Functions/Programs	Expenses	Program Revenue Charges for Services	Net (Expense) Revenue and Changes in Net Position Primary Government Governmental Activities	Total
Primary government				
Governmental Activities				
General Government	$ 76,475	$ 96,000	$ 19,525	$ 19,525
Total governmental activities	76,475	96,000	19,525	19,525
Total primary government	76,475	96,000	19,525	19,525
General revenues:				
Unrestricted interest income			1,026	1,026
Total general revenues, special items, and tr			1,026	1,026
Change in net assets			20,551	20,551
Net position - beginning			194,249	194,249
Net position - ending			$ 214,800	$ 214,800

The accompanying notes to the financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Balance Sheet
Governmental Fund
June 30, 2019

	General	Total Governmental Funds
ASSETS		
Cash and cash equivalents	$ 214,800	$ 214,800
Total assets	214,800	214,800
LIABILITIES AND FUND BALANCES		
Liabilities:		
Total liabilities	-	-
Fund balances:		
Unassigned	214,800	214,800
Total fund balances	214,800	214,800
Total liabilities and fund balances	$ 214,800	$ 214,800

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, 2019

Total fund balance, governmental funds	$	214,800
Net Assets of Governmental Activities in the Statement of Net Position	$	214,800

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, 2019

	General	Total Governmental Funds
REVENUES		
State Assessments	$ 96,000	$ 96,000
Interest Income	1,026	1,026
Total revenues	97,026	97,026
EXPENDITURES		
Gauging Stations and Studies	58,949	58,949
Professional Services	13,271	13,271
Operating Expenses	4,255	4,255
Total Expenditures	76,475	76,475
Excess (deficiency) of revenues over expenditures	20,551	20,551
Net change in fund balances	20,551	20,551
Fund balances - beginning	194,249	194,249
Fund balances - ending	$ 214,800	$ 214,800

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, 2019

Net change in fund balances - total governmental funds:	$	20,551
Change in net position of governmental activities	$	20,551

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Notes to Financial Statements
June 30, 2019

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 resource's measurement focus* and the *accrual basis of accounting*. Accordingly, all 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 in 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.

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 Depository 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, 2019

	Budgeted Amounts Original and Final	Actual Amounts, Budgetary Basis
REVENUES		
State Assessments	$ 90,000	$ 96,000
Interest Income	200	1,026
Total revenues	90,200	97,026
EXPENDITURES		
Current:		
Gauging Stations and Studies	67,400	53,948
Professional Services	15,200	13,271
Operating Expenses	1,800	9,255
Contingency	2,000	-
Total Expenditures	86,400	76,474
Excess (deficiency) of revenues over expenditures	3,800	20,552
Net change in fund balances	3,800	20,552
Fund balances - beginning	191,476	192,511
Fund balances - ending	$ 195,276	$ 213,063

Exhibit O

Annual Meeting

December 5, 2019

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000001032
Agreement #: 20SEJFA18
Project #: SE00GU8
TIN #: 84-0811823

Fixed Cost Agreement YES[X] NO[ ]

THIS AGREEMENT is entered into as of the January 1, 2020, by the U.S. GEOLOGICAL SURVEY, Kansas Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the Arkansas River Compact Administration party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation Water Resource Investigations (per attachment), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of $0.00

(a) $0 by the party of the first part during the period January 1, 2020 to December 31, 2020

(b) $13,000 by the party of the second part during the period January 1, 2020 to December 31, 2020

(c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: $0

Description of the USGS regional/national program:

(d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

(e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices).

Exhibit O

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000001032
Agreement #: 20SEJFA18
Project #: SE00GU8
TIN #: 84-0811823

9. Billing for this agreement will be rendered **annually**. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name:	Colin Painter Supervisory Hydrologist
Address:	1217 Biltmore Drive Lawrence, KS 66049
Telephone:	(785) 832-3582
Fax:	(785) 832-3500
Email:	cpainter@usgs.gov

Customer Technical Point of Contact

Name:	Stephanie Gonzales
Address:	PO Box 1106 Lamar, CO 81052
Telephone:	(719) 734-5102
Fax:	
Email:	

USGS Billing Point of Contact

Name:	Kathryn Toyne Budget Analyst
Address:	1217 Biltmore Drive Lawrence, KS 66049
Telephone:	(785) 832-3560
Fax:	(785) 832-3500
Email:	kattoyne@usgs.gov

Customer Billing Point of Contact

Name:	Stephanie Gonzales
Address:	PO Box 1106 Lamar, CO 81052
Telephone:	(719) 688-0799
Fax:	
Email:	arca.co.ks@gmail.com

U.S. Geological Survey
United States
Department of Interior

Signature

By _____ Date: 11/18/2019
Name: Andrew C. Ziegler
Title: Director, KS WSC

Arkansas River Compact Administration

Signatures

By Stephanie Gonzales Date: 12-5-19
Name: Stephanie Gonzales
Title: ARCA Recording secretary

By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR WATER RESOURCES INVESTIGATIONS

Customer No: 6000001032
Agreement No: 20REJFACO 214
Project No:
TIN #: 840811823

Fixed Cost Agreement [X] Yes [ ] No

THIS AGREEMENT is entered into as of the **1st day** of **January, 2020** by the U.S. GEOLOGICAL SURVEY, Colorado Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the **Arkansas River Compact Administration,** party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation Water Resource Investigations, **operation of streamgages and a water quality monitor,** herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50; and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) includes In-Kind Services in the amount of **$0.00**.

   (a) **$4,605.00** by the party of the first part during the period **January 1, 2020** to **December 31, 2020**

   (b) **$47,619.00** by the party of the second part during the period **January 1, 2020** to **December 31, 2020**

   (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of:

   $20,745.00 Description of USGS regional/national program: **Groundwater Streamflow Information Program**

   (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.

   (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the scope of work are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices).

9. Billing for this agreement will be rendered **quarterly.** Invoices not paid within 60 days from date of bill will bear Interest, Penalties, and Administrative costs as the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. 3717) established by the U.S. Treasury.

Form 9-1366
(May 2018)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR WATER RESOURCES INVESTIGATIONS

Customer No: 6000001032
Agreement No: 20REJFACO 214
Project No:
TIN #: 840811823
Fixed Cost Agreement [X] Yes [ ] No

USGS Technical Point of Contact
Name: Krystal Brown
Title: Supervisory Hydrologic Technician
Address: 201 E. 9th St.
City/State/Zip: Pueblo, CO 81003
Telephone: 719-562-2841
Fax: 719-544-2463
Email: kbrown@usgs.gov

Customer Technical Point of Contact
Name: Stephanie Gonzales
Title: Secretary Treasurer
Address: Arkansas River Compact Administration
P.O. Box 1106
City/State/Zip: Lamar, CO 81052
Telephone: 719-688-0799
Fax:
Email: arca.co.ks@gmail.com

USGS Billing Point of Contact
Name: Donna Hector
Title: Administrative Officer
Address: Denver Federal Center, MS-415, Building 53
City/State/Zip: Lakewood, CO 80225
Telephone: 303-236-6903
Fax: 303-236-4912
Email: djhector@usgs.gov

Customer Billing Point of Contact
Name: Stephanie Gonzales
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Telephone: 719-688-0799
Fax:
Email: arca.co.ks@gmail.com

U.S. Geological Survey
United States
Department of Interior

SIGNATURE

By: Robert Smith, acting Date: 11-25-19
Name: David Mau
Title: Director, CWSC/USGS

Arkansas River Compact Administration

SIGNATURES

By: Stephanie Gonzales Date: 12-5-19
Name: Stephanie Gonzales
Title: Secretary Treasurer

Exhibit P

Annual Meeting

December 5, 2019

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 T. Rizzuto, Swink	David Barfield, Manhattan Randy Hayzlett, Lakin Troy Dumler, Garden City

FY 2020 - 2021 BUDGET

(July 1, 2020 - June 30, 2021)

I. EXPENDITURES		
A. PROFESSIONAL SERVICE CONTRACTS		
1. Treasurer		$2,250
2. Recording Secretary		$2,250
3. Operations Secretary		$6,100
4. Auditor Fee		$3,100
5. Court Reporter Fee		$2,000
6. Treasurer Bond		$100
	subtotal services	**$15,800**
B. GAGING STATIONS, STUDIES, & DATA COLLECTION		
1. U.S.G.S. Colorado District Joint Funding [calendar year 2020]		$47,619
2. U.S.G.S. Kansas District Joint Funding [calendar year 2020]		$13,000
3. State of Colorado Satellite System [7/1/19 - 6/30/20]		$12,400
4. CoAgMet Weather Station O&M Cost-share [7/1/19 - 6/30/20]		$5,000
	subtotal gaging	**$78,019**
C. OPERATING EXPENSES		
1. Website Hosting		$425
2. Telephone		$100
3. Miscellaneous Office Expense		$100
4. Postage/Copying/Supplies		$100
5. Meetings		$500
6. Travel		$100
7. Rent		$600
	subtotal operating	**$1,925**
D. OTHER		
1. Equipment		$0
2. Contingency		$2,000
3. Litigation		$0
4. Special Projects and Studies		$0
	subtotal other	**$2,000**
	TOTAL ALL EXPENDITURES	**$97,744**
II. INCOME		
A. ASSESSMENTS		
1. Colorado (60%)		$54,000
2. Kansas (40%)		$36,000
	subtotal assessments	**$90,000**
B. OTHER		
1. Interest Earnings		$200
2. Miscellaneous		$0
	subtotal other	**$0**
	TOTAL ALL INCOME	**$90,200**
III. CASH RESERVE BALANCE		
A. ESTIMATED CASH BALANCE JULY 1, 2020 [from FY19-20 budget]		**$199,076**
B. DECREASE FROM RESERVE		**$7,544**
C. ADDITION TO BALANCE		0
D. PROJECTED BALANCE JUNE 30, 2021		**$191,532**

Adopted by the Arkansas River Compact Administration at its Dec. 5, 2019 Annual Meeting.

Stephanie Gonzales, ARCA Recording Secretary — Date: 12-5-19

2 of 4 originals

Exhibit P

Exhibit Q

Annual Meeting

December 5, 2019

COLORADO
Governor Jared Polis

A 2019 306

EXECUTIVE ORDER

MEMBER

ARKANSAS RIVER COMPACT ADMINISTRATION

ORDERED:

That the following named person be and he is hereby reappointed to the:

ARKANSAS RIVER COMPACT ADMINISTRATION

for a term expiring August 16, 2023:

Scott "Lane" Malone of Holly, Colorado, a resident of, and water right owner, in water district 67, reappointed.

GIVEN under my hand and the Executive Seal of the State of Colorado, this twenty-second day of August, 2019.

Jared Polis
Governor

Office of the Governor

STATE OF KANSAS

CERTIFICATE OF APPOINTMENT

I, Jeff Colyer, Governor of the State of Kansas, hereby appoint and commission

Troy Dumler

as a member of the

Kansas-Colorado Arkansas River Compact Commission

and authorize this appointee to discharge the duties of this office

upon fulfilling all legal requirements

Signed this 4th day of January 2019

Governor

Secretary of State

Office of the Governor

STATE OF KANSAS

CERTIFICATE OF APPOINTMENT

I, Jeff Colyer, Governor of the State of Kansas, hereby appoint and commission

Randy Hayzlett

as a member of the

Kansas-Colorado Arkansas River Compact Commission

and authorize this appointee to discharge the duties of this office

upon fulfilling all legal requirements

Signed this 4th day of January 2019

Governor

Secretary of State

ARCA 2019 ANNUAL MEETING
RESOLUTIONS

NUMBER	Description	Offered By
2019-02	Honoring Hal Scheuerman	Troy Dumler
2019-03	Regarding the Special Engineering Committee for 2020 and 2021	Rebecca Mitchell

*Note: ARCA Resolution No. 2019-01 *Regarding John Martin Reservoir Permanent Pool* was adopted at the Special meeting held on February 14, 2019 and can be located within that meeting summary or on ARCA's website

Resolution 2019-02

Annual Meeting

December 5, 2019

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado	Chair and Federal Representative	For Kansas
Rebecca Mitchell, Denver	James T. Rizzuto, Swink	David Barfield, Manhattan
Lane Malone, Holly		Randy Hayzlett, Lakin
Scott Brazil, Vineland		Troy Dumler, Garden City

RESOLUTION 2019 - 02

HONORING

HAL SCHEUERMAN

WHEREAS, Hal Scheuerman, farmer and life-long resident of the Deerfield, Kansas area, has served on the Arkansas River Compact Administration as a representative of the State of Kansas and the water users of the Arkansas River Valley in Kansas from 2013 through 2018;

WHEREAS, he faithfully performed his duties and represented the interests of the State of Kansas; and

WHEREAS, his service to the Arkansas River Compact Administration has been greatly appreciated; and

NOW THEREFORE, BE IT RESOLVED by the Arkansas River Compact Administration that it hereby acknowledges with gratitude the dedicated service of Hal Scheuerman to the Administration and expresses its appreciation to him for his dedication.

BE IT FURTHER RESOLVED that the Administration honor Mr. Scheuerman's service by including this resolution and appropriate dedicatory remarks in the Administration's annual report for 2019 and hereby instructs the Recording Secretary to provide a copy of this resolution to Mr. Scheuerman and to the Governor of Kansas.

ADOPTED by the Arkansas River Compact Administration at its 2019 Annual Meeting on December 05, 2019 held in La Junta, Colorado.

James T. Rizzuto, Chair
Arkansas River Compact Administration

Stephanie Gonzales, Recording Secretary
Arkansas River Compact Administration

1 of 6 originals

Resolution 2019-03

Annual Meeting

December 5, 2019

ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado	Chair and Federal Representative	For Kansas
Rebecca Mitchell, Denver	James T. Rizzuto, Swink	David Barfield, Manhattan
Lane Malone, Holly		Randy Hayzlett, Lakin
Scott Brazil, Vineland		Troy Dumler, Garden City

RESOLUTION 2019 - 03

Regarding the
Special Engineering Committee for 2020 and 2021

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 2017 for a term expiring Dec. 31, 2019; 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; and

NOW THEREFORE, BE IT RESOLVED that ARCA does hereby extend the term of the Committee for two full years to expire on December 31, 2021;

BE IT FURTHER RESOLVED that the SEC will consider the following prioritized subjects at meetings authorized by this resolution:

1. A dedicated discussion on flood/spill issues.
2. Winter inflow split
3. Colorado multipurpose account pilot project
4. Determine which issues must be resolved to begin the approval process of past Operations Secretary Reports.

ADOPTED by the Arkansas River Compact Administration at its 2019 Annual Meeting on December 05, 2019 in La Junta, Colorado.

James T. Rizzuto, Chair
Arkansas River Compact Administration

Stephanie Gonzales, Recording Secretary
Arkansas River Compact Administration

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