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7 ARKANSAS RIVER COMPACT ADMINISTRATION

8
9 COMPACT YEAR 2021

10 ANNUAL MEETING

11 December 9, 2021

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13 HELD AT THE

14 CLARION INN

15 1911 EAST KANSAS AVENUE

16 GARDEN CITY, KANSAS

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21 Reported By:

22 ADVANCED COURT REPORTING SERVICES

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APPEARANCES

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CHAIRMAN:

Jim Rizzuto

COLORADO:

Rebecca Mitchell (Appearing by Zoom)

Lane Malone

Scott Brazil

KANSAS:

Earl Lewis

Randy Hayzlett

Troy Dumler

P R O C E E D I N G S

1
2
3 MR. RIZZUTO: Good morning, everyone, and
4 thank you for your patience as we try and coordinate
5 the virtual piece and the reality piece of today's
6 meeting.

7 I'd like to call the Arkansas River Compact
8 Administration 2021 Annual Meeting to order at
9 approximately 9:11 Central Standard Time, and we're
10 located in Garden City, Kansas, as well as some will
11 join virtually. We'll try and take a couple breaks
12 during the course of today's meeting and, to those
13 who are on virtually, as well as those that will be
14 presenting today, ask you to speak loudly and clear,
15 so that we can capture what is being said.

16 If online, please keep video off and stay
17 muted when not speaking. Please be aware that you
18 may be muted if there are distractions and we ask
19 you remain muted until recognized. Zoom has a chat
20 function, as well as a function where you can raise
21 your hand if you want to be recognized or say
22 something.

23 Attendant list of those that are present, I
24 ask you if you haven't signed it, it's outside the
25 meeting room. I would ask you to sign it and that

1 list, as well as those who are joining virtually,
2 will become Exhibit A to today's meeting.

3 So, with that, I'd like to have the
4 representatives for Colorado and Kansas introduce
5 themselves and, if they have staff they'd like to
6 recognize, feel free. So I'll start with Rebecca,
7 if you're on.

8 MS. MITCHELL: Yes.

9 MR. RIZZUTO: Okay.

10 MS. MITCHELL: Thank you, Chairman. This
11 is Rebecca Mitchell, State of Colorado. I'm going
12 to allow the other folks that are in the room to
13 introduce themselves. I know Lane is there and
14 Scott is on his way and I -- there are several staff
15 from Colorado that are also on.

16 MR. RIZZUTO: Okay. Thank you, Rebecca.
17 Lane?

18 MR. MALONE: Lane Malone, ARCA rep from
19 Colorado.

20 MR. RIZZUTO: Where in Colorado?

21 MR. MALONE: I live between Lamar and
22 Bristol.

23 MR. RIZZUTO: Got it. Okay. And as
24 mentioned, Scott, we'll let him introduce himself
25 when he gets here. Last we heard, he was in Holcomb

1 and about 10, 15 minutes away.

2 Okay. To Kansas, Randy.

3 MR. HAYZLETT: Well, good morning. Randy
4 Hayzlett. I'm from Lakin. ARCA rep for Kansas.

5 MR. LEWIS: Thank you, Mr. Chairman.
6 Earl Lewis. I'm the Chief Engineer for the State of
7 Kansas and ARCA rep. I've got a few staff in the
8 room. Chris Beightel works with us in Manhattan. I
9 office in Manhattan, live in Topeka. Our chief
10 counsel, Kenny Titus, is in the back, hiding by the
11 Christmas tree. Rachel Duran, Kevin Salter, and
12 Alex Torrance in our Garden City field office and do
13 the bulk of the work for us on the -- on the Ark
14 River and getting ready for today, so I want to
15 thank them for that work. Also would note Tom
16 Stiles with the Department of Health and Environment
17 and Kurtis Wiard with the Attorney General's office.
18 I know we've got a few folks online but I didn't
19 catch all their names, so we'll just catch them in
20 chat. I think that's all the Kansas agency folks
21 for today.

22 MR. RIZZUTO: Okay. Thanks.

23 MR. DUMLER: Troy Dumler, ARCA rep for
24 Kansas here in Garden City.

25 MR. RIZZUTO: Okay. And I'm Jim Rizzuto,

1 federal rep, and I hail from Swink, Colorado.

2 Okay. With that, we'll move on to review and
3 revisions to agenda, and I'll call on Rebecca.

4 MS. MITCHELL: I have one addition for
5 Agenda Item 11, if we could add the -- a letter
6 recognizing John Van Oort and recognizing his
7 service and a letter to his family, and then also,
8 11.B would be a recognition of Roy Vaughan's work.

9 MR. RIZZUTO: Okay. Any opposition to
10 that? Hearing none, we'll consider that as part of
11 the agenda, and that will be Exhibit B.

12 Next, report from the Vice-Chair and Chair.
13 Randy, beings you're hosting us, I'll let you start
14 off.

15 MR. HAYZLETT: Well, thank you, Jim.
16 Just want to welcome you all here to Garden City and
17 we're glad that we can do a hybrid meeting. We look
18 forward to the day that we can go back to an all
19 in-person meeting. So, with that, it's good to see
20 the crowd here, so welcome all of you to the
21 meeting.

22 MR. RIZZUTO: Good. Thanks -- thanks to
23 Kansas for hosting us. It's always a pleasure to
24 come here. The facilities are great and the
25 camaraderie and the evening before the Annual

1 Meeting is good, as well.

2 I only have one thing to bring up and it's a
3 recognition or just a statement. Arthur
4 Littleworth, who some people got to know over the
5 course of the Colorado-Kansas lawsuit, he was the
6 Special Master out in California. I know I used to
7 talk about him a lot when I was on the budget
8 committee in the legislature, and I'm sure you all
9 had a lot of conversations about him during the
10 course of that suit, but he recently passed away.
11 He was 98 years old, had a very distinguished
12 career, and just wanted to make note of him in
13 today's meeting. We'll recognize others as we go
14 through the course of today's meeting.

15 So, with that, we'll move on to reports of
16 federal agencies, and the first one would be the
17 U.S. Geological Survey, Dustin Ethredge, and I
18 believe he's joining us remotely. Dustin.

19 MR. ETHREDGE: Good morning. Can
20 everybody hear me?

21 MR. RIZZUTO: Yes.

22 MR. ETHREDGE: Perfect. Good morning,
23 everybody. Thank you, Mr. Chairman, for allowing me
24 the time to present today on behalf of the USGS.
25 For anyone that doesn't know me, my name is Dustin

1 Ethredge. I'm a supervisory hydrologic technician
2 with the U.S. Geological Survey in the Pueblo,
3 Colorado field office. Just to also introduce, we
4 have Brandon Forbes on the line. He's a supervisory
5 hydrologist out of our office that oversees a lot of
6 our interpretive studies work on the studies side of
7 our office, but I oversee the surface water
8 monitoring program in the Arkansas River Basin for
9 Colorado and, today, I'll just give you a brief
10 overview highlighting some of the streamflow data
11 collected by the USGS in cooperation with the Ark
12 River Compact Administration in the 2021 Water Year.
13 Next slide, please.

14 So a lot of you are probably familiar with
15 this general layout, but this slide highlights the
16 location of the streamgages that the USGS operates
17 in cooperation with the ARCA. We operate a total of
18 10 streamgages, with five of those being located on
19 the mainstem of the Arkansas River. The most
20 upstream of those is located at Las Animas and then,
21 working downstream, we have gages below John Martin
22 Reservoir at Lamar, near Granada, and near Coolidge,
23 Kansas.

24 We also monitor streamflow on four tributary
25 sites to the Arkansas River, which includes gages on

1 the Apishapa River, the Purgatoire River, Big Sandy
2 Creek, and Wild Horse Creek. The streamgages on
3 those respective tributaries are located near their
4 respective confluence with the Arkansas River and,
5 finally, we also operate a streamgage on Frontier
6 Ditch, which is located near the western border of
7 Kansas. Next slide, please.

8 So this slide just shows a brief overview.
9 These are the six sites that the following slides
10 will highlight the hydrographs for, two of those
11 sites being upstream of John Martin Reservoir and
12 are the two major inflows to the reservoir, which
13 would be Las Animas gage and the Purgatoire near Las
14 Animas gage, and then we'll highlight the
15 hydrographs for the four sites downstream of John
16 Martin Reservoir. Next slide, please.

17 So the graph that you see here and the similar
18 graphs that will be shown on the following slides is
19 a 7-day average streamflow duration hydrograph. You
20 can see here that the Water Year 2021 flows are
21 represented by the black line on the hydrograph, and
22 the explanation box there shows the different
23 streamflow percentile classes, with normal flows
24 being within that 25 to 75% range of normal historic
25 averages and then the oranges and reds represent

1 flows that are below or much below normal and the
2 blues represent flows that are above or much above
3 normal. And so you can see here that flows for much
4 of the Water Year were hovering around that below
5 normal range with a few jumps into the normal and
6 above normal ranges, particularly during periods
7 over the summer months that were driven by storm
8 events but, for the 2021 Water Year, 93,970 Acre
9 Feet of water flowed past the streamgage, which is
10 49% of the historical average and 89% of the total
11 volume that flowed past the gage in the 2020 Water
12 Year. Next slide, please.

13 This is the same type of hydrograph for the
14 Purgatoire River near Las Animas streamgage, and
15 this one, you can tell that flows really through
16 much of the first part of the year were well into
17 the much below normal range and then took a big
18 sudden jump into the normal and above normal ranges
19 as rain storms increased flows through the summer
20 months. In total, 41,770 Acre Feet of water flowed
21 past this gage during the 2021 Water Year, which is
22 98% of the historical average and significantly
23 higher than 2020, at 538% of the total volume that
24 flowed past in 2020. Next slide, please.

25 So this is the hydrograph for the Arkansas

1 River below John Martin streamgage. Flows stayed
2 pretty much within that below to much below normal
3 range for much of the year, with releases through
4 the summer months keeping flows in that normal
5 range. Total, there was 143,400 Acre Feet of water
6 that flowed past this gage in 2021, which is 71% of
7 the historical average and 92% of the total volume
8 that flowed past the gage in 2020. Next slide,
9 please.

10 So this hydrograph is for the Arkansas River
11 at Lamar streamgage, and flows at this gage actually
12 stayed within the normal range for much of the Water
13 Year. A few short dips into the below normal range
14 but, total, 49,090 Acre Feet of water flowed past
15 this gage during the 2021 Water Year, which is 61%
16 of the historical average for this site and 77% of
17 the total volume that flowed past the gage in the
18 2020 Water Year. Next slide, please.

19 So this is the Arkansas River near Granada
20 streamgage and flows at this gage were in the below
21 normal to much below normal range to start the Water
22 Year but then mainly stayed within that normal
23 range, beginning in April and continuing through the
24 rest of the Water Year. 47,570 Acre Feet of water
25 flowed past this gage during the 2021 Water Year,

1 which is 41% of the historical average and 72% of
2 the total volume that flowed past the gage in 2020.
3 Next slide, please.

4 This is the last hydrograph that we'll show
5 here. This is for the Arkansas River near Coolidge
6 streamgage, and flows here hovered between the low
7 end of that normal range and into the below normal
8 range for much of the Water Year, with some
9 increases into the normal range through the summer
10 months. 67,840 Acre Feet of water flowed past this
11 gage during the 2021 Water Year, which is 47% of the
12 historical average and 74% of the total volume that
13 flowed past the gage in the 2020 Water Year. Next
14 slide, please.

15 And then this table just highlights the total
16 volume of flow for the remaining four streamgages
17 that hydrographs weren't shown for. The kind of
18 overarching theme here is that all four of these
19 streamgages, total volume was well below the
20 historical averages seen at these sites. Next
21 slide, please.

22 So, just to summarize, 2021 Water Year
23 streamflows for the two major inflows to John Martin
24 Reservoir, which were the Arkansas River at Las
25 Animas and the Purgatoire River near Las Animas

1 streamgages, were 49% and 98% of average,
2 respectively. And then, in comparison to 2020 Water
3 Year streamflows, the total annual flow for the 2021
4 Water Year was only higher at the Apishapa and
5 Purgatoire near Las Animas gages, with all other
6 gages being lower than their respective 2020 Water
7 Year flow volumes. And, downstream of John Martin
8 Reservoir, mainstem flow at the four Arkansas River
9 streamgages ranged from 41 to 71% of average and was
10 47% of average at the Coolidge streamgage.

11 And, with that, that wraps up the USGS's
12 presentation to the Arkansas River Compact
13 Administration and I'm happy to take any questions
14 that folks may have.

15 MR. RIZZUTO: Thank you, Dustin.
16 Questions of the commission? Doesn't sound like it.
17 Thank you very much, Dustin.

18 MR. ETHREDGE: Perfect. Thank you.

19 MR. RIZZUTO: Your presentation will be
20 Exhibit C to today's report.

21 Next, I'd like to call on U.S. Army Corps of
22 Engineers, Lieutenant Colonel Stevens.

23 LTC STEVENS: Yes, good morning,
24 microphone check.

25 MR. RIZZUTO: And, before you start, let

1 it be noted that Scott Brazil has made it into the
2 meeting. Welcome, Scott, and hopefully your trip
3 was good today. Okay. Colonel Stevens.

4 LTC STEVENS: Yes, sir. Well, good
5 morning, Mr. Chairman and members of the Arkansas
6 River Compact Administration. I'm Lieutenant
7 Colonel Pat Stevens, the District Commander of the
8 Albuquerque District U.S. Army Corps of Engineers.
9 Thank you for the opportunity to present the key
10 topics from our Basin report on the year, as well as
11 other items of interest.

12 While the Albuquerque District's water
13 management and civil works responsibilities are five
14 river basins, a significant portion of our
15 activities are focused on the Arkansas. So joining
16 me from the Albuquerque District today, we have
17 Nabil Shafike, the Chief of the Water Management
18 Section; Carlos Aragon, the Arkansas River Basin
19 Manager; Derrick Dunlap, Operations Division Chief;
20 and Mike Martinez, our Civil Works Branch Chief. We
21 also have Chris Gauger, John Martin Project Office
22 Manager, and Kim Falen, the Trinidad Project Office
23 Manager. Slide 2. Thank you.

24 All right. I'd like to provide an overview of
25 our water management operations, describe some

1 nonroutine inspections and maintenance completed on
2 John Martin Dam, and highlight some of our -- some
3 of our projects and programs that are occurring
4 within the Arkansas River Basin.

5 I'll start with an overview of last winter's
6 basin snowpack and spring water supply forecast,
7 followed by a summary of the Corps' Compact Year
8 2021 water management operations at our Trinidad and
9 John Martin projects. I'll then give a brief
10 overview of our expanded water quality monitoring
11 program at Trinidad and John Martin, present some of
12 our Compact Year 2021 maintenance accomplishments,
13 and highlight some of the capabilities and services
14 available through the Albuquerque District's
15 Emergency Management Operations office. All right.
16 Slide 3, please. Thank you.

17 The May 1st NRCS water supply forecast
18 estimated the basin-wide snowpack of the Arkansas
19 River Basin to be 76% of the median, the snowmelt
20 runoff forecast ranging from 68% of normal at
21 Trinidad Lake, to 69% of normal for Pueblo
22 Reservoir. Trinidad Lake experienced a March
23 through July inflow volume of 43,300 Acre Feet,
24 which equates to 125% of average. John Martin Dam
25 and Reservoir does not receive a runoff inflow

1 forecast from NRCS, but Compact Year 2021's observed
2 April through July runoff period inflow totaled
3 87,000 Acre Feet, which is 51% of the historic
4 30-year average, based on a period spanning from
5 1981 to 2010. Slide 4, please. Thank you.

6 Trinidad Lake started Compact Year 2021 with
7 15,550 Acre Feet in storage and ended the Compact
8 Year with 20,230 Acre Feet in storage. The total
9 Compact Year inflow for Trinidad Lake was 58,000
10 Acre Feet. Total Compact Year outflow was right at
11 50,582 Acre Feet, at which resulted in Trinidad
12 ending the Compact Year higher than it started. The
13 Corps reduced releases from the dam during
14 the May 22 through 23 rainstorm event to prevent
15 downstream flooding, and there were no zebra or
16 quagga mussels detected during the routine
17 monitoring. Slide 5. Thank you.

18 For John Martin Reservoir, we started Compact
19 Year 2021 with 33,920 Acre Feet in storage and ended
20 the Compact Year with 16,590 Acre Feet in storage.
21 The total Compact Year inflow for John Martin
22 Reservoir was 143,170 Acre Feet, which is 62% of the
23 average Compact Year inflow for the period spanning
24 1944 through 2021. The Compact Year outflow was
25 145,410 Acre Feet, resulting in the reservoir ending

1 Compact Year with -- ending the Compact Year with
2 17,330 Acre Feet lower than it started. The Corps
3 did not operate for flood control at John Martin Dam
4 and Reservoir during 2021 and there were no zebra or
5 quagga mussels detected during the routine
6 monitoring. Slide 6, please. Thank you.

7 I now want to talk about a new water quality
8 monitoring program initiated by the Corps during
9 Compact Year 2020. Private staff have been
10 collecting monthly water quality data from our
11 reservoir since 2012 at the locations shown by the
12 green circles.

13 Staff collects surface measurements of
14 turbidity, pH, and specific conductance, as well as
15 Secchi depth readings -- Secchi depth readings.
16 Data on temperature and dissolved oxygen are
17 collected through vertical profiles through the
18 water column, and zebra and quagga mussels -- mussel
19 monitoring typically occurs through -- from June
20 through October.

21 Compact Year 2021, the Albuquerque District
22 continued monitoring at riverine water quality
23 stations upstream and downstream of Trinidad Lake
24 and John Martin Reservoir at the locations indicated
25 by the red triangles. These sites have collected

1 water -- data on water temperature, dissolved
2 oxygen, turbidity, pH, and specific conductance at
3 15-minute intervals.

4 Total suspended sediment and sampling of
5 anions and cations is completed monthly at these
6 riverine stations. Monitoring of most of these
7 riverine stations began in July and August of 2020,
8 and this project is currently funded to provide
9 riverine monitoring through 2025. Slide 7, please.
10 Thank you.

11 These charts illustrate streamflows upstream
12 and downstream of Trinidad Lake -- Trinidad Dam in
13 blue, and specific conductance in black. The
14 specific conductance is a measure of the -- measure
15 of the concentration of dissolved minerals and salts
16 in the river water. The horizontal lines show the
17 maximum values for us that will -- specific
18 conductance that will not reduce crop yields for
19 beans, potatoes, and alfalfa. While the overall
20 levels are similar, there is much less variability
21 in conductivity measurements downstream of the dam.
22 This is likely due to blending of inflow water with
23 existing lake water. Slide 8, please.

24 These charts illustrate streamflows upstream
25 and downstream of John Martin Dam in blue and

1 specific conductance in black. Water Year 2021 was
2 an extremely dry year. Measurements indicate that
3 specific conductance levels at higher -- are higher
4 than the crop thresholds for alfalfa, potatoes, and
5 beans for most of the year. Slide 9, please.

6 For operations and maintenance, the Corps
7 conducted several inspections and maintenance jobs
8 at John Martin Dam during Compact Year 2021. John
9 Martin's project staff troubleshot and repaired sump
10 pumps in the north part of the grouting gallery,
11 which removed seepage water from inside the dam.
12 Project staff also worked with the district teams to
13 collect sediment samples for classification as part
14 of design effort for future upstream dredging.

15 At Trinidad Dam and Lake, routine annual
16 operation and maintenance was conducted during
17 Compact Year 2021, in addition to constructing heavy
18 equipment shed that houses the new equipment
19 generator. Emergency generator, excuse me. Slide
20 10, please.

21 Section 206 of the Water Resources Development
22 Act of 1996 provides authority to USACE for aquatic
23 ecosystem restoration projects in areas unrelated to
24 existing USACE water projects. The proposed project
25 will restore a wetland and bird sanctuary -- and

1 bird sanctuary formerly -- formerly managed by the
2 Audubon Society. Excuse me. The project site is
3 located along Spring Creek in Colorado Springs,
4 Colorado. During FY 21, it is determined that
5 project has a federal interest which allows USACE
6 and Sponsor to enter into a feasibility cost sharing
7 agreement. The feasibility study is expected to
8 start during Fiscal Year 22. And slide 11, please.

9 Public Law 84-99 provides the Corps with the
10 authority to assist state and local governments
11 before, during, and after flood events. In the
12 Arkansas River Basin, the Corps works with the State
13 of Colorado Division of Homeland Security and
14 Emergency Management and the Colorado Water
15 Conservation Board to prepare for flood fight
16 activities in years with significant snowpack and
17 spring melt runoff.

18 Examples of services that the Albuquerque
19 District can provide include hydraulic modeling of
20 burn scar areas and sandbag and flood fight -- flood
21 fight training as illustrated in these photos.
22 Assistance can be obtained by collecting -- or by
23 contacting Albuquerque District Army Corps of
24 Engineers Emergency Management Office at the contact
25 information shown. And slide 12, please.

1 All right. And this concludes our report.
2 I'd be happy to answer any questions with the
3 assistance of our staff if needed.

4 MR. RIZZUTO: Thank you, Colonel.
5 Questions from commission members? Hearing none,
6 thank you for your presentation, and -- one
7 question. Would he know whether they're going to do
8 something at John Martin?

9 MR. HAYZLETT: You might mention it.

10 MR. RIZZUTO: Lieutenant Colonel,
11 yesterday at one of the meetings, it was brought up
12 about having a 75th celebration, not only Compact,
13 as well as John Martin Reservoir. Is the Corps
14 planning anything as far as the John Martin piece?

15 LTC STEVENS: We don't have anything
16 concrete right now but we are certainly looking to
17 schedule something for the anniversary.

18 MR. RIZZUTO: I know a committee was set
19 up and I assume that committee will contact you and
20 coordinate.

21 LTC STEVENS: Absolutely.

22 MR. RIZZUTO: Okay.

23 LTC STEVENS: Thank you, sir.

24 MR. RIZZUTO: Very good. Thank you again
25 and your presentation will be denoted as Exhibit D

1 in today's meeting.

2 Mike Holmberg, U.S. Bureau of Reclamation, as
3 well as Patrick Fischer. I believe they're going to
4 do that in person, or at least part of it.

5 MR. HOLMBERG: Yes, we'll split it 50-50
6 today. My name's Mike Holmberg. I'm with the
7 Bureau of Reclamation and I'm going to give a quick
8 update on the Fryingpan-Arkansas, just kind of the
9 day-to-day operations that went on in Water Year
10 2021, and then I'll turn it over to Patrick Fischer,
11 our Deputy Area Manager, and he's going to give you
12 all an update on the Arkansas Valley Conduit. Next
13 slide, please.

14 So our imports into the Boustead Tunnel were
15 well below average for Water Year 2021. Imports
16 were just shy of 32,000 Acre Feet. The snowpack in
17 the Arkansas Basin peaked about average, but that
18 peak did occur a few weeks before it generally does,
19 and it did not translate into an average runoff,
20 because of dry soil moisture conditions.

21 The snowpack in the Colorado River Basin
22 started off average in the fall but, in early
23 December, it dropped off and never really recovered,
24 and then that peak ended up well below average, and
25 I've got some graphs later on to show that.

1 So that's kind of a look at the entire basin.
2 The Fry-Ark collection system itself, the peak was
3 near normal but, again, it was a little bit lower
4 because of dry soil moisture conditions early in the
5 season. I believe it was 85 to 90% of normal, as
6 opposed to 75 to 80% of normal, for the Colorado
7 Basin as a whole. The collection system opened up
8 on April 20th and then runoff peaked in June and we
9 were finished importing transmountain water by
10 mid-July.

11 Here's a look at Turquoise Lake for Water Year
12 2021. So October through about June or January were
13 well below average during the winter months and then
14 it picked up a little bit from February to April
15 while the -- when the spring runoff had just began,
16 and then it dropped off in the summer as we were
17 moving water down from Turquoise down to Twin Lakes.

18 And so for Twin Lakes, it stayed below average
19 until late summer and then it went up slightly. As
20 I said, we moved some project water down to help
21 with power production at the Mount Elbert Powerplant
22 from Turquoise, so it saw a little bit of an
23 increase there in late summer.

24 And then Pueblo Reservoir, pretty much the
25 entire year, it hovered kind of right around that

1 average, a little bit above early and late in the
2 year, and then a little bit below during the spring
3 and early summer.

4 So our most recent numbers in the project
5 reservoirs, as of November 30th, Turquoise is
6 setting there at 81% of average, the Twin Lakes at
7 about 98% of average, and Pueblo at 109% of average,
8 so kind of goes right along with what we just saw in
9 those graphs.

10 So looking back at our 2021 forecasts, so
11 every year, the Bureau of Reclamation, we start
12 putting together forecasts as soon as we start
13 getting enough snowpack to kind of start getting an
14 idea of what might be going on, but then we put out
15 official forecasts on the first of the month
16 between -- every month between February and May.

17 So as you can see, in February, we -- our
18 forecast was showing about 42,000 -- excuse me --
19 40,200 Acre Feet we were expecting to import. By
20 March 1st, that had increased to 44,000. By April,
21 we were thinking we might import close to 50,000,
22 and then the snow pretty much stopped, so by
23 May 1st, we were thinking we might import 38,000
24 Acre Feet, and then our actual imports, like I say,
25 were 31,900, and that's about 80% of our -- of our

1 forecast. So one thing to keep in mind is we put
2 these forecasts out, but roughly 30 to 35% of our
3 imported transmountain water actually comes in the
4 form of precipitation in the collection system after
5 May 1st, so it's -- it's a difficult target to
6 capture.

7 So here's a look at the NRCS SNOTEL summary
8 for the 2021 Water Year. This is the Arkansas
9 Basin. The thick dark blue line is Water Year 2021
10 and, as you can see, the snowpack trace was near
11 average, as far as magnitude, but it was shifted to
12 the left and peaked a little bit earlier than that
13 dark purple line in the median or the yellow average
14 line, and that kind of mimicked more of that 2002
15 drought year as far as the timing of the snowpack
16 but, thankfully, it didn't match 2002 for the
17 amount. Next slide.

18 So the -- the timing was similar for the
19 Colorado River Basin but it did fall well short of
20 normal and, again, you can see it was at least
21 better than 2002, but definitely not -- not a very
22 good snowpack year in the Colorado River Basin.

23 So here's a quick look at the -- the Arkansas
24 Basin into 2022 Water Year so far. Right now, we're
25 setting at about 74% of average in the Arkansas

1 Basin. It is early so, hopefully, we start seeing a
2 little bit of a turnaround there, and then in the
3 Colorado Basin, it's looking a lot like last year so
4 far and sitting well below average.

5 For our winter operations, we're currently
6 releasing 13 -- I'm sorry -- 15 CFS of project water
7 from Twin Lakes and 3 CFS of project water from
8 Turquoise. These releases are to reach contractual
9 minimums as releases from those reservoirs, and
10 assuming average snowpack and assuming that we're
11 going to get average imports this next year, we
12 anticipate moving about 25,000 Acre Feet down from
13 the upper reservoirs to make room in them for
14 imported water. Currently, with those 3 CFS and 15
15 CFS releases, we've brought down about 800 Acre
16 Feet, and that movement of water will be adjusted
17 according to what the snowpack's doing, what our
18 forecasts are showing, and customer needs. So,
19 currently, we don't have any reason to increase it
20 from that minimum flow but, hopefully, we start
21 getting some snowpack up there and we might be able
22 to change that.

23 So I got a quick update on the basic species,
24 the zebra and quagga mussels, for the Bureau of
25 Reclamation reservoirs. So since the Fiscal Year

1 2018, Reclamation has -- Reclamation has competed
2 for funding connected to the Department of the
3 Interior's Aquatic Invasive Species Strategic Plan
4 and Aquatic Nuisance Species Program.

5 Eastern Colorado Area Office had awarded some
6 money to Colorado Parks and Wildlife to a total of
7 \$400,000 to help with boat inspections at Eastern
8 Colorado Area Office facilities for Fiscal Year 2019
9 and 2021, and then Ruedi Reservoir and Pueblo
10 Reservoir have received about \$273,000 for
11 on-the-ground improvements at inspection stations
12 since Fiscal Year 2018.

13 As of November 17th, in 2021 boating season,
14 there have been 21 documented and confirmed mussel
15 interceptions at Ruedi Reservoir and 15
16 interceptions at Pueblo, so the State of Colorado as
17 a whole has seen an uptick in interceptions each
18 year since 2017. In 2017, there were 26
19 interceptions; in 2020, there was 100; and then so
20 far in 2021, there have been 180 interceptions. 80%
21 of these boats intercepted can be traced back to
22 originating at Lake Powell.

23 The \$150,000 that is -- ECAO is awarding for
24 Twin and Turquoise Reservoirs this year will be
25 \$75,000 each for an on-demand water station for

1 decontamination. Those systems will maintain the
2 required temperature to kill the zebra and the
3 quagga mussels, and then Pueblo Reservoir is going
4 to get \$200,000 for improvements to better control
5 traffic to prevent illegal boat launches and also to
6 allow boats to stay on the water longer.

7 Between the Colorado-Big Thompson Project, the
8 CBT, and the Fry-Ark Project, Eastern Colorado Area
9 Office has awarded about \$2.5 million of ANS funding
10 since 2000 -- or Fiscal Year 2018 and including the
11 newest budget for Fiscal Year 2022.

12 And that's all I have for the
13 Fryingpan-Arkansas update so, with that, I will turn
14 it over to Patrick Fischer, our Deputy Area Manager,
15 who is joining us on Zoom.

16 MR. FISCHER: Yes. Thanks, Mike. Good
17 job. Can everybody hear me okay?

18 MR. RIZZUTO: Yes.

19 MR. FISCHER: Great. All right. So I'll
20 give you a quick update on the Arkansas Valley
21 Conduit. This project is actually progressing
22 really nicely. We've seen a high level of funding
23 support from Congress since about 2020. Our
24 president's budget request for our Fiscal Year 22 is
25 right around \$10 million, and current focus for us

1 right now is negotiating a conveyance contract with
2 Pueblo Board of Water Works and the Southeastern
3 Colorado Water Conservancy District, which will
4 allow us to proceed with construction of that first
5 leg. You can kind of see it on the -- on the
6 graphic here. We call it the Boone Reach, but it's
7 really the first area where we're going to be able
8 to start constructing the project. Pretty excited
9 about that, and then as far as design goes, we're
10 also focused on advancing final designs all the way
11 down to Rocky Ford. You can kind of see it in the
12 middle of the graphic there.

13 So, for Reclamation, we're primarily focused
14 on that blue line. That's the trunk line, and then
15 the Southeastern Colorado Water Conservancy District
16 is focusing on the spur and delivery lines. Yeah,
17 exactly. Perfect.

18 So, with that, that's a pretty quick update,
19 but all positive news. It's been a really good
20 partnership with the District and Pueblo Board of
21 Water Works, and I guess I'd ask, does anybody have
22 any questions?

23 MR. RIZZUTO: Questions of -- Earl?

24 MR. LEWIS: Well, and this is, I guess,
25 more somewhat of a comment, as much as a question.

1 I know the report didn't really talk about the
2 Trinidad review. I know the Bureau of Reclamation
3 has had a role in that in the past and I know that
4 we have had some -- some ongoing questions on that,
5 and I didn't know, I guess there is a question, if
6 you guys are going to participate in that and, if
7 so, how? And, again, we can follow up with specific
8 questions, and it might be too detailed and nuanced
9 for this setting.

10 MR. RIZZUTO: Okay.

11 MR. FISCHER: So I think I caught part of
12 that, regarding the Trinidad review, and I think
13 Chris Gnau is on and he's joined us today from our
14 office. Chris, I don't know. Do you have
15 opportunity to shed a little bit of light on that?

16 MR. GNAU: Thanks, Patrick. I am Chris
17 Gnau. I'm a hydrologist with Bureau of Reclamation
18 in the Eastern Colorado Area Office.

19 Earl, what we heard last year and this year
20 was that Colorado, the State of Colorado, had
21 volunteered to take the lead in the next Trinidad
22 Ten-Year Review, and that they were working with the
23 State of Kansas on developing some guidelines for
24 how that review process was going to take place.
25 So, I mean, as far as Reclamation's concerned, yes,

1 we will be involved, but it would be nice if we
2 could get an update, during this Administration
3 meeting, as far as a progress report on what's
4 happened on how those guidelines have developed over
5 the last 12 months.

6 MR. RIZZUTO: Okay.

7 MR. FISCHER: Thank you, Chris. Any
8 other questions, either on the Arkansas Valley
9 Conduit? Mike, I don't know if you had additional
10 material. I can turn it back to you, too.

11 MR. HOLMBERG: No, I have nothing else,
12 so questions for myself or Patrick?

13 MR. RIZZUTO: To the question as far as
14 updates on guidelines and the like, does anyone have
15 anything? Becky, are you aware of anything?

16 MS. MITCHELL: Not at this point, Jim.

17 MR. RIZZUTO: So are they being worked on
18 or are they forthcoming? Just to --

19 MS. MITCHELL: Yes, they are forthcoming.

20 MR. RIZZUTO: Okay.

21 MS. MITCHELL: TBD.

22 MR. RIZZUTO: Okay. Other questions?
23 None? Mike, Patrick, thank you very much, and your
24 report will be denoted as Exhibit E.

25 Call on Lee Crowley, he's joining us remotely,

1 or Harold, National Weather Service, for
2 information. Thank you.

3 MR. CROWLEY: Can you guys hear me?

4 MR. RIZZUTO: Yes.

5 MR. CROWLEY: Yes. Okay. I don't know
6 if you guys are going to be running the -- my
7 presentation or if I am.

8 MR. SALTER: We should be and, for some
9 reason, I'm not seeing it, Lee, so hold on just a
10 second.

11 MR. CROWLEY: Okay. Good morning,
12 everyone. I'm Lee Crowley. I'm the senior
13 hydrometeorologist at the Arkansas-Red Basin River
14 Forecast Center in -- in Tulsa. I'm also the water
15 supply forecaster for our office for the Canadian
16 River Basin in New Mexico and the Arkansas River
17 Basin in Colorado. Normally, Tony Anderson is here
18 giving this presentation to you guys each year, but
19 he has moved on to the weather service office in
20 Cheyenne, so I'm filling in for him today. Next
21 slide, please.

22 So what I'm going to do is just give you a
23 very brief overview of our water supply operations
24 for the Arkansas River in Colorado and then give you
25 a brief overview of the weather in 2021 for eastern

1 Colorado and surrounding areas and then what we
2 might expect, at least for the first part of 2022,
3 and then I'll be able to take some questions after
4 that. Next slide, please.

5 So the water supply forecasts from the
6 National Weather Service for the Arkansas Basin are
7 produced by my office, the Arkansas-Red Basin River
8 Forecast Center, and we work very closely with the
9 NRCS and their water supply forecasting. We are the
10 only RFC that still coordinate our forecasts with
11 the NRCS for the Arkansas River Basin, so what that
12 means is their forecast is going to be the same
13 forecast as what our forecast is. Some of the other
14 RFC's along the Rockies are not doing it that way
15 anymore, but we found that we come up with better
16 forecasts if we coordinate them like we have been,
17 so that's something that we'll likely continue to
18 do.

19 Our forecasts, our water supply forecasts, are
20 derived from the Ensemble Stream Prediction model,
21 or ESP, and we -- we run the ESP, just in general
22 terms, we run it using climatology as a
23 precipitation input, but we also use it with some --
24 or we can run it with some numerical weather
25 prediction model precipitation input into that, too,

1 and most of that is through the CFS or Climate
2 Forecast System precipitation forecasts, and those,
3 we get those out to 270 days.

4 Most of our forecasts, water supply forecasts,
5 are seasonal from April to September, and it's for
6 native runoff volume. We also issue runoff volume
7 forecast that's not native flow for the Arkansas
8 River and Purgatoire River at Las Animas, and that's
9 mostly for inflow into the lake there.

10 Forecasts are issued the first week of the
11 month from January through June, and I just wanted
12 to note, I'm not sure if you guys are aware of this,
13 but the NRCS is changing this year, this coming
14 year, to using median instead of average to
15 calculate their new normals. Like I said, I don't
16 know if you guys knew that or not, but that is
17 coming, and we -- we've been contemplating doing the
18 same. That's not going to change the actual, you
19 know, Acre Foot -- Acre Feet number that we issue,
20 but it will change the percentages, as far as
21 compared to normal. Next slide, please.

22 Our observed flows come from USGS gaging
23 stations and the Colorado Department of Water
24 Resources gaging stations and their web pages, and
25 our native flows are calculated with corroboration

1 with the NRCS and we estimate the effects of the
2 transbasin movement of the water, irrigation,
3 diversions, and so forth, and it's all real simple
4 accounting, so the only diversions that we actually
5 account for in our water supply forecasting are ones
6 that data is readily available to use in the
7 accounting. Next slide, please.

8 Okay. So this is a map of the Water Year 2021
9 estimated precipitation, and you can see this is
10 focused kind of over eastern Colorado and, you know,
11 overall, I think for the year, we did pretty well,
12 precipitation-wise, in southeast Colorado for the
13 most part. A lot of that fell in the summer, you
14 know, as thunderstorms and so forth, so that's --
15 that's different than if it was a really wet, wet
16 winter and we had a huge snowpack, but I just wanted
17 to show you guys this -- this image of the Water
18 Year 2021 to show that overall, it was -- it was a
19 pretty good year, precipitation-wise. Next slide,
20 please.

21 This is the same image, but this is a
22 percentage of normal so you can see, especially out
23 of the mountains, once you get out into the plains,
24 a lot of areas were -- were above normal for the
25 Water Year and that was mostly attributed, like I

1 said before, to -- to rainfall in June and July in
2 the summer months. Next slide, please.

3 This is the last 90 days percent of normal
4 and, obviously, things have changed a lot since the
5 summer months and it's gone really dry again, dry
6 and hot and warm, and that's not what we like to
7 see, but that's what we are experiencing right now.
8 There's some -- some areas that are way below normal
9 for the last three months, like less than 10% of
10 normal, and hopefully -- hopefully, that will change
11 as we go into the winter and the spring. Next
12 slide, please.

13 So did you go backwards or forwards?

14 MR. SALTER: Sorry.

15 MR. CROWLEY: There we go. Okay. So
16 this is the latest drought monitor that I had when I
17 put this presentation together. Obviously, there's
18 been an update this morning and it's -- it's
19 changed. The conditions have degraded a little bit
20 compared to this, but I just wanted to give you kind
21 of an idea of what the -- what the drought monitor
22 is showing, and -- and it's dry. I don't know what
23 else to say, other than that. Next slide, please.

24 This is a change from last year at the
25 beginning of December, so conditions are better, as

1 far as drought category-wise, compared to what they
2 were last year. The greens will -- there will be
3 less green if I was able to update this from this
4 morning's drought monitor update, but I still, I
5 just wanted to show that compared to last year at
6 this time, things are slightly better overall, as
7 far as drought classification. Next slide, please.

8 We just saw this slide, so I'm not really
9 going to talk about this too much. The overall
10 volume was just slightly below normal but the peak
11 was definitely earlier than normal for -- for 2021
12 for the Arkansas Basin. Next slide, please.

13 We've already seen this, too, at the last
14 presentation, so I'm not going to stay on this,
15 other than we're -- we're below normal a little bit
16 and we've had another dry fall. So the last two
17 years, we've had dry falls, and that -- that
18 affected the seasonal runoff for the next water
19 supply year and we had another dry fall, so we'll
20 see what happens this year, but there's definitely a
21 trend there. Next slide, please.

22 Okay. So this is what we're going into, what
23 we might expect coming up. These are the latest
24 seasonal forecasts from the Climate Prediction
25 Center and, as you can see, for December, January

1 and February, the southern part of Colorado has a
2 slightly increased chance of below normal
3 precipitation for that three-month period, and then
4 the northern part of the state, it looks like
5 that -- that demarcation between equal chances might
6 run right along the Arkansas River exactly. It's
7 really close, but we can say basically north of the
8 Arkansas River, there's equal chances, which means
9 there's no -- there's no nothing in the models,
10 really, that indicate one way or the other; and then
11 temperature-wise, in general, it looks like for the
12 three-month period, it will be slight -- there's an
13 increased chance for it to be above normal, but one
14 thing I'll say about this is that this is very much
15 aligning a forecast, this pattern of above and below
16 normal and precipitation. This is almost a, you
17 know, a perfect example of a La Nina, and one thing
18 about La Ninas is they can be highly variable, so
19 even though the whole three-month period might --
20 might say warmer than normal, there -- there should
21 be some high variability in cold versus warm and
22 back and forth, but overall, for the whole -- for
23 the whole three months, a slightly increased chance
24 of it being warmer than normal. Can we go to the
25 next slide, please?

1 This is the same kind of forecast but this is
2 for February, March, and April, so later in the
3 winter and into the spring, and it looks very
4 similar. Like I said before, this is -- this is --
5 this is very much looks like La Nina, and the
6 difference between this three-month period and the
7 period that we looked at before is that the --
8 the -- the rainfall, the dryness in the rainfall has
9 inched northward a little bit, and that could just
10 be a product of the seasonality. We're getting into
11 spring and -- and the jet stream moves northward a
12 little bit but, overall, the chances of it being
13 below normal as far as precipitation are -- are
14 increased for the whole three-month period, and for
15 the whole three-month period, the chances of
16 above -- above average temperatures is slightly
17 increased. So that's not great news but, like I
18 said, it's highly vary -- La Ninas are typically
19 highly variable, so it's going to be a lot of cold
20 and a lot of warm, I feel. Next slide, please.

21 This is just the seasonal drought outlook that
22 was issued, last issued back in November, and it
23 shows that the -- for the next three months, the
24 drought that we're experiencing in Colorado and
25 western Kansas should persist or develop, is what

1 this is showing. Next slide, please.

2 That's all I have for you guys. If you guys
3 have any questions for me, I'm -- I'll take them.

4 MR. RIZZUTO: Okay. Thank you. Any
5 questions? Kevin?

6 MR. SALTER: If I may, Kevin Salter. Let
7 me go back to a slide here, Lee. I think there's
8 probably several of us in the room that says that
9 looks great for the average precipitation, but that
10 precipitation fell in a short period in May and June
11 of the year and, outside of that time, it was dry.

12 MR. CROWLEY: Yes, it was.

13 MR. SALTER: So I think the conditions
14 represent something a lot --

15 MR. CROWLEY: Very dry.

16 MR. SALTER: -- different from what this
17 represents, so I don't think I'm saying anything new
18 to -- I'm kind of preaching to the choir here,
19 but --

20 MR. CROWLEY: Yeah. Yeah, it's -- you
21 know, it looks great as a year, but we all -- we all
22 know overall, it was dry early and dry late.

23 MR. RIZZUTO: Okay. Other questions of
24 Lee? Thank you, Lee, for participating and your
25 presentation. At this time, we'll take a 10-minute

1 break and we'll come back at 10:15 and we'll begin
2 with reports from local water users and state
3 agencies.

4 MR. SALTER: Before everybody gets moving
5 around, for the people online, if you could enter
6 your name and who you're associated with in the
7 chat, I'd appreciate it. Thank you.

8 (A break was then taken from
9 10:05 a.m. to 10:16 a.m.)

10 MR. RIZZUTO: I'm going to call the
11 meeting back to order at 10:18 and we'll start off
12 with reports from local water users and state
13 agencies. First, I'd like to call on Mark Rude,
14 Southwest Kansas Groundwater Management District 3.

15 MR. RUDE: Thank you very much,
16 Mr. Chairman, both for the earlier conversation and
17 for the time this morning.

18 My name is Mark Rude. I'm Executive Director
19 of the Southwest Kansas Groundwater Management
20 District. The district was formed in 1976 under the
21 1972 Groundwater Act in Kansas. Had some very
22 interesting language, I think, there, that the
23 purpose was to recognize the right of local folks to
24 determine their destiny regarding water use, so long
25 as it doesn't conflict with the basic laws and

1 policies of the state and, presumably, federal as
2 well.

3 So we formed, at that time, the board, and by
4 the way, of course, that's no small feat to form and
5 organize as local folks, because you essentially
6 look at each other and say "Okay. We're going to
7 charge each other to be," and we've continued to do
8 that every year since.

9 We cover parts of 12 counties in southwest
10 Kansas, including the river corridor, except for
11 that little bit of river corridor in Hamilton County
12 against the Stateline. So, for example, the Kansas
13 Frontier Ditch is not within the Groundwater
14 Management District yet. I'll just put that out
15 there.

16 But the issues, of course, that we deal with,
17 and the reason we formed was -- was the water,
18 particularly the groundwater, but the surface water
19 supply, of course, is from the Ark River, and we're
20 blessed with having from Colorado is about the only
21 renewable source, other than what we all pray for,
22 rain, in southwest Kansas, so it's pretty near and
23 dear.

24 Myself, personally, I came on the scene in
25 1987, worked for the Chief Engineer and the field

1 office in Garden City with the State Department of
2 Ag, then Board of Ag, Division of Water Resources,
3 and been on the scene ever since.

4 I do want to just make a quick comment on a
5 story, because I was involved a little bit with the
6 Kansas-Colorado case and the relationships there,
7 and -- and the Chairman mentioned, at the beginning
8 of the meeting, Arthur Littleworth and the fabulous
9 kind of person that he was, and I remember being in
10 Pasadena at that facility and walking out after a
11 day of activity in court, in his court, and first of
12 all, I loved the way he entered the courtroom. He
13 really enjoyed being announced and then bursting
14 through the -- the curtains and then allowing
15 everybody to proceed with the proceedings.

16 But we were walking with him out of that
17 facility on a beautiful Pasadena afternoon and sort
18 of -- this is what I remember of him, it sort of
19 illustrates him in my mind, is we just exchanged
20 comments on the beauty of the afternoon outside,
21 being outside, and -- and so he just looked around
22 and he just made the comment, "It's as if the gods
23 have willed it to be beautiful," and that was, you
24 know, one of those comments that if you ever knew
25 him, that was the kind of -- the way he talked.

1 Let's just put it that way. Wonderful memories of
2 Arthur Littleworth and, of course, a lot of good
3 memories working on Compact and Compact issues and
4 now working, in the last 15 years, with the
5 Groundwater Management District for local folks.
6 Next slide, Kevin.

7 Just want to make a few brief comments, sort
8 of 5,000 feet. One of the things the District has
9 worked on, and it's sort of in the statute in
10 Kansas, is to -- if you're going to try to manage
11 the supply, let's have some kind of consistency of
12 thought and behavior in a document, and so that's
13 our management program document we've been working
14 to update, and I think we reported that this time
15 last year to the Compact. Next slide.

16 We're about done with that, by the way, and
17 that has a section specifically on Ark River
18 management. Of course, the Compact is one of
19 several and so, as a groundwater district, we're --
20 we try to stay involved with both you, the ARCA, as
21 well as with the compact with Oklahoma, from the
22 standpoint of how that might relate in effect to
23 groundwater management. Next slide.

24 Of course, upstream, we've all talked about,
25 and there were wonderful reports yesterday,

1 addressing the concerns of the water quality
2 element. Water supply is really two sides of the
3 same water supply coin is quantity and quality.
4 Next slide.

5 In southwest Kansas, we're sort of functioning
6 now as a closed basin, so in that watershed on the
7 previous slide, that was a map involved in the
8 discussions of the development of Compact down to
9 Dodge City. We rarely have the flows in Dodge City,
10 and when I came on the scene in '87, we were having
11 flows through Dodge City, and it was just one of
12 those periods of time where it was extra wet, the
13 system was wet, and we were all enjoying a water
14 supply.

15 Those kind of pass-through flows are something
16 that happened a lot more often before the reservoir
17 development upstream, of course, so a lot of
18 benefits from that reservoir development, but there
19 are also some -- some other effects, and one of
20 those is we don't have near the pass-through water
21 we used to have, historically. We are functioning
22 as a closed basin, so everything that is sent to us
23 down the river stays with us and essentially goes
24 right into the High Plains Aquifer. Next slide.

25 We've been very involved with partnering on

1 water conservation projects, working with the ditch
2 companies to update diversion works, and improving
3 efficiencies on their system. Next slide.

4 Also working with partners in the state to
5 update our regional groundwater modeling. Kansas
6 Geological Survey is a fabulous partner in that
7 regard and we're just initiating an update of that
8 model. Next slide.

9 Some comments yesterday on the Decision
10 Support -- I think I have that, whatever the report
11 yesterday that was provided on the Decision Support
12 System for the Ark Valley. Online, I noticed
13 there's a water quality element, certainly, there.
14 It makes sense, since water quality is a part of
15 water supply. Some intricacies that were described
16 at length yesterday in the -- both existing data and
17 the created data to -- to fill the level of detail
18 that is going into that amazing work, even to the
19 point of trying to identify the different colors of
20 water historically delivered to the various
21 locations along the Ark River system.

22 Just want to make the comment that as -- as we
23 all are -- as that effort is looking at the
24 different colors, certainly we would be interested
25 and we think all water users would have a real

1 interest in the quality of those different colors,
2 and so if we're -- if that effort is going into
3 providing the much needed common knowledge base for
4 the river basin, we certainly want to encourage that
5 kind of thinking. Next slide.

6 The watershed planning that Colorado has
7 undertaken, one in for the full basin in 2008, and
8 then the most recent one from John Martin
9 downstream, that's a great document and -- and,
10 certainly, we're learning from that. I would have
11 to say that was, the 2008 and then the most recent
12 one, is really driving us to file for a WaterSMART
13 grant with Reclamation to form a watershed group,
14 which we did receive that grant. We're sort of
15 waiting on the contract, but we look forward to
16 following Colorado's lead in putting together a
17 watershed group to try to address the opportunities
18 and issues on our side of the basin. Next slide.

19 From the presentations yesterday and from what
20 we're hearing, both in the Lower Ark Water
21 Conservancy District and others, tremendous work,
22 and I want to say thank you for the efforts that are
23 being put into the volunteer best management
24 practice efforts to try to improve the water quality
25 in the basin, and as was, I think, described in the

1 report yesterday, it -- again, there are tradeoffs,
2 and I think that's the Rule 10 activity is sort of
3 trying to manage the tradeoffs. If a producer puts
4 the improvements onto his land and with his
5 irrigation system, he kind of wants to have the
6 benefits of maybe more water, and we get that with
7 our producers on our side of the line, too, but
8 somehow, we have just got to address the water
9 quality, and what's going on there and was described
10 yesterday is, I think, deserves a real thank you for
11 the efforts that are going on there collectively.
12 Next slide.

13 But the system is what it is, and so the
14 quality that we receive, as I said earlier,
15 continues to affect the regional High Plains Aquifer
16 and, therefore, the well fields of communities, and
17 we just learned that the City of Deerfield now has
18 exceeded their clean drinking water standards for
19 uranium and other constituents and their solution
20 now is to tie in with the Lakin water treatment
21 system and that's, you know, that's predictable.
22 Certainly Colorado has, on Colorado's side of the
23 line with the Ark Valley Conduit, is making real
24 efforts to keep the drinking water clean, and we're
25 just going to have to regionalize on the Kansas side

1 as well. Next slide.

2 Another thing that's sort of evident in the
3 West, any place we have a lot of agriculture and
4 water short supplies, we tend to have the water
5 quality effect, and so I really appreciate being
6 able to work with Reclamation folks and looking to
7 other research, even globally, on ways to treat that
8 ag water in a economical way that could keep that
9 water useable for agriculture.

10 There's certainly examples now in southwest
11 Kansas, and there's got to be in Colorado as well,
12 where that water is very limited now in what crops
13 can be grown, so any way we can find to treat that
14 water and restore. Of course, there's costs like,
15 for instance, microfiltration. You end up with a
16 permeate that has to be disposed of, even if there's
17 radio nuclei in that, then there's only -- for
18 Kansas, anyway, we've got to deep inject it and that
19 equates to 15% out of the system, so there's a water
20 cost as well as a financial cost on some of those
21 options, but we've just got to keep looking at those
22 and, I hope, collaborating with our partners in the
23 basin in Colorado as well. Next slide.

24 So we have, of course, Compact conditions
25 there. I heard the comment yesterday that it's a

1 water quantity, not a quality Compact, but as we
2 said last year, boy, the language is not that
3 limiting in the Compact, and we all know that. It's
4 not something to focus on. The good work that's
5 happening to improve the water quality really is
6 what to focus on and collaborate on and work
7 together on, so we are -- we are excited for that
8 and we want to keep working on that as a district,
9 working with other partners, and we're even going so
10 far as to be a little bit wild on trying to find
11 ways to import water into the basin, and I don't
12 know that we'll get there, but the water west
13 concept is just another thing that we need to keep
14 looking at for areas that are water short and for
15 our good friends to the west. So, next slide,
16 Kevin.

17 So, with that, that's all I have this morning
18 unless there are questions.

19 MR. RIZZUTO: Questions? Did a good job.
20 Thank you, Mark. Steve Kastner, Purgatoire River
21 Water Conservancy District. Steve.

22 MR. KASTNER: Thank you, Chairman
23 Rizzuto. I am Steve Kastner, General Manager of the
24 Purgatoire River Water Conservancy District. If
25 there's any confusion, I am here in reality.

1 Before I start, I'll acknowledge Gil Ramirez
2 is here from the City of Trinidad. Gil is one of
3 our partners down there. He operates the City's
4 collection and treatment system on the upper -- very
5 upper reaches of the Purgatoire. The City, like I
6 said, is very acute aware of what the District does,
7 and we try to work together for our mutual benefit.

8 I was going to present some information today
9 about the internal operations of the District in the
10 past year. A lot of this information gets discussed
11 in our project annual meeting we had November 5th, a
12 month ago, in Trinidad. Federal agencies attend,
13 the two states' water resources offices, Kevin and
14 Rachel, attend, and we do that every year and I
15 think it's a -- it's a means of collecting data and
16 recording data. We record notes and minutes of it
17 and so, when we do get to the Ten-Year Review
18 process that was brought up a little while ago, no
19 matter who does it, I think this time, we'll have
20 readily the data needed to conduct that process.

21 So, with that introduction, we did have a,
22 what I'd say, a nice year, a good year of this year.
23 That's my usual graph. The last bar on the right is
24 what we did this year. Total diversions were a
25 little over 41,000 Acre Feet. Our average, our

1 long-term average there in those bars, is right
2 above 40,000, so we're just a hair above average on
3 our diversion supply, and most of that occurred
4 during our -- what we call our project operation
5 method of distributing our water. I don't know if
6 you can -- I think I just kind of said whatever the
7 next few lines there, Kevin. We can scroll -- can
8 you scroll down a little, or is that --

9 MR. SALTER: I scrolled by it.

10 MR. KASTNER: Oh, I'm sorry. So, yeah, I
11 said that. This next graph is kind of a comparison
12 of our -- the red dash line, it really should
13 probably be a bar graph, but it's just what was
14 diverted through irrigation during those months.
15 You can see it starts out in April and climbs and,
16 by the time you got to June, July, August, it's
17 pretty steady. We had -- that's unusual, but we had
18 a good supply, and a good supply in storage due to
19 the precipitation in May and June this year and a
20 little bit in August, so we were able to hold kind
21 of a constant supply during the summer, which is a
22 good thing, but somewhat unusual for us.

23 The blue -- the blue line is our monthly
24 end-of-month Model Pool content and you can see it
25 stores up gently all winter and the May and June

1 precipitation and the satisfaction of water rights
2 senior to 1908 on the Lower Purgatoire and Lower
3 Arkansas was met, so we were able to store, and our
4 peak storage content at the end of -- or at the
5 first week of June was 16,200. Doesn't quite get
6 that high on this graph because it was the end of
7 the month numbers there, but -- and we were also
8 able to store it, it doesn't really reflect on
9 there, but another thousand Acre Feet first week of
10 August.

11 Then that -- then that mountain storage was
12 down, so the graph goes down, but that -- that level
13 of storage really makes a difference to the district
14 and it goes -- takes us from a dry year to a real
15 good year, so we had a nice -- it was a nice relief
16 from 2020, which was a really dry. Next one, Kevin,
17 if you've got it.

18 This graph I show is kind of the blue line is
19 the Purgatoire at Trinidad gage that's right at the
20 start of our diversion ditches and the red line is
21 Thatcher below the District, and my opinion of this
22 gage is -- or this chart has changed in the last
23 three years. I'll show you on the next chart, but I
24 think it's still useful, but when the -- when the
25 red lines and the blue lines are further apart,

1 especially the red line lower, it indicates a lack
2 of monsoonal moisture. You can see that in 2019,
3 when the lines were pretty far apart. This year,
4 the flow passed the gages where the horizontal lines
5 are the longer term average, and so our flows past
6 the gages were pretty -- pretty much normal this
7 year.

8 And the next graph, I just wanted to point
9 this out. This is -- the blue line is the Madrid
10 gage above Trinidad Reservoir. You can see the
11 peaks and some of the precipitation that occurred
12 above the reservoir in the spring has been shown
13 today already, but the Thatcher peaks, the red ones,
14 are you can see independent of what goes on at
15 Madrid, and those -- and much higher, and those
16 flows occur, as I observed, when the storm systems
17 come up and back up against the Fisher Peak and the
18 mesas there south of town, and -- and they're
19 higher. They're very spiky, and if you -- I looked
20 at the volume of water in those two peaks, and they
21 are -- the total past the Thatcher gage for the year
22 was 44,000, as it showed on the last slide, but
23 those -- the volume in those two peaks were 16,000
24 and 10,000 Acre Feet, so over half the annual supply
25 going past that gage occurred in a two-week period.

1 I think about that in terms of future
2 modeling, and when the modelers talk about
3 calibrating a model and calibrating this diversions
4 and streamgauge flows, you have two, I guess I'd call
5 them random events, that are volumetrically very
6 significant, and I guess I would just be interested
7 in how -- how that kind of thing is -- is dealt with
8 and to what degree it will mean something in our --
9 our future review. What it's -- it's nothing the
10 District operations did and it's nothing about a
11 water supply coming into the District from above, so
12 it's -- it's interesting, but it's something to keep
13 an eye on. Next one, Kevin.

14 This is a chart of our -- this is the amount
15 of acres we irrigate in the District. We include
16 acres that have been dried up and are changed from
17 irrigation to municipal or Permanent Pool uses,
18 which are the red components there. We have 2020,
19 which was a drought year. We don't have a
20 compilation for 2021 yet. That will be coming in
21 February, so 2020 shows a slight decline. What it
22 doesn't reflect is that the quality of the
23 irrigation in 2020 wasn't good. We -- you know,
24 people were spreading it on a similar number of
25 acres, but the quality wasn't as good. We're

1 allowed to irrigate 19,499 by the Operating
2 Principles, so we're -- we don't push that. It's --
3 we just don't have the water for it, typically.

4 A few more notes on the next page. There's
5 our -- our sprinkler plan, our irrigation
6 improvement plan numbers. I put a little chart
7 there or a little table. We're slowly growing the
8 number of sprinklers. I personally don't know how
9 many more we'll get. We have a lot of land but it's
10 not all suitable for sprinklers. We have 20, 22
11 listed there. Actually, only 19 operated this year,
12 but anyway, it's slowly going up, and it seems to be
13 a process that works. We had 75 Acre Feet of actual
14 return flow deficits to replace to the river. That
15 was done by direct releases from ditch systems or --
16 and from Trinidad Reservoir itself.

17 Livestock diversions this year, or the past
18 winter, were 728 Acre Feet. We tried a little
19 different last winter. We tried to rely more on
20 direct river flows, the small amount of water that's
21 in the river in the winter and running it longer in
22 ditches, just to try to save storage water. It
23 didn't work very well. There just wasn't enough
24 water to get down the ditches. It's like five CFS
25 or something like that. We're running stock water

1 right now but, at 25 CFS, it's more efficient.
2 We're allowed 1200 Acre Feet a year on stock water
3 diversions.

4 The next topic there, automatic ditch head
5 gates. We have plans to install automatic gates on
6 our three largest ditches, the Hoehne, the Model,
7 and the Southside. We're doing this because
8 they're -- those ditches or those gates allow for
9 remote control on your cell phone and they can
10 maintain a constant flow as against river changes.
11 That's -- those gates are being funded by a 50%
12 Bureau WaterSMART grant, District funds, ditch
13 funds, and our local conservation district is also
14 providing funds.

15 It will be kind of an experiment. We'll see
16 how they work. If they work well, I'd like to have
17 more of them, ultimately control the whole district
18 on the phone. We're still debating who should have
19 that control, but we're hopeful. We're --
20 they're -- those gates are made in Australia, brings
21 in the supply chain issues, but we're told that
22 hopefully early March, they'll be here, and
23 hopefully we can get them in before April and
24 irrigation season.

25 Lastly, appreciation to the Corps for their

1 work every day in operations at the reservoir and
2 the dam. And, Division 2 staff, we did support our
3 sprinkler plan and just our daily administration
4 and, on that line, I would like to acknowledge John
5 Van Oort, also. John created some spreadsheets
6 which are used to keep the reservoir in balance
7 where it should be, relative to all the other water
8 rights, and he also held daily meetings in the
9 summer with his staff to make sure the Purgatoire's
10 and administrative coordination with the Lower
11 Arkansas and the ditches on the Lower Purgatoire,
12 and John was very dedicated to his job and -- and
13 we're certainly going to miss him in the future.

14 That's my report, Mr. Chairman.

15 MR. RIZZUTO: Okay. Thank you.

16 MR. KASTNER: Any questions?

17 MR. RIZZUTO: Thank you, Steve.

18 Questions of Steve? Earl?

19 MR. LEWIS: Thank you, Mr. Chairman.

20 Just one, more curiosity. We were talking about the
21 two different graphs, the one that you maybe thought
22 wasn't as useful as you used to, after the last
23 three years, because of maybe the episodic inflow or
24 flow events. Have you looked at whether that you're
25 seeing more of those high flow events than

1 historical or are we seeing a change in the -- in
2 the flow pattern or do you -- do you know that yet?

3 MR. KASTNER: You know, I've just noticed
4 it the last -- 2019, the monsoon was just notably
5 absent. A little bit better last year, and then
6 just those two large events this year that people
7 have talked about, but I haven't gone back and
8 specifically looked.

9 MR. LEWIS: Okay. Thank you.

10 MR. RIZZUTO: Okay. Other questions? I
11 have one. On the automatic head gates, has any
12 other conservancy district or ditch company gone to
13 automatic head gates and, if so, what's been the
14 result?

15 MR. KASTNER: They're from the company
16 called Rubicon. They have an office in Fort
17 Collins. The only one in the Arkansas I
18 specifically know of is on the Fort Lyon, and I did
19 speak with those people before we went too far in
20 this, and they've -- they've been pleased. It's --
21 it's kind of a wait and see. We're going to put
22 them below our existing head gates and leave our
23 existing head gates as protection for, you know,
24 debris and high water and stuff and -- 'cause
25 these -- these gates let the water through and they

1 measure it as it goes through and they control all
2 at the same time, and so we wanted to keep
3 protection of them, but the salesman says they're
4 great.

5 MR. RIZZUTO: That's what they told me
6 about my car. Okay. Thanks, Steve.

7 Kansas Geological Survey, Don Whittemore, and
8 he'll be joining us remotely.

9 MR. WHITTEMORE: Can you hear me?

10 MR. RIZZUTO: Yes.

11 MR. WHITTEMORE: So there will be a slide
12 show here.

13 MR. SALTER: Hold on here a second, Don.
14 I'm working on that.

15 MR. WHITTEMORE: Looks likes you have a
16 beautiful sunny day out there.

17 MR. RIZZUTO: It is nice, although most
18 of us have been in this room, so not sure if the
19 sun's still out.

20 MR. WHITTEMORE: Okay. All right. Well,
21 greetings to the Chairman and to the ARCA members
22 and the attendees. So the Kansas Geological Survey
23 has been working on this salinity issue in southwest
24 Kansas for almost the last three decades. For this
25 present presentation, I might mention that we are

1 also working with the Kansas Department of Health
2 and Environment and also Groundwater Management
3 District Number 3, especially Mark Rude. So, next
4 slide.

5 Now, the -- and you might notice that I
6 pronounce it the Ar-Kansas, so I think maybe in the
7 interest of Colorado, I'll simply call it "the Ark."

8 So, for the Ark River, one of the most saline
9 rivers in the United States, entering Kansas, we see
10 that the source of salinity, selenium and uranium,
11 is mainly natural, so we have the weathering of the
12 marine cretaceous shales that contain gypsum and
13 sulfites, and the anthropogenic sources really are
14 insignificant in comparison to those natural
15 sources. However, the level of the salinity is
16 really not natural, because the dissolved salts are
17 concentrated so much by the loss of water from
18 evapotranspiration.

19 Now, also, if we look at the uranium, we
20 recognize there is an anthropogenic reason for
21 accelerating the release of the uranium, as
22 indicated by the Colorado studies, indicating that
23 the fertilizer, the nitrate fertilizer, the nitrogen
24 fertilizer then the nitrate, goes down and can help
25 weather away faster some of the uranium from the

1 shales. The weathered shales oxidize the uranium,
2 but overall then, in terms of the natural, if we
3 didn't have these human activities, the salinity
4 would probably be about three to four times less and
5 the uranium somewhat less. Next slide.

6 So you've seen this before. Mark Rude showed
7 this. We see that the saline waters and the ditch
8 waters in Colorado have indeed impacted the uranium
9 concentration in the groundwater in Colorado, so
10 this is a map of the probability of uranium
11 exceeding the public drinking water supply, which is
12 30 micrograms per liter, in the groundwater in the
13 Ark River Basin. Next slide.

14 So, give you an overview of the water that
15 enters Kansas. On average, the total dissolved
16 solids is over 3,000 milligrams per liter, and this
17 is a sulfate-type water, not a chloride, and the
18 sulfate is close to 2,000 milligrams per liter and,
19 based on a study in 2009 and 2010 on uranium, found
20 that the uranium, on average, was about twice the
21 drinking water standard.

22 And, for example, to give you a perspective on
23 this last year, 2021, calendar year 2021, based on
24 specific conductance to uranium relationship, the
25 uranium concentration coming across the Stateline

1 was well over a 30-microgram per liter standard most
2 all of the time, except during the Compact release
3 to Kansas, when it was close to the drinking water
4 standard, and then the only times, really, when it
5 was significantly below would have been, you know,
6 the day or two when we had those thunderstorm
7 releases, which were shown very nicely in the
8 previous slide. Next slide.

9 I meant the Purgatoire presentation showed
10 those peaks, and that was a very nice -- showing the
11 importance of those rainstorm events.

12 So, back in some of the earlier studies, we
13 produced a map. Here, I'm showing the 2000 map, and
14 this is for the High Plains Aquifer. We also have
15 one for the Alluvial Aquifer. If we showed the
16 Alluvial Aquifer map, we'd show maybe a red zone
17 coming through that, what's white here, because
18 that's the Alluvial Aquifer in Hamilton and western
19 Kearny County, so that's even higher in the Alluvial
20 Aquifer than in the High Plains Aquifer, but the
21 sulfate concentration, an indicator of the salinity,
22 is indeed high in that zone of Kearny and Finney
23 County, your west of Garden City up to Garden City,
24 and you see that it goes away from the river, and if
25 we go to the next slide, we can see why it does

1 that.

2 It's because we have the historic ditch
3 irrigation service areas in Kearny and Finney County
4 that distributed the water for the last century or
5 so away from the river and the ditches.

6 And now if we go to the next slide, in between
7 that particular period of the 2000 map and then the
8 current study, the Kansas Geological Survey worked
9 with Groundwater Management District Number 3
10 looking at the salinity of the water and also the
11 uranium concentration, and saw that the uranium
12 concentration was high in some of the High Plains
13 Aquifer waters and then began to see that issue
14 that, again, Mark Rude pointed out the Lakin having
15 to put in the treatment system. Also, Garden City
16 has a treatment system to reduce the salinity, which
17 also decreases the uranium, and recognizing that,
18 then the Kansas Department of Health and Environment
19 saw that probably the private domestic wells out in
20 that area would have potentially uranium above the
21 drinking water standard as well, so they conducted a
22 voluntary sampling and analysis program in the fall
23 of 2019.

24 Then, in the current study, the Kansas
25 Geological Survey, in cooperation with the Kansas

1 Department of Health and Environment and Groundwater
2 Management District Number 3, were working on the
3 salinity and uranium distribution in the aquifer,
4 including the factors that control this. Next
5 slide.

6 So the current study objectives are shown
7 here, where we're looking at the distributions of
8 salinity, uranium, and other constituents in the
9 High Plains Aquifer, as well as in the Alluvial
10 Aquifer, and then determining the changes and then
11 the chemical loads in the river coming into the
12 study area, and then the various factors that
13 control the chemical distributions from geographic
14 to vertical lithologic to hydrogeochemical. Next
15 slide.

16 So we're continuing to work on updating maps.
17 This is a preliminary map, and I think the key thing
18 here is that we've had to add a new zone in the High
19 Plains Aquifer to this map, a zone of over
20 1500 milligrams per liter sulfate, because the
21 sulfate concentrations have continued to increase,
22 as you can imagine. As you can imagine, as Mark
23 Rude indicated, this is a closed basin, so what we
24 get pretty much stays here. Next slide.

25 This is a blowup of that. You see the Ark

1 River, that light blue line, and you see some thin
2 black lines paralleling the river. Those are the
3 boundaries of the Alluvial Aquifer, and we have
4 Kearny County, part of Kearny County in the left and
5 part of Finney County on the right, and you can see
6 this high concentration of sulfate in the High
7 Plains Aquifer, above 1500 milligrams per liter as
8 well as above 1,000, which is kind of that orange
9 shade. We see that that high sulfate is both to the
10 north and to the south of the river. Next slide,
11 please.

12 But, here, we see sort of a similar area, but
13 mainly in eastern Kearny County, with a little bit
14 of Finney on the right-hand side of the slide. We
15 see that the uranium in this map that we're
16 currently working on is over 50 micrograms per
17 liter, and remember that 30 micrograms per liter is
18 the limit for the public supplies of drinking water.
19 Note that this is primarily on the north side of the
20 river, where I mentioned that we have sulfate. Also
21 on the south side of the river, high. We see that
22 we really don't have as much high area of the
23 uranium to the south. Next slide.

24 We discovered a new area in this project of
25 high salinity and high uranium concentrations, and

1 that's that zone that goes from a -- just east of
2 Garden City. You see that GC. That represents
3 roughly where Garden City is located, and it goes in
4 a north-northwest direction along what is known on
5 the US Geological Survey topo maps as the White
6 Woman Basin.

7 So this is a depression. So what looks as
8 like might have happened is that we've had the ditch
9 irrigation area and then we've had maybe some
10 flushing of that water across the surface or runoff
11 of that and then seepage of that during the last
12 century into the subsurface, causing that particular
13 zone to be especially high in uranium. Next slide.

14 This gives you an idea of what we're following
15 in terms of uranium loads coming across the
16 Stateline. We've produced this for the Groundwater
17 Management District Number 3 here each year since
18 2012, and we see how high the mean annual uranium
19 concentrations can get, over 70 micrograms per
20 liter, but when we have more flow, then it's a lower
21 concentration.

22 So if you look at the load, you'll see that
23 even though the periods of the low flows have much
24 higher concentrations of uranium, in terms of the
25 load of uranium that comes into this particular area

1 and then eventually makes its way into the Alluvial
2 and High Plains Aquifer, is mainly during those high
3 flow years when that saline water with the high
4 uranium is flushed from Colorado into Kansas. Next
5 slide.

6 This is the graph of the uranium
7 concentration, Y axis, to the sulfate on the X axis.
8 The blue line is a linear fit to the Arkansas -- the
9 Ark River water, so that gives you kind of a
10 reference point, and we can see we have waters, the
11 groundwaters, that are both higher and lower in
12 uranium at a given sulfate concentration. You can
13 also see, in this recent study, those are the purple
14 pluses, I guess for KSU color, if you go over 100
15 micrograms per liter.

16 Now, you might wonder, well, why do we have
17 such a big distribution like this? Well, we have,
18 in certain areas, some additional background uranium
19 that comes from a leaching, perhaps some of the
20 volcanic ashes in the High Plains Aquifer, and then
21 we have an area to the south of the river where we
22 have groundwater levels that are generally lower
23 than to the north, so it's a greater travel time
24 down through that unsaturated zone through the water
25 table.

1 Then also that groundwater flows from the
2 river, mainly now to a southerly direction, because
3 of the great decrease in water levels in the High
4 Plains Aquifer to the south, so that combined
5 factors result in lower uranium concentrations to
6 the south of the river, and we can see that if we
7 look at the next slide, where I have the uranium
8 over sulfate ratio plotted versus the sulfate
9 concentration, and then we see we've got a power fit
10 to the values that are north of the river and then
11 also one to the south of the river.

12 You can see the cluster of points for the Ark
13 River. Those are the X's, the blue X's, and then
14 we've got the pluses, the wells north of the river,
15 and then the dots, which are the wells south of the
16 river, and we can see a marked difference between
17 those wells that are to the north of the river and
18 to the south of the river, we look at the fit of the
19 data. So, again, we have this issue of having
20 combined greater background to the north than the
21 south.

22 We've got, then, absorption of uranium as it
23 travels greater distances through the unsaturated
24 zone in the south, both, and then also the flow of
25 the water within the aquifer to the south. So those

1 particular processes are then affecting the uranium,
2 so it's not all one simple issue. We have to really
3 look at some of these lithologic factors and the
4 groundwater factors, the hydrologic factors and the
5 geochemical factors, to see how it's distributed.

6 Now, you notice the diamonds, the purple
7 diamonds, which represent the White Woman Bottoms
8 wells. We see those are especially high at the high
9 sulfate concentrations and, again, even higher than
10 the river but, again, this may have some
11 implications for Colorado as well. In other words,
12 what might be happening is, again, we have the ditch
13 irrigation and we have some of the flushing of water
14 maybe during rainstorms, as well as maybe some of
15 the runoff of that, and then perhaps precipitation
16 of gypsum in some of the soils, and therefore, that
17 would lower the sulfate concentration, whereas the
18 uranium can stay in solution because it's complexed
19 with carbonate species and so, therefore, that can
20 then increase the uranium sulfate concentration at a
21 ratio and produce those at a very high values for
22 that White Woman Bottoms wells area. Next slide.

23 So this reviews, then, the current findings.
24 We'll be producing a report at the end of -- end of
25 June this next year. We see the sulfate

1 concentration has increased, relative to 2000. The
2 high uranium areas are within the high sulfate
3 areas. However, the largest areas of the high
4 uranium, which are in east central Kearny County,
5 are north of the river; whereas the high sulfate is
6 also to the south of the river. The uranium greater
7 than 50 micrograms per liter also occurs along this
8 White Woman Bottoms depression in Finney County.

9 Then we see the controls on the uranium and
10 the groundwater include the proximity to these
11 features where the saline water is present, the
12 river channel ditch and ditch irrigated areas, the
13 background concentration, the adsorption on
14 sediments, which are dependent on the depth to the
15 water table, and as well as the aquifer travel
16 distance and the aquifer lithology.

17 Now, also one additional thing, and that is
18 well construction. If, as in the past, the wells
19 were constructed so that they have a gravel pack
20 going all the way down through and there was no seal
21 in the annular space, then it's easier for that
22 saline water to travel all the way down to the
23 actual screened interval when -- especially when the
24 well is pumping.

25 Those wells that are grounded or sealed across

1 clay units help protect some of the water in the
2 lowest part of the aquifer. Indeed, we find the
3 great heterogeneity in the concentrations of uranium
4 and salinity in some of these waters because some of
5 these wells have then been sealed better than
6 others, preserving some of the better quality water
7 in the bottom of the aquifer. Next slide.

8 So that concludes the study and, again, really
9 express my appreciation to the Department of Health
10 and Environment and to Groundwater Management
11 District Number 3 and their cooperation on this.

12 MR. RIZZUTO: Okay. Thank you, Don.
13 Questions for Don? Okay. None? Thanks again, Don.

14 MR. WHITTEMORE: You're welcome.

15 MR. RIZZUTO: Kansas Department of Health
16 and Environment, Tom Stiles. Welcome.

17 MR. STILES: Thank you, Mr. Chair. Thank
18 you, Administration, to allow a few minutes to make
19 some comments. I don't have a real presentation,
20 but just some observations.

21 I'm Tom Stiles. I'm Director of Bureau of
22 Water for Kansas Department of Health and
23 Environment. We're in charge of implementing the
24 Clean Water Act and the Safe Drinking Water Act.
25 When it's come to the ARCA and the Compact, we've

1 always had somewhat of an adjunct role, basically
2 advising the Chief Engineer on some aspects of it,
3 but water quality really hasn't been embedded in
4 that, and yet ironically, yesterday during the
5 committee meetings, I think I heard water quality
6 mentioned more often than any time in history here
7 in -- in the ARCA proceedings there.

8 It is, as you've seen from the presentations
9 and the dialogue yesterday, it's clearly a bistate
10 issue but, more importantly, it's a nonpoint source
11 issue, and what that means is that for both states
12 and for the federal government, it's one that does
13 not have a regulatory fix. It is just basically a
14 consequence of how water and land is utilized there
15 and then diffusely discharges pollutants into the --
16 into the river.

17 We've been evaluating that water quality issue
18 since about 2000, when we first developed a Total
19 Maximum Daily Load for the river at the Stateline
20 for sulfate. Total Maximum Daily Loads are
21 essentially a reframing of the pollutant budget of
22 what could be placed in the water without causing
23 violation of the water quality standards. The water
24 quality standards is what drives my programs and
25 they comprise the criteria, as you saw with Don's

1 numbers there, and then putting -- then it puts up,
2 it's kind of the gauge in terms of where the
3 relative condition in the river is relative to -- to
4 that.

5 The standard, the criteria, basically set the
6 number that basically defines adequate water quality
7 but, underlying all that, the most important part of
8 the water quality standards is what are the
9 designated uses that make use of that water. Water
10 quality means nothing if it's not tied back to uses,
11 and that is the critical point, and I think it's
12 also the most important part when you're dealing
13 with nonpoint source, because it's impossible to get
14 a nonpoint source to essentially abide by water
15 quality standards and criteria.

16 We've been at this since 2000 and, in the
17 aftermath of 2006, we came back with a more detailed
18 Total Maximum Daily Load for selenium, and every
19 time we came back to the valley, it seemed like the
20 water quality issues began to escalate. We worked
21 from sulfate, built in boron, fluoride, selenium,
22 uranium. Even though we don't have a water quality
23 standard in Kansas for uranium, Colorado does and,
24 of course, then we do have the drinking water MCL
25 for uranium across both states there, that about 30

1 parts per billion. All of that is a reflection of
2 the underlying geology and how the river interacts
3 with that geology, both within the channel but, more
4 importantly, across the surrounding lands that
5 comprise the drainage into the river.

6 When we talk water quality here, there's
7 always been an ongoing dance between water quality
8 and water quantity and, in fact, from our
9 perspective, from Kansas's perspective at the
10 Stateline, we see essentially two different rivers.
11 We see the river from September through May, which
12 is characterized by relatively low flows. We're not
13 seeing much in the way of at least support from John
14 Martin Reservoir, and we see escalated levels of
15 these mineralized constituents, embodied by high
16 values of conductivity seen at the -- at the
17 Coolidge sensor.

18 And then we see the river between June and
19 August, when the ditches are making their calls,
20 John Martin is making releases, and we see
21 essentially a 300% increase in flow in those three
22 months, compared to the other nine and,
23 correspondingly, a 30% decrease in conductivity
24 there. There is an inverse relationship here on the
25 river between flow and conductivity, acting as the

1 surrogate for all these mineralized contaminants
2 that we find within the river, so it has always been
3 this question.

4 The problem, of course, here is within this
5 valley and this basin. This is a very droughty
6 basin. It is essentially, from a hydrologic
7 perspective, bankrupt, and it only -- but it's
8 constantly playing the lottery and looking for those
9 occasional thunderstorms and flood events to
10 essentially refresh and reset the -- the budget and
11 the counter to create more improved water quality
12 conditions.

13 From our perspective, concentration is one
14 thing but, again, this dance between flow and
15 concentration, the product of that is load, and
16 that's really what's most important to us,
17 particularly because now the river is a closed basin
18 once we approach Garden City, and everything in that
19 mass, in terms of that mass that comes across the
20 Stateline, winds up going vertically, rather than
21 laterally, through the system. That vertical
22 placement of the mass is what Don basically has
23 displayed as this deterioration in the underlying
24 groundwater quality that we see, both in the
25 alluvium and now, by extension, the High Plains

1 Aquifer.

2 So that's our -- one of our primary concerns
3 relative to that but, again, the underlying point of
4 water quality is what are the uses? Certainly
5 public water supplies that we've seen with what the
6 investments that the City of Lakin had to make to
7 basically come back into compliance with the Safe
8 Drinking Water Act because of the uranium issues.
9 Deerfield now is encountering more and more of
10 compliance issues relative to that and is looking to
11 hook into Lakin to remedy that situation, but the
12 most pervasive use in the whole valley is irrigation
13 and to what degree are these poor water quality
14 waters influencing our ability to reap an economic
15 return through our irrigation usage.

16 But also, again, from my perspective, my
17 agency's perspective, aquatic life is every bit as
18 important relative to that, and to what degree are
19 these quality issues influencing the aquatic life
20 that we see within the -- within the river as well.
21 All that embodies in terms of, basically, a sense of
22 how we have to appropriately define -- define the
23 problem.

24 Our perspective, it's all, given all those
25 factors, is that we think water quality on the river

1 can be improved. We also don't think water quality
2 standards can ever be achieved. It's a nonpoint
3 source, and this isn't unique to Garden City, the
4 Ark River, or these -- these selenium sulfate
5 uranium issues.

6 Every time we deal with nonpoint source and
7 its very nature and the fact that it essentially
8 lies outside the realm of regulatory fixes in the
9 Clean Water Act, we're dependent upon
10 incentive-based programs, voluntary participation on
11 the part of landowners and ag producers to put in
12 the appropriate practices to abate those loads going
13 into our river system.

14 Across all hydrologic conditions, that's an
15 impossible task, because we'll never have enough
16 money to be able to saturate the entire watershed
17 with those types of practices, and there will always
18 be some event that will happen that will be outside
19 of our control, our technical control, with the
20 practices we've put -- we've put into place.

21 So we're going to be all about improvement,
22 but we're going to also have a realistic expectation
23 of just what defines adequate water quality that
24 supports our uses, even though it doesn't meet the
25 table value of what the criteria say reflects good

1 water quality on either side of the -- of the
2 Stateline.

3 As we've -- and we've, frankly, have had a
4 very, very good relationship with our counterparts
5 at the Colorado Water Quality Control Division on
6 this issue, and we've been very heartened by the
7 fact that over these 20 years, they've taken this
8 issue seriously and have risen the issue of what
9 they would call the Lower Ark to a point where it's
10 a priority for them and looking at ways to remedy
11 the situation or address the problem through some
12 alternative management means there.

13 They've spent a lot of the money on their
14 side, and the great irony is that while it is we're
15 seeing some of the problem, the fix lies over on the
16 other state, so any money we would get essentially
17 has to be spent over in Colorado to put in these,
18 you know, appropriate abating practices.

19 As we carry on the dialogue with an
20 ever-expanding audience, there's been sometimes a
21 tendency to, in the course of us trying to talk
22 about how we fix the problem, it will devolve into
23 an issue of how do we fix blame? We're not --
24 neither state is interested in that. We again,
25 because of the nature of nonpoint source, it is just

1 a repercussion of the fact that we inhabit the
2 valley, we utilize the waters in the valley, and we
3 utilize the lands there, and all that has some type
4 of consequence in terms, ultimately, of what the
5 river reflects in terms of its quality.

6 So in conversations with our counterparts in
7 Colorado at the Water Quality Control Division,
8 we've stumbled upon an idea, a concept. We steal a
9 concept that's embedded within the Clean Water Act
10 at Section 319(g), which is a call when one state is
11 not seeing its water quality standards being met
12 because of nonpoint sources, contributions that are
13 occurring in another state, that state has the
14 ability to petition the EPA administrator to convene
15 an interstate conference to talk about the issue and
16 look at management ways to ultimately deal with
17 that.

18 We like the concept, but we think we can do it
19 just on our own, as a state-only type of invocation
20 of an interstate management conference that maybe
21 we'll try to get kicked off in the summer of 2022.
22 Both states come together with an agenda that
23 touches on problem identification and then defining
24 what the issues are, especially the impacts to the
25 uses that are being made of the waters on both sides

1 of the Stateline, the considerations that have to be
2 made when trying to find an appropriate solution,
3 and that's where, frankly, the Compact comes into
4 play there, because many of these practices do
5 invoke some level of consumptive use and the
6 Compact, at its core, is all about managing
7 consumptive use to facilitate the delivery of those
8 useable flows across the Stateline.

9 So there has to be some recognition of that
10 within the context of any solution that would
11 come -- come forth and, therefore, the Compact
12 Administration would be part of this conference as
13 well, to present those types of aspects as well, and
14 then the take-home would be, okay, what
15 opportunities exist for both states to collaborate
16 and work together to get resources, research,
17 knowledge base, and enhanced participation for
18 practices to be placed on both sides of the
19 Stateline; on the Colorado side for source --
20 pollutant source abatement and control; on our side,
21 means to mitigate impacts to the uses that we make
22 of our -- of our waters there.

23 From that, we can then begin to work on a
24 common strategy that we can go forth and find
25 opportunities -- opportunities for additional

1 funding to -- to basically do that while working
2 through the sociology of the valley to recognize
3 that, as a nonpoint source problem, it will go no --
4 money goes nowhere unless we can place it in the
5 hands of people that are willing to place those
6 practices on the ground, and they're only going to
7 be willing to do that when they look at it from the
8 perspective of "How does this affect my bottom
9 line?" So getting them to look at things like soil
10 health and, you know, reducing energy and input
11 costs, even if it means potentially a little less
12 yield, but it begets greater profit, those types of
13 things are the kind of messages that are -- lead us
14 to some -- some level of success to continue to move
15 forward.

16 But, regardless of how we do this, everyone in
17 the room needs to understand, again, because of the
18 nature of the nonpoint source, we're looking at a
19 very, very extended time for return on investment.
20 We don't move the needle very -- very far when it
21 comes to water quality improvement when we're trying
22 to tackle a regional nonpoint source problem such as
23 this.

24 So we will invite the Compact Administration
25 and the two respective water quantity agencies to

1 participate in this conference that, again, we
2 hopefully can pull together and convene this summer
3 and, for once and for all, bring in all the
4 appropriate players and users to work off a common
5 strategy and not attack this problem in the -- in a
6 somewhat piecemeal fashion that -- that we've had to
7 date and create somewhat more of a collaborative,
8 coordinated effort to rally behind as we work toward
9 improving conditions in the valley on both sides of
10 the Stateline.

11 Thank you for the opportunity for some
12 comments.

13 MR. RIZZUTO: Thank you, Tom. Questions?

14 MS. MITCHELL: I have a question,
15 Chairman.

16 MR. RIZZUTO: Sure, Rebecca.

17 MS. MITCHELL: Or I guess a bit of a
18 commentary that I think it's important for us to
19 continue to recognize as we talk about these issues.
20 I think the last few presentations have been heavily
21 focused on water quality, and I do think that that's
22 important and I think that, you know, it may -- the
23 ARCA may seem like it provides a good forum for this
24 because all the stakeholders that are in the room
25 that are concerned with water quality and they're

1 present, and so -- but I do think it's very
2 important for us to continue to remember that the
3 Compact only addresses quantity and it doesn't
4 contain any provisions regarding water quality.

5 So, while I think Tom brought up some really
6 good ideas that are voluntary and opportunities for
7 both states to collaborate, it's important that we
8 remember that the ARCA can't make decisions that
9 directly address water quality.

10 So I think we can show Colorado is certainly
11 interested in working and has been working with
12 Kansas. We're going to continue to do that to
13 improve conditions for both Colorado and Kansas
14 water users. I think we've seen some examples of
15 that today, even, or yesterday. By studying the
16 water quality in the river and negotiating for a new
17 account in John Martin Reservoir, that may lead to
18 improvements in water quality below the reservoir.

19 We're going to continue. We're happy to
20 consider other solutions and attend any other
21 meetings outside of ARCA to continue to improve
22 water quality in the Arkansas River. It's for the
23 benefit of all of us, but I think we still have to
24 remember, you know, the guidelines of the Compact.

25 MR. RIZZUTO: Tom, did you have a

1 comment?

2 MR. STILES: KDHE concurs 100%. We don't
3 view the Compact as a remedy for our water quality
4 problems. They are a consideration, because it does
5 no good for us to put forth some certain, let's say,
6 a program to proliferate multiple wetlands
7 throughout the valley that induce a consumptive use
8 demand on that and create Compact problems.

9 We don't view the Compact as our solution. We
10 view it as someone who can help guide a pathway
11 forward.

12 Frankly, we think there are other things that
13 we can do, such as nutrient management in the
14 traditional sense of dealing with a 319 program, and
15 fertilizer management that plays to potentially draw
16 a -- lowering the oxidized conditions that we see
17 down at the interface between the water and the
18 geology, and that will be Compact neutral, relative
19 to that.

20 We don't -- again, we're 100% in agreement
21 with -- with Colorado on this. The Compact is not
22 the -- the vehicle for remedy, but it is a
23 significant player there that will influence the
24 choices of the strategy that -- that we take. That
25 is the -- the gist of our message to the Compact

1 Administration.

2 MR. RIZZUTO: Okay. Earl?

3 MR. LEWIS: Thank you, Mr. Chairman, and
4 just to add onto that, and maybe ask in response to
5 Becky's comments, I think, while we agree, I think a
6 couple points.

7 First, the fact that we are able to talk about
8 water quality and spend a significant amount of time
9 on that topic really goes to show the work that's
10 been done over the years on our water quantity side.
11 Not that we don't have some questions, concerns to
12 continue to pay attention to on the water quantity
13 side, but -- but I want to recognize the progress
14 that's been made to get us to the point where we can
15 spend time on water quality, and I do think that
16 there is a lot of work going on across the
17 Stateline, on both sides, on water quality.

18 I do think that there are issues that how we
19 manage our water quantity or releases from John
20 Martin or the multipurpose account discussion, those
21 things, while quantity issues primarily, how we
22 handle them or how they are addressed can have an
23 effect on our quality, and I think that's -- you
24 know, we've seen, both from Don's comments and Tom's
25 comments, just the amount of water and the

1 relationship of our releases to the salinity and
2 uranium and those issues.

3 There is a tie there that, frankly, maybe
4 historically, we have separated too much, and so
5 this does provide a very good forum to make sure
6 that we are looking at things holistically, from
7 both the quality and quantity standpoint, and how
8 the one action may impact the other, so I'm
9 encouraged by a lot of the presentations yesterday
10 and discussions today and want to see those
11 continue. Okay.

12 MR. RIZZUTO: Thank you. Any other
13 comments? So I assume, next year, that will be part
14 of the agenda of whether -- of the committees to
15 discuss the -- what's going on with this committee
16 you hope to put together by summer; correct?

17 MR. STILES: It will be.

18 MR. RIZZUTO: Will they give a report
19 back?

20 MR. STILES: It will be an ongoing
21 discussion from, probably from this point forward,
22 just by the way things have launched these past few
23 days and, again, the nature of dealing with nonpoint
24 source is it's a long slog. It is a -- it's a
25 hundred-year war, and -- and so it will be an

1 ongoing discussion and highlighting new projects and
2 some -- maybe some new knowledge that comes to bear
3 from research, et cetera, but there will probably
4 not be any great "Eureka" moments where we can
5 declare victory, but we can declare progress.

6 MR. RIZZUTO: Okay. Randy.

7 MR. HAYZLETT: Your comment, Tom, though,
8 which really kind of hit home, is water quality
9 means nothing unless it's tied to uses, and uses
10 can't be limited just to human consumption. There's
11 a lot of other factors out there, so I'm glad to
12 hear that there's going to be a summit of some kind,
13 and I do think ARCA needs to be involved in it.

14 MR. RIZZUTO: Okay. Questions, comments?
15 Okay. Thank you very much, Tom.

16 MR. STILES: Thank you for your time.

17 MR. RIZZUTO: Okay. Next we'll move to
18 Compact compliance. First, call on the honorable
19 Kevin Salter from the State of Kansas.

20 MR. SALTER: Okay. I think we're going
21 to kind of tag team this, Kelley Thompson and
22 myself, again.

23 MR. RIZZUTO: Okay.

24 MR. SALTER: Kevin Salter with the Kansas
25 Division of Water Resources. I don't know. Kelley,

1 did you want to start?

2 MR. THOMPSON: Oh, sure, yes. So Kevin
3 has on the screen there that -- I hope you can hear
4 me, yeah. Thank you.

5 My name is Kelley Thompson with Colorado
6 Division of Water Resources. On the screen is the
7 Ten-Year Compact Compliance Accounting Table that
8 summarizes the estimated accretions and depletions
9 to useable Stateline flow for the current Ten-Year
10 Accounting period, so that's between 2011 and 2020,
11 and the final accounting number on the lower right
12 is the average of those Ten-Year results, and so the
13 first column on the left is the accretion or
14 depletion that comes out of the H-I Model run for
15 that year, with the other columns from Offset
16 Account deliveries and winter depletions from
17 post-'85 wells, but for 2020, for this last run,
18 Colorado submitted its initial run in April, and
19 Colorado and Kansas experts were able to refine a
20 couple items to come to an agreement on the results
21 a bit earlier than normal, in May, but with the
22 added year 2020 results and dropping off a larger
23 accretion that was about 8300 Acre Foot from 2010,
24 we did result in a shortfall in the Ten-Year average
25 accretion to useable Stateline flow of 62 Acre Feet

1 that you see there and, actually, as we -- as we
2 sorted out issues like pumping data, et cetera, we
3 bump back and forth between a positive and a
4 negative on the Ten-Year number but, with the final
5 run, we did end up with a -- with a shortfall, and I
6 believe, since this current accounting was sort of
7 established in 2006, this is the first time we've
8 seen a shortfall in the Ten-Year Accounting, and
9 that did trigger the -- the administrative
10 conditions that come with a shortfall, but I --
11 yeah, I really want to thank Kevin and Rachel Duran
12 and Spronk Water Engineers, again, for their
13 continued work with us to work on the H-I Model side
14 of this, so I'll pass it to Kevin. Thank you.

15 MR. SALTER: Yeah.

16 MR. RIZZUTO: Thank you, Kelley. Kevin.

17 MR. SALTER: Again, appreciate Kelley and
18 his staff and the Division 2 office in putting all
19 this information together and giving us the first
20 run at this.

21 I would note, again, this is a Ten-Year sum,
22 so it depends on the year that's falling off and the
23 year that's coming on, and if you notice that the
24 year that came on was actually an accretion of about
25 5500 Acre Feet so, for the year, there actually was

1 more water delivered under the model than what was
2 required, but when you looked at the Ten-Year sum,
3 there was this 62 Acre Foot.

4 Also, that doesn't mean that Colorado is out
5 of compliance, because Colorado did deliver to
6 Kansas that 62 Acre Foot, so as far as Compact
7 compliance goes, we're good. So if there's any
8 questions or that of Kelley or I...

9 MR. RIZZUTO: Okay. Questions? We can
10 make this an exhibit to the --

11 MR. SALTER: Yes.

12 MR. RIZZUTO: -- report, and that would
13 be F.

14 Okay. With that, I'm going to call a
15 five-minute break, and then we'll come back and
16 start the reports from the different committees.

17 MR. SALTER: While we have Kelley keyed
18 up, I think he was going to deal with 6.B. Sorry.

19 MR. RIZZUTO: Oh, so you misled us,
20 Kevin.

21 MR. THOMPSON: Is it okay if I just add
22 one quick bit?

23 MR. RIZZUTO: Before we take a break,
24 Kelley, go ahead and finish up.

25 MR. THOMPSON: Yeah. Okay. Yeah, and

1 it's really quick on this PDF evaluation, the
2 presumptive depletion factors evaluation.

3 Again, thank you, Chairman Rizzuto, for
4 letting me touch on this, but so every year, we give
5 you an update of the presumptive depletion factor
6 that we're recommending to use for supplemental
7 flood irrigation in our Rule 14 replacement plan, so
8 this will be used for -- this is used for the next
9 year in those Rule 14 plans and, in 2015 and then in
10 2017 onward, we've been recommending a value of 36%
11 for this supplemental flood furrow irrigation PDF to
12 use when we have -- when we're mixing groundwater
13 and surface water in flood irrigation, and so
14 Colorado recommended to Kansas experts that we
15 maintain that 36% value yet again for 2022 for
16 administration of pumping for those supplemental
17 flood furrow irrigations, and Kansas did agree with
18 the use of that number for 2022, and so I think
19 that's -- that will be our number and I really
20 thank, again, Rachel Duran, particularly, for
21 looking over our evaluation, and that's all I have.
22 So, thank you, Chairman Rizzuto. Appreciate that.

23 MR. RIZZUTO: Okay. Questions for
24 Kelley? Okay. None? All right.

25 Thank you, Kevin and Kelley, and now we'll

1 take a five-minute break. We'll come back at
2 approximately 20 to 12 and do the committee reports,
3 and we'll not plan to take a lunch break or
4 anything. We'll just finish up our agenda. Okay.
5 Five minutes.

6 (A break was then taken from
7 11:32 a.m. to 11:40 a.m.)

8 MR. RIZZUTO: We're going to reconvene at
9 approximately 11:42 Central Standard Time.

10 Okay. Is there a report of Special
11 Engineering Committee or was that just -- oh, okay.

12 MR. LEWIS: I'll take that, Mr. Chairman.

13 MR. RIZZUTO: All right. Earl.

14 MR. LEWIS: Thank you. Just quickly
15 here, we -- there were a couple meetings of the
16 Special Engineering Committee this last year, so a
17 little progress was made. I would say that we --
18 there was some reinvigoration of the committee here
19 this fall, coming up with a fairly aggressive
20 schedule to work over the next several months, to
21 work especially on the multipurpose account, but
22 also discussing some of the other issues that have
23 appeared on the issues matrix over the years, again,
24 trying to bring those to some conclusion and
25 hopefully have something to bring back to the

1 meeting next year that would be more firm proposals
2 or recommendations, so progress, but no
3 recommendations today.

4 MR. RIZZUTO: Okay. Good. Thank you,
5 Earl. Next, we'll move to the Engineering Committee
6 and, Earl, you're back on tap.

7 MR. LEWIS: I am. Thank you,
8 Mr. Chairman, and I'd like to recognize Scott, my
9 counterpart on the committee, and the committee met
10 yesterday in this room and heard a number of
11 presentations. I'll read some of this into the
12 record, and we have a written report that we'll
13 provide as an exhibit to the record as well.

14 Committee received an update on progress
15 related to the ArkDSS that we heard about a little
16 bit earlier today from Colorado DWR staff and the
17 Wilson Water Group. This included the elements for
18 GIS, Administrative Tools, StateMod and
19 StateCU modeling that were completed under Phase I.
20 The project is now in Phase II, which includes
21 enhancements to the Colors of Water and Forecasting
22 Tool, additional StateMod modeling to look at unique
23 operations like the Winter Water Storage Program,
24 Trinidad Project operations, and John Martin
25 Reservoir storage.

1 Under the surface water allocation model, the
2 data processing and collection have been completed.
3 Currently working on the historical calibration
4 process. Future groundwater work will focus on
5 physical parameters. The ET report is now available
6 on the Colorado DSS website for review, and I would
7 note that the presentations from yesterday and today
8 will be on the -- on the ARCA website, so if there's
9 folks that want to look at what the -- those
10 presentations from yesterday were, they can do that,
11 as well as access those links that were in the
12 presentation.

13 Bill Tyner with Colorado DWR and Kevin Salter
14 provided an update on discussions related to the
15 proposed Colorado multipurpose account in John
16 Martin Reservoir, and negotiations between Kansas
17 and Colorado are moving forward trying to resolve
18 some outstanding issues.

19 Kevin provided an update on efforts to replace
20 the Frontier Ditch flume. We'll hear about that
21 again next year.

22 Carlos Aragon with the Corps of Engineers
23 presented to the committee the 2021 reservoir
24 operations for Trinidad and John Martin Reservoirs.
25 At Trinidad, a new heavy equipment shed was

1 constructed in the maintenance yard and contracts
2 were awarded to replace the sump pump in the dam
3 tower and to replace the packing glands on the two
4 pairs of surface and emergency gates. At John
5 Martin Reservoir, the sump pumps stopped working so
6 were inspected and damaged components were repaired.
7 There is a two-year program underway for flood
8 sensor installation at John Martin Reservoir.

9 Dustin Ethredge, who we heard from today with
10 USGS, reported on the USGS/ARCA Cooperative
11 Streamgage Program. USGS maintains a total of 10
12 streamgages along the Ark River. Beaver dam
13 activity occurred at both Big Sandy Creek near Lamar
14 and Apishapa River near Fowler. Efforts were made
15 to remove the beaver dams during the past year, but
16 some dams continue to be a problem and return.

17 Jack Goble with the Lower Ark Water
18 Conservancy District provided the committee with an
19 update on their water quality programs. The
20 District started a project in 2016 to test the
21 efficacy of Best Management Practices to improve
22 water quality which included canal/ditch lining and
23 installation of sprinklers. A project site on the
24 Fort Lyon was selected that would allow for baseline
25 data to be collected prior to installation of the

1 improvements. The project will evaluate the impact
2 of the BMP's on water quality once enough data has
3 been collected. Future projects include canal or
4 pond lining, more lateral and canal linings,
5 rotational-fallow projects, riparian buffer zones,
6 nitrogen fertilizer reduction, wetland restoration,
7 soil health improvement practices. Lease-Fallow is
8 likely to continue to increase, but lack of storage
9 is a significant limitation. Additional storage
10 will be required to implement these BMP's on a large
11 scale.

12 Finally, Chris Woodka with the Southeast
13 Colorado Water Conservancy District presented on
14 their 2021 operations and projects. Currently
15 working on a Features and Asset Value Study, which
16 is in Phase II, to determine the value of the
17 Fryingpan-Arkansas Project. Construction will begin
18 in October or November of 2022 on the Ark Valley
19 Conduit, again which we heard about today, a Boone
20 and Avondale reach completed by 2024, with an
21 estimated completion of the entire line by 2035.

22 So, Mr. Chairman, I would submit the report
23 for the record. We have no action items for the
24 ARCA to consider.

25 MR. RIZZUTO: Okay. Have any questions

1 of Earl by other members? All right. Then it would
2 become Exhibit G, the report that you're submitting.

3 Okay. Operations Committee. First I'll call
4 on Operations Secretary Report by Bill Tyner.

5 MR. SALTER: Mr. Chair, while we're
6 setting up for this, it's been kind of practice we
7 have all --

8 MR. RIZZUTO: Combine the reports and
9 will all be G, so as we go, any other reports will
10 roll into Exhibit G. Okay, Bill.

11 MR. TYNER: Good morning, Chairman
12 Rizzuto and representatives to the Arkansas River
13 Compact Administration. I will provide a brief
14 summary of the operations that occurred related to
15 John Martin Reservoir during Compact Year 2021. I
16 will also provide some information related to
17 Trinidad Reservoir.

18 I would like to recognize those individuals
19 from Colorado Division of Water Resources who are
20 participating in the meeting today and who
21 contribute to the success of daily water
22 administration in Colorado, in compliance with the
23 Compact. Joining us by Zoom today, we have Kevin
24 Rein, our Colorado State Engineer, and of course,
25 you've heard from Kelley Thompson from the State

1 Engineer's office modeling group. Also joining by
2 Zoom from the Pueblo office, or from their home
3 offices, are a number of our Division II staff,
4 including Water Commissioners Lonnie Spady, Jeff
5 Montoya, Doug Hollister, Dan Henrichs, Talon
6 Canterbury and Jacob Olsen. Also joining us by Zoom
7 are Lori Lest, Assistant Division Engineer; Phil
8 Reynolds, reservoir operations; Joe Regur and Brian
9 Sutton, augmentation coordinators; and Monica Long,
10 GIS specialist; and Jessica Wodiuk, Administrative
11 Assistant from our Pueblo office. In person today
12 in the meeting from the Division II office, we have
13 Assistant Division Engineer Rachel Zancanella, and
14 Bethany Arnold, our Water Resources Engineer, and
15 Brandy Cole, our Water District 67 Water
16 Commissioner.

17 Our employees work closely with Kansas staff
18 throughout the year and I want to thank Kevin
19 Salter, Rachel Duran, and Alex Torrance and the rest
20 of the Kansas staff as we work together on ARCA
21 matters. Dan Steuer from the Colorado Attorney
22 General's office is here today participating with us
23 in person, and I want to express my appreciation for
24 all that Dan does to help us work through Compact
25 compliance considerations throughout each year.

1 Andrew Rickert with the Colorado Water Conservation
2 Board has worked hard with Rachel Duran and Kevin
3 Salter to plan for the ARCA meeting and, as we heard
4 yesterday, he and Rachel Duran did great work to
5 bring a number of ARCA reports closer to
6 finalization for years in the 1990's.

7 A notable exception among our staff
8 participating in the meeting is John Van Oort. John
9 passed away on November 30th, 2021, and that leaves
10 within our organization a tremendous void and,
11 within our hearts, a huge hole. John perhaps worked
12 most closely with Kevin Salter and Rachel Duran and
13 particularly had worked to help try to resolve some
14 of the key areas of disagreements between the
15 states. John worked extremely hard to make sure new
16 issues didn't arise by timely and thoughtful
17 interaction with Kevin and with Colorado water
18 users. He was an impactful teacher and coach for
19 our staff and his character and ability to develop
20 relationships with others, even while addressing
21 difficult issues, will continue to be what we strive
22 to achieve as we move forward.

23 One of our colleagues from the State
24 Engineer's office mentioned to me in an email that
25 on the same day we lost John, Colorado lost another

1 great water leader when former Colorado Supreme
2 Court Justice Greg Hobbs passed away. I know Kevin
3 heard Justice Hobbs speak many times and I think
4 some of the Kansas representatives did as well.

5 My colleague went on to say something that I
6 thought was worth speaking into the record today
7 when he noted, with the passing of Justice Hobbs and
8 John on the same day, the Lord apparently had some
9 water problems he needs taken care of. Two great
10 men of equal stature taken from us too soon and, to
11 my opinion, I wholeheartedly agree. We appreciate
12 the Compact Administration's willingness to
13 recognize John today.

14 All right. Turning to some more boring facts,
15 but ones that are important to speak into the
16 record, at the beginning of Compact Year 2021, John
17 Martin Reservoir contained approximately 33,858 Acre
18 Feet. Conservation storage occurred during the
19 period from November 1st, 2020, through April 16,
20 2021, without any -- with a couple of subsequent
21 storage events. A total of 17,158 Acre Feet was
22 stored during this period and that total included a
23 number of transfers from the Colorado Upstream
24 Consumable subaccounts and the Offset Account to
25 conservation storage during the winter to make sure

1 depletions to conservation storage were properly
2 replaced.

3 During the 2021 summer Compact storage season,
4 there were two events that resulted in additions to
5 conservation storage beyond April 16th, 2021, when
6 the last of the winter storage was transferred into
7 accounts. The first conservation storage event
8 started on May 25th, 2021, and ended on June 5th,
9 2021, with total inflows of 19,397 Acre Feet. The
10 second conservation storage event started on
11 August 2nd, 2021, and ended on August 6, 2021, with
12 total inflows of 6,776 Acre Feet.

13 Storage of other water under Section III of
14 the 1980 Operating Plan during the Winter Water
15 totaled 17,589 Acre Feet. From this storage, 35%
16 was distributed to make up a delivery deficit of
17 1506 Acre Feet to the Kansas Section II Account and
18 then to refill the Transit Loss Account by adding
19 1728 Acre Feet to bring the total and maintain the
20 total at 1700 Acre Feet in that Transit Loss
21 Account.

22 Additionally, water from the 35% charge was
23 distributed to Kansas and Colorado Section II
24 Accounts, once those delivery deficit and transit
25 loss obligations were met, with 919 Acre Feet going

1 to the Kansas Section II Account and 2005 Acre Feet
2 going to the Colorado Section II Accounts.

3 Amity's Great Plains storage right was in
4 priority three times in Water Year 2021:
5 May 24th of 2021 through June 6th of 2021;
6 July 4th of 2021 through July 5th of 2021;
7 August 3rd, 2021 through August 4th, 2021. This
8 allowed Amity Mutual Irrigation Company to store
9 8923 Acre Feet gross in John Martin Reservoir. From
10 this storage amount, 3123 Acre Feet, representing
11 the 35% storage charge, was transferred from their
12 account.

13 This storage water was first used to fill the
14 transit loss to 1700 Acre Feet and then was
15 distributed to Kansas and Colorado Section II
16 Accounts. 644 Acre Feet of water was distributed to
17 those accounts on March 15th, 2021, from Amity
18 Section III account per a corrective operation
19 accounting adjustment that occurred in error in the
20 Water Year of 2020 accounting, and that was as
21 agreed to by Kansas Division of Water Resources and
22 Colorado Division of Water Resources.

23 The Offset Account received approximately 9760
24 Acre Feet through inflow or transfer. Kansas
25 released -- called for a release of water from the

1 Offset Account in two segments totaling
2 approximately 10,340 Acre Feet. Rachel Zancanella
3 will follow along after Kevin gives his report and
4 provide a little more detail on the Offset Account.

5 The Permanent Pool in John Martin Reservoir
6 saw a decrease across the Compact Year of 1164 Acre
7 Feet, despite the use of the Highland Canal water
8 right to replenish evaporation from the account
9 totaling 783 Acre Feet.

10 Kansas used most of their Section II water
11 during 2021, releasing 18,800 Acre Feet with a
12 delivery deficit on the releases of 773 Acre Feet.
13 A portion of that delivery deficit was able to be
14 made up by a transfer of storage charge water from
15 the last of those Amity Great Plains storage events
16 that occurred at -- at the end of the last Kansas
17 release, and that resulted in 252 Acre Feet
18 transferred to the Kansas Section II Account to
19 partially make up that delivery deficit.

20 Colorado ditches utilized approximately 31,990
21 Acre Feet of Section II water in 2021. At the end
22 of the Compact Year, the contents in John Martin
23 Reservoir was 16,362 Acre Feet.

24 Finally, with respect to Trinidad Reservoir,
25 the permanent fishery pool received approximately

1 447 Acre Feet to partially offset 684 Acre Feet of
2 evaporation from the larger of the two Permanent
3 Pool accounts in Trinidad Reservoir.

4 Also, with respect to the Ten-Year Review
5 process that was mentioned a little bit earlier for
6 Trinidad Reservoir, I would like to clarify for the
7 record that the proposal made by the Colorado state
8 and division engineers of Kansas is one of a number
9 of items for discussion for the Special Engineering
10 Committee as part of that overall negotiations
11 related to the new multiuse account in John Martin
12 Reservoir. The discussion of that proposal has not
13 moved forward in the past 12 months, partially due
14 to the fact that both states are interested in
15 reviewing how the Arkansas River Decision Support
16 System model work presented to the Engineering
17 Committee yesterday might be utilized as part of
18 that Ten-Year Review process for Trinidad.

19 Finally, I want to thank Kansas representative
20 and staff who participate in the Special Engineering
21 Committee discussions. Certainly, Kevin and Rachel
22 and Alex are a big part of staff-to-staff efforts
23 with our staff, but I also want to thank the Kansas
24 representatives, Randy Hayzlett in particular,
25 who -- and Earl Lewis, who participate on the Kansas

1 side, along with Kevin Rein, our State Engineer, as
2 we have those discussions.

3 And, last of all, I want to thank the folks
4 from the Corps of Engineers, Bureau of Reclamation,
5 USGS and National Weather Service, who we work with
6 throughout the Compact Year, and it's always been in
7 a very professional manner that we've been able to
8 work with those federal partners. This concludes my
9 report and I'll be glad to answer any questions
10 folks may have.

11 MR. RIZZUTO: Thank you, Bill. Questions
12 of Bill? Well done.

13 MR. TYNER: Thank you.

14 MR. RIZZUTO: Okay. Next, Kevin Salter,
15 Assistant Operations Secretary Report.

16 MR. SALTER: Kevin Salter with the Kansas
17 Division of Water Resources. I assist -- I serve in
18 the role of Assistant Operations Secretary. Go
19 ahead and go to the next slide.

20 I'll just be brief this morning. A lot of the
21 stuff was presented yesterday but just again, to the
22 full Compact, I wanted to note that we're going to
23 have a couple of milestones. One, the negotiations
24 for the Compact began 75 years ago this past
25 January, but we also will see a 75th anniversary of

1 the Compact and the completion of John Martin
2 Reservoir coming up in 2023. Just briefly go over
3 the John Martin content, the Kansas releases, the
4 Winter Water Storage Program, so next slide, please.

5 So this is a slide I'd like to show and kind
6 of gives you some context because there at the top
7 of the screen is the top of Compact conservation
8 storage. You can see that we operated the reservoir
9 on the bottom part of the reservoir this year. Go
10 ahead and go to the next slide.

11 We did have a couple releases that's being
12 talked about here. I'm not going to go into them.
13 The states did agree to some release accounting and
14 I thank Bill and his staff for working through that,
15 especially John Van Oort, and then there is an issue
16 that we're going to try to work through in this
17 upcoming year is how we handle the target flow at
18 Granada.

19 Kansas did keep focus on getting the Offset
20 Account fully released, understanding kind of the
21 conditions we're having at the Stateline. Next
22 slide, please.

23 So, just briefly, here's just a graphical
24 representation of the releases. I'm not going to go
25 into the numbers. They've been here before, but we

1 did have kind of two back-to-back releases. There
2 was just a brief interruption. Next slide, please.

3 So, again, that's how we ended the first
4 release was primarily from the Offset Account. The
5 second one was primarily from the Kansas Section II
6 account. Next slide, please.

7 The Pueblo Winter Water Storage Program, again
8 working a lot with John last year, we noted some
9 flows that got from the Ark to the Purgatoire and
10 needed to be included in that base flow and we
11 worked to include them, and it was difficult because
12 we were kind of estimating what was going on last
13 spring. Bill Tyner suggested that they would go
14 ahead and put a temporary measuring gage on those
15 wasteways, and they did do that this fall, so this
16 year, we have some numbers that we can work with as
17 far as what flowed from Consolidated to the
18 Purgatoire River, and that's going to be much
19 appreciated. It was the first year, so it was kind
20 of a learning experience, and we'll kind of go from
21 that and build on it hopefully into the future.

22 Next slide.

23 And, as Bill alluded to, John Van Oort worked
24 very closely with me over the years. I met him
25 first when he was the District 14/15 Water

1 Commissioner reviewing dryup and, at that point in
2 time, we started having a tradition. If I got up in
3 the area, we'd meet at Musso's for lunch, and
4 whether he was involved with whatever I was doing or
5 not, he would come down, and so I'd go up to a
6 meeting of the Southeastern District and he'd come
7 down and have lunch at Musso's with me, and it was
8 kind of neat, because we talked about kids. We
9 talked about work. We talked about all sorts of
10 things, and it was a nice personal relationship, and
11 there's just been a number of issues that, with
12 John's efforts, it made things easier, and he really
13 did represent the interests of Colorado well, but he
14 worked to figure out how to get past the issues and
15 move on. There was some issues that we just
16 couldn't get past, but he -- those issues that we
17 could, you know, let's figure out what we can do.
18 Some of them we got resolved; some of them are still
19 out there; but, you know, John would be happy to
20 know that, you know, we did get the releases agreed
21 to and that we're working on the baseflow with Ark
22 River at Las Animas.

23 So I think with that, that's the end of my
24 report, and I appreciate the time. Any questions?

25 MR. RIZZUTO: Questions? Appreciate you

1 and Bill and your insight to John and of course,
2 later, we'll recognize him, but it sounds like he
3 had deep personal relationships and you can see that
4 through your presentations, so thank you.

5 Offset Account Report, Rachel Zancanella.

6 MS. ZANCANELLA: Good morning.

7 MR. RIZZUTO: Good morning.

8 MS. ZANCANELLA: Thank you, Chairman
9 Rizzuto, representatives, for the opportunity to
10 summarize the 2021 annual report for the Offset
11 Account. As I've noted before, I have added a slide
12 on this account to help anyone who isn't as familiar
13 with it.

14 The Offset Account was created after the 1980
15 operating agreement to facilitate the -- to
16 facilitate or offset the depletions to usable -- to
17 Stateline flows and to conservation storage in John
18 Martin Reservoir. This slide just depicts the spill
19 order and where that account falls within the
20 reservoir and breaks down what the subaccounts for
21 that particular account consist of.

22 On the Colorado Consumable Upstream account,
23 we have specific subaccounts allocated to entities
24 to be able to deliver their water to that account.
25 Historically, that has included LAWMA and the CWPDA

1 account. In 2021, LAWMA -- or, sorry -- in 2021,
2 AGUA and CWPDA, two well associations on the Upper
3 Arkansas River, combined into one entity now known
4 as AGRA, so that's been reflected for the next year,
5 going forward in their account. We also added a
6 subaccount for the Catlin Aug Association to be able
7 to make deliveries on their behalf to the account as
8 well.

9 The other accounts are the Kansas Consumable
10 account, the Colorado Downstream Consumable account,
11 Kansas Charge account, the Return Flow account, and
12 the Return Flow Transit Loss account.

13 This slide is the summary of the Offset
14 Account and it indicates all the transactions that
15 occurred. The start of the Compact Year for 2021,
16 there was 5529.6 Acre Feet in the account. There
17 were 3418.59 Acre Feet transferred into the account,
18 6342.2 Acre Feet of inflows, 1135.2 Acre Feet were
19 lost to evaporation, 1543.69 Acre Feet were
20 transferred out, and 10,354.37 Acre Feet were
21 released. At the end of the Compact Year for 2021,
22 there was a total of 2257.14 Acre Feet in the
23 account.

24 And then finally, as a part of this report, I
25 have an update on the Permanent Pool which was,

1 under a 2019 resolution, approved to use the
2 Highland water right as a source of supply for it.
3 In order to do that, a minimum delivery of 7228 Acre
4 Feet had to be delivered to the Offset Account for
5 this year, which was met and exceeded and,
6 therefore, 782.58 Acre Feet were delivered to the
7 Permanent Pool under the Highland Canal water right,
8 and that concludes my report.

9 MR. RIZZUTO: Okay. Questions of Rachel?
10 None? Thank you, Rachel.

11 Now to Lane Malone, any report and
12 recommendations from the Operations Committee.

13 MR. MALONE: Just on the recommendations
14 or should we go over what we did? We kind of --

15 MR. RIZZUTO: Go ahead.

16 MR. MALONE: The committee received the
17 Compact Year reports from Bill and Kevin. We got
18 the -- Rachel provided an update on the Offset
19 Accounts and Permanent Pool operations. Rachel
20 Duran informed the committee that the next joint
21 report of the states regarding review of Offset
22 Account operations will be for the period of 2017 to
23 2021, to be presented at the 2022 annual ARCA
24 meeting. Rachel Zancanella provided an update on
25 the implementation of the Irrigation Improvement

1 Rules.

2 On the committee recommendations to ARCA, the
3 committee defers the 2021 Operations Secretary
4 Report to the Special Engineering Committee to work
5 towards resolution of issues that are holding up
6 unapproved operating secretary reports.

7 MR. RIZZUTO: Questions of Lane? None.
8 Thank you, Lane.

9 Administration and Legal Committee, first
10 thing, Stephanie Gonzales is the Recording Secretary
11 and Treasurer.

12 MS. GONZALES: Thank you, Chairman
13 Rizzuto and the Colorado Kansas representatives, for
14 allowing me to present this Compact report for the
15 financial happenings for the ARCA.

16 The following items were presented to Admin
17 and Legal Committee for their review and
18 consideration: ARCA financials were finalized for
19 Fiscal Year 2021. Income and expenses were in line
20 with the budget for the year and with just the usual
21 expenses and activities to report. An audit was
22 conducted with no findings and the audit engagement
23 letter from the auditor was received, with the audit
24 costs being consistent with the approved budget.
25 The joint funding agreements for the operation and

1 maintenance of the streamflow gages were received
2 from USGS, which require my signature, as well as
3 the Colorado SMS billing. State assessments have
4 been emailed to each respective state at the rate
5 indicated by the 2021-22 approved budget, and I
6 believe that concludes my report to the Compact and,
7 once again, I want to thank Kevin, Rachel, and
8 Andrew for all their work and the vital
9 communication that happens, the collaboration that
10 happens to make this meeting a success, and I
11 believe that's all I have.

12 MR. RIZZUTO: Okay. One suggestion,
13 Stephanie. Recognizing who the auditor was --

14 MS. GONZALES: Yes.

15 MR. RIZZUTO: -- by name.

16 MS. GONZALES: It's Ron Farmer with
17 Rfarmer, LLC, from Lamar.

18 MR. RIZZUTO: All right. Questions of
19 Stephanie? None? I'll just ask one on the budget
20 piece.

21 MS. GONZALES: Yes.

22 MR. RIZZUTO: Is that a one-year budget,
23 no roll-forwards? It's basically you have \$10 and
24 if you only spend \$8, you don't roll forward \$2?

25 MS. GONZALES: That has been typical for

1 the -- for most of the expenses. Every once in a
2 while, we will have a request from the Operations
3 Secretary in Pueblo because expense --

4 MR. RIZZUTO: Yeah.

5 MS. GONZALES: I know we had that
6 communication.

7 MR. RIZZUTO: That's why I asked the
8 question.

9 MS. GONZALES: And we've discussed it in
10 the past that if they were -- they didn't realize
11 those expenses as of June 30th, that we might be
12 able to use that for the following year, but it is
13 at a budget of \$6,100, so...

14 MR. RIZZUTO: Yeah, I knew it was a small
15 budget.

16 MS. GONZALES: Yeah.

17 MR. RIZZUTO: Okay. Thank you.

18 MS. GONZALES: They're usually pretty
19 close.

20 MR. RIZZUTO: Yeah. Thanks for the
21 clarification. Okay. Becky.

22 MS. MITCHELL: Yes.

23 MR. RIZZUTO: You are on and we're
24 anxiously awaiting your report and recommendations.

25 MS. MITCHELL: Thank you for that,

1 Chairman. So in terms of our report out from the
2 committee meeting of the Administrative and Legal
3 Committee, the summary is as follows: We, the
4 committee, reviewed the agenda, committee agenda,
5 and added an agenda item 5.D, which was in regards
6 to the 5th anniversary of the Compact and John
7 Martin Reservoir or -- yeah, 75th. I don't know why
8 I said 5th. I'm sorry.

9 The committee also reviewed the Annual Meeting
10 agenda, adding agenda items 11.A, John Van Oort
11 letter, and 11.B, the Roy Vaughan recognition.

12 Rachel Duran noted that the 2020 Annual
13 Meeting transcript had been provided by the court
14 reporter and was in the process of being reviewed by
15 staff. Suggested edits will be sent back to the
16 reporter and the goal is that this transcript would
17 be ready for approval at ARCA's next meeting, be
18 that a special or annual meeting.

19 Also, Andrew Rickert provided an update on the
20 work done during the past Compact Year on the ARCA
21 Annual reports. You've already heard mentioned
22 drafts of 1994, 1995, 1996 and 1998 annual reports
23 have been put together and passed on to the
24 Operations and Assistant Operations Secretaries for
25 their final review. The drafts will then be

1 provided to the Admin and Legal Committee for their
2 review and approval.

3 Stephanie Gonzales -- and, Stephanie, I want
4 to thank you for your work. You're -- you're
5 obviously doing a heavy lift for us all the time, so
6 Stephanie, the ARCA Recording Secretary and
7 Treasurer, provided her report and presented the
8 Auditor's report, which we just heard about.

9 The Cooperative agreements with USGS, Colorado
10 SMS contract, and budget for Fiscal Year 21-22 were
11 discussed. There was no modifications needed for
12 that budget. The proposed Fiscal Year 2022-2023
13 ARCA budget was reviewed.

14 One proposed resolution was put before the
15 committee, entitled *Regarding the Special*
16 *Engineering Committee for 2022-2023*.

17 We also did nominations of ARCA officers and
18 committee chair appointments were done within this
19 committee and then there was a discussion on how to
20 celebrate the 75th ARCA anniversary. There -- there
21 was also a discussion on possible dates and
22 locations for the 2022 ARCA Annual Meeting.

23 The committee then made recommendations to
24 ARCA, the first being the committee reviewed the
25 Annual Meeting agenda, added agenda items 11.A, the

1 John Van Oort letter, and 11.B, the Roy Vaughan
2 recognition.

3 The committee then recommended also that ARCA
4 approve the Fiscal Year 2020-21 auditor's report and
5 authorize Stephanie to sign the engagement letter
6 for auditor's services.

7 We then also recommended that ARCA authorize
8 Stephanie to sign the Colorado and Kansas USGS Joint
9 Funding Agreements and the Colorado SMS contract for
10 Fiscal Year 2022-2023.

11 We also recommended that ARCA approve the
12 Fiscal Year 2022-2023 budget and assessment.

13 We also recommended that ARCA approve the
14 resolution titled *Regarding the Special Engineering*
15 *Committee for 2022-2023*, and then we finally
16 recommended that ARCA approve the following slate of
17 officers for 2022: The first being vice-chairman,
18 Randy Hayzlett; the Recording Secretary and
19 Treasurer, Stephanie Gonzales; Operations Secretary,
20 Bill Tyner; Assistant Operations Secretary, Kevin
21 Salter, and I do want to take a moment just to thank
22 them all for their consistent and hard work, both in
23 the past and I know what we're going to be giving in
24 the future.

25 Then the committee recommended the following

1 committee chairs, and the first being the
2 Engineering Committee, Scott Brazil as chair, Earl
3 Lewis as a member; for the Operations Committee,
4 Troy Dumler as chair, Lane Malone as the member; for
5 Admin and Legal, Randy Hayzlett as chair, myself as
6 a member.

7 We also then recommended a committee be
8 appointed to plan the celebration for the
9 75th anniversary of the Compact and that the
10 committee would work with the federal agencies as
11 well as propose the budget for the celebration.

12 We then finally recommended that ARCA approve
13 the dates of December 7th for the committee meetings
14 and December 8th for the Annual Meeting, both of
15 those meetings to be held in Lamar, Colorado.

16 That is my report out from the Legal and
17 Administrative committee.

18 MR. RIZZUTO: Randy?

19 MR. HAYZLETT: I would make the motion
20 that we approve the report as presented and the
21 action items that Becky just described, and Kevin is
22 holding his hand up over there.

23 MR. RIZZUTO: Kevin.

24 MR. SALTER: I hate to do this, but I
25 couldn't get an edge-wise in with Becky. It would

1 be best to have addressed those issues as they went
2 through, because it's better to address those with a
3 vote of ARCA on each individual item.

4 MR. RIZZUTO: Each individual item?

5 Okay. So --

6 MS. MITCHELL: Would you like me to go
7 through each recommendation?

8 MR. RIZZUTO: That -- that would be a
9 great idea. Why not?

10 MS. MITCHELL: Okay.

11 MR. RIZZUTO: We'll be consistent then.

12 MS. MITCHELL: The first -- the first
13 being agenda Item 11, adding agenda Item 11.A and
14 11.B.

15 MR. SALTER: Already done.

16 MR. RIZZUTO: Okay. She made the motion.
17 Second?

18 MR. BRAZIL: Second.

19 MR. RIZZUTO: Okay. And --

20 THE REPORTER: I don't know who said
21 "Second."

22 MR. RIZZUTO: Scott Brazil, and per
23 rules, each state gets one vote or votes as a group,
24 so how does Kansas vote?

25 MR. LEWIS: Kansas votes "Aye."

1 MR. RIZZUTO: How does Colorado vote?

2 MR. BRAZIL: Aye.

3 MS. MITCHELL: Aye.

4 MR. RIZZUTO: Scott voted "Aye" before
5 you, Rebecca. Sorry. Okay.

6 MS. MITCHELL: Scott can have it.

7 MR. RIZZUTO: That passes. Next issue.

8 MS. MITCHELL: The next issue would be
9 that I would move to recommend ARCA approve the
10 Fiscal Year 2020-2021 auditor's report and authorize
11 Stephanie Gonzales to sign the engagement letter for
12 the auditor's services.

13 MR. RIZZUTO: Okay. Motion's been made.
14 Second?

15 MR. HAYZLETT: Second.

16 MR. RIZZUTO: Second by Randy. How does
17 Kansas vote?

18 MR. LEWIS: Kansas votes "Aye."

19 MR. RIZZUTO: How does Colorado vote?

20 MR. MALONE: Aye.

21 MR. RIZZUTO: Okay. Lane Malone. That
22 passes, and that actually will become a new exhibit.
23 Which would be H, according to my records. I got
24 the thumbs up, so I must be doing something right.
25 Okay. All right. Go ahead, Becky.

1 MS. MITCHELL: The next would be to
2 recommend ARCA authorize Stephanie Gonzales to sign
3 the Colorado and Kansas USGS Joint Funding
4 Agreements and the Colorado SMS contract for Fiscal
5 Year 2022-2023.

6 MR. RIZZUTO: Okay. Motion's made.
7 Second?

8 MR. MALONE: Aye.

9 MR. RIZZUTO: Lane. How does Kansas
10 vote?

11 MR. LEWIS: Kansas votes "Aye."

12 MR. RIZZUTO: How does Colorado vote?

13 MR. BRAZIL: Aye.

14 MS. MITCHELL: Aye.

15 MR. RIZZUTO: Scott -- Scott got you.
16 Okay.

17 MS. MITCHELL: Perfect. I love it. Go,
18 Scott, go.

19 The next would be to recommend ARCA approve
20 the Fiscal Year 2022-2023 budget and assessment, and
21 I believe that will also be an exhibit.

22 MR. RIZZUTO: Correct. Second?

23 MR. HAYZLETT: Second.

24 MR. RIZZUTO: Second, Randy. How does
25 Kansas vote?

1 MR. LEWIS: Kansas votes "Aye."

2 MR. RIZZUTO: How does Colorado vote?

3 MR. BRAZIL: Aye.

4 MR. RIZZUTO: Scott Brazil votes "Aye"
5 and you -- it passes. That will become Exhibit I.
6 Okay. Continue.

7 MS. MITCHELL: The next is to recommend
8 and move approval for the resolution titled
9 *Regarding the Special Engineering Committee for*
10 *Years 2022 and 2023.*

11 MR. RIZZUTO: Okay. Motion.

12 MR. DUMLER: Second.

13 MR. RIZZUTO: Second, Troy?

14 MR. DUMLER: Yep.

15 MR. RIZZUTO: How does Kansas vote?

16 MR. LEWIS: Aye.

17 MR. RIZZUTO: How does Colorado vote?

18 MR. MALONE: Aye.

19 MS. MITCHELL: Aye.

20 MR. RIZZUTO: Lane -- Lane is one step
21 ahead of you. We'll give you a chance before this
22 is over.

23 MS. MITCHELL: I'm giving the rest of
24 them to them.

25 MR. RIZZUTO: Okay. That passes.

1 MS. MITCHELL: The next is to recommend
2 and move ARCA approve the following -- or following
3 the -- the slate of officers that were proposed for
4 2022, so Vice-Chair, Randy Hayzlett; Recording
5 Secretary and Treasurer, Stephanie Gonzales;
6 Operations Secretary, Bill Tyner; Assistant
7 Operations Secretary, Kevin Salter.

8 MR. RIZZUTO: Okay. Motion has been
9 made. Second?

10 MR. DUMLER: Second.

11 MR. RIZZUTO: Troy. How does Kansas
12 vote?

13 MR. LEWIS: Aye.

14 MR. RIZZUTO: How does Colorado vote?

15 MR. MALONE: Aye.

16 MR. RIZZUTO: Okay. Lane votes "Aye" for
17 Colorado, so that passes. Continue, Becky.

18 MS. MITCHELL: The next would be to move
19 the recommendation that a committee be appointed to
20 plan the celebration for the 75th anniversary of the
21 Compact and that the committee would work with the
22 federal agencies as well to propose -- and propose
23 the budget for the celebration.

24 MR. RIZZUTO: Okay. Second?

25 MR. DUMLER: Second.

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

3 MR. LEWIS: Aye.

4 MR. RIZZUTO: How does Colorado vote?

5 MR. BRAZIL: Aye.

6 MR. RIZZUTO: Scott? Okay. Aye? That
7 passes. Becky, you're running out of chances to
8 vote for Colorado, but we'll give you one before we
9 finish.

10 MS. MITCHELL: Oh, I get this last one,
11 guys.

12 MR. RIZZUTO: Okay.

13 MS. MITCHELL: So the final
14 recommendation was to move ARCA approve the dates of
15 December 7th, 2022 for the committee meetings and
16 December 8th, 2022 for the annual meeting, both
17 meetings to be held in Lamar, Colorado.

18 MR. RIZZUTO: Okay. Motion has been
19 made. Second?

20 MR. DUMLER: Second.

21 MR. RIZZUTO: Troy. How does Kansas
22 vote?

23 MR. LEWIS: Aye.

24 MR. RIZZUTO: And, Becky, how does
25 Colorado vote?

1 MS. MITCHELL: Aye.

2 MR. RIZZUTO: Okay. Passes. Okay. Any
3 other report out of committee? Okay. All right.
4 So, with that, we will move on to any new business.

5 MS. MITCHELL: There is the addition of
6 11.A, the John Van Oort letter, and 11.B, the Roy
7 Vaughan recognition.

8 MR. RIZZUTO: Okay. Is there a
9 presentation?

10 MS. MITCHELL: I would like to be able to
11 read the letter into the record, if at all possible.

12 MR. RIZZUTO: Okay. Please do that.

13 MS. MITCHELL: So the subject of the
14 letter is Recognition of Service for John Van Oort,
15 Colorado Division of Water Resources.

16 To Tammy Van Oort and the Van Oort Family:
17 The Arkansas River Compact Administration (ARCA)
18 would like to formally recognize the dedication and
19 beneficial impact to the business of ARCA and water
20 users in Colorado and Kansas exhibited by John Van
21 Oort.

22 John was an incredible individual whose daily
23 work was impactful to numerous citizens of
24 southeastern Colorado and southwestern Kansas
25 through his efforts to ensure that operation of the

1 Colorado-Kansas Compact Reservoir (John Martin
2 Reservoir) was done properly and that water rights
3 in Colorado were properly administered.

4 His work life touched the lives of dozens of
5 individuals -- I'd say more than that -- from
6 Colorado Division of Water Resources and Kansas
7 Division of Water Resources, as well as the various
8 Compact representatives, State Engineers from
9 Colorado and Chief Engineers from Kansas who
10 interacted with him during his 17-year career with
11 Colorado DWR during Compact meetings and through
12 more frequent meetings throughout the years.

13 It is with deep sorrow that we mourn the
14 recent passing of John, but with great honor that we
15 memorialize his accomplishments and express our
16 thanks for the relationships he built over the
17 years.

18 Sincerely, from you, James Rizzuto.

19 MR. RIZZUTO: Thank you, Becky.

20 MS. MITCHELL: And on that note, I just,
21 I want to say how kind John was to me and open, and
22 I think Bill touching on the Lord must have had some
23 water problems, and I -- I would agree, and there's
24 no one more capable to handle it than John, so he
25 will definitely be missed. I think he'll often be

1 missed this time of year for sure, and his -- his
2 sense of humor, like our hydrology, was often dry,
3 but he was incredibly welcoming, and so I -- I want
4 to express my condolences, primarily to the family,
5 but also to Division of Water Resources of Colorado.
6 It's been an incredibly hard thing for them, so
7 thank you all for still pulling this together at
8 this time, so our work has not faltered and John
9 would be proud.

10 MR. RIZZUTO: Thank you, Becky. Well
11 done. Just a question. Could this be or should
12 this be an exhibit on its own? I think it's that
13 important.

14 MR. LEWIS: Mr. Chairman, first of all,
15 I'd like to echo Becky's comments and pass along, on
16 behalf of the State of Kansas, our condolences and
17 not only to the family, but to the staff of Division
18 2 that worked with him on a daily basis, and our
19 staff that worked with him continually as well.

20 Obviously can see, from what's been said here
21 today, just the character and type of person that
22 John was and the example he has set for all of us to
23 work together. So with that, Mr. Chairman, I would
24 move that we adopt the letter, make it an exhibit
25 for the record, and authorize you to sign and send

1 it on our behalf.

2 MR. RIZZUTO: Okay. Second?

3 MR. MALONE: Yes.

4 MR. RIZZUTO: Lane? Okay. How does
5 Kansas vote?

6 MR. HAYZLETT: Kansas votes "Aye."

7 MR. RIZZUTO: How does Colorado vote?

8 MR. BRAZIL: I'll let Becky vote again.

9 MS. MITCHELL: Aye.

10 MR. RIZZUTO: Okay. That passes and that
11 will become Exhibit J for the record. And Roy
12 Vaughan? Letter on Roy Vaughan recognition?

13 MR. TYNER: Do you want it read into the
14 record?

15 MR. SALTER: Yeah, it would be best.

16 MR. RIZZUTO: Okay. Hold on.

17 MR. SALTER: Did you need that up?

18 MR. TYNER: You want me to do it?

19 MR. SALTER: Yes, please.

20 MR. TYNER: Can you bring it up?

21 MR. SALTER: I will find it.

22 MR. RIZZUTO: Bill Tyner will -- has
23 asked to read the Roy Vaughan recognition letter
24 into the record.

25 MR. TYNER: While Kevin's finding that, I

1 would just mention that for those of you who know
2 Roy, may have met him over the years, he had a great
3 sense of humor and a dry sense of humor and we're
4 going to -- the Bureau of Reclamation is going to
5 miss Roy a lot. Roy was one of the first people --
6 he was close to John Van Oort as well, so he was one
7 of the first people to reach out to me to say how
8 sorry he was that we'd lost John, but Roy -- Roy
9 is -- he was a significant water knowledge person in
10 the Arkansas Basin and we will miss him as he
11 retires, but he -- he earned a good retirement with
12 the Bureau. Can't find it, Kevin? I should have
13 not shut my computer down. My fault.

14 MR. SALTER: That's all right. I've got
15 a version here that I believe has red lines, though.
16 Maybe you can clean it up.

17 MR. TYNER: I might be able to find it
18 real quick, Kevin.

19 MR. SALTER: No, I've got it. It's just
20 not on the right screen. Does that look like what
21 was --

22 MR. TYNER: There we go. I think that
23 will work.

24 MR. SALTER: Like I said, I'm not sure
25 which version that is, Bill.

1 MR. TYNER: It will be close for the
2 record.

3 So recognition for Roy Vaughan, U.S. Bureau of
4 Reclamation.

5 The Arkansas River Compact Administration
6 wishes to recognize Roy Vaughan, who is retiring
7 from the Bureau of Reclamation at the end of this
8 year. Roy has provided updates on Bureau
9 activities, especially related to Pueblo Reservoir,
10 for many years. Roy is friendly, knowledgeable, and
11 always available to answer questions.

12 Roy's career includes 30 years of service to
13 the water users in the Arkansas Basin. Roy has been
14 the Facility Manager at Pueblo Reservoir after
15 working his way up through the ranks. Roy's role
16 has not been limited to activities at Pueblo
17 Reservoir. He has actively participated in numerous
18 meetings on behalf of the Bureau, including
19 Southeastern Colorado Water Conservancy District
20 meetings and Winter Water Program meetings.

21 The Colorado Representatives would also note
22 that Roy has been heavily involved in many diverse
23 water user efforts and has worked tirelessly to
24 protect not only the Bureau's interests but also
25 agricultural, recreational and municipal water users

1 that involve the various aspects of the
2 Fryingpan-Arkansas Project. The USBR's cooperative
3 effort associated with the Voluntary Flow Management
4 Program, under the direction of Roy, times the
5 movement of transmountain project water deliveries
6 down to Pueblo Reservoir to enhance both the
7 recreational interests of the rafting industry and
8 the development of the longest river segment of gold
9 medal fishery in water in Colorado.

10 The members of the Arkansas River Compact
11 Administration express their gratitude to Roy
12 Vaughan for his service and wish him the very best
13 in retirement.

14 I believe this one is also for your signature,
15 Chairman Rizzuto.

16 MR. RIZZUTO: Okay. Thank you, Bill.

17 MR. LEWIS: Mr. Chairman, I would move
18 that we adopt the recognition for Roy Vaughan and
19 authorize you to send a letter congratulating him on
20 his retirement.

21 MR. RIZZUTO: Okay. Second?

22 MR. MALONE: Second.

23 MR. RIZZUTO: Lane. All right. How does
24 Kansas vote?

25 MR. LEWIS: Aye.

1 MR. RIZZUTO: How does Colorado vote?

2 MS. MITCHELL: Aye.

3 MR. RIZZUTO: Okay. That passes and that
4 will become Exhibit K.

5 All right. Anything else, Becky, from your
6 standpoint, or Randy?

7 MS. MITCHELL: No.

8 MR. RIZZUTO: Okay. All right. Any new
9 business to come before the commission? Okay.
10 Public comment? Any public comment? Any
11 commissioner want to say anything before we finish
12 up here?

13 Hearing none, I will say one thing. Thanks to
14 everyone who did attend in person, as well as
15 virtually, and thanks to everyone who put the
16 technology together to bring us all into the meeting
17 during the course of the past couple days.

18 Thanks to Kansas for hosting us and the staff
19 here at Kansas who put the meetings together and, as
20 I always say at the end of the meeting, because it's
21 close to Christmas, Merry Christmas, Happy New Year,
22 Happy Holidays, and Happy Hanukkah to everyone and,
23 most importantly, stay healthy and safe and look
24 forward to seeing you in Lamar.

25 So, with that, a motion to adjourn. Troy?

1 MR. DUMLER: So move.

2 MR. RIZZUTO: Okay. Second?

3 MR. MALONE: Second.

4 MR. RIZZUTO: Second, Lane. Okay. How
5 does Kansas vote?

6 MR. LEWIS: Absolutely yes.

7 MR. RIZZUTO: All right. Colorado?

8 MS. MITCHELL: Yes.

9 MR. RIZZUTO: Okay. We are adjourned at
10 12:40 p.m.

11

12 (Proceedings concluded at 12:40 p.m.

13 Central Standard Time.)

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1 STATE OF KANSAS)

2
3 COUNTY OF RENO)

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

11 Certified to on this 23rd day of March, 2023.

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Lee Ann Bates, CSR, RPR, CRR
ADVANCED COURT REPORTING SERVICES
LEE ANN BATES, CSR, RPR, CRR
27113 West Mills Avenue
Plevna, Kansas 67568
(620) 664-7230

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**ARCA 2021 ANNUAL MEETING
EXHIBITS/ATTACHMENTS TO MINUTES**

Letter	Description
A.	Attendance List
B.	Adopted Agenda
C.	USGS Presentation
D.	USACE Presentation
E.	USBR Presentation
F.	Ten-year Compact Compliance Accounting Table
G.	Committee Reports
H.	Auditor's Report
I.	FY2022-2023 ARCA Budget
J.	Recognition of Service for John Van Oort
K.	Recognition of Service for Roy Vaughn

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Exhibit A

Annual Meeting

December 9, 2021

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ATTENDANCE LIST

2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>EMAIL</u>
Stephanie Gonzales	ARCA	PO Box 97 Granada, CO 81041		
Nabil Shafiqe	USACE	9101 Jefferson Plz ABQ, NM 87109		
Rachel Duran	KDA-DWR	Garden City, KS	620-276-2901	Rachel.Duran@KS.gov
DAVID STEVEN	CO ATTY GEN		720 508 6262	
Chris Bright	KDA DWR	Manhattan	785-564-6659	
Troy Dumber	ARCA - KS	Garden City, KS	620-276-3246	
KEVIN SALTON	KDA-DWR	GARDEN CITY		
Lane Malone	ARCA	Holly	719-940-0646	
Randy Hayzlett	ARCA	LeKiv	620 271-4008	
Kyle E. Dixon			cell 785 694 3247	roy.dixon@sbccglobal.net

ATTENDANCE LIST

2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>EMAIL</u>
Carlos Aragon	USACE	4101 Jefferson Plaza Albuquerque NM 87109	505-342-3689	carlos.aragon@usace. army.mil
Mike Holmberg	USBR	610 Reservoir Rd. Pueblo, CO 81005	719-542-3368 719-429-5198	Mholmberg@usbr.gov
Brandy Cole	CDWR			
Earl Lewis	KDA - DWR	Manhattan, KS	785-477-5906	Earl.Lewis@ks.gov
Gil Ramirez	CITY OF TRINIDAD	3781 HWY 17 WESTON, CO	719 680 1432	northlakegrl@gmail.com
Rachel Zancanella	CDWR	Pueblo		rachel.zancanella@ state.co.us
STEVE RASTNER	PRICED Advanced Court Reporting Services	TRINIDAD CO		srastner@priced.com
Lynn Bates		Plevna KS	620-664-7230	acrskansas@live.com
BILL TYNER	CO DIVISION OF WATER RES.	PUEBLO CO	719-542-3368	bill.tyner@ state.co.us
David Brown	Ka. former Commissioner	Harden City, Ka	620-287-4541	

ATTENDANCE LIST

2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>EMAIL</u>
Kenn Tirus	KDA-DWR	Manhattan, KS		
Patty Stapleton	GMD3	GC, KS		
Jason Norquest	GMD3	GC, KS		
Tom Stoler	KDHE	Topolca		
Trevor Abring	GMD3	Garden City		
MARK RUDE	SW KS GMD3	GARDEN CITY		
Scott Brazil	ARCA	Unrel		
HUNTER CARSON	U.S. SEN. MORAN	GARDEN CITY		
Kurtis Wiard	KS AG	Topolca		
Andre Richt	CWCB	Denver, CO		

ATTENDANCE LIST

**2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas**

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>EMAIL</u>
Bethany Arnold	CO DWR	310 E. Abriendo, Ste B Pueblo, CO		bethany.arnold@state.co.us
Alexandra Torrance	KS DWR		(620) 765-7483	Alexandra.Torrance@ks.gov

ATTENDANCE LIST (ONLINE)
2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

NAME	REPRESENTING	EMAIL
Bill Grasmick		
Brad Lubbers	Lower Arkansas Valley Water	bradlubbers@lowerark.com
Brandon Forbes	USGS	
Brian Macpherson	Colorado Water Conservation Board	brian.macpherson@state.co.us
Brian Sutton	Colorado Division of Water Resources	Brian.Sutton@state.co.us
Chris Gauger	USACE-John Martin Dam	christopher.w.gauger@usace.army.mil
Chris Gnau	Bureau of Reclamation	cgnau@usbr.gov
Chris Woodka	Southeastern Colorado Water	chris@secwcd.com
Dale Book		
Dan Henrichs	Colorado Division of Water Resources	danhenrichscattle@gmail.com
Dan Kirmer	Colorado Parks & Wildlife, JMR State Park	
Dan Steuer	Colorado Attorney General office	daniel.steuer@coag.gov
David Engelhaupt	KDA-DWR	david.engelhaupt@ks.gov
Don Whittemore	Kansas Geological Survey	dwhitt@home.ku.edu
Doug Hollister	Colorado Division of Water Resources	Doug.Hollister@state.co.us
Dustin Ethredge	USGS	ethredge@usgs.gov
Ed Diemer		
Erin Seybold	Kansas Geological Survey	e679s033@ku.edu
Erin Wilson	Wilson Water Group	erin.wilson@wilsonwatergroup.com
Harold "Lee" Crowley	NWS Arkansas-Red River Basin Forecast Center	harold.crowley@noaa.gov
Jack Goble	LAVWCD	jgoble@lowerark.com

ATTENDANCE LIST (ONLINE)
2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

NAME	REPRESENTING	EMAIL
Jacob Olson	Colorado Division of Water Resources	Jacob.Olson@state.co.us
James Paul	NWS Arkansas-Red River Basin Forecast Center	
Jason Ullmann	Colorado Division of Water Resources	
Jeanette Myers	Colorado Division of Water Resources	jeanette.myers@state.co.us
Jeff Montoya	Colorado Division of Water Resources	jeff.montoya@state.co.us
Jessica Woldiuk	Colorado Division of Water Resources	jessica.wodiuk@state.co.us
Joe Regur	Colorado Division of Water Resources	joseph.regur@state.co.us
Julie Knudson	Purgatoire Watershed Partnership	jknudson@purgatoirepartners.org
Kalsoum Abbasi	Colorado Springs Utilities	kabbasi@csu.org
Kara Sobieski	Wilson Water Group	kara.sobieski@wilsonwatergroup.com
Keadron Pearson	Kansas Water Office	keadron.pearson@kwo.ks.gov
Kelley Thompson	Colorado Division of Water Resources	kelley.thompson@state.co.us
Kevin Rein	Colorado Division of Water Resources	kevin.rein@state.co.us
Kim Falen	Corp of Engineers	kimberly.c.falen@usace.army.mil
Lane Letourneau		lane.letourneau@ks.gov
Lonnie Spady	Colorado Division of Water Resources	lonnie.spady@state.co.us
Lori Lest	Colorado DNR	lori.lest@hotmail.com
LTC Patrick Stevens	Corp of Engineers	
Mark Rude	SW KS GMD#3	mrude@gmd3.org
Michael Martinez	USACE-John Martin Dam	
Monica Long	Colorado Division of Water Resources	monica.long@state.co.us

ATTENDANCE LIST (ONLINE)
2021 ARKANSAS RIVER COMPACT ADMINISTRATION ANNUAL MEETING
Thursday, December 09, 2021, 9:00 A.M. (CST), Garden City, Kansas

NAME	REPRESENTING	EMAIL
Nathan Sullivan	USG-Hays, KS	nsullivan@usgs.gov
Philip Reynolds	Colorado Division of Water Resources	philip.reynolds@state.co.us
Phone Attendee 1		
Phone Attendee 2		
Phone Attendee 3		
Phone Attendee 4		
Phone Attendee 5		
Rebecca Mitchell	State of Colorado	Rebecca.Mitchell@state.co.us
Rena Griggs	Colorado Parks & Wildlife SE Region Water Specialist	rena.griggs@state.co.us
Roy Vaughan	Bureau of Reclamation	
Steve Leonhardt	Burns, Figa & Will Attorneys	sleonhardt@bfwlaw.com
Tyler Benton	Colorado Springs Utilities	tbenton@csu.org

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Exhibit B

Annual Meeting

December 9, 2021

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ARKANSAS RIVER COMPACT ADMINISTRATION
2021 ANNUAL MEETING
Thursday, Dec. 9, 2021, 9:00 a.m. CST (8:00 a.m. MST)
Clarion Inn, Garden City, KS
DRAFT AGENDA (subject to change)
Presiding: James Rizzuto, Chairman

- 1. Call to Order: Chairman, James Rizzuto**
- 2. Review and revisions of agenda**
- 3. Report of Chair and Vice-Chair**
- 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. Southwest Kansas Groundwater Management District #3
 - B. Purgatoire River Water Conservancy District
 - C. Kansas Geological Survey
 - D. Kansas Department of Health and Environment
- 6. Compact Compliance / Decree Issues Updates**
 - A. Ten-year Compact Compliance Accounting table (2011-2020) – 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**
- 9. Operations Committee**
 - A. Operations Secretary Report
 - B. Assistant Operations Secretary Report
 - C. Offset Account Report
 - D. Report and Recommendations from December 8, 2021 meeting
- 10. Administrative & Legal Committee**
 - A. Recording Secretary and Treasurer Report
 - B. Report and Recommendations from December 8, 2021 meeting
- 11. New Business**
 - A. John Van Oort letter / B. Roy Vaughn recognition
- 12. Public Comment**
- 13. Adjourn**

Exhibit B

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Exhibit C

Annual Meeting

December 9, 2021

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USGS
science for a changing world

Streamflow Conditions in the Arkansas River Basin WY 2021

In cooperation
with the
Arkansas River Compact
Administration

Dustin Ethredge
ethredge@usgs.gov
USGS Colorado Water Science Center
December 9, 2021






Purgatoire near Las Animas

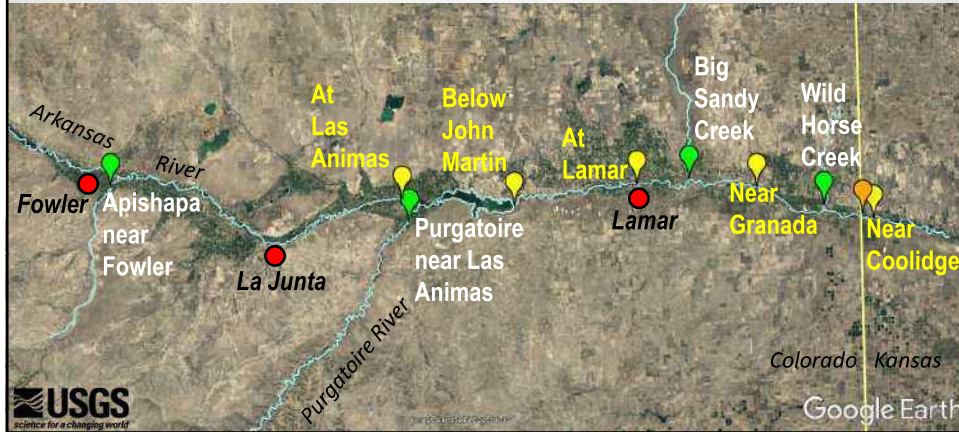
1

USGS/ARCA Cooperative Program 2021

10 streamgages; Fowler, CO – Coolidge, KS

 5 Mainstem Arkansas sites  Frontier Ditch near Coolidge

 4 Tributaries



USGS science for a changing world

Google Earth

2

WY 2021 streamflow conditions

WY 2021 (Oct 1, 2020 – Sept 30, 2021)

Hydrographs for 6 sites

- 2 sites upstream of JMR
- 4 sites downstream of JMR



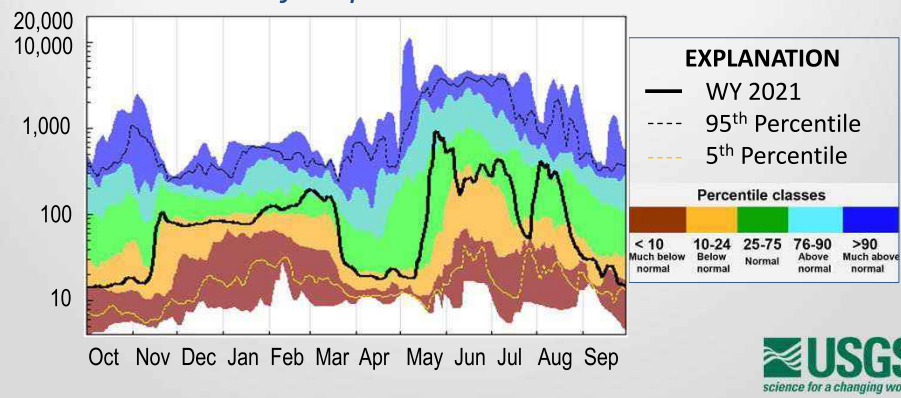
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WY 2021 streamflow conditions

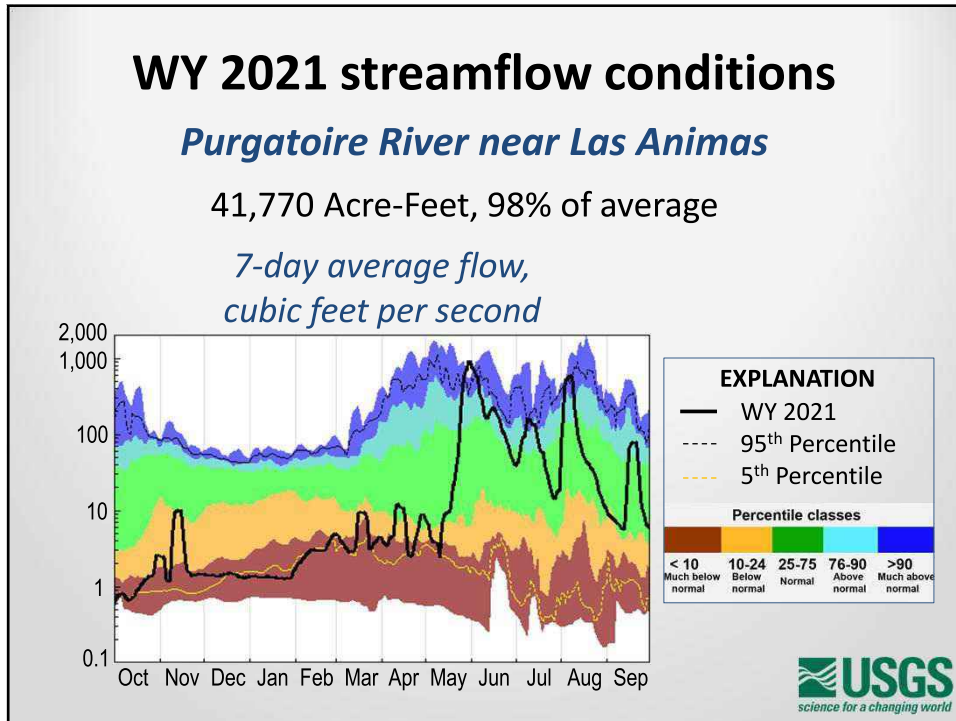
Arkansas River at Las Animas

93,970 Acre-Feet, 49% of average

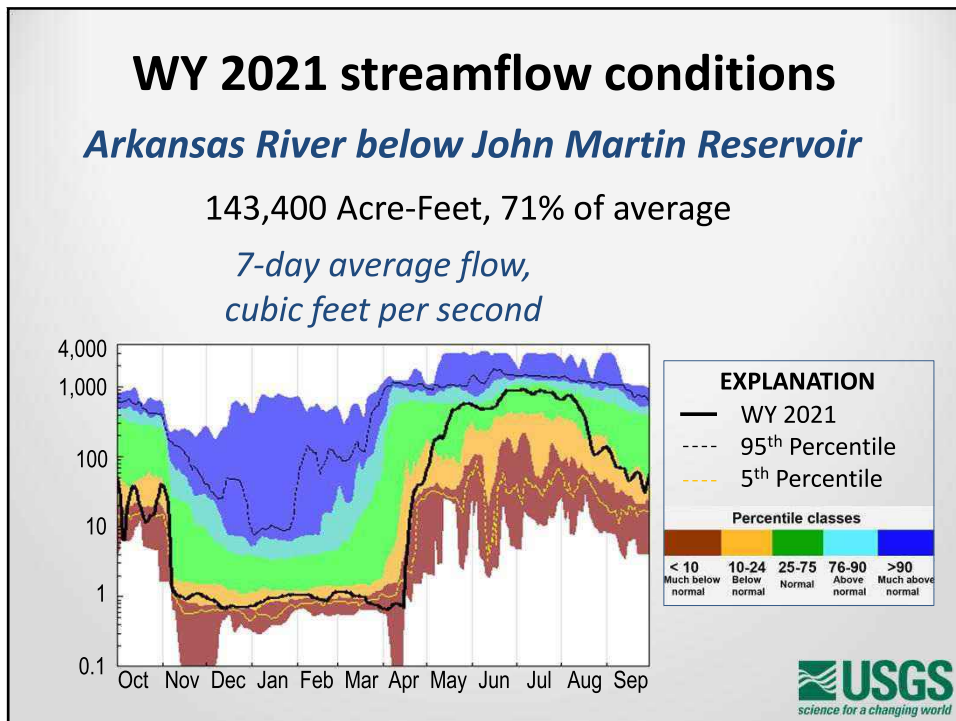
*7-day average flow,
cubic feet per second*



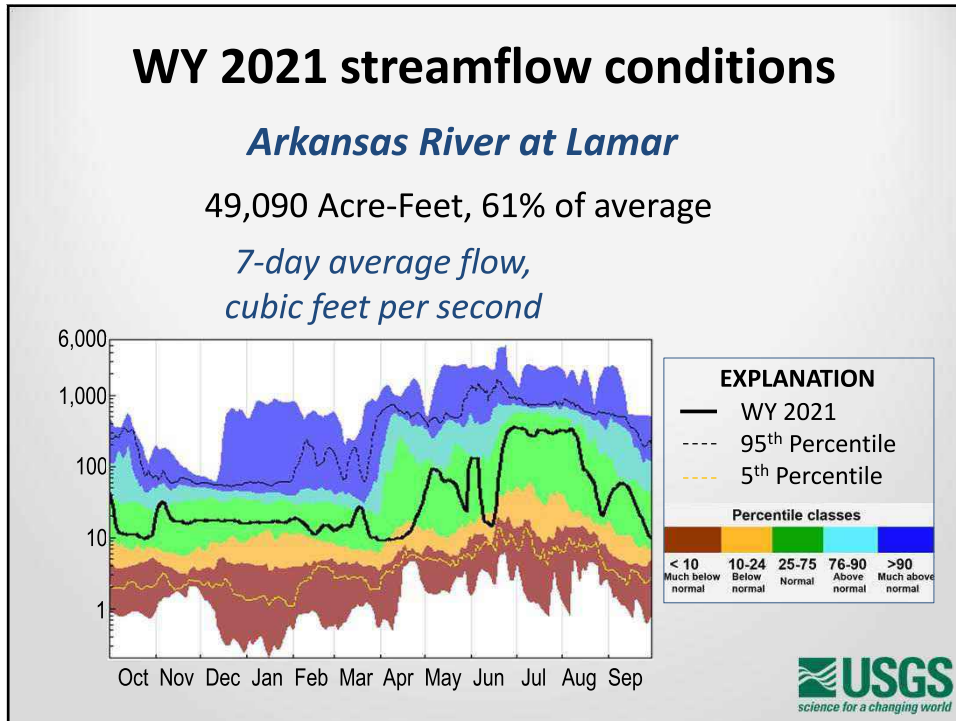
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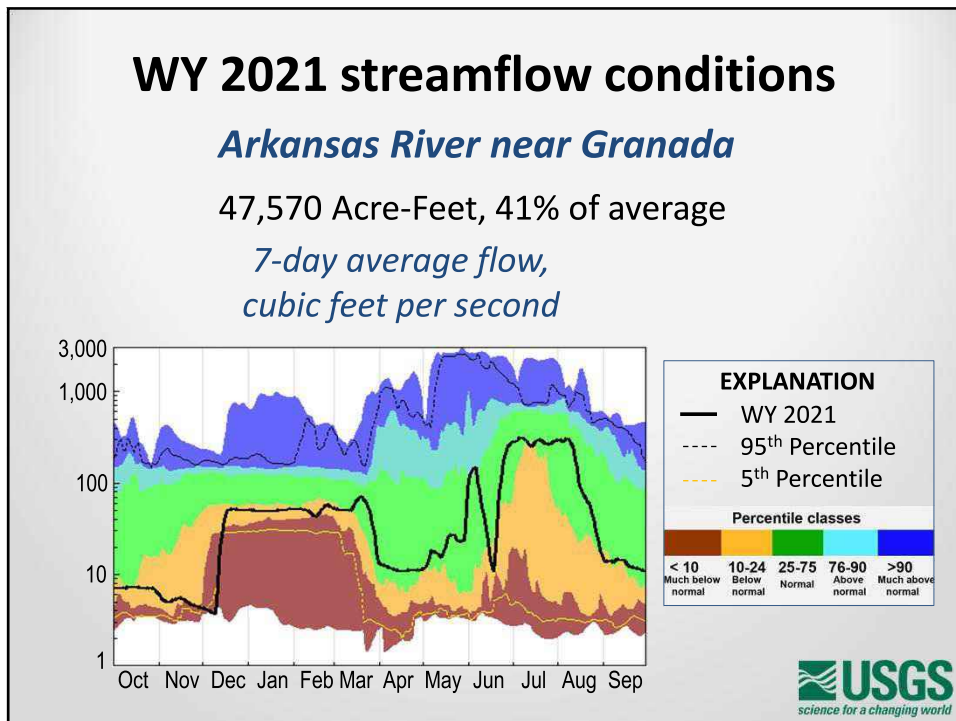
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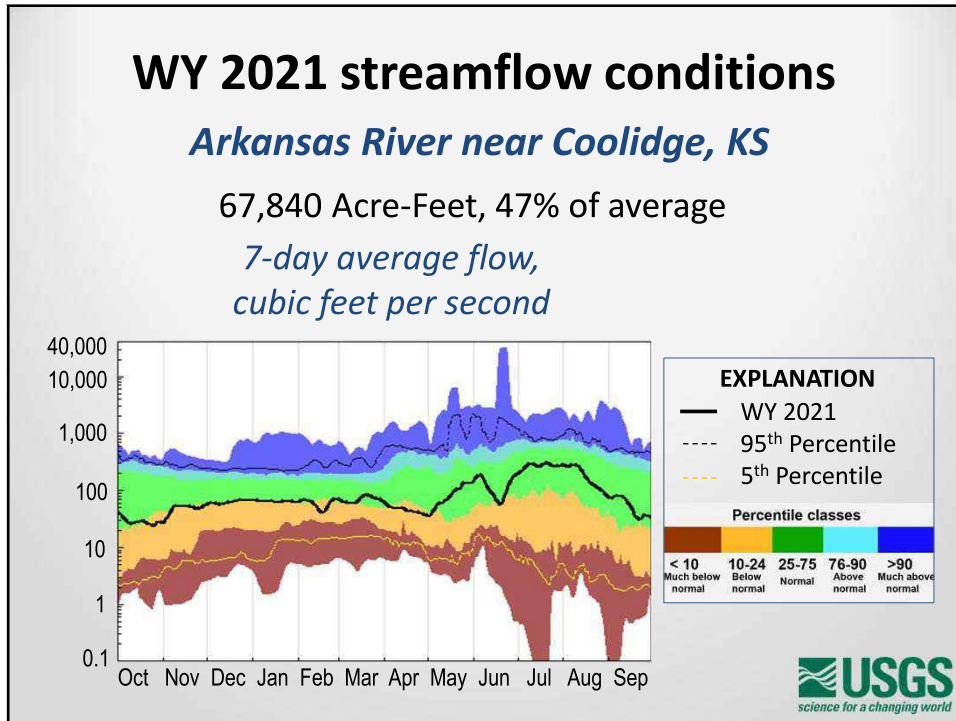
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WY 2021 streamflow conditions

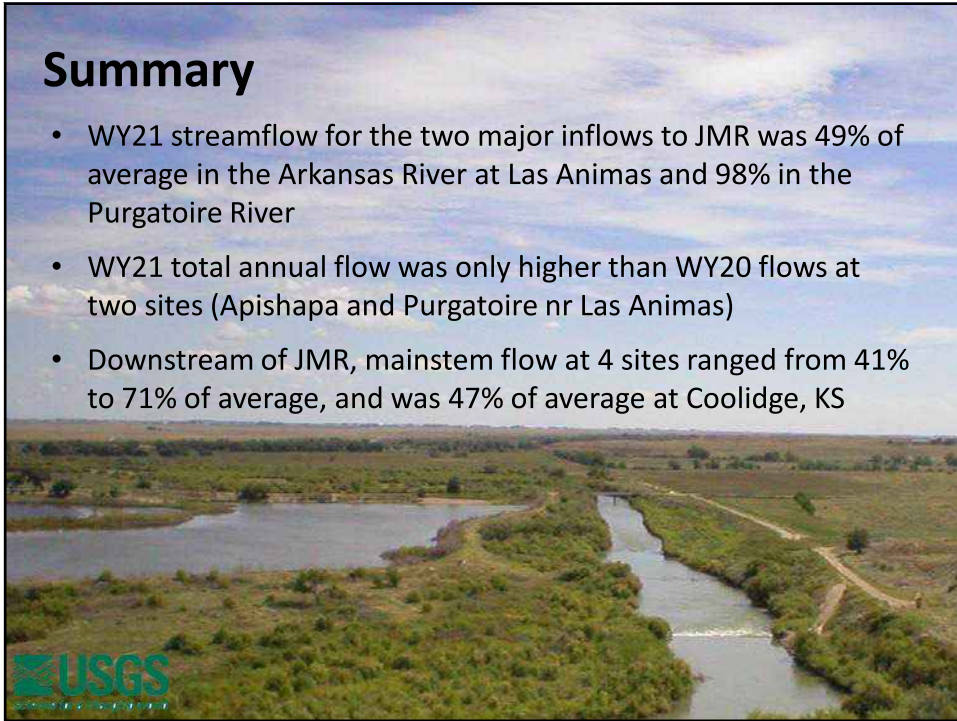
Station	WY21 Annual Flow, in ac-ft	Percent of Average
Apishapa River near Fowler	10,140	60%
Big Sandy Creek near Lamar	2,900	29%
Wildhorse Cr. above Holly (Oct, Apr-Sept)	2,130	61%
Frontier Ditch near Coolidge	5,000	59%

USGS
science for a changing world

10

Summary

- WY21 streamflow for the two major inflows to JMR was 49% of average in the Arkansas River at Las Animas and 98% in the Purgatoire River
- WY21 total annual flow was only higher than WY20 flows at two sites (Apishapa and Purgatoire nr Las Animas)
- Downstream of JMR, mainstem flow at 4 sites ranged from 41% to 71% of average, and was 47% of average at Coolidge, KS



11

**Summary of streamflow at USGS/ARCA stations
Water Year 2021 (Oct 1, 2020 - Sept 30, 2021)**

Station Number	Station Name	Period of record included in the long-term average (water years)	WY2021 Annual total flow, in acre-feet	WY2020 Annual total flow, in acre-feet	2021 as % of 2020	2021 as % of long-term average
07119500	Apishapa River near Fowler	1923-25, 1940-2021	10,140	9,290	109%	60%
07124000	Arkansas River at Las Animas	1975-2021	93,970	105,600	89%	49%
07128500	Purgatoire River near Las Animas	1978-2021	41,770	7,770	538%	98%
07130500	Arkansas River below John Martin Reservoir	1949-2021	143,400	155,600	92%	71%
07133000	Arkansas River at Lamar	1949-55, 1960-2021	49,090	64,030	77%	61%
07134100	Big Sandy Creek near Lamar	1969-82, 1996-2021	2,900	7,550	38%	29%
	Base flow	1996-2021	1,770	6,210	29%	24%
	Above Base flow	1996-2021	1,130	1,340	84%	33%
07134180	Arkansas River near Granada	1982-2021	47,570	66,200	72%	41%
07134990	Wild Horse Cr. above Holly, October, April-Sept	2002-2021	2,130	2,660	80%	61%
	April – September	2002-2021	2,070	1,600	129%	75%
07137500	Arkansas River near Coolidge, KS	1951-2021	67,840	91,200	74%	47%
07137000	Frontier Ditch near Coolidge, KS	1951-2021	5,000	7,330	68%	59%

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Exhibit D

Annual Meeting

December 9, 2021

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2021 ARCA ANNUAL MEETING ARKANSAS RIVER BASIN REPORT

LTC Patrick M. Stevens V, PE, PMP
District Commander
South Pacific Division/Albuquerque District
9 December 2021



Exhibit D



TOPICS

- Compact Year 2021 Water Management
- Arkansas Basin Water Quality Monitoring
- Operations and Maintenance
- Civil Works Program
- Emergency Management Coordination

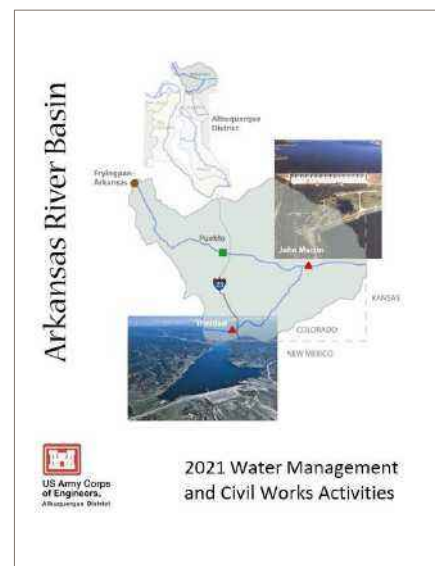


Exhibit D



COMPACT YEAR 2021 WATER MANAGEMENT

Snowpack and Runoff



May 1st Natural Resources Conservation Service Forecast

- Upper Arkansas Basin snowpack: 78% of median
- Purgatoire Basin snowpack: 82% of median
- Basin total: 76% of median

Trinidad Dam and Lake

- Forecast runoff inflow: 25,000 ac-ft
- Actual runoff inflow: 45,910 ac-ft (125% of average)

John Martin Dam and Reservoir

- NRCS does not forecast runoff inflow
- National Weather Service: 89,000 ac-ft
- Actual runoff inflow: 87,000 ac-ft (51% of average)

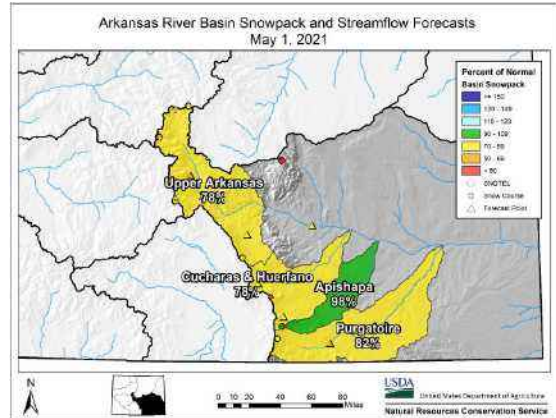


Exhibit D



COMPACT YEAR 2021 WATER MANAGEMENT

Trinidad Dam and Lake



Compact Year 2021 Water Management

- Computed inflow: 58,000 ac-ft
- Release: 50,580 ac-ft
- Maximum storage: 31,260 ac-ft
- Minimum storage: 15,550 ac-ft
- End of Compact Year storage: 20,230 ac-ft
- During the May 22-23 rainstorm event, releases from the dam were reduced to prevent downstream flooding
- No evidence of zebra or quagga mussels

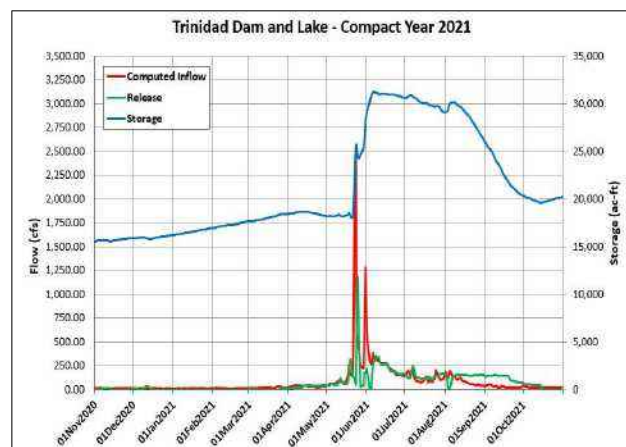


Exhibit D



COMPACT YEAR 2021 WATER MANAGEMENT

John Martin Dam and Reservoir



5

Compact Year 2021 Water Management

- Computed inflow: 143,170 ac-ft
- Release: 145,410 ac-ft
- Maximum storage: 70,260 ac-ft
- Minimum storage (also end of year): 16,590 ac-ft
- No Flood Risk Management Operations
- No evidence of zebra or quagga mussels

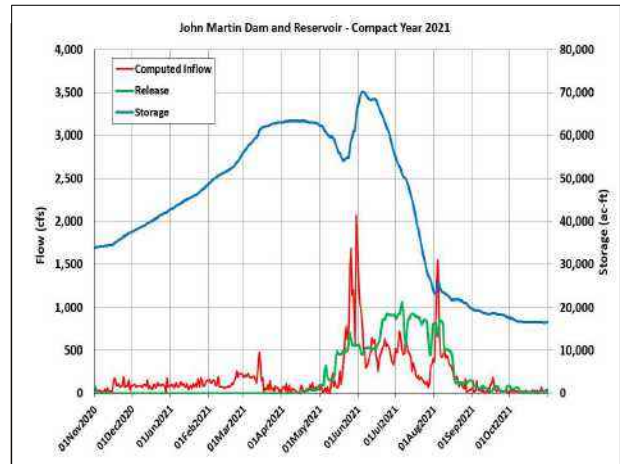


Exhibit D



ARKANSAS WATER QUALITY MONITORING



6

● Reservoir Stations (2012 – Current)

- Monthly during ice-free period
 - Vertical profiles
 - Temperature
 - Dissolved oxygen
 - Surface measurements
 - Turbidity
 - pH
 - Specific conductance
 - Secchi depth
 - Zebra and quagga mussel (June-October)



Trinidad Dam and Lake

▲ Riverine Stations (2020 – 2025)

- 15-minute interval
 - Water Temperature
 - Dissolved oxygen
 - Turbidity
 - pH
 - Specific conductance
- Monthly anions/cations and total suspended sediment



John Martin Dam and Reservoir Exhibit D



ARKANSAS WATER QUALITY MONITORING DATA



Discharge, Specific Conductance, and Crop thresholds

Upstream of Trinidad dam (Madrid Gauge)

Downstream of Trinidad Dam

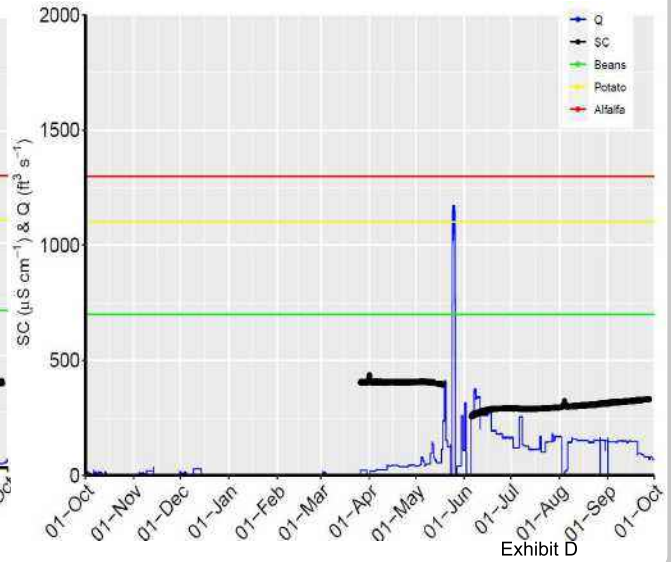
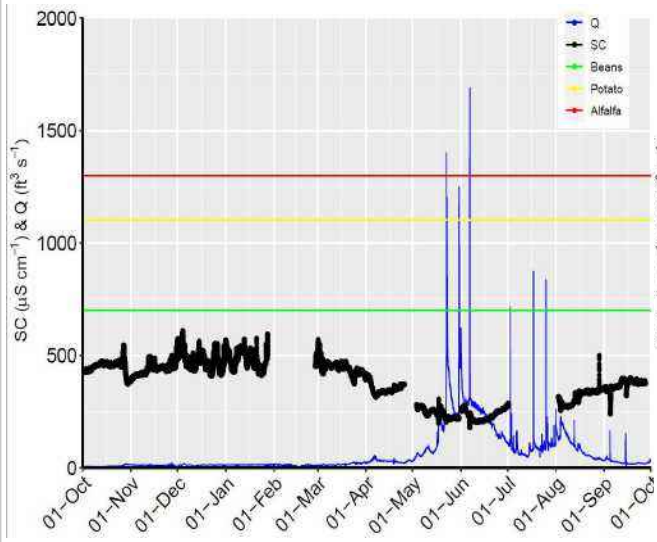


Exhibit D



ARKANSAS WATER QUALITY MONITORING DATA



Discharge, Specific Conductance, and Crop thresholds

Upstream of John Martin Dam

Downstream of John Martin Dam

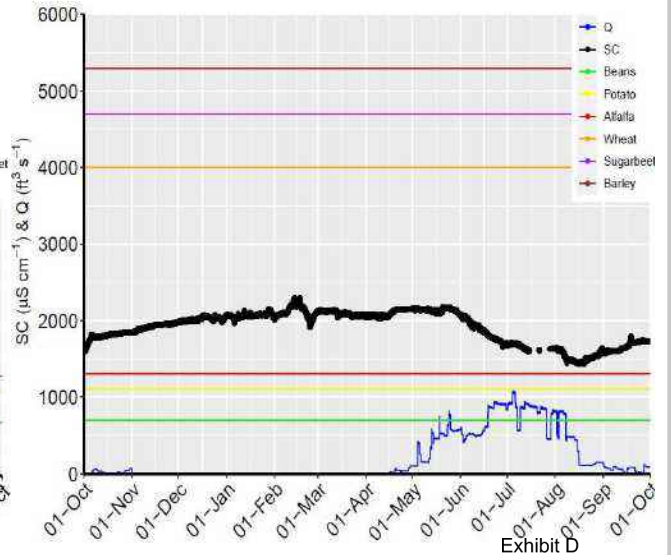
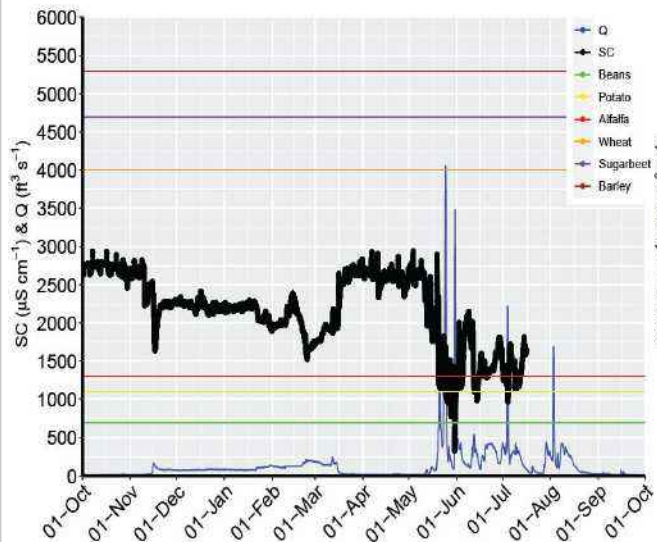


Exhibit D



OPERATIONS AND MAINTENANCE



John Martin Dam and Reservoir

- Grouting gallery sump pump
The primary and backup sump pumps at the north end of the grouting had to be repaired.
- Field investigation
Sediment samples were collected to support future dredging upstream of the dam.

Trinidad Dam and Lake

- Emergency Power
A new heavy equipment shed was constructed in the maintenance yard. This structure also houses the new projects emergency generator.
- Maintenance Contracts
Contracts were awarded to replace the sump pump in the dam tower and to replace the packing glands on the two pairs of service and emergency gates.



CIVIL WORKS SECTION 206- ECOSYSTEM RESTORATION



Spring Creek, Colorado

- o The purpose of the project is to restore a wetland and bird sanctuary formerly managed by the Audubon Society.
- o In FY21, funds were used to complete the Federal Interest Determination (FID).
- o Working on drafting the Feasibility Cost Share Agreement (FCSA)
- o Feasibility study is expected to start in FY22



Project site location in Colorado Springs, CO. Former wetland outlined in light blue.

Exhibit D

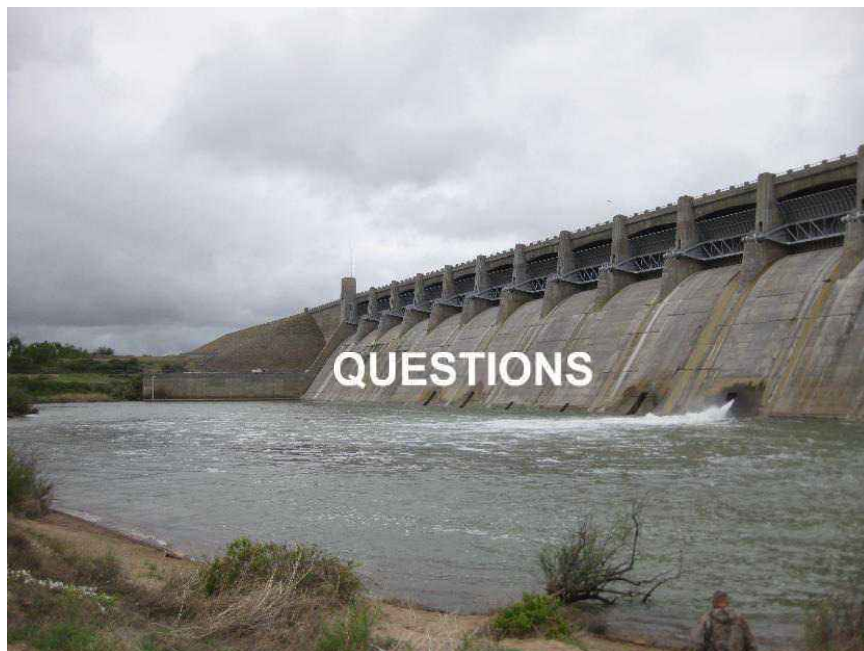
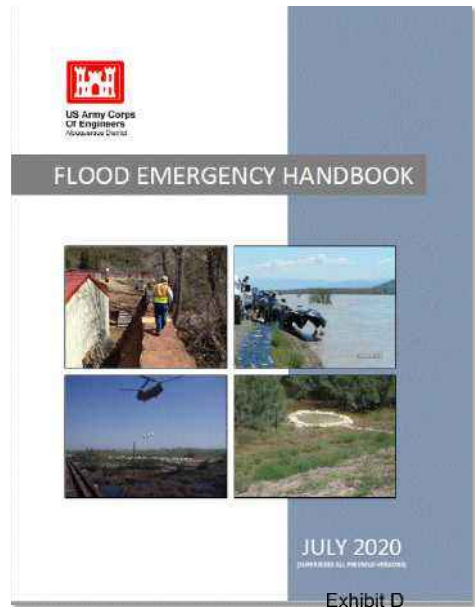


EMERGENCY MANAGEMENT COORDINATION

Public Law 84-99 authorized USACE to assist state and local governments before, during, and after flood events.

Assistance can be obtained by contacting:

**Albuquerque District, U.S. Army Corps of Engineers,
Emergency Management Branch, Operations Office**
cespa-eoc@usace.army.mil
505-342-3686



Arkansas River Basin



US Army Corps
of Engineers®
Albuquerque District

2021 Water Management and Civil Works Activities

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1. General

During Compact Year 2021 (1 November 2020 – 31 October 2021), activities of the U.S. Army Corps of Engineers (USACE), Albuquerque District, in the Arkansas River Basin consisted of water management, operations and maintenance, civil works, flood risk management, compliance with Section 404 of the Clean Water Act, and post wildfire flooding concerns.

2. Water Management Operations

In 2021, the Arkansas River Basin snowmelt forecast was well below normal throughout much of the basin. As of May 1st, the overall basin wide snowpack was reported as below average at 76% of median. The Upper Arkansas Basin reported 78% of median, the Cucharas and Huerfano basins reported 78% of median, the Apishapa Basin reported 98% of median, and the Purgatoire River Basin reported 82% of the median snowpack.

Table 1 compares the Natural Resources Conservation Service's (NRCS) forecast runoff to the actual measured runoff. The NRCS May 1st forecast predicted streamflow to be 69% of average for the Arkansas River above Pueblo Reservoir, and 68% of average for the Purgatoire River at Trinidad Reservoir. Actual observed snowmelt runoff (native) inflow to Pueblo Reservoir was 49% of the 30-year average used by NRCS, actual observed snowmelt and storm runoff inflow to Trinidad Reservoir was 125% of the 30-year average, and actual observed snowmelt runoff inflow to John Martin Reservoir was 51% of average.

Table 1. May 1, 2021, NRCS/NWS Forecast and Actual Runoff

Arkansas River Basin May 1 st Most Probable Snowmelt Runoff Forecast (50% Exceedance)				
Measurement Location	Snowmelt Runoff (x 1,000 Acre-Feet)		Percent of Average	
	May Forecast	Actual	May Forecast	Actual
Arkansas River above Pueblo (April – July)	250	176.8 ¹	69%	49%
Purgatoire River at Trinidad (March – July)	25	46.3 ²	68%	125%
John Martin Dam and Reservoir (April – July)	89 ³	87.0 ²	52% ³	51%

¹ Data Source: Colorado Division Water Resources

² Data Source: U.S. Army Corps of Engineers

³ National Weather Service inflow forecast for John Martin Dam and Reservoir

a. Trinidad Dam and Reservoir

For Compact Year 2021, the reservoir surface elevation started at 6,176 ft with storage of 15,549 acre-feet and ended at 6,183 ft with storage of 20,226 acre-feet, a net change of +7 ft in elevation and +4,677 acre-feet in storage. Storage peaked at 31,264 acre-feet (elevation of 6,197.03 ft) on 6 June 2021. The maximum daily inflow was 2,553.5 cubic feet per second (cfs) on 23 May 2021 and the maximum daily release was 1175.5 cfs on 25 May 2021. The total inflow for Trinidad Reservoir was 58,007 acre-feet and total outflow was 50,582 acre-feet. During the 22-23 May 2021 rainstorm event, dam releases were reduced to prevent downstream flooding. Figure 1 illustrates daily release, storage and computed inflow to Trinidad reservoir.

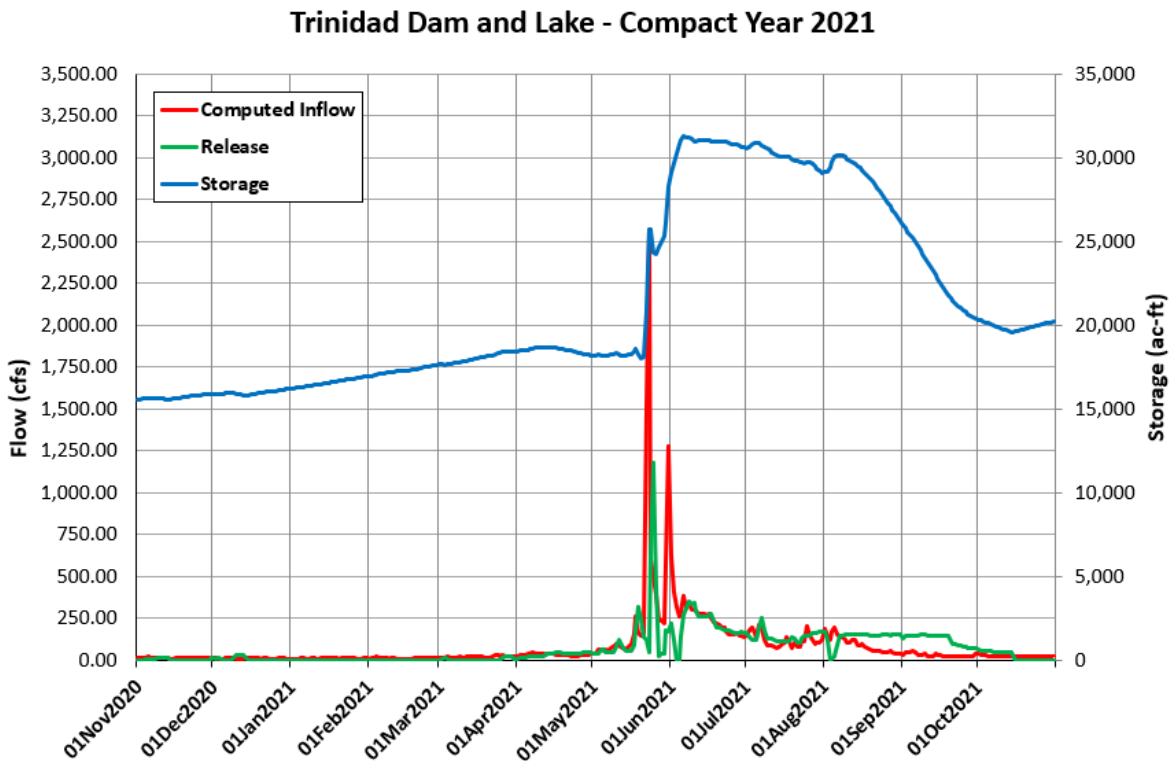


Figure 1: 2021 Trinidad Dam and Reservoir Water Operations

b. John Martin Dam and Reservoir

For Compact Year 2021, the reservoir surface elevation started at 3,806.43 ft with storage of 33,919 acre-feet and ended at 3,799.76 ft with storage of 16,590 acre-feet, a net change of -6.67 ft in elevation and -17,329 acre-feet in storage. Storage peaked at 70,260 acre-feet (elevation of 3,816.55 ft) on 4 June 2021. The maximum daily inflow was 2,067 cfs on 30 May 2021 and the maximum daily release was 1,061 cfs on 6 July 2021. The total computed inflow for John Martin Reservoir was 143,170 acre-feet and total release was 145,410 acre-feet. USACE did not operate for flood control at John

Martin Dam and Reservoir in 2021. Figure 2 illustrates daily release, storage and computed inflow to John Martin Reservoir.

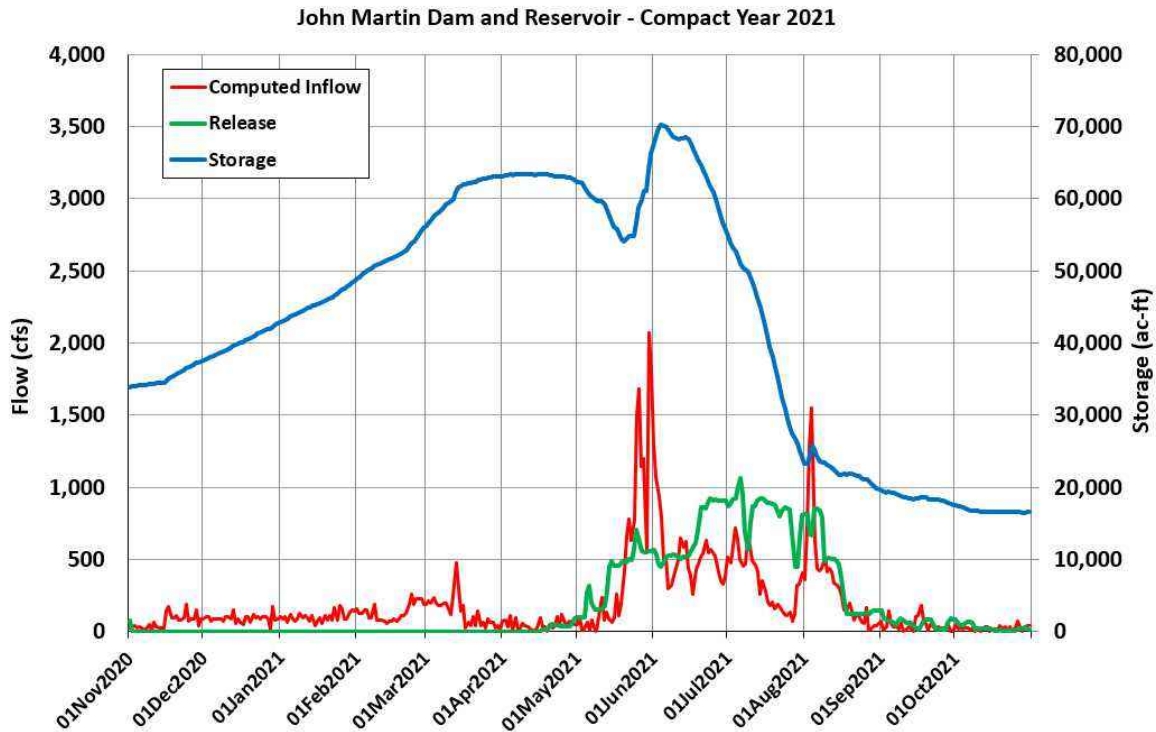


Figure 2: 2021 John Martin Dam and Reservoir Water Operations

c. Water Quality

USACE continued water quality monitoring program in Compact Year 2021. Project staff have been collecting monthly water quality data from USACE reservoirs since 2012, which is forwarded to environmental staff in USACE’s Albuquerque District Office for review and entry into the water quality database. At the locations shown below within Trinidad Reservoir and John Martin Reservoir (Figures 3 & 4), staff collect surface measurements of turbidity, pH, and specific conductance, as well as Secchi depth. Data on temperature and dissolved oxygen are collected through vertical profiles through the water column, and zebra and quagga mussel monitoring typically occurs from June through October.

In Compact Year 2020, the Albuquerque District entered into cooperative agreements to install riverine water quality stations upstream and downstream of Trinidad Reservoir and John Martin Reservoir at the locations indicated by red dots (Figures 3 & 4). These sites will collect data on water temperature, dissolved oxygen, turbidity, pH, and specific conductance at 15-minute intervals. Total suspended sediment and sampling of anions and cations will be completed monthly at these riverine stations. Monitoring at most of these riverine stations began in July and August of 2020, and this project is currently funded to provide riverine monitoring through 2025. During compact year 2021 data was collected at all water quality sites.

The primary goals of this expanded water quality monitoring program are to identify seasonal and other trends in streamflow and reservoir water quality, and to help assess the impacts of Trinidad Reservoir and John Martin Reservoir on the Purgatoire and Arkansas Rivers. The program will also generate and disseminate reviewed real-time and high-frequency water quality data and determine the suitability of using turbidity and streamflow records to calculate high-frequency suspended sediment concentrations and loads upstream and downstream of the reservoirs. The data collected through this program will be reviewed and compiled into a database that will be available through the Albuquerque District Water Management Section. Data requests can be sent to Justin Reale.

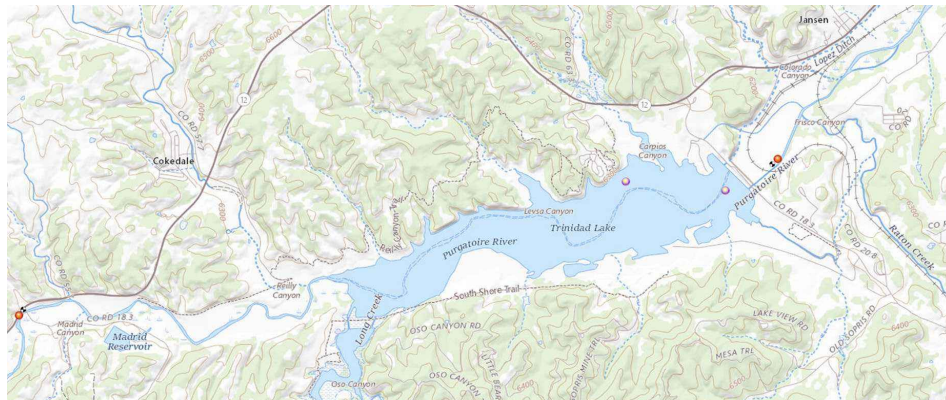


Figure 3: Water Quality monitoring stations at Trinidad Dam and Reservoir



Figure 4: Water Quality monitoring stations at John Martin Dam and Reservoir

Figures 5 and 6 show specific conductance compared to river flows for water year 2021 above and below both Trinidad and John Martin Dams. The plots also include crop threshold values for a variety of crops. In water year 2021, the specific conductance at Trinidad dam contains much less dissolved salt and minerals, because the majority of the flows come from snowmelt and rainfall. At John Martin, flows exhibit higher specific conductance due to dry conditions throughout the basin. Most probably during wet years, specific conductance would be lower than water year 2021.

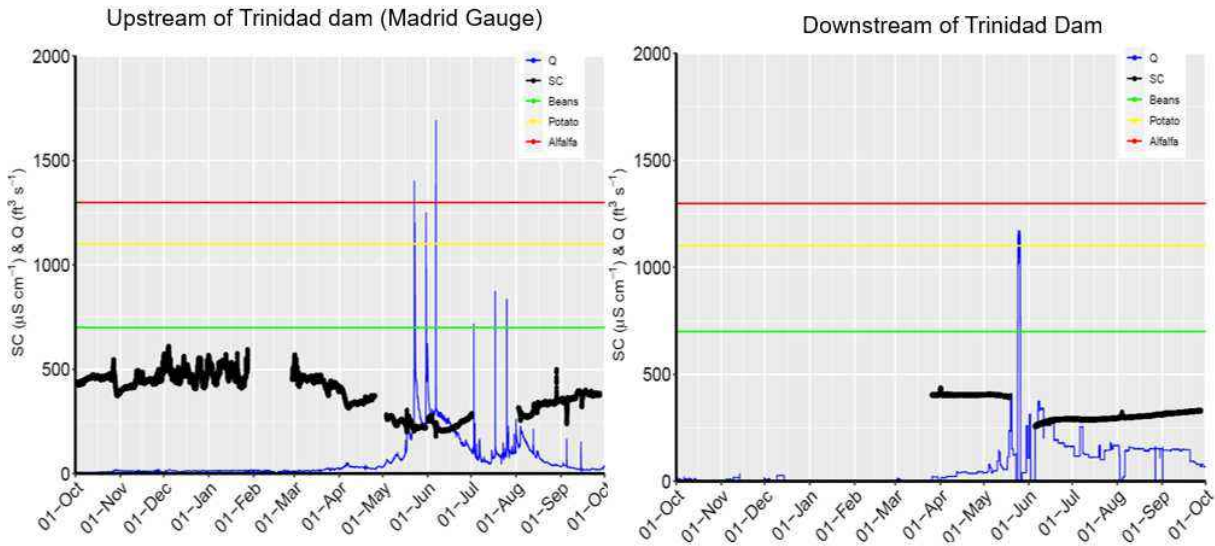


Figure 5: Water Quality monitoring data at Trinidad Dam

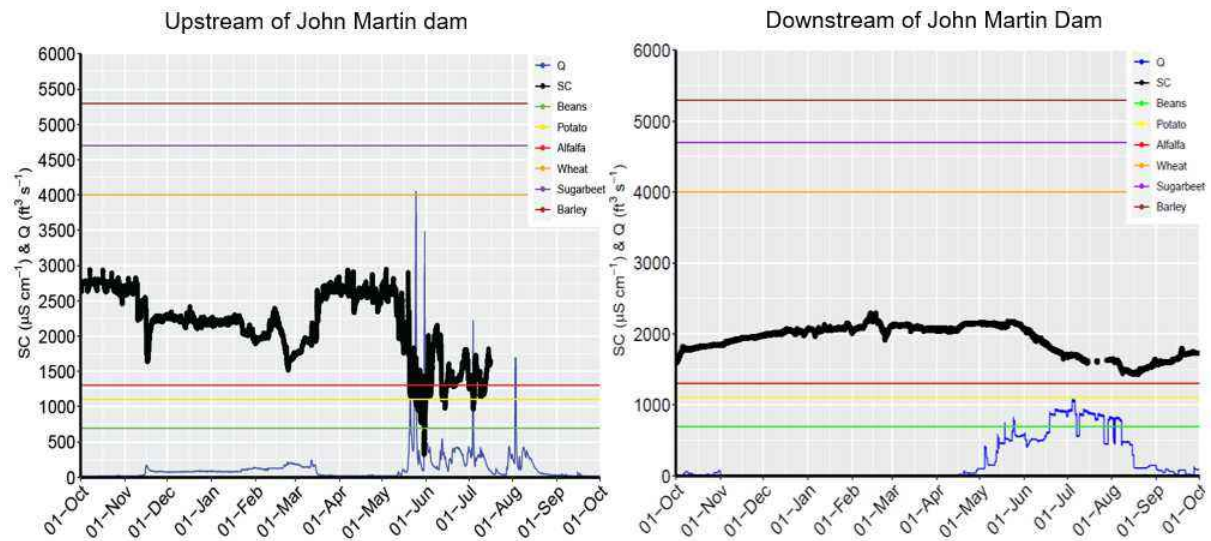


Figure 6: Water Quality monitoring data at John Martin Dam and Reservoir

3. Operations and Maintenance

a. Trinidad Dam and Reservoir

During 2021, several projects were completed and/or awarded at Trinidad Dam and Reservoir as described below:

- a. A new emergency backup generator was installed at the administrative office.
- b. A new heavy equipment shed was constructed in the maintenance yard (Figure 7). The structure also houses the new emergency generator.
- c. Wireless flood sensors were installed upstream of the dam and at Rule Creek to provide early warning detection for significant water events from a

previously ungauged part of the watershed. This is part of a system capability testing program and future development is planned.

- d. A contract was awarded to replace the sump pump in the dam tower. The existing sump pump, while still functional, is original to the project and repair parts are no longer readily available. Installation of the new system, which also includes a high water alarm, is planned for early 2022.
- e. A contract was awarded to replace the packing glands on the two service and two emergency gates. The work is scheduled for early 2022 before irrigation season begins.



Figure 7: New heavy equipment shed and emergency generator storage at Trinidad Dam

b. John Martin Dam and Reservoir

During 2021, operations and maintenance projects were completed at John Martin Dam and Reservoir as described below:

- a. Significant troubleshooting and repairs were made to the sump pumps on the north end of the grouting gallery (Figure 8). Additional repairs to the sump system will be made in 2022 to prevent accumulation of water within the gallery when the pool elevation is high.
- b. Pressure gauges were installed on key foundation drains throughout the grouting gallery to gather data on uplift pressures beneath the concrete dam. The data is being used to evaluate the need to install replacement piezometer sensors at key monoliths both upstream and downstream of the dam.
- c. Wireless flood sensors were installed directly downstream of the dam and at Rule Creek to provide early warning detection for significant water events and verify downstream flow measurements (Figure 9). This is part of a system capability testing program and future development is planned.
- d. Core samples were taken of upstream sediment deposits, and evaluations were conducted in advance of a dredging project to allow for proper placement of

emergency bulkheads required to inspect the outlet conduits.

- e. Common operations and maintenance (O&M) items were conducted according to prescribed schedules.



Figure 8: John Martin employee working to replace sump pump gasket.



Figure 9: John Martin employee installing flood sensor downstream of the dam.

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 one active CAP projects in the Arkansas River Basin in 2021.

Section 205

Section 205 of the 1948 Flood Control Act, as amended, provides authority to USACE to plan and construct small flood damage reduction projects that have not been specifically authorized by Congress. USACE had no active Section 205 projects in the Arkansas River Basin in 2021.

Section 206- Ecosystem Restoration

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. Section 206 projects must improve the environmental quality of the environment, be in the public interest, demonstrate cost effectiveness, and be no more than \$10 million in total cost. In fiscal year 2021 (federal), the USACE received “new start” funding, 100% federally funded, to determine if the Spring Creek Section 206 has a federal interest. The Spring Creek Section 206 has determined to have a federal interest in September of 2021. The determination that the project has a federal interest allows the USACE and Sponsor to enter into a feasibility cost share agreement (50/50%). Once the feasibility cost share agreement is signed by both parties, the feasibility study will start. The feasibility study will take 3 years to complete. If the results of the feasibility study determines that there is an alternative that is the best buy and in the public interest, then the project will move into the implementation phase project that will have a 65% federal and 35% non-federal cost share.

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. There are no active Section 14 projects in the Arkansas River Basin in 2021.

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 2021.

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 2021, no active projects in the ICW/RP were removed from the program based on inspection. Additionally, initial levee risk screenings have been performed and their risk characterizations HQ approved for all, except one, USACE constructed levees in the Arkansas watershed. Levee system risk characterizations have been published to the National Levee Database. The one exception is the Pueblo Arkansas River Levee Extension, which ties into Pueblo Arkansas River Levee which is currently finalizing rehabilitation of the levee. Initial risk screening will be completed after rehabilitation is finalized.

The National Levee Database (NLD) is used to track both USACE and Non-USACE levee system inventory and other flood risk management features (Figure 10). 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.

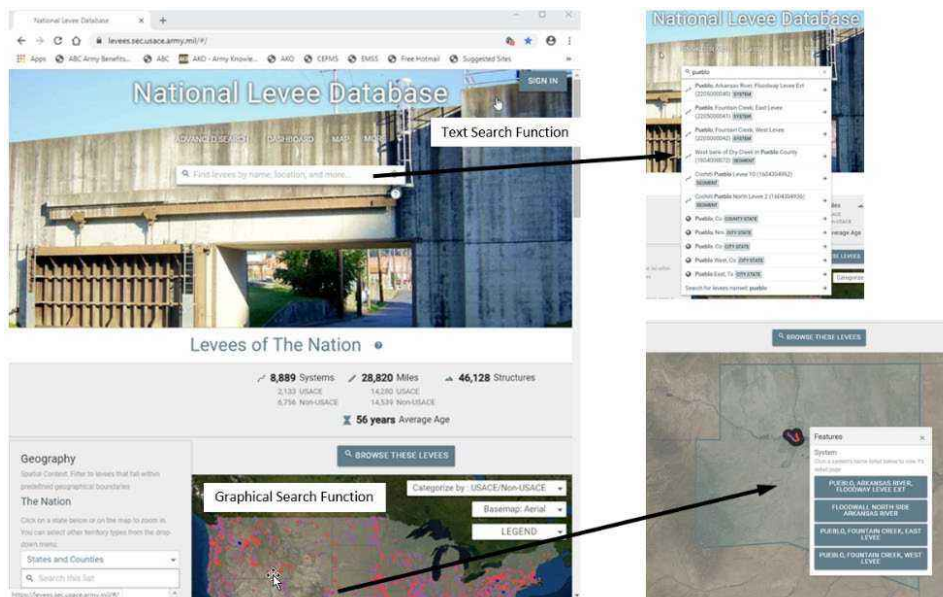


Figure 10: National Levee Database Search Functions

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, with the lead Silver Jackets coordinator sitting in the Omaha District. 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. There were several FY21 projects in Colorado including the development of a follow up hydrologic analysis for the Spring Fire in the community of La Veta, Colorado, as well as near completion of an After Wildfire Interactive Training Course that will be used by communities susceptible to wildfire risk in Colorado.

6. Regulatory Program

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 94 activities in the Arkansas River Basin during Compact Year 2021, including 43 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, email at CESPA-RD-CO@usace.army.mil, 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 National Weather Service, in Pueblo Colorado to prepare for flood fight activities in years with significant snowpack and spring snowmelt runoff.

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

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Exhibit E

Annual Meeting

December 9, 2021

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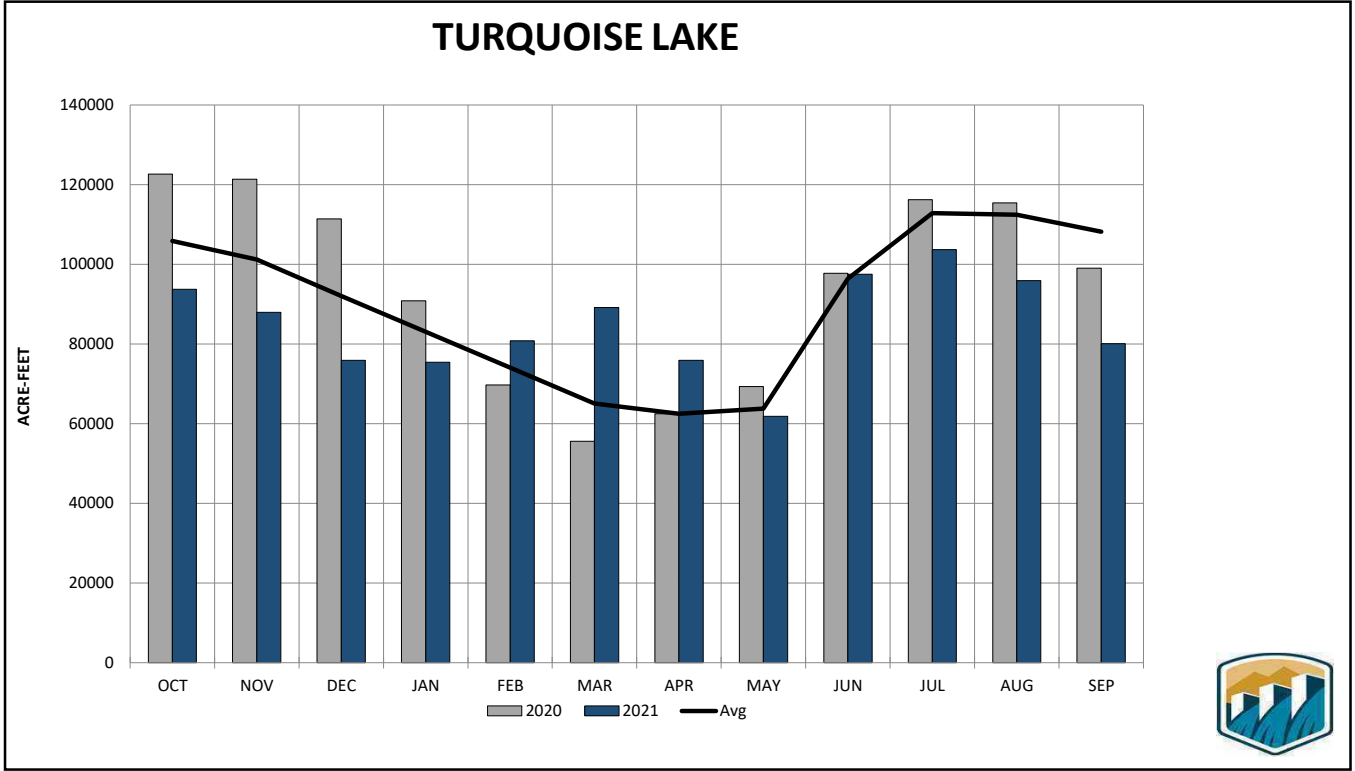
1

Fry-Ark Project 2021 Water Year

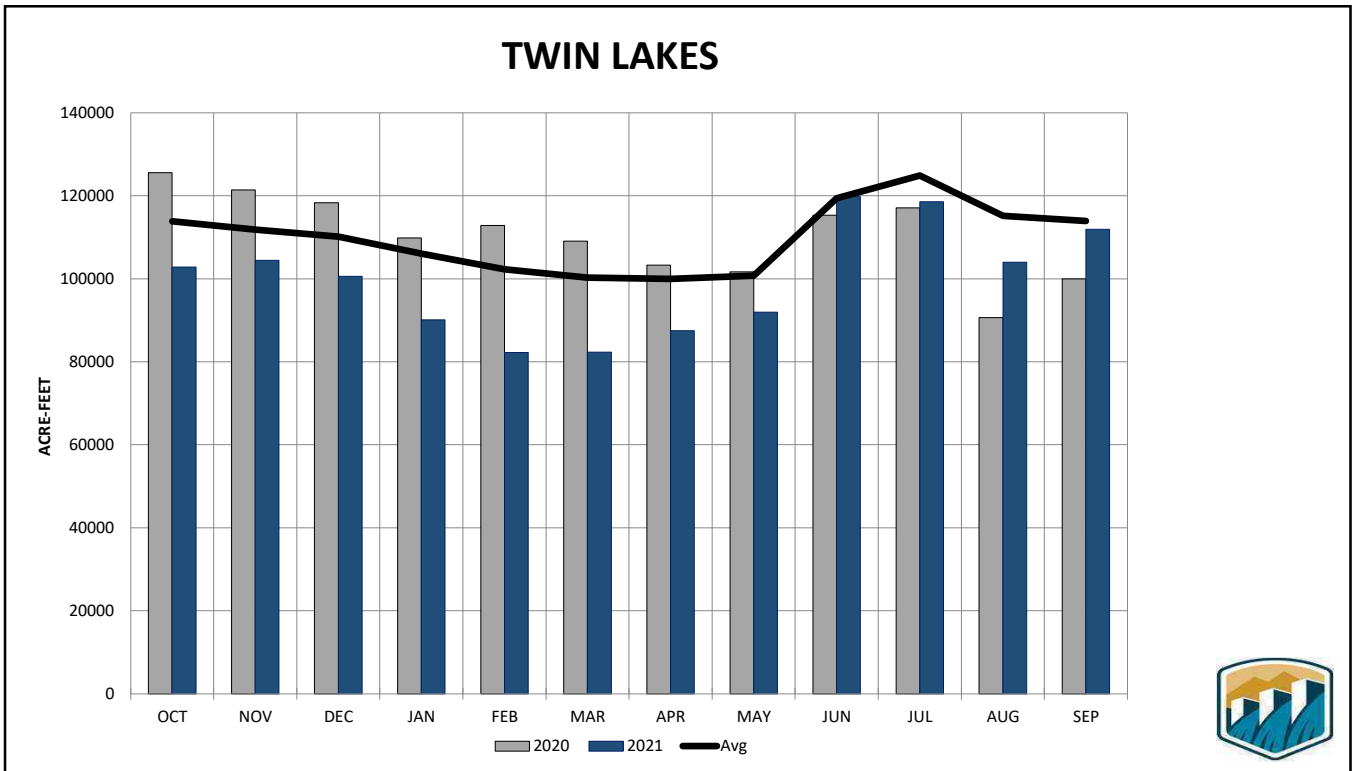
- Imports were well below average
- Snowpack in the Arkansas Basin peaked about average, but peaked weeks earlier than average
- Snowpack in the Colorado Basin started off near average, but dropped off in early December and peaked well below average
- The collection system opened April 20. Runoff peaked in June and finished by mid-July.



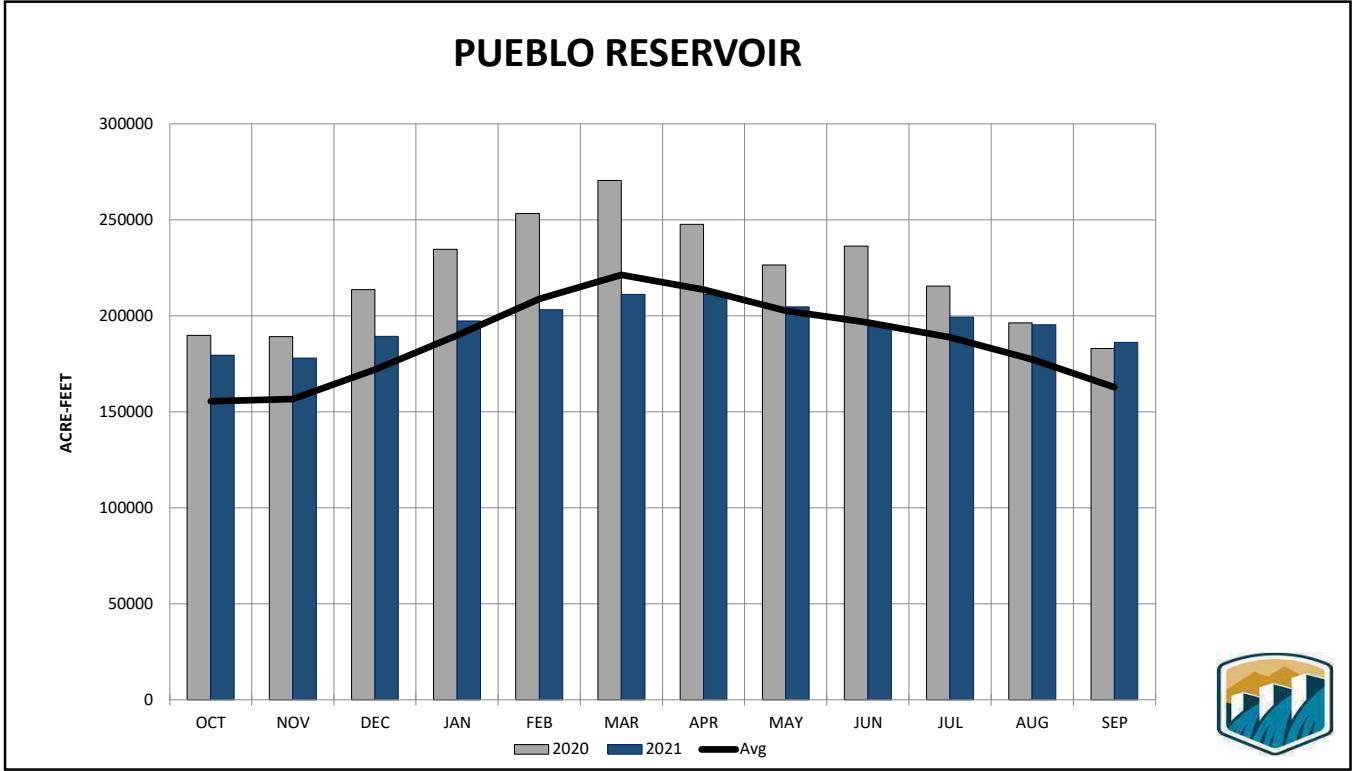
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As of November 30, 2021

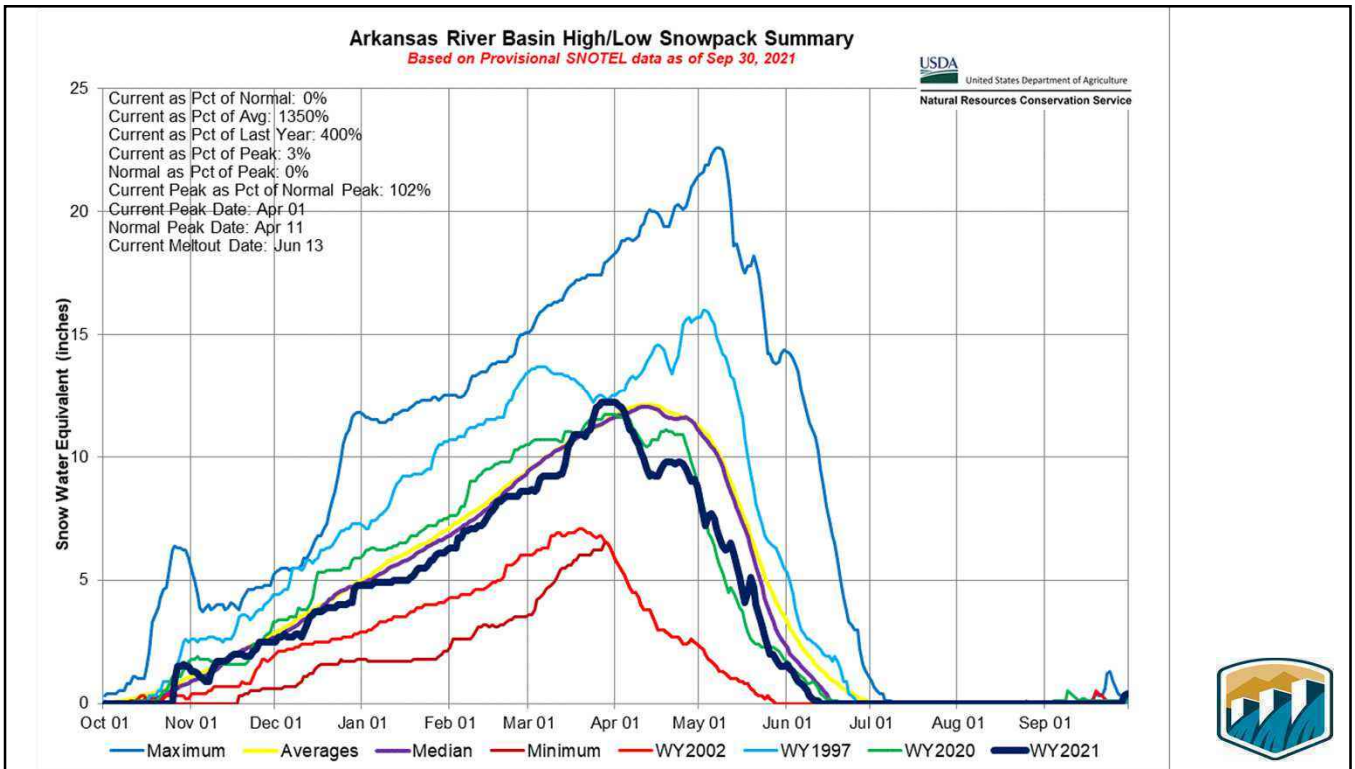
Project Reservoirs

Turquoise	81% of Average
Twin Lakes	98% of Average
Pueblo	109% of Average

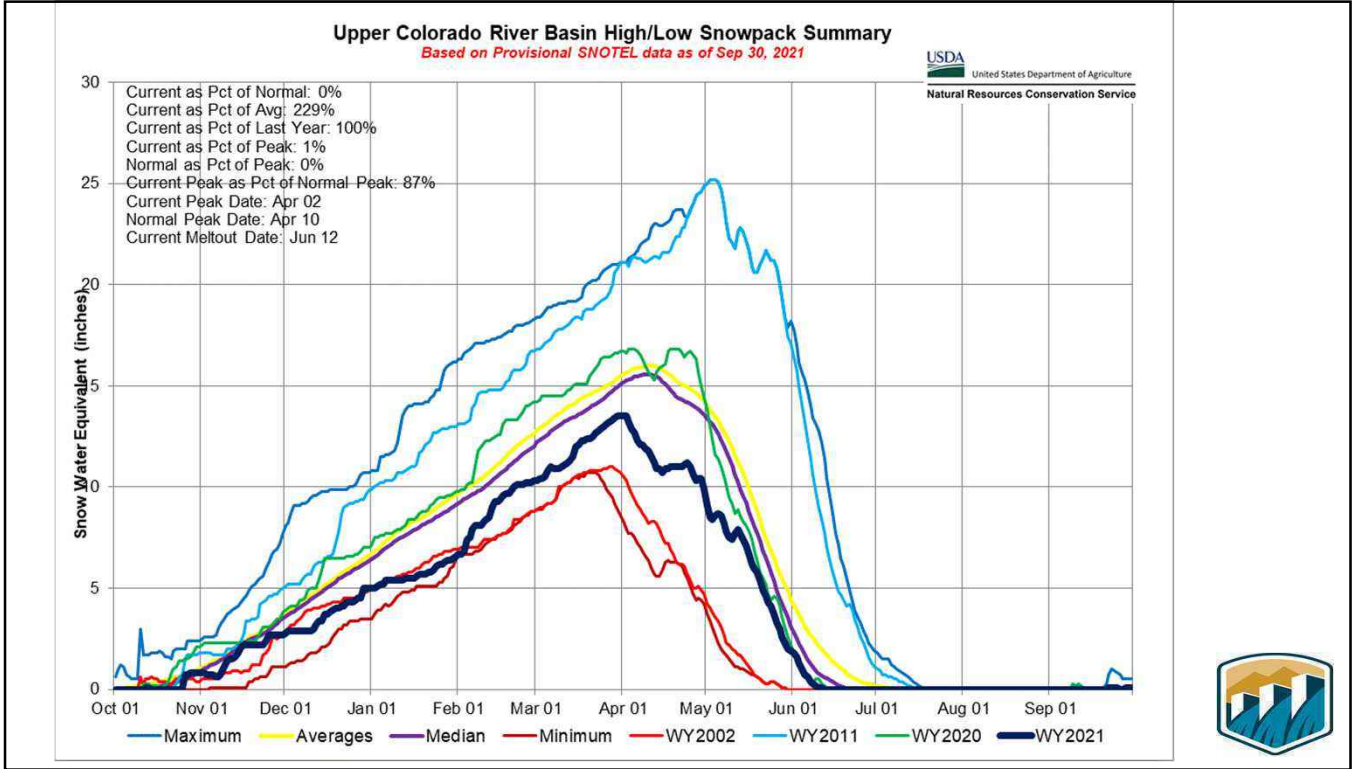
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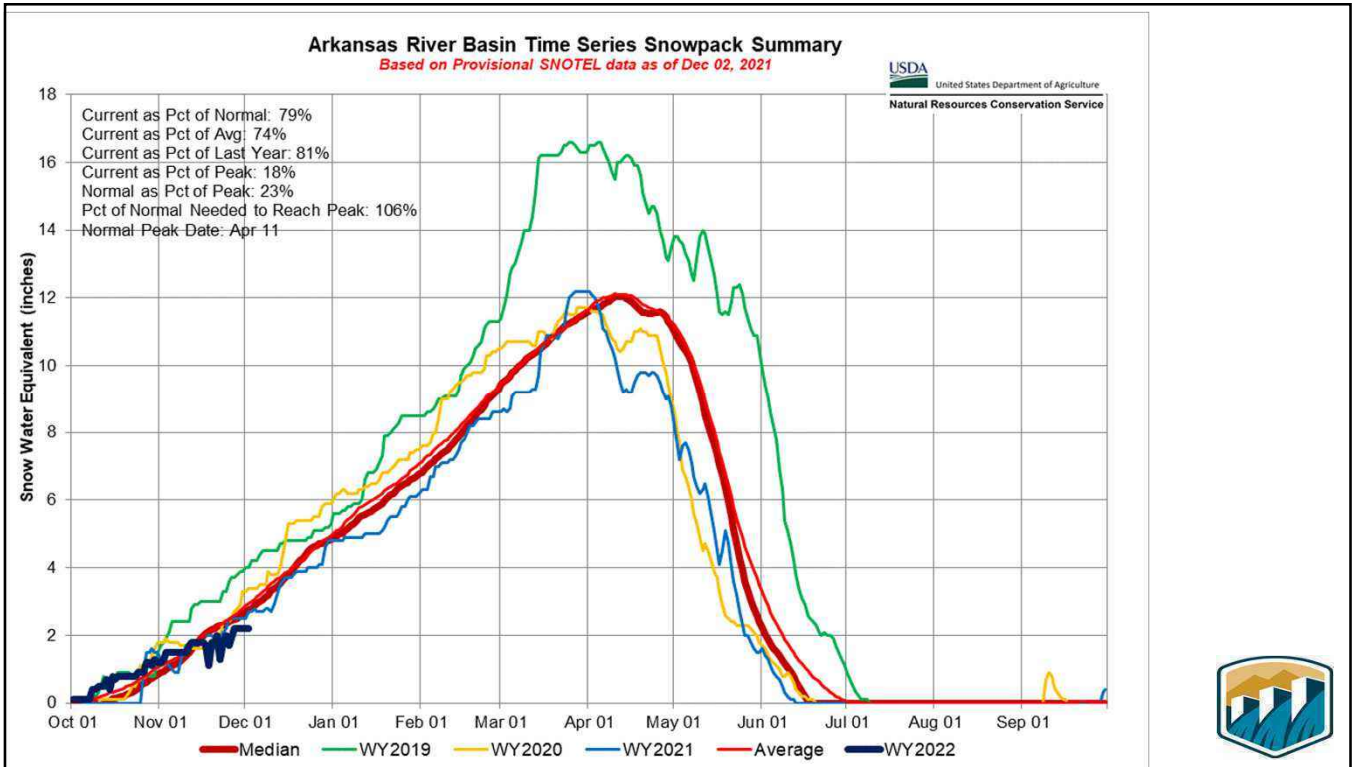
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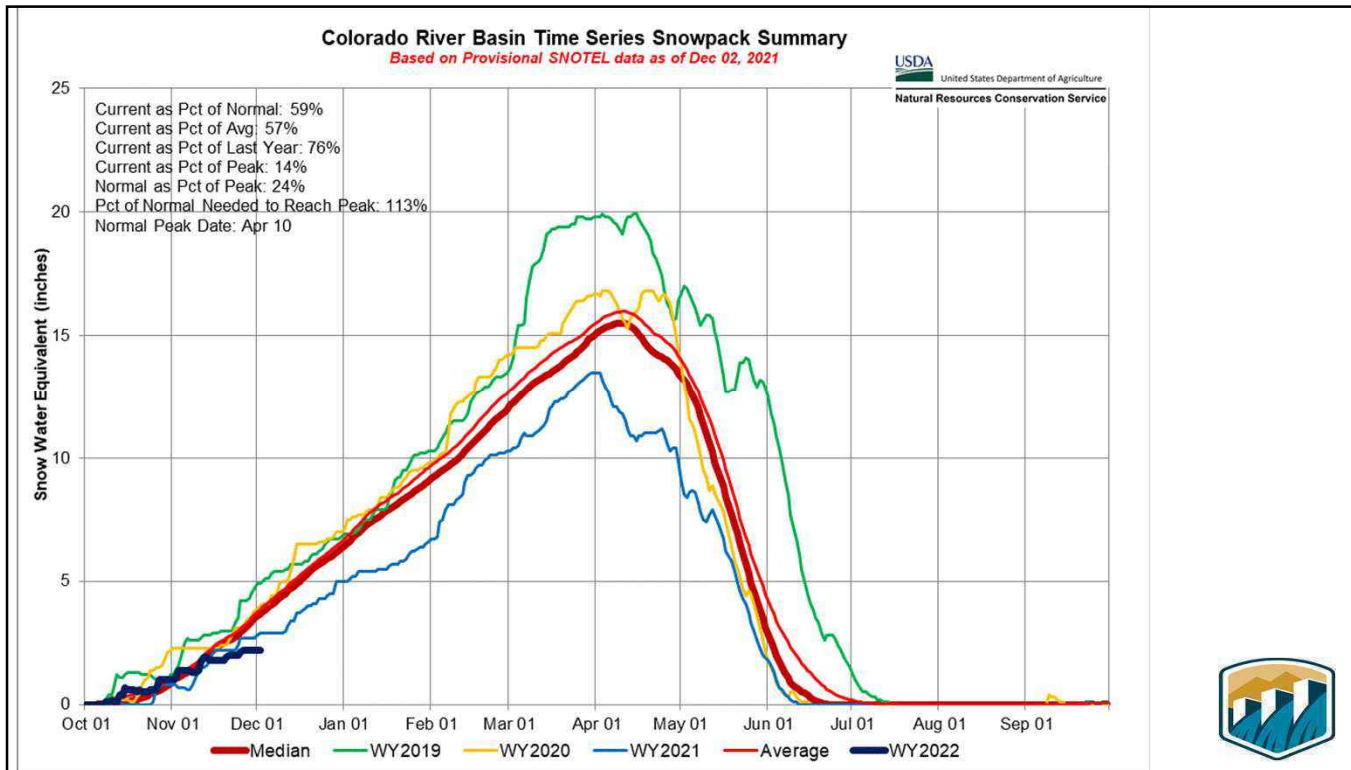
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9



10



11

Winter Operations

- **Currently releasing 15 cfs from Twin and 3 cfs from Turquoise to Pueblo.**
- **We anticipate moving a total of 25,000 AF from our upper reservoirs to Pueblo.**
- **Currently about 800 AF has been moved**
- **Movement of water will be adjusted according to the forecast and customers needs.**



12

Fryingpan-Arkansas ANS Update



- Since FY2018, Reclamation has competed for additional funding connected to the DOI Invasive Species Strategic Plan and Aquatic Nuisance Species Program for the protection of water and connected infrastructure.
- Eastern Colorado Area Office (ECAO) awarded Colorado Parks and Wildlife a total of \$400K to help with boat inspector labor at ECAO facilities in FY2019 and FY2021.
- Ruedi and Pueblo have received \$273K for on-the-ground improvements at inspection stations since FY2018.
- For FY2022, ECAO will be awarding \$150K in Inspection and Decontamination Station improvements at Twin and Turquoise. Pueblo will be receiving \$200K for Inspection Station improvements. Colorado Parks and Wildlife will be receiving another \$225K to help with boat inspector labor.



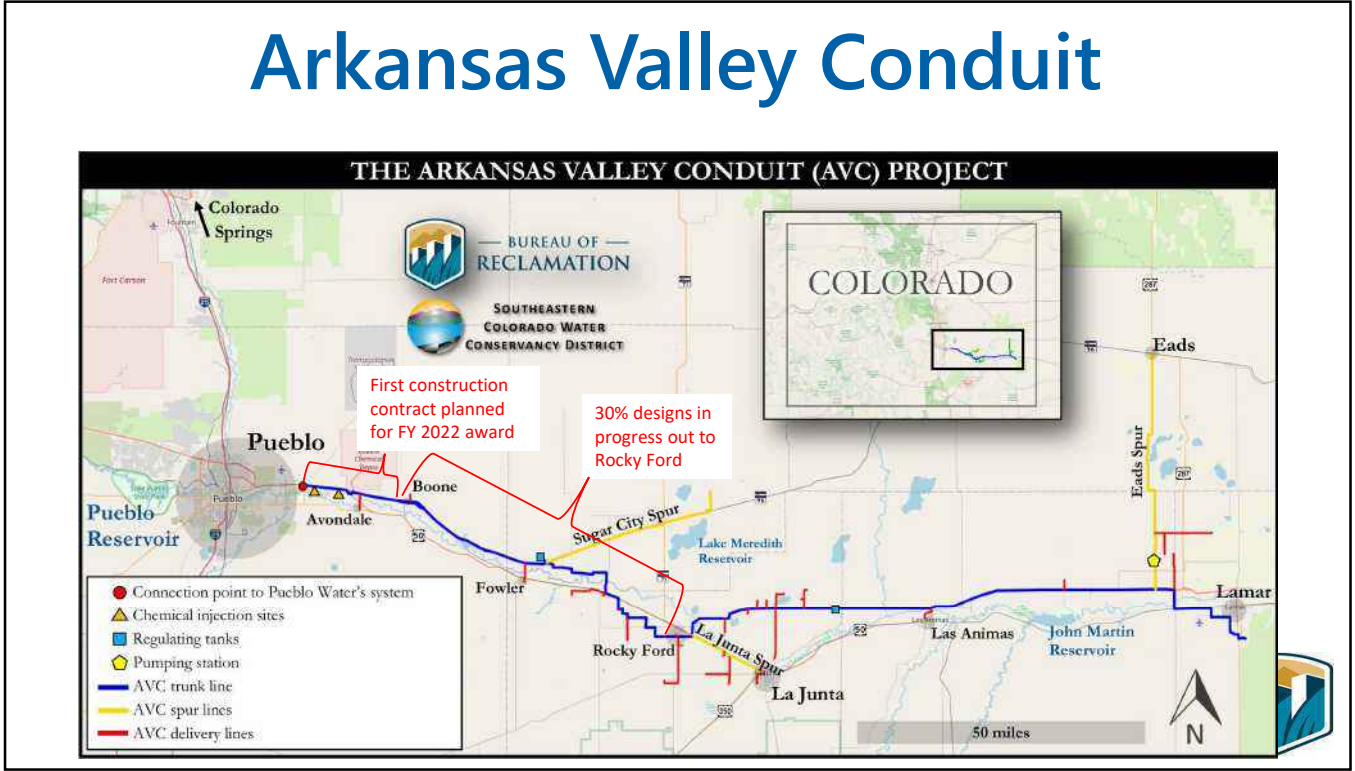
13



Patrick Fischer
Deputy Area Manager
Bureau of Reclamation Eastern
Colorado Area Office

14

Arkansas Valley Conduit



15

Exhibit F

Annual Meeting

December 9, 2021

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Ten-year Accounting of Depletions and Accretions to Usable Stateline Flow
2011 - 2020

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	2011	1,841	6,436	0	6,436	1,717	4,719	-2,878
2	2012	4,044	0	0	0	1,479	-1,479	5,523
3	2013	2,594	0	0	0	1,505	-1,505	4,099
4	2014	4,332	2,728	0	2,728	1,635	1,093	3,239
5	2015	2,779	2,695	0	2,695	2,337	358	2,421
6	2016	4,328	4,044	0	4,044	3,043	1,001	3,327
7	2017	-1,916	8,847	0	8,847	3,300	5,547	-7,463
8	2018	-9,062	4,543	0	4,543	3,346	1,197	-10,259
9	2019	11,807	8,045	0	8,045	3,756	4,289	7,518
10	2020	2,096	11,278	0	11,278	3,717	7,561	-5,465
Total		22,843	48,616	0	48,616	25,835	22,781	62
Shortfall for 2021								62

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 2020 are based on input file UPDATE20_May21.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.

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Exhibit G

Annual Meeting

December 9, 2021

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Arkansas River Compact Administration
Operations Committee
Meeting Summary and Action Items
December 8, 2021
Clarion Inn, Garden City, KS

The committee requested staff to produce a meeting summary and a list of recommendations.

Meeting Summary

The committee received the Compact Year (CY) 2021 reports of the Operations Secretary (Bill Tyner, CDWR) and Assistant Operations Secretary (Kevin Salter, KDWR).


Rachel Zancanella, CDWR, provided an update on the 2021 Offset Account and permanent pool operations.

Rachel Duran informed the Committee that the next Joint Report of the States regarding Review of Offset Account Operations will be for the period 2017-2021, to be presented at the 2022 annual ARCA meeting.

Rachel Zancanella provided an update on the implementation of the Irrigation Improvement Rules.

Committee Recommendations to ARCA

1. Committee defers the 2021 Operations Secretary report to the Special Engineering Committee to work towards resolution of issues that are holding up unapproved OS reports.



Lane Malone, Chair



Troy Dumler, Member

Date: 12-8-21

Date: 12-8-21

Arkansas River Compact Administration
Engineering Committee
Meeting Summary and Action Items
December 8, 2021
Clarion Inn, Garden City, KS

The committee requested staff to produce a meeting summary and a list of recommendations.

Meeting Summary

The Committee received an update on progress related to the Arkansas Decision Support System (ArkDSS) from CDWR staff and the Wilson Water Group. This included the elements for GIS, Administrative Tools, StateMod and StateCU Modeling that were completed under Phase I. This project is in Phase II, which includes enhancements to the Colors of Water and Forecasting Tool, additional StateMod modeling to look at unique operations like the winter water storage program, Trinidad Project operations, and John Martin Reservoir storage. Under the surface water allocation model the data processing and collection have been completed. Currently working on the historical calibration process. Future groundwater work will focus on physical parameters (gridded data, physical tests). The ET report is now available on the CDSS website for review.

Bill Tyner, CDWR, and Kevin Salter, KDWR, provided an update on the discussions related to the proposed Colorado multipurpose account in JMR. Negotiations between Kansas and Colorado are moving forward trying to resolve some outstanding issues.

Kevin Salter provided an update on efforts to replace the Frontier ditch flume.

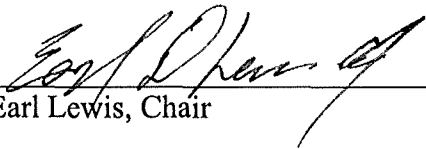
Carlos Aragon, USACE, presented to the committee the 2021 reservoir operations for Trinidad and John Martin Reservoirs. At Trinidad, a new heavy equipment shed was constructed in the maintenance yard and contracts were awarded to replace the sump pump in the dam tower and to replace the packing glands on the two pairs of service and emergency gates. At JMR the sump pumps stopped working so were inspected and the damaged components repaired. There is a two-year program underway for flood sensor installation at JMR.

Dustin Ethredge, USGS, reported on the USGS/ARCA Cooperative Streamgage Program. USGS maintains a total of 10 streamgages along the Arkansas River. Beaver dam activity occurred at both Big Sandy Creek near Lamar and at Apishapa River near Fowler. Efforts were made to remove the beaver dams during the past year, but some dams continue to return.

Jack Goble, Lower Arkansas Water Conservancy District, provided the committee with an update on their water quality programs. The District started a project in 2016 to test the efficacy of Best Management Practices (BMPs) to improve water quality which included Canal/Ditch lining and installation of sprinklers. A project site on the Ft. Lyon was selected that would allow for baseline data to be collected prior to installation of the improvements. The project will evaluate the impact of the BMPs on water quality once enough data has been collected. Future projects include pond linings, more lateral and canal linings, rotational-fallowing projects,

riparian buffer zones, nitrogen fertilizer reduction, wetland restoration, soil health improvement practices. Lease-Fallowing is likely to continue to increase, but lack of storage is a significant limitation. Additional storage will be required to implement these BMPs on a large scale.

Chris Woodka, Southeastern Colorado Water Conservancy District, presented on their 2021 operations and projects. Currently working on a Feature & Asset Valuation Study, Phase II, to determine the value of Fryingpan-Arkansas Project. Construction will begin in October-November 2022 on the Arkansas Valley Conduit. Boone and Avondale reach complete by 2024. The entire line is estimated to be complete by 2035.



Earl Lewis, Chair



Scott Brazil, Member

Date: 12/9/2021

Date: 12-9-2021

Arkansas River Compact Administration
Administrative & Legal Committee
Meeting Summary and Action Items
December 8, 2021
Clarion Inn, Garden City, KS

The committee requested staff to produce a meeting summary and a list of recommendations.

Meeting Summary

The committee reviewed the Committee agenda adding agenda item *5.D. 7th Anniversary of Compact and JMR.*

The committee reviewed the Annual meeting agenda, adding agenda items *11.A John Van Oort Letter* and *11.B Roy Vaughn Recognition.*

Rachel Duran noted that the 2020 Annual meeting transcript had been provided by the court reporter and was in the process of being reviewed by staff. Suggested edits will be sent back to the court reporter and it is the goal that this transcript would be ready for approval at ARCA's next meeting, be that a special or annual meeting.

Andrew Rickert provided an update on the work done during the past Compact Year on the ARCA Annual reports. Drafts of the 1994, 1995, 1996, and 1998 annual reports have been put together and passed on to the Operations and Assistant Operation's Secretaries for their final review. The drafts will then be provided to the Admin & Legal Committee for their review and approval.

Stephanie Gonzales, ARCA Recording Secretary and Treasurer provided her report and presented the Auditor's report.

The Cooperative agreements with USGS, Colorado SMS contract, and budget for FY21-22 were discussed. There was no modifications needed for the FY21-22 budget.

The proposed FY22-23 ARCA budget was reviewed.

One proposed resolution was put before the committee, entitled *Regarding the Special Engineering Committee for 2022 and 2023.*

Nominations of ARCA officers and committee chair appointments were done within this committee.

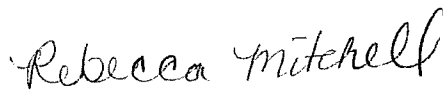
There was discussion of how to celebrate the 75th ARCA anniversary.

There was discussion on possible dates and locations for the 2022 ARCA Annual meeting.

Committee Recommendations to ARCA

1. The committee reviewed the Annual meeting agenda, adding agenda items *11.A John Van Oort Letter* and *11.B Roy Vaughn Recognition.*

- 2. Recommend ARCA approve the Fiscal Year (FY) 2020-21 Auditor’s Report and authorize Stephanie Gonzales to sign the engagement letter for the auditor’s services.
- 3. Recommend ARCA authorize Stephanie Gonzales to sign the Colorado and Kansas USGS Joint Funding Agreements (JFA), the Colorado SMS contract for Fiscal Year (FY) 2022-2023.
- 4. Recommend ARCA approve the Fiscal Year (FY) 2022-2023 Budget and Assessment.
- 5. Recommend ARCA approve the resolution titled *Regarding the Special Engineering Committee for 2022 and 2023*.
- 6. Recommend ARCA approve the following slate of officers for CY 2022:
 - a. Vice-chairman.....Randy Hayzlett
 - b. Recording/Secretary- Treasurer.....Stephanie Gonzales
 - c. Operations Secretary.....Bill Tyner
 - d. Assistant Operations Secretary.....Kevin Salter
- 7. Recommends the following committee chairs for CY 2022 (does not need an ARCA vote to adopt):
 - a. Engineering..... Scott Brazil as Chair (Earl Lewis as member)
 - b. Operations..... Troy Dumler as Chair (Lane Malone as member)
 - c. Admin & Legal..... Randy Hayzlett as Chair (Rebecca Mitchell as member)
- 8. Recommend a committee be appointed to plan the celebration for the 75th anniversary of the Compact and that the committee would work with the federal agencies as well as propose the budget for the celebration.
- 9. Recommend ARCA approve the dates of December 7, 2022 for the committee meetings and December 8, 2022 for the annual meeting. Both meetings to be held in Lamar, Colorado.



 Rebecca Mitchell, Chair



 Randy Hayzlett, Member

Date: 12-9-2021

Date: 12/9/2021

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Exhibit H

Annual Meeting

December 9, 2021

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Arkansas River Compact Administration

Financial Statements

June 30, 2021

James J. P. 3346
12/9/21

**Arkansas River Compact Administration
Annual Financial Report
For the Year Ended June 30, 2021**

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Independent Auditor's Report

The Governing Body
Arkansas River Compact Administration

Opinions

We have audited the financial statements of the governmental activities and each major fund Arkansas River Compact Administration (the "Compact"), as of and for the year ended June 30, 2021, and the related notes to the financial statements, which collectively comprise the Compact's basic financial statements as listed in the table of contents.

In our opinion, based on our audit, the accompanying financial statements present fairly, in all material respects, the respective financial position of the governmental activities and each major fund of the Compact, as of June 30, 2021, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Compact, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for 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.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Compact's ability to continue as a going concern for one year after the date that the financial statements are issued.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material

if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 Compact's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Compact's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the budgetary information be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Management has omitted the Management's Discussion and Analysis that accounting principles generally accepted in the United States of America require to be present to supplement the basic financial statements. Such missing information, although not a required part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion is not affected by this missing information.

rfarmer, llc

November 17, 2021

**Arkansas River Compact Administration
Statement of Net Position
June 30, 2021**

	Governmental Activities
ASSETS	
Cash and Equivalents	\$ 214,432
Total Assets	<u>214,432</u>
LIABILITIES	
Total liabilities	<u>-</u>
NET POSITION	
Unrestricted	214,432
Total net position	<u>\$ 214,432</u>

The accompanying notes to financial statements
are an integral part of these statements.

**Arkansas River Compact Administration
Statement of Activities
For the Year Ended June 30, 2021**

<u>Functions/Programs</u>	<u>Expenses</u>	<u>Program Revenue</u> <u>Charges for Services</u>	<u>Net (Expense) Revenue and</u> <u>Changes in Net Position</u> <u>Primary Government</u> <u>Governmental</u> <u>Activities</u>
Primary government			
Governmental Activities			
General Government	\$ 75,328	\$ 90,000	\$ 14,672
Total governmental activities	<u>75,328</u>	<u>90,000</u>	<u>14,672</u>
Total primary government	<u><u>75,328</u></u>	<u><u>90,000</u></u>	<u><u>14,672</u></u>
General revenues:			
Unrestricted interest income			400
Total general revenues, special items, and transfers			<u>400</u>
Change in net assets			15,072
Net position - beginning			<u>199,360</u>
Net position - ending			<u><u>\$ 214,432</u></u>

The accompanying notes to the financial statements
are an integral part of these statements.

**Arkansas River Compact Administration
Balance Sheet
Governmental Fund
June 30, 2021**

	General
ASSETS	
Cash and cash equivalents	\$ 214,432
Other receivables	-
Total assets	214,432
 LIABILITIES AND FUND BALANCES	
Liabilities:	
Total liabilities	-
Fund balances:	
Unassigned	214,432
Total fund balances	214,432
Total liabilities and fund balances	\$ 214,432

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, 2021

Total Fund Balance, Governmental Funds	\$ 214,432
Net Position of Governmental Activities in the Statement of Net Position	\$ 214,432

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, 2021

	General
REVENUES	
State Assessments	\$ 90,000
Interest Income	400
Total revenues	90,400
EXPENDITURES	
Gauging Stations and Studies	60,163
Professional Services	13,989
Operating Expenses	1,176
Total Expenditures	75,328
Excess (deficiency) of revenues over expenditures	15,072
Net change in fund balances	15,072
Fund balances - beginning	199,360
Fund balances - ending	\$ 214,432

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, 2021

Net change in fund balances - total governmental funds:	<u>\$ 15,072</u>
Change in net position of governmental activities	<u><u>\$ 15,072</u></u>

The accompanying notes to financial statements
are an integral part of these statements.

Arkansas River Compact Administration
Notes to Financial Statements
June 30, 2021

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 Governmental Accounting Standards.

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 position. The Statement of Activities presents changes in net position. Under the accrual basis of accounting, revenues are recognized in the period in which they are earned while expenses are recognized in the period in which the liability is incurred.

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Compact considers revenues to be available if they are collected within a reasonable period of time after the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

The primary revenue sources, which have been treated as susceptible to accrual by the Compact, are the state assessments.

The Compact reports the following major governmental funds:

General Fund

This is the Compact's primary operating fund. It accounts for all activities of the Compact.

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, 2021**

	Budgeted Amounts Original and Final	Actual Amounts, Budgetary Basis
REVENUES		
State Assessments	\$ 90,000	\$ 90,000
Interest Income	200	400
Total revenues	90,200	90,400
EXPENDITURES		
Current:		
Gauging Stations and Studies	78,019	60,163
Professional Services	16,225	13,989
Operating Expenses	1,500	1,176
Contingency	2,000	-
Total Expenditures	97,744	75,328
Excess (deficiency) of revenues over expenditures	(7,544)	15,072
Net change in fund balances	(7,544)	15,072
Fund balances - beginning	199,076	199,360
Fund balances - ending	\$ 191,532	\$ 214,432

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Exhibit I

Annual Meeting

December 9, 2021

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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

Earl Lewis, Manhattan
Randy Hayzlett, Lakin
Troy Dumler, Garden City

FY 2022 - 2023 BUDGET

(July 1, 2022 - June 30, 2023)

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	\$2,250
6. Treasurer Bond	<u>\$100</u>

subtotal services **\$16,050**

B. GAGING STATIONS, STUDIES, & DATA COLLECTION

1. U.S.G.S. Colorado District Joint Funding [calendar year 2022]	\$50,577
2. U.S.G.S. Kansas District Joint Funding [calendar year 2022]	\$13,000
3. State of Colorado Satellite System [7/1/21 - 6/30/22]	\$12,400
4. CoAgMet Weather Station O&M Cost-share [7/1/21 - 6/30/22]	<u>\$5,000</u>

subtotal gaging **\$80,977**

C. OPERATING EXPENSES

1. Website Hosting	\$500
2. Telephone	\$100
3. Miscellaneous Office Expense	\$100
4. Postage/Copying/Supplies	\$150
5. Meetings	\$1,000
6. Travel	\$250
7. Rent	<u>\$600</u>

subtotal operating **\$2,700**

D. OTHER

1. Equipment	\$0
2. Contingency	\$2,000
3. Litigation	\$0
4. Special Projects and Studies	<u>\$0</u>

subtotal other **\$2,000**

TOTAL ALL EXPENDITURES **\$101,727**

II. INCOME

A. ASSESSMENTS

1. Colorado (60%)	\$54,000
2. Kansas (40%)	<u>\$36,000</u>

subtotal assessments **\$90,000**

B. OTHER

1. Interest Earnings	\$400
2. Miscellaneous	<u>\$0</u>

subtotal other **\$400**

TOTAL ALL INCOME **\$90,400**


III. CASH RESERVE BALANCE

A. ESTIMATED CASH BALANCE JULY 1, 2022 [from FY21-22 Annual Budget]	\$206,433
B. DECREASE FROM RESERVE	\$11,327
C. ADDITION TO BALANCE	0
D. PROJECTED BALANCE JUNE 30, 2023	<u>\$195,106</u>

Adopted by the Arkansas River Compact Administration at its Dec. 9, 2021 Annual Meeting.

Stephanie Gonzales, Recording Secretary and Treasurer

Date



12/9/2021

2 of 4 originals

Exhibit I

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Exhibit J

Annual Meeting

December 9, 2021

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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

Earl Lewis, Manhattan
Randy Hayzlett, Lakin
Troy Dumler, Garden City

December 9, 2021
Van Oort Family
P.O. Box 148
Rye, Colorado

Subject: Recognition of Service for John Van Oort, Colorado Division of Water Resources

To Tammy Van Oort and the Van Oort Family:

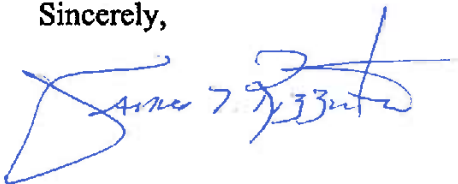
The Arkansas River Compact Administration (ARCA) would like to formally recognize the dedication and the beneficial impact to the business of ARCA and water users in Colorado and Kansas exhibited by John Van Oort.

John was an incredible individual whose daily work was impactful to numerous citizens of southeastern Colorado and southwestern Kansas through his efforts to ensure that operation of the Colorado-Kansas Compact Reservoir (John Martin Reservoir) was done properly and that water rights in Colorado were properly administered.

His work life touched the lives of dozens of individuals from Colorado Division of Water Resources and Kansas Division of Water Resources as well as the various Compact representatives, State Engineers from Colorado and Chief Engineers from Kansas who interacted with him during his seventeen-year career with Colorado DWR during Compact meetings and through more frequent meetings throughout the years.

It is with deep sorrow that we mourn the recent passing of John, but with great honor that we memorialize his accomplishments and express our thanks for the relationships he built over the years.

Sincerely,



James Rizzuto
Chairman
Arkansas River Compact Administration

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Exhibit K

Annual Meeting

December 9, 2021

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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

Earl Lewis, Manhattan
Randy Hayzlett, Lakin
Troy Dumler, Garden City

December 9, 2021

Roy Vaughan
1091 S May Valley Dr
Pueblo West, CO 81007

RE: Recognition of Service for Roy Vaughan, United States Bureau of Reclamation

Roy,

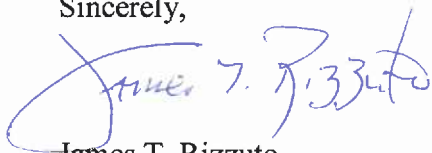
The Arkansas River Compact Administration wish to recognize Roy Vaughan who is retiring from the Bureau of Reclamation at the end of this year. Roy has provided updates on Bureau activities, especially related to Pueblo Reservoir for many years. Roy is friendly, knowledgeable, and always available to answer questions.

Roy's career includes 30 years of service to the water users in the Arkansas Basin. Roy has been the Facility Manager at Pueblo Reservoir after working his way up through the ranks. Roy's role has not been limited to activities at Pueblo Reservoir. He has actively participated in numerous meetings on behalf of the Bureau including Southeastern Colorado Water Conservancy District meetings, and Winter Water Program meetings.

The Colorado Representatives would also note that Roy has been heavily involved in many diverse water user efforts and has worked tirelessly to protect not only the Bureau's interests but also agricultural, recreational and municipal water user interests that involve the various aspects of the Fryingpan Arkansas Project. The USBR's cooperative effort associated with the Voluntary Flow Management Program, under the direction of Roy, times the movement of transmountain Project water deliveries down to Pueblo Reservoir to enhance both the recreational interests of the rafting industry and the development of the longest river segment of gold medal fishery in Colorado.

The members of the Arkansas River Compact Administration express their gratitude to Roy Vaughan for his service and wish him the very best in retirement.

Sincerely,



James T. Rizzuto
Chairman
Arkansas River Compact Administration

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**ARCA 2021 ANNUAL MEETING
RESOLUTIONS**

NUMBER	Description
2021-01	Regarding the Special Engineering Committee for 2022 and 2023

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ARKANSAS RIVER COMPACT ADMINISTRATION

Lamar, Colorado 81052

For Colorado

Chair and Federal Representative

For Kansas

Rebecca Mitchell, Denver

James T. Rizzuto, Swink

Earl Lewis, Manhattan

Lane Malone, Holly

Randy Hayzlett, Lakin

Scott Brazil, Vineland

Troy Dumler, Garden City

RESOLUTION 2021 - 01

Regarding the Special Engineering Committee for 2022 and 2023

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 2019 for a term expiring Dec. 31, 2021; and

WHEREAS, the Committee has resolved disputed issues placed before it during its term, and assigned tasks still remain before it with the potential for further agreement;

NOW THEREFORE, BE IT RESOLVED that ARCA does hereby extend the term of the Committee for two full years to expire on December 31, 2023; and

BE IT FURTHER RESOLVED that the SEC will consider the following prioritized subjects at meetings authorized by this resolution:

1. A pilot project to evaluate the effects of a Colorado multipurpose account.
2. Identification and resolution of flood and spill issues related to the federal reservoirs in the basin.
3. Identification and resolution of issues related to the split of winter inflows to John Martin Reservoir.
4. Identification and resolution of issues preventing approval of past Operations Secretary Reports.

ADOPTED by the Arkansas River Compact Administration at its 2021 Annual Meeting on December 09, 2021, in Garden City, Kansas.


James T. Rizzuto, Chair
Arkansas River Compact Administration


Stephanie Gonzales, Recording Secretary
Arkansas River Compact Administration