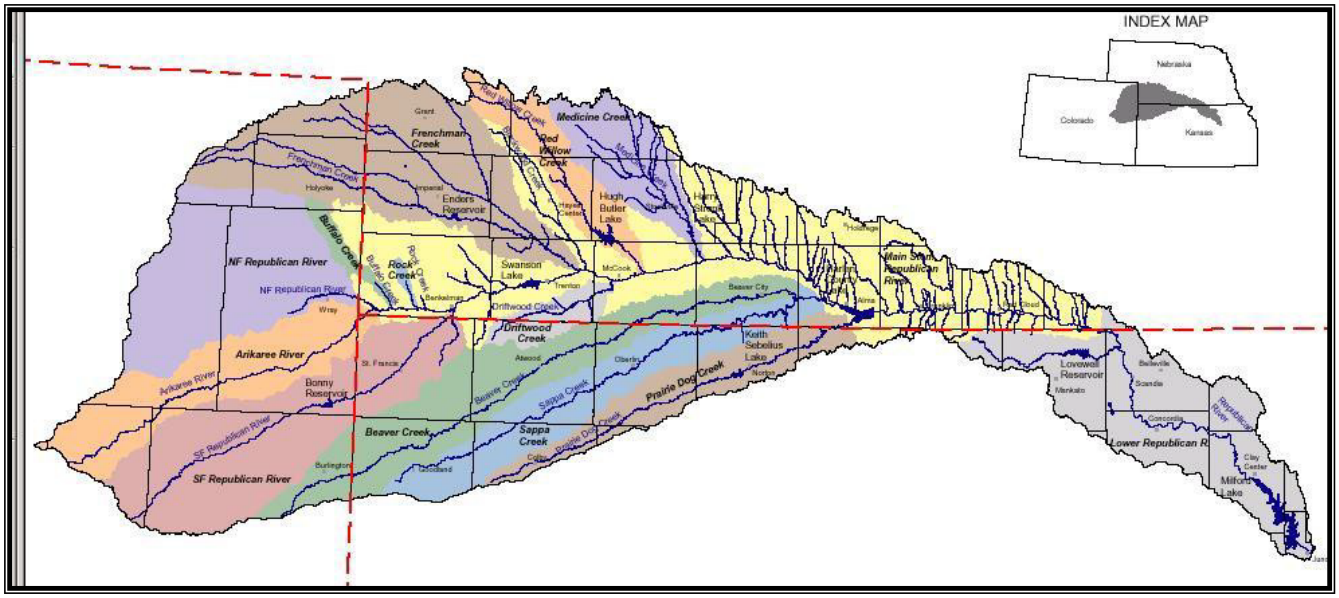
REPUBLICAN RIVER COMPACT ADMINISTRATION

62nd ANNUAL REPORT

FOR THE YEAR 2022



BURLINGTON, COLORADO

AUGUST 31, 2023

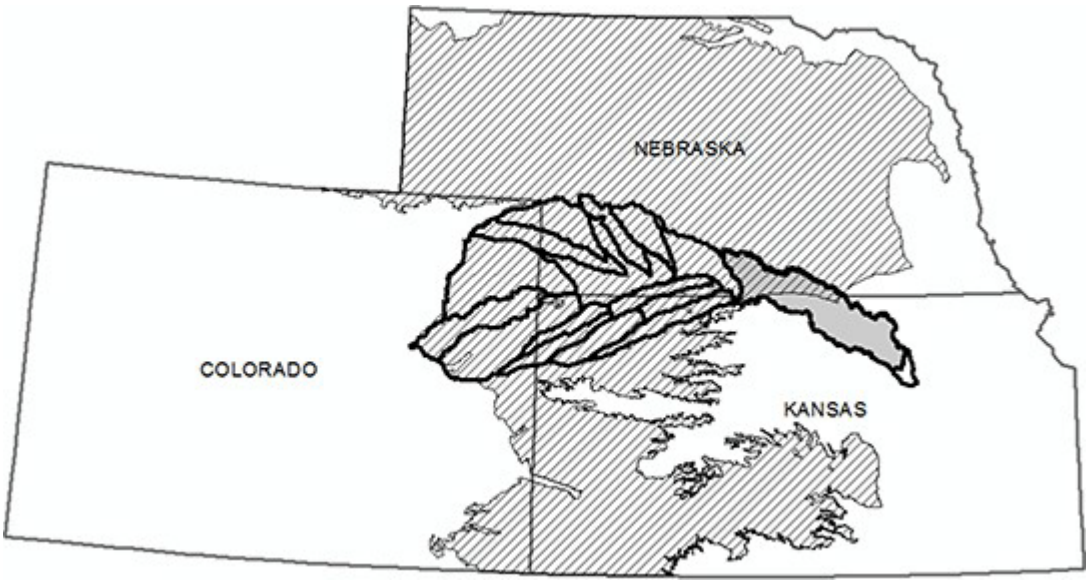
Table of Contents

REPUBLICAN RIVER COMPACT ADMINISTRATION

Annual Meeting

August 31, 2023

Burlington, Colorado



SUMMARY AND MINUTES OF THE 2022 ANNUAL MEETING OF THE
REPUBLICAN RIVER COMPACT ADMINISTRATION

AUGUST 31, 2023
BURLINGTON, COLORADO, AND VIRTUAL VIA ZOOM

Summary & Minutes

A transcript of this meeting was prepared by AB Litigation Services (Exhibit A). This summary and minutes were based on the transcript of the meeting. The summary and minutes were reviewed by each of the states, and upon final approval by the Republican River Compact Administration (RRCA) will serve as the official minutes of this Annual Meeting of the RRCA.

Agenda Item 1: Introductions

The annual meeting of the Republican River Compact Administration was called to order by Colorado Commissioner and Chairman Kevin Rein at 9:58 a.m., August 31, 2023. Commissioner Rein asked for each commissioner to introduce attendees from their states. Mr. Jesse Bradley introduced himself as the Acting Commissioner for Nebraska. Commissioners Rein and Lewis were notified about Mr. Bradley serving as Acting Commissioner by email from Commissioner Tom Riley in accordance with Rules and Regulations, Republican River Compact Administration, Revised August 21, 2020, section 5; the notification email is included as Exhibit H. A typed list of all attendees is attached as Exhibit B, which also includes the original signed attendance sheets. Notable attendees include:

Name	Representing
Chris Beightel	Kansas Engineering Committee Member
Kari Burgert	Nebraska Engineering Committee Member
Justin Lavene	Nebraska Attorney General's Office
Earl Lewis	Kansas Commissioner
Kevin Rein	Colorado Commissioner and Chair
Jesse Bradley	Acting Nebraska Commissioner
Dan Steuer	Colorado Attorney General's Office
Tracy Kosloff	Colorado Deputy State Engineer
Kurtis Wiard	Kansas Attorney General's Office
Chelsea Erickson	Kansas Division of Water Resources

Agenda Item 2: Adoption of the Agenda

Commissioner Rein introduced the proposed draft agenda and asked if there were any changes to the draft agenda. There were no changes proposed by Nebraska or Kansas. Commissioner Rein proposed one change to Item 7(c). The wording should now read – "Recognition of Colorado's acquisition of the contracts for retirement of at least 10,000 acres toward the 2016 resolution obligations." Hearing no further requests for changes, Acting Commissioner Bradley moved that

the draft agenda be adopted as proposed. Commissioner Lewis seconded the motion. The commissioners unanimously approved the amended agenda. A copy of the final agenda is attached as Exhibit C.

Agenda Item 3: Status of the Annual Report for the year 2020 and possible action by the RRCA

Commissioner Rein called for action on the completed RRCA Annual Report for the year 2021. Acting Commissioner Bradley moved that the RRCA accept the Annual Report for the year 2021. Commissioner Lewis seconded the motion. The commissioners unanimously accepted the report.

Agenda Item 4: Commissioners' Reports

a. Kansas:
   i. Commissioner Lewis started off by noting that several areas and counties remain in drought conditions. While the state has seen some improvements, there are still areas that have D3 or 4 level of drought.
   ii. Commissioner Lewis noted that the drought conditions led to Kansas enforcing minimum desirable stream flows on the Lower Republican River, ensuring that water rights issued after 1984 are curtailed to ensure stream flows do not drop below the statutory limit. The Lower Republican River is an area that sees heavy administration, including 108 groundwater rights and 133 surface water rights under continual administration this year.
   iii. Commissioner Lewis reported on the legislative activities in Kansas, starting by acknowledging the presence of Senators Billinger and Adam Smith and noting their work on water legislation. The first notable piece of legislation was House Bill 2279, which dealt with groundwater management districts and the timelines allotted to establish high-priority areas and establish action plans to address issues. These areas must be established by July 1, 2024, and plans should be in place by July 1, 2026.
   iv. Commissioner Lewis discussed the dedication of $35 million in additional funds for water projects in the State of Kansas each year for the next five years. Approximately half would be dedicated for infrastructure and the remaining for other projects.
   v. Commissioner Lewis noted that water conservation activities continue within the groundwater management districts and that an additional local enhanced management area (LEMA) was established in west central Kansas. Other efforts include an annual well measurement program performed by the Kansas Geological Survey and the Division of Water Resources, together measuring more than 1,400 wells across the state every January.
   vi. Commissioner Lewis reported an average water level decline of just over 1.2 feet in 2022 across northwest Kansas. Southwest Kansas saw an average decline of over 2 feet.
   vii. Commissioner Lewis updated the commissioners on a water quality program he had mentioned the year prior. After uranium was detected in domestic wells of southwest Kansas, the Department of Health and Environment offered free testing of domestic wells in northwest Kansas, primarily in Beaver, Sappa, and Prairie Dog Creek subbasins.
   viii. Commissioner Lewis reported that the Almena Irrigation District made operational

changes resulting in an upper and lower system split. The upper portion is still in operation, while the lower portion has been abandoned due to high inefficiency. Due to a recent change in the irrigation district, the lower system users can now pump directly from the creek which should help make their efforts more efficient.

ix. Commissioner Lewis noted that Kansas Bostwick Irrigation District continues to work on automation and conservation activities. This includes replacing or automating three out of six of the main check gates along the main canal, with the last three scheduled for completion by the end of next year.

x. Commissioner Lewis extended a thank you to the Kansas legislators for additional position funding, which should ease staffing concerns within the Division of Water Resources.

xi. Commissioner Lewis reported that Northwest Kansas Groundwater Management has been working on a certified irrigator program, much like Colorado and Texas which have a master irrigator program. The efforts by the district have paused in hopes of establishing a state-wide certified irrigator program.

xii. Commissioner Lewis reported that the South Fork Republican River cost share had 42 applications this year totaling about $235,000 in funds for conservation projects in that basin. There remains a little over a million dollars in that fund, which will continue to be spent on additional conservation efforts.

xiii. Commissioner Lewis introduced Cheyenne County conservation district manager Dani Holzwarth to discuss progress with the Regional Conservation Partnership Program (RCPP).

xiv. Ms. Holzwarth noted that she is the district manager for the conservation office in Saint Francis. As background, she noted that in 2020 she submitted an RCPP proposal to the National NRCS team and it was approved in April of 2021. Then in 2023, applications were accepted from June 1st to June 30th utilizing the NRCS's Act Now program where applications are ranked immediately, deemed eligible or ineligible, and conservation activities started quicker.

xv. Ms. Holzwarth informed the commissioners that there was a total of fifteen applications received. The conservation activities included tree removal on the Republican River and also rangeland conservation practices, with a small number of applications including both activities. Thirteen applications have been approved of the original fifteen, totaling $618,731 to be obligated by the end of the fiscal year. Once the applications are finalized, the conservation work can begin.

xvi. Ms. Holzwarth went on to discuss a collaboration with the Kansas Water Office to utilize some of the Compact settlement funds that were received in 2020 as stack payments to producers in the conservation district. The producers can obtain applications and if approved are going to receive an RCPP payment from NRCS and then twenty percent in additional funding from the compact fund. The program has been well received by producers and will continue operating until funds are depleted. In total, there are $2.76 million which will be used on these types of projects.

b. <u>Colorado:</u>

i. Commissioner Rein began his report by thanking the Town of Burlington for hosting the RRCA Annual Meeting and the Republican River Water Conservation District for the reception the night before.

ii. Commissioner Rein introduced Colorado attendees and noted that Colorado's chair of the Engineering Committee could not attend.
iii. Commissioner Rein gave a brief update on drought conditions throughout the state noting that the current year was better than years past, but drought conditions persist. The spring rains caused significant flows on the South Platte and Arkansas causing an unusually high amount of water to flow into Nebraska at the Julesburg gage at the state line. The flows have since diminished but it was a good start.
iv. Commissioner Rein went on to discuss the Arkansas drainage noting that rains lead to significate flows in the Fountain Creek drainage, which ended up in John Martin Reservoir helping to fill the conservation storage. The additional flow is certainly good news for both Kansas and Colorado.
v. Commissioner Rein informed the group of a staffing change affecting Colorado River affairs. Rebecca Mitchell who was the director of the Colorado Water Conservation board moved into a new position in the Department of Natural Resources that is solely dedicated to the Upper Colorado River Commissioner position. The new Colorado Water Conservation Board director is Lauren Ris.
vi. Commissioner Rein reported that the Division of Water Resources has received approval for several new positions which should aid in the state's business on the Colorado River. Additionally, the general assembly created a Colorado River drought task force. The purpose of this task force is to look at needs related to conservation, compact commitments, and determine what tools are needed and how the legislature can serve those needs.
vii. Commissioner Rein closed his comments on the Colorado River by noting that Colorado and the other three upper basin states are in full compliance with the Colorado River Compact right now and project to be in compliance for years to come.
viii. Commissioner Rein went on to discuss measurement rules and rule-making that are taking place on the West Slope. This will assure that this region has the appropriate measuring devices and that diversions are accounted for as accurately as possible.
ix. Commissioner Rein reported on the work being done in the Rio Grande basin. Earlier this spring, he approved a groundwater management plan amended for the San Luis Valley and their unconfined aquifer towards sustainability. The plan still needs to go through the water court process to be finalized, but they are working hard on sustainability in the Rio Grande Basin.
x. Commissioner Rein went on to discuss the approval by the Arkansas River Compact Administration of a pilot project for a multipurpose account in John Martin Reservoir. The project has been a success and he recognized Kansas and Colorado for good forward-thinking surrounding that project.
xi. Commissioner Rein discussed the retirement of acres going on in the South Fork and pointed out that Senate Bill 28 funding has helped facilitate the $30 million of American Rescue Plan Act (ARPA) funding available to the Republican River Water Conservation District toward the retirement of acres.
xii. Commissioner Rein closed by thanking Mike Sullivan, a long-time deputy state engineer at the Colorado Division of Water Resources, for all his efforts on the Republican River and wished him well in retirement.

c. Nebraska:
   i. Acting Commissioner Bradley opened by thanking his hosts in Burlington and recognizing the efforts of the Nebraska Department of Natural Resources staff that were present for all the work they do in preparing for these meetings. He also recognized field staff in the Cambridge office for their work administering water rights throughout the basin.
   ii. Acting Commissioner Bradley went on to discuss the climate in Nebraska, noting that much of the state was still in some form of drought in 2022. He noted some improvement in the upper part of the Republican River Basin where in May 2023 the area saw the same amount of rainfall in one month as in all of 2022, which highlights variability in the water supply.
   iii. Acting Commissioner Bradley reported that 2022 was a typical year for water administration. 2022 did not require issuance of a Compact Call Year designation, which is important in Nebraska as it triggers different management actions that the state and local Natural Resources Districts in the basin need to carry out.
   iv. Acting Commissioner Bradley noted that 2023 had been projected to be a Water Short Year at the beginning of the year, and a Compact Call Year designation was issued from Nebraska's basin forecast. Fortunately, because of timely rains in May there were significant inflows into Harlan County Lake, and the states were able to avoid Water-Short Year Administration.
   v. Acting Commissioner Bradley reported that the state and Natural Resources Districts have made significant investments in the last decade and a half on irrigated acre retirements and other activities throughout the basin. Due to a steady funding stream since 2007 and additional money from USBR and other partnering agencies, they have been able to invest a significant amount in water efficiency.
   vi. Acting Commissioner Bradley noted that the Frenchman-Cambridge Irrigation District has invested a considerable amount in automation and improving their water delivery efficiency, which helps them retain more water in their reservoirs for better carryover from year to year.
   vii. Acting Commissioner Bradley discussed significant investments with Nebraska Bostwick Irrigation District to enhance water supply efficiency and the district's ability to deliver water to the lower portion of the district.
   viii. Acting Commissioner Bradley reported that more recently there has been emphasis in the Natural Resources Districts on investing in tools that allow producers to be more effective at applying water. This includes telemetry meters and soil moisture probes, which will put the information back in producers' hands to make real-time decisions.
   ix. Acting Commissioner Bradley reported that Upper and Middle Republican Natural Resources Districts will soon complete installation of telemetry meters on wells district-wide.
   x. Acting Commissioner Bradley noted Lower Republican Natural Resources District will be making significant investments in telemetry meters as well. The district is focusing on wells near the stream first, targeting over a thousand wells for installation of telemetry meters with grant monies.
   xi. Acting Commissioner Bradley noted that there will be several thousand wells throughout the basin with telemetry meters. Each district is working to make telemetry data available to the producers through dashboards and other tools that can be coupled

with real-time ET monitoring data to help producers make well-informed decisions.

xii. Acting Commissioner Bradley reported that the funding for these types of investments that started in 2007 has been extended and an additional $7 million a year will continue to go toward these Natural Resources Districts programs.

xiii. Acting Commissioner Bradley discussed the state's significant investment in water supply planning that has resulted in the fifth generation of integrated management plans (IMP) with Upper, Middle, and Lower Republican NRDs.

xiv. Acting Commissioner Bradley reported that Nebraska will be hosting a basin-wide meeting in November where a review will be presented of various activities in the basin, including a more comprehensive five-year technical analysis. The state will also be preparing a forecast of available water supplies for the upcoming year and presenting that information.

xv. Acting Commissioner Bradley went on to report on legislative activities in the state. He started with the Perkins County Canal on the South Platte River, noting that the project continues to move forward. The legislature this past session set aside full funding of $628 million for that project.

xvi. Acting Commissioner Bradley noted that there was a one-time investment of $50 million from the legislature for surface water irrigation infrastructure in 2022. These funds are going towards critical infrastructure repairs in the 60 irrigation districts across the state. To date, the state has obligated out over $25 million to about 25 irrigation districts and the plan is to have the remaining funding fully obligated across the state by the end of the year.

xvii. Acting Commissioner Bradley reported that a number of water projects have been funded through ARPA, which allocates federal dollars to a variety of water projects. The largest allocation of $200 million was for the City of Lincoln to secure a second source of water in addition to the Platte River.

xviii. Acting Commissioner Bradley discussed the collapse of an irrigation delivery tunnel in western Nebraska back in 2019. ARPA provided a little over $23 million for the permanent repair of that structure. There were smaller allocations including one for the City of Norfolk. ARPA provided $2.5 million in funding to further enhance the state's data collection for various water related projects such as stream gaging, groundwater level monitoring, and climate information.

xix. Acting Commissioner Bradley went on to discuss the JEDI initiative which is focused on development of a recreational lake between Omaha and Lincoln. The project is in the early phase and there are two key checkpoints that are yet to be reached. The first is looking at the potential implications on both water quantity and quality that a recreational lake in that area could have on existing municipal supplies for Lincoln and Omaha. The second is investigating if monies could come from a public-private partnership and how much interest there might be to raise the funds. Once those questions are answered, the decision will be made whether to move forward to a full feasibility study.

xx. In closing, Acting Commissioner Bradley updated the RRCA on the Platte-Republican diversion project. The project is going through a contested case process and oral arguments were heard in front of the Nebraska Supreme Court just prior to this meeting. The early issues in this case focused on standing and they hope to have an answer back from the court by the end of the year. The court decision will determine if the state

continues to move forward in a contested case process or through agency action.

xxi. Commissioner Lewis asked Acting Commissioner Bradley about a timeline for the Nebraska Bostwick project and when they expect the project to be completed.

xxii. Acting Commissioner Bradley responded that the district is working with an engineering firm to finalize the design. The district is working to file a few relocation petitions with the state and the district is trying to get the project ready for bid in the fall of 2023. Construction would occur through 2024 and perhaps into 2025, with the project potentially being operational for the 2025 irrigation season.

xxiii. Commissioner Lewis clarified his question by commenting that whether the project was a Compact issue or not, any additional diversions close to the state line are a concern for Kansas water users and that he is hoping to have additional discussions to better understand how the project is progressing and what implications it could have for Kansas water users. Acting Commissioner Bradley noted that the state was happy to continue having discussions with Kansas regarding this issue.

xxiv. An unidentified speaker asked Acting Commissioner Bradley if the water from the Perkins County Canal would be for public use. Acting Commissioner Bradley responded that the Perkins County Canal project would be for irrigation use.

Agenda Item 5: Federal Reports

a. U.S. Bureau of Reclamation:

i. Craig Scott introduced himself as the representative for the U.S. Bureau of Reclamation (USBR) Nebraska-Kansas Area office. He noted that he prepared and electronically submitted a report to be entered into the record (Exhibit D) and went on to provide a brief summary of said report.

ii. Mr. Scott noted that 2022 climate conditions were difficult and led to challenges on USBR projects as well. Precipitation was below average at all dams in the basin. This ranged from 47 percent of average at the Trenton Dam up to about 82 percent of average at the Medicine Creek Dam.

iii. Mr. Scott noted that the precipitation at Trenton was the lowest in recorded facility history since 1956 and as a result there was extremely high irrigation demands on all projects in the basin and little carryover into the 2023 irrigation season.

iv. Mr. Scott moved on to discussing irrigation deliveries for 2022 which ranged from 7 inches per acre in the Nebraska Bostwick and Frenchman-Cambridge Irrigation Districts to 10 inches per acre in the Kansas Bostwick Irrigation District.

v. Mr. Scott reported that Harlan County reservoir storage reached full pool prior to the irrigation season in 2022 and as a result Water-Short Year Administration was not required for 2022.

vi. Mr. Scott discussed the low flows into Hugh Butler and Enders Reservoir noting that they experienced all-time low annual inflows in 2022. Enders Reservoir reached dead pool for the first time since initially filling.

vii. Mr. Scott reported that all project areas except for Harlan County Lake experienced limited irrigation supplies going into 2023. Frenchman-Cambridge irrigation district elected not to deliver water to their four facilities and did not make any irrigation deliveries from Meeker-Driftwood Canal or Red Willow Canal in 2023. Initial projections for 2023 predicted water short conditions in Harlan County Lake but due

to timely inflows in May and June 2023 was the fifth consecutive year in which Water-Short Year Administration was not required.

viii. Commissioner Lewis ask about the status of the study on Bonny Reservoir and the dam. Mr. Scott updated that the USBR is looking into the dam safety concerns and what options are available to mitigate them. The USBR is planning to conduct a value planning study with a team of engineers and dam experts in November 2023. An invitation for stakeholders and RRWCD was expected to be out at the end of October.

b. U.S. Army Corps of Engineers: No report was presented.

c. U.S. Geological Survey:

i. John Miller discussed the U.S. Geological Survey (USGS) report for 2022 (Exhibit E). He thanked the commissioners for the opportunity to present the work done by the USGS in the Republican River Basin over the past year.

ii. Mr. Miller reported that, in 2022, consistent with the extremely low precipitation, and flows were very low throughout the basin.

iii. Mr. Miller provided rankings of the 2022 gaged flows compared to their historical records. He noted that the Arikaree River at the Haigler gage reported the 11th lowest reading in over 90 years of data collection. The North Fork and Republican River at the state line gage was the 16th lowest for the period of record, which was 87 years. The Buffalo Creek near Haigler gage and the Rock Creek gage were at the lowest annual means reported in 82 years of record. The drought conditions have contributed to issues with tumbleweeds in these areas. All affected channels had been cleared.

iv. Mr. Miller reported that Rock Creek had upwards of 15 visits to measure discharge were normally it would have ten or eleven visits, so it has been quite an effort to collect discharge data this year.

v. Mr. Miller highlighted that the Republican River at Benkelman gage again reported the lowest annual mean in 55 years of record; the South Fork Republican River near Benkelman gage had the lowest mean in 85 years of record; the Frenchman Creek at Culbertson gage was second lowest in 72 years; the Driftwood Creek gage was the fourth lowest in 76 years of record; and the Red Willow gage was the lowest in 61 years of record.

vi. Mr. Miller went on to discuss two non-compact sites. The Republican River at McCook and the Frenchman Creek at Palisade reported the lowest flows in 68 and 72 years of record respectively.

vii. Mr. Miller reported that he expects the numbers for 2023 to be much improved.

Agenda Item 6: Committee Reports

a. Engineering Committee: Kari Burgert reviewed the Engineering Committee (EC) report (Exhibit F) on behalf of Chair Ivan Franco who was not present. Ms, Burgert thanked the other members of the Engineering Committee and Dr. Willem Schreüder, of Principia Mathematica, for all their work, as well as, the USGS and USBR for providing the EC with data.

i. Assignments from the 2022 Annual Meeting

- The EC met four times since the last annual meeting and completed the following assignments: (1) hold quarterly meetings, (2) exchange information listed in the

Accounting Procedures and Reporting Requirements, (3) finalize the 2022 accounting, (4) continue work on documenting historical changes to the RRCA Accounting Procedures, (5) provide updates on the progress of new and ongoing management strategies for maintaining Compact compliance, (6) continue development and maintenance of the RRCA administrative website that serves as an informal page for the public and provide regular updates to the Engineering Committee, (7) continue work and provide updates on improving accounting tools developed by the Engineering Committee, (8) prepare the 2022 RRCA annual meeting report, and one additional assignment that came up during the year was to (9) recommend a solution to the NCORPE pumping reporting error from the 2021 accounting.

ii. Committee Items for RRCA Discussion and Action
- Data exchange and modeling results for 2022 incorporating the EC's proposed course of action for correcting 2021 NCORPE pumping. The EC recommends the proposed 2022 accounting presented in Attachment 2 of the EC report and in the spreadsheet titled "RRCA Accounting 2022 Final.xlsx" for approval by the RRCA. Upon approval of the accounting, the above-mentioned spreadsheet file will be placed on the public website.
- Modeling and data tasks to be assigned to Principia Mathematica for 2023. The EC recommends that Principia Mathematica continue to maintain the web-based accounting tool and perform periodic model and accounting updates at the same level of service as in 2022.
- The document summarizing historical changes to the RRCA Accounting Procedures is current and being maintained by the EC. The EC recommends that the document continue to be maintained by the EC as an ongoing assignment.
- Discussion of the recommended EC assignments and other potential assignments for the next year and agreement on a final set of assignments.
- The EC requests discussion on the recommended assignments and agreement on final EC assignments for next year.

iii. Recommended Assignments for Engineering Committee: Committee member Kari Burgert covered the list of recommended assignments and referred commissioners to the EC report for details of the assignments.
- Meet quarterly to review tasks assigned to the committee.
- Exchange the information listed in the Accounting Procedures and Reporting requirements by the deadlines listed.
- Finalize the 2023 accounting and recommend it for approval by the RRCA.
- Maintain and publish updates to the Accounting Procedures tracking document.
- Provide updates on the progress of new and ongoing management strategies for maintaining Compact compliance.
- Continue development and maintenance of the website.
- Continue work and provide future updates on improving accounting tools.
- Prepare the 2023 Annual Meeting Report for approval at the 2024 Annual Meeting.

iv. Discussion of Engineering Committee Report and Assignments
- There were no questions or discussion.

Agenda Item 7: New Business and Assignments to Compact Committees

a. Action on Engineering Committee Report
   i. Commissioner Lewis moved that the EC Report be accepted. Acting Commissioner Bradley seconded the motion.
   ii. The commissioners voted, and the motion passed unanimously.

b. Action on Engineering Committee assignments
   i. Acting Commissioner Bradley moved that the EC's recommended assignments be accepted. Commissioner Lewis seconded the motion.
   ii. The commissioners voted, and the motion passed unanimously.

c. Action on 2022 Accounting
   i. Acting Commissioner Bradley moved that the 2022 accounting results be approved and adopted. Commissioner Lewis seconded the motion.
   ii. The commissioners voted, and the motion passed unanimously.

d. Recognition of Colorado's acquisition of the contracts for retirement of at least 10,000 acres toward the 2016 resolution obligations
   i. Commissioner Rein recognized the Republican River Water Conservation District for their efforts in acquiring retirement contracts in the South Fork Focus Zone pursuant to the 2016 resolution as amended in 2018.
   ii. Commissioner Rein moved that the Administration formally recognize the Republican River Water Conservation District for its efforts to obtain contracts to retire at least 10,000 acres from irrigation in the South Fork Republican River Basin and the Compact commissioners from Kansas, Colorado and Nebraska work together through the Engineering Committee to identify a mutually agreeable verification process with criteria so that, subject to agreement of having met the criteria so that, subject to agreement of having met the criteria, the Compact commissioners can verify that Colorado met its obligation of retiring 10,000 acres on or before the date of the 2024 Compact administration meeting.
   iii. Commissioner Lewis seconded the motion, the commissioners voted, and the motion passed unanimously.

Agenda Item 8: Other Business

a. There was no other business introduced by the commissioners.

Agenda Item 9: Remarks from the Public

a. Mr. Rod Lenz introduced himself as the president of the Republican River Water Conservation District (RRWCD). He also introduced Ms. Deb Daniel who is the general manager of the RRWCD. The two thanked the commissioners for their work and recognized the RRWCD board members and staff in attendance. The two presented several slides to the commissioners, which they described as providing the context for the connection between compact obligations and the families and communities involved. Ms.

Daniel spoke on the successful retirement of 10,000 acres in the South Fork Focus Zone and how that was accomplished. She noted that the district currently had 11,322 acres under retirement contracts. She noted that $12 million had been spent on retirement through Conservation Reserve Enhancement Programs (CREP) and almost $16 million from Environmental Quality Incentives Programs (EQIP). Mr. Lenz discussed the importance of getting water through Bonny Dam in downstream to the Benkelman gage. Mr. Lenz discussed a study being conducted to determine the affects should the RRWCD not meet the 2029 irrigation retirement deadline. This is being performed largely to help bring in more funds to help meet the goal and for funding afterwards. Mr. Lenz went on to discuss the Compact Compliance Pipeline which continues to operate, and new lands/water rights continue to be added for increased future use. The two discussed the importance of the RRWCD working with state representatives to move new bills forward. Ms. Daniel noted the importance of having the farm bill passed to secure dollars towards the district's efforts. Commissioner Lewis thanked the RRWCD for their efforts.

Agenda Item 10: Future Meeting Arrangements

Commissioner Rein noted that this was the last year of Colorado's appointment as Chair and the responsibility would now move to Kansas. Commissioner Lewis reported that Kansas would likely host the 2024 annual meeting in Colby and probably in the Lower Republican in 2025 with more information to come.

Commissioner Lewis took the opportunity to acknowledge the public comments and second the importance of the 2016 resolution and the overall change in attitude towards water in the basin.

Agenda Item 11: Adjournment

The meeting was adjourned at 11:33 a.m. on August 31, 2023.

The August 31, 2023, Annual Meeting report is hereby approved by unanimous vote of the RRCA on this 28th day of August 2024.

As indicated by their signature and date below, the RRCA Commissioners agree that the report was approved by RRCA on the date indicated above.

_____ DATE SIGNED: 8/28/2024
Earl Lewis, Chair and Kansas Commissioner

_____ DATE SIGNED: 8/28/24
Jason T. Ullmann, Colorado Commissioner

_____ DATE SIGNED: 8/28/24
Jesse Bradley, Acting Nebraska Commissioner

Exhibits

Exhibit A:	Transcript of the 2023 Annual Meeting
Exhibit B:	Annual Meeting Attendance with Signature Pages
Exhibit C:	Agenda of the 2023 Annual Meeting
Exhibit D:	Bureau of Reclamation Report 2022
Exhibit E:	U.S. Geological Survey Report 2022
Exhibit F:	Engineering Committee Report 2022
Exhibit H:	Acting Commissioner Email Nebraska

Exhibit A: Transcript

2023 ANNUAL MEETING OF THE

REPUBLICAN RIVER COMPACT ADMINISTRATION

TRANSCRIPT OF PROCEEDINGS
August 31, 2023

The 2023 Annual Meeting began Thursday, August 31, 2023, at Burlington Community Center, 340 South 14th Street, Burlington, Colorado 80807, commencing at the hour of 9:58 a.m. Mountain Time, with attendees appearing in person.

A P P E A R A N C E S

Colorado:	**Kevin G. Rein (Commissioner and Chair)** **Tracy Kosloff** **Daniel Steuer**
Nebraska:	**Jesse Bradley (Acting Commissioner)** **Kari Burgert** **Justin Lavene**
Kansas:	**Earl Lewis (Commissioner)** **Chris Beightel** **Chelsea Erickson** **Stephanie Kramer (Staff Attorney)**
Also Present:	**Kurtis Wiard** **Sam Capps** **Members of the Public** **Representatives from Government Agencies**

P R O C E E D I N G S

MR. REIN: Good morning, everyone. I welcome everyone to the Burlington Community Center. This is the 2023 Annual Meeting of the Republican River Compact Administration. The date is August 31st, 2023, and we'll begin our meeting.

I want to first start with introductions from the three states at the table. So if we could start with Kansas and go down the line.

MR. WIARD: Hi, I'm Kurtis Wiard, Kansas Attorney General's Office.

(Interruption by the court reporter.)

MR. REIN: Let me give a gentle reminder we'll need to speak clearly into the mike and enunciate for our reporter and she can (undecipherable)

MR. WIARD: I apologize. I'm Kurtis Wiard with the Kansas Attorney General's Office.

MR. LEWIS: Good morning. My name's Earl Lewis. I'm the state chief engineer for Kansas and the River Compact commissioner.

MR. BEIGHTEL: I'm Chris Beightel from the Kansas Department of Agriculture and Division of Water Resources and I'm on the Engineering Committee for the Republican River Compact Administration.

MS. KRAMER: I'm Stephanie Kramer. I am chief counsel for the Kansas Department of Agriculture.

MR. STEUER: Dan Steuer with the Colorado Attorney General's Office.

MR. REIN: Kevin Rein, State engineer in Colorado and commissioner to the Compact.

MR. BRADLEY: Jesse Bradley with the Nebraska Department of Natural Resources, sitting for our director Tom Riley as our designated commissioner today.

MS. BURGERT: Kari Burgert, Nebraska Department of Natural Resources and Engineering Committee member.

MR. LAVENE: Justin Lavene with the Nebraska Attorney General's Office.

MR. REIN: Thank you, everyone. The second order of business is the adoption of today's agenda, which I believe is published, and everyone -- the commissioners have a copy of that.

I'd like to ask our commissioners from Kansas and Nebraska, do you have any changes to the agenda?

MR. BRADLEY: I do not have any changes to the agenda.

MR. LEWIS: Yeah, no changes from Kansas.

MR. REIN: No changes from Kansas or Nebraska. I would like to make one amendment to the agenda. This is Item 7(c), and I will just read aloud my amendment.

7(c) currently says action on Colorado's report verifying the retirement of at least 10,000 acres by 2024. My amendment reads. Action: Recognition of Colorado's acquisition of the contracts for retirement of at least 10,000 acres toward the 2016 resolution obligations.

And I'd like to ask Kansas and Nebraska, do you see any concerns with that amendment?

MR. LEWIS: I have no objections.

MR. BRADLEY: No objections from Nebraska.

MR. REIN: Okay. Then we will amend the agenda accordingly.

With that, can I have a motion to adopt the agenda for this, just amended?

MR. BRADLEY: I move we adopt the agenda as amended.

MR. LEWIS: Seconded.

MR. REIN: No further discussion. All in favor on that motion?

MR. LEWIS: Aye.

MR. BRADLEY: Aye.

MR. REIN: Aye. The agenda has been amended.

I want to move on to the status of an annual report for 2021 and possible action by the Republican River Compact Administration.

Kansas and Nebraska, do you have any discussion on that?

MR. LEWIS: Kansas doesn't have any discussion on that.

MR. REIN: I'm sorry?

MR. LEWIS: We do not have any discussion.

MR. BRADLEY: Nebraska doesn't have any discussion on that.

MR. REIN: Could I hear a motion on adopting that?

MR. BRADLEY: Nebraska would move to adopt the 2021 RRCA Annual Report.

MR. LEWIS: Kansas would second that.

MR. REIN: Okay. Move and seconded to adopt that. No further discussion.

All in favor say aye.

MR. BRADLEY: Aye.

MR. LEWIS: Aye.

MR. REIN: Aye. That motion carries.

The next agenda item will be the commissioner's reports. We'll begin with commissioner's report from Kansas.

MR. LEWIS: Thank you, Mr. Chairman. Appreciate the opportunity to be here and want to thank the local district for the reception last night. Always good to be in a position where we can have good conversations, and much more than the stance we used to be in here, and the fighting.

I'll start off with something that's familiar to all of us. Kansas still has a number of areas and counties that remain in drought. Although we have seen a lot of improvement since last year at this time, the western portion of the state has improved dramatically, the central portion still has some areas that have D3 or 4 drought.

On October 6th of last year we had 67 counties that were in emergency status, and we're down, as of August 23, to 55 counties. So, again, not a significant --

MS. KOSLOFF: Would you mind?

MR. LEWIS: Sure.

MS. KOSLOFF: Thank you.

THE COURT REPORTER: If everyone can say their name when they speak, otherwise I don't really

know.

MR. LEWIS: Thank you. Oh, yeah. Earl Lewis.

So again, just kind of wrapping up, we're in better shape on drought than we were, but we still have a ways to go.

And hand-in-hand with that is -- I think we've reported on this in the past, is we have minimum desirable stream flows on a number of streams in Kansas, that water rights issued after 1984 are administered once the stream flow gets below the statutory limit.

In the Lower Republican, Clay Center and Concordia are ones that we have nearly continuous administration when we get into -- into the situation, including 108 groundwater rights and 133 surface water rights. So we've had continual administration this year in the Lower Republican.

We've had a number of sites, really primarily through the central part of the state that have administration of water rights because of the low stream flow this year.

So, again, that's kind of a result of the drought and it's something that we continue to work on.

The legislation this last year was fairly active when it came to water. We have a couple of legislators, Kansas legislators here to recognize, Senators Billinger and Adam Smith, and their work last year on a couple of pieces of water legislation. One was House Bill 2279, which dealt with our groundwater management districts and established some timelines for districts to establish high-priority areas and then have action plans to implement those high-priority areas or address the issues in those areas.

And those areas have to be identified by July 1 of next year and then action plans in place by July 1 of 2026. So we'll see some -- some more activity over the next few years.

Obviously we try and recognize the work that has been done by the groundwater management districts here recently, but it certainly identifies -- puts them on a bit of a timeline for making sure that we are actively addressing groundwater issues in the state of Kansas.

The other significant piece of legislation that passed this year was Senate Substitute for House Bill 2302, which dedicated $35 million in additional funds for water projects in the State of

Kansas each year for the next five years. Dedicated about half of that, 17 million, for infrastructure, and then the other 18 million for statewide funding of other projects.

So, again, we're grateful for the work of the legislature in recognizing how important water is and providing some additional funding for that.

Going back to the groundwater management in the major districts, we've talked in the past about the local enhanced management areas and those, of course, in northwest Kansas, where we knew last year we had an additional LEMA that was established in west central Kansas, there were four counties in GMD1 that had a LEMA that went into place as of January 1 this year. So now we have the groundwater management district in northwest Kansas and groundwater management in west central Kansas that both have -- essentially are covered by local enhanced management areas, and those are programs that reduce the overall usage by a certain amount over a five-year period. So, again, some -- some progress on those as well.

We've -- the purpose, of course, is to try and bring things back into balance as much as we can. There's an annual well measurement program

that the Kansas Geological Survey and the Division of Water Resources do, measuring more than 1400 wells across the state every January, and tracking that at least for about the last 30 years or more in some cases.

And in northwest Kansas, in 2022, we saw an average decline of just over 1.2 feet coming across northwest Kansas. And so, again, not -- not a big surprise when we have less rainfall, we have less recharge, but really the big driver is that means we have more pumping and we see more declines.

We saw declines on average in excess of 2 feet in southwest Kansas, and so we -- you know, while those are numbers we would like to see going the other way, it also recognizes the work that the groundwater management districts in northwest Kansas and the producers there have done to try and bring things back full circle, but as -- as -- even as we're in drought.

Last year I mentioned that Kansas Department of Health & Environment was looking at sampling some domestic wells in northwest Kansas. This came on the backs of some work in southwest Kansas focused on uranium and in -- so they offered free testing of domestic wells in northwest Kansas,

primarily in Beaver and Sappa and Prairie Dog Creek. They had 51 folks take them up on that offer. 28 of those wells had at least one constituent that was above the EPA limit for maximum contaminant level flow, 22 of those wells had at least two constituents above the limit, I think primarily testing for arsenic, nitrates, sulfates and uranium. And so all that information is, of course, provided back to those well owners and now it's their choice as to what they want to do with it.

The Almena Irrigation District in northwest Kansas, there were some changes to their operations and their water rights this year. They're now on the -- they've kind of split their canal system into an upper and lower portion. The upper portion is still in operation, as it has been for a long time, but the lower portion, which was very inefficient, has essentially been abandoned and now we've approved for them to pump directly out of the creek in lieu of the canal system. So the acres are still under the district and authorized and need to be irrigated, but hopefully more efficiently for the folks that live and work there.

Kansas Bostwick Irrigation District in the lower continues to work on automation and

conservation activities and varying models. This year, before the beginning of the '23 growing season they replaced or automated three out of the six of their main check gates along with the main canal, expect the -- they'll get the other three done here before the next year. And, again, this is using some Bureau of Reclamation funds and then funds also from -- from the results of the litigation settlement.

Staffing issues still continue to be an issue for us in Kansas, trying to find folks to -- to work so we can get -- make progress on the backlogs of our applications.

And, again, I want to thank our legislators. We did get additional positions and funding to increase our staffing targeted towards our appropriation and permitting as well as an initial position for interstate work as well. So hopefully we'll be able to get some new folks to work on this.

Northwest Kansas Groundwater Management District has been working on a certified irrigation -- irrigator program, much like Colorado and Texas have a master irrigator program. They paused that this year because there is a proposal

from all five of our groundwater management districts to have a state-wide certified irrigator program so they're still moving forward with that effort, but -- but are not doing it as a single GMD, now they're looking to do it as a consortium of the filing.

Just a couple of things -- couple more things. First, South Fork Republican River cost share. I know we've talked about that, again, from the funding that was provided by Colorado, as part of the 2016 or 2018 agreement, and then this year there were 42 applications totaling about 235,000 acre-feet from the settlement funds, so looking at a little more than a million dollars remaining that will continue to be spent on those conservation efforts.

And I might ask -- there's also RCPP in the South Fork and the Kansas, and I might ask conservation district manager Dani Holzwarth, to your agreement, Mr. Chair, and have her talk about the progress on the RCPP.

MR. REIN: Please do.

MS. HOLZWARTH: My name is Danielle Holzwarth. I'm the district manager for the conservation office in St. Francis.

Just as background, in 2020 I submitted an RCPP proposal to the National NRCS team, and it was approved in April of 2021, and we are just now seeing work being started. And from June 1st to June 30th we accepted applications at our office and we were able to utilize NRCS's Act Now. It's a program where as soon as you apply you are ranked immediately, deemed eligible or ineligible, and got the process started instead of taking years to go through.

In total, there were 15 applications. We had a mix of both tree removal on the Republican River and also range land practices. Just maybe three or four of them actually had both practices in their application. As of today, we have 13 applications approved. One decided to cancel and one was ineligible due to his location and the practice he wanted to cost share on. And of those 13 contracts currently there are $618,731 to be obligated by the end of the fiscal year, and once that occurs signed contracts can go ahead and get started on work.

And I'm also working with the Kansas Water Office to utilize some of the Compact funds that we received in 2020 as stack payments to producers. So

the producers that come in and get the applications and are approved, they are going to receive an RCPP payment from NRCS and then 20 percent additional funds from us from the Compact dollars.

It's created a lot of traffic through our door and a lot of extra work on the NRCS and my side, but it's been well received so far. So I have this for five years, so I -- I can keep pushing it off -- or keep rolling it over each year until all those funds are used up.

So in total, with the $500,000 that the district received from the Kansas Water Office, I was able to use that to leverage to $2.76 million to be used on this work.

MR. LEWIS: Thanks, Dani, and thanks to you and your conservation district board for working with local leadership on getting something in place.

Mr. Chairman, with that, that will conclude my report, unless there are any questions.

MR. REIN: Thank you, Mr. Lewis.

Are there any questions from Nebraska?

MR. BRADLEY: No.

MR. REIN: And I have no questions.

MR. LEWIS: Thank you.

MR. REIN: You'd like us at the podium?

THE COURT REPORTER: Yes, please.

MR. REIN: Thank you, fellow commissioners. This is Colorado's report.

I'd like to start with, just once again, a reminder, please sign the sign-in sheet before you go today if you haven't signed.

And I want to start also, then, by thanking the Town of Burlington for hosting us here today and the Burlington Community Center for the -- this nice facility. It's so nice to have the room and the ability to have this meeting accommodated in such a good way.

And then I want to thank the Republican River Water Conservation District for our reception last night. It's always nice, but it's good for us from the different states and the people that are at the reception to get together and talk ahead of time, so thank you very much for that.

I want to introduce Colorado's attendees. You did hear Dan Steuer from the Colorado Attorney General's office is here with me today. Ivan Franco, our chair of the Engineering Committee could not make it today, but did a lot of work in preparation for this. Also have Tracy Kosloff, the deputy director and deputy state engineer at the

division of water resources is here today, and then we have several board members of the Republican River Water Conservation District, their counsel, and Colorado residents here today, and I want to thank them all for being here.

Just to go around the state in Colorado quickly for an update, climate is always of interest to the people in Kansas, Nebraska, and certainly our downstream states on the West Slope, and it was an interesting year because we were recovering from a very difficult year the year before. And right now we are still in a little bit of a drought in the southwest corner of the state, it's either severe or moderate or abnormally dry, but that's in the southwest corner of the state.

We look at the rest of the state by the drought monitor, and it's white, and -- and instead of those brown, orange, dark red colors that we've been so accustomed to. That is good news for us this year, but there's always next year. The West slope snowpack was high. We had record-breaking snowpack in a couple of areas. I believe in our Uncompahgre on the extreme western end of the state we had 240 percent of average, which was a brand-new record.

The East Slope was below average but not as bad as years past, and the spring rains did a lot to help. That allowed many -- most, maybe all of our reservoirs to recover to a certain degree or completely, and it's important to note that those rains caused significant flows on the South Platte and the Arkansas, and what that did was take the Compact call off the South Platte that had occurred early in the spring, and the rains took that call off, and there was just an unusually high amount of water that was flowing into Nebraska at the Julesburg gage at the state line, which was different from past years, and I believe that that finally ran out for us, and those flows have diminished, but it was a good start.

Similarly, on the Arkansas, due -- great rains in the Fountain Creek watershed, a lot of water ended up in John Martin Reservoir, went into conservation storage, and that was helpful to both Kansas and to Colorado.

And notably, we do have reservoirs in the state that are there for insurance, there for backup, future needs, drought needs. On the other hand, reservoirs like John Martin, that conservation pool, that's a working reservoir that's intended to

be used, so that conservation storage is being used by Kansas and Colorado, as it should.

A few more notes going around the state. On the Colorado River, I want to point out a couple of things for those of you that have had interest in Colorado River issues.

We made a change organizationally within the State at the Department of Natural Resources. Our Upper Colorado River Commissioner, Rebecca Mitchell, who is also the director of the Colorado Water Conservation Board, moved into a new position in the Department of Natural Resources that is solely dedicated to the Upper Colorado River commissioner position.

She moved into that position and just recently, this last week, the new Colorado Water Conservation Board director was appointed, and that is Lauren Ris. She was formerly the deputy director of the CWCD. She has moved into that position.

One other item of note for the Colorado River, in this past legislative session we got approval for several new positions at the Division of Water Resources on the West Slope of Colorado to facilitate many of our activities related to developments on the Colorado River, Compact-related,

negotiations-related were made, and those positions are on the ground water administration, on the ground water management, and we do have a position or two in our Denver office that will help us with GIS work on the West Slope and other coordination work. So we're very happy to have gotten some new positions related to the Colorado River issues and developments.

I'll mention one other interesting aspect of the Colorado River. Our general assembly created a Colorado River drought task force by law in this past session, and that task force is composed of several members of the water community, whether they be representing municipal interests, agricultural interests, recreational and environmental interests. I'm on the task force as a non-voting advisory member, and our conservation districts on the West Slope, our conservancy districts also have members.

The purpose of this task force is to look at needs related to conservation, Compact commitments, and determine what tools are needed, whether the tools are needed, and what those tools are and what legislation can serve those needs. And, again, that is just an indicator of the high level of importance Colorado in general and the

general assembly in particular is giving to Colorado River issues. And I think the most that -- or the rest of that you all, after reading the papers, you're -- you're aware of what's going on with the Colorado River.

I'll end all that by saying, however, that Colorado and the other three upper basin states are in full compliance with the Colorado River Compact right now, and by my projection we will be for years to come.

Jumping now to the Colorado and updating you all on one other thing we're doing on the West Slope is measurement rules and rule-making. While we have numerous diversions and by and large they have good headgates and good measuring devices, we find that we need to make sure that all of those measuring devices are doing their job well due to the importance of data and the general need to measurement our appropriations and diversions of Colorado water rights.

We are working with the southwest corner of the state to further that rule-making process and we hope to complete that throughout the West Slope in the coming few years.

In the Rio Grande there are a lot of

things to talk about. We've talked about them in the past. Many people in the Republican Basin are aware of the work that the Rio Grande Basin does toward sustainability in managing their well pumping. And I'll just for now update you all that earlier this spring or summer -- earlier this spring I approved a groundwater management plan amendment for the San Luis Valley and their unconfined aquifer towards sustainability. That plan does need to go to water court and go through an adjudicatory process to be finalized, but they are working hard on their sustainability in the Rio Grande Basin.

And I'll point out that last year our Arkansas River Compact Administration approved a pilot project for a multipurpose count in John Martin Reservoir, and I updated the Compact commission here about that last year, and I just want to point out what a success it is that that operated well last year, it's operating again this year with new sources, and I want to thank Kansas -- recognize Kansas and Colorado for a good forward-thinking and forward-moving action to better use our Compact infrastructure, so thank you for that.

Republican River I will update. The Compact mentioned it a little bit on retirement of

acres in the South Fork, but I just want to point out, once again, the Senate Bill 28 funding that has helped facilitate that $30 million of ARPA funding available to the -- to the Republican River Water Conservation District toward the retirement of acres.

And with that, I just have one more statement to make, and this is part of my report, and it's going into the record, but I would also just like to call it a statement I'd like to enter into the record, and this is about Mike Sullivan, the deputy director and deputy state engineer for Colorado. I think pretty much everybody in this room knows who Mike Sullivan is, and he retired in February 2023, several months ago. He's still out there and about in the water world, but he's not with us today, and I would just like to make this statement.

Mike Sullivan was the deputy director and deputy state engineer at the Colorado Division of Water Resources for 15 years. During that time he worked closely with the state engineer on Republican River issues and often took the lead in efforts to further the resolution to many difficult issues related to the Final Settlement Stipulation and

Compact components. His depth and breadth of knowledge of the Republican River Basin was critical to moving many issues forward. I personally thank him for his work. It has helped me, the state of Colorado and the states of Kansas and Nebraska to successfully move ahead to work together on the management of this Republican River resource that is important to all three states.

And that is my report. I'll take any questions.

(No response.)

MR. LEWIS: Thank you, Mr. Chairman. Kansas doesn't have any questions, but I'd like to echo your comments on Mike Sullivan and his work over the years on this Compact.

MR. BRADLEY: Likewise for Nebraska.

MR. REIN: Okay. Thank you. And Commissioner Bradley, I'll turn it over to you.

MR. BRADLEY: Good morning. My name is Jesse Bradley. I'm with the State of Nebraska Department of Natural Resources.

I also want to thank you, Kevin, for hosting this year here in Burlington, and thank Deb and her board for hosting the reception last night. It was fantastic, especially the little bacon-

wrapped pastries you had there. It was really good, so ...

Also wanted to recognize the team from the Department of Natural Resources. I have Sam Capps here with me, and Kari Burgert already introduced herself as our Engineering Committee rep. There's a lot of work that goes into preparing for these types of meetings, and I appreciate all their efforts to pull those materials together and do all the accounting and everything that goes into making this work.

Also, we want to recognize our field office in Cambridge and Shane Stanton and that group. They do a lot of work throughout the year to do the water administration activities and administration of water rights throughout the basin. Appreciate their assistance.

Like the prior commissioners before me, I'll touch on climate in Nebraska. Looking at -- kind of back at 2022, much of the state of Nebraska was in some form of drought. We have begun to see some improvement in parts of the state. Still not quite there. I think we got -- about 30 percent the state is now out of some form of drought. We still have a significant portion, you know, in one of

those categories, and actually still have some extreme drought areas, really bordering on the eastern part of the state, which is a little more unique for us, where we typically would have greater rates of rainfall.

We did see some improvement, like I said, particularly in the upper part of the Republican River Basin. I thought it was an interesting little stat to share, where in 2022 there were parts of the Upper Republican Basin in Nebraska that saw record low rainfall, and just this May, in 2023, had the same amount of rainfall in the month of May as they had for the entire year of 2022.

So that just kind of points to those variability -- water supply variability challenges I think each state pays a lot of attention to and has to deal with.

In terms of water administration for the state of Nebraska, it was a pretty typical year in 2022 as we look at the -- at that year with, you know, typically we start to issue closing notices in the -- in the mid-June time frame and we'll be opening people back up in September, but it was a fairly typical year in 2022 as we look back at that.

We did -- we did -- in 2022 we didn't have

to issue a Compact Call Year designation. That designation is important in the state of Nebraska. It's based on the forecast we conduct each year and sets off a set of triggers and different management actions that the state and our local natural resources district partners in the basin have to carry out, and it's triggered really on when the irrigation supplies in Harlan County Lake are below a certain threshold of supply for both Kansas Bostwick and Nebraska Bostwick Irrigation Districts.

We were faced with a projection of a water short year here in 2023 at the beginning of the year, so we did issue a Compact Call Year this year. Fortunately, because of those rains we saw in May we saw some pretty significant inflows into Harlan County at the right time, and that really helped get those irrigation supplies to where we want to see them and then maintain it above that threshold. So we were able to get out of the water short year administration, which puts us into a more strict accounting averaging, and it also helps Colorado with some of their averaging, too, but that was fortunate.

We do still have a little bit of activity and work under our Compact Call, and we'll be

working on that with the State of Kansas over the next month.

I think just transitioning to some of the activities that are going on in the basin, the projects, you know, the State and NRDs have made significant investments over the last decade and a half on retirements and other activities throughout the basin. We've been fortunate to have a steady funding stream since -- I think 2007 is when that was established, and that's been very valuable to use in partnership with the NRDs and some monies that may be available through the Bureau of Reclamation and other partnering agencies, and we've been able to invest quite a bit in water efficiency.

For our irrigation districts we have the Frenchman-Cambridge Irrigation District has invested a significant amount in automation and improving their delivery efficiency, which helps them retain more water in their reservoirs, better carryover year to year, and kind of helps them through some of the drier periods.

We're also -- we have made investments with the Nebraska Bostwick Irrigation District, and we're making another significant investment there, looking at trying to enhance their water supply

efficiency and ability to deliver water to the lower portion of their district, and that project's moving forward.

More recently, there's been a lot of emphasis in the natural resources districts on investing in tools that allow producers to be more effective at applying water. So some of those tools that they've been really investing in are telemetry meters and soil moisture probes and putting that information back in the producer's hands so they can make real-time decisions and be more effective with the limited water we have to be able to make sure we get that applied at the right time.

So if you look at our Upper Republican Natural Resource District, they've -- they've implemented -- they'll have implemented district-wide telemetry on all of their wells here as they wrap up this next phase of funding and grants that they've been working through.

Middle Republican NRD will be in a similar situation here in the near future with the work they've been doing where all of their meters will be under telemetry.

And then the Lower Republican Natural Resources District will be beginning to make a

pretty significant investment as well. They're focusing on wells near the stream first and they're targeting a little over a thousand wells here under a grant. So they will have several thousand wells throughout the basin that will all be under some form of telemetry.

And we want to -- each of those districts is working to make that information available back to the producer through dashboards and other tools that they can couple with real-time ET monitorings so that these producers can make well-informed decisions throughout the year.

We were also fortunate this last legislative session. I mentioned that funding that initiated in 2007 that helps us make some of these investments. That funding was extended, so we were able to secure an additional $7 million a year appropriation. We again used that money in partnership with NRDs, we leveraged it against federal grant opportunities, so we try to really make those dollars go as far as we can, but those are really critical in both the -- the Republican River Basin but also throughout our fully- and over-appropriated areas of the state.

We've also -- Nebraska's also invested a

lot in our planning for water supplies since 2004, and significant legislation had occurred at that point. We've implemented integrated management plans, basin-wide plans, we're doing drought planning. I believe we're in our fifth generation of integrated management plans. So a lot of investment in engaging stakeholders, our natural resources district partners, irrigation districts, the federal agencies to try to get as good of outcomes as we can, and -- and watershed is often water supply limited.

We will be hosting -- here in November of this year we'll be hosting a basin-wide meeting. That's something we now typically do, where we'll go through and report out on various implementation activities. This one's a little more of a milestone. It's a five-year review of things that we've been doing under that basin-wide plan, so that will be a little more comprehensive this year.

We also will be doing our forecast of available water supplies for the upcoming year and presenting that information. So we'll have information available on our website for folks that are interested in attending any of these meetings.

Kind of turning my attention to other

areas of the state away from the Republican, we were -- Director Riley last year gave an update on a number of water initiatives that came out of the '22 session, and those were really only further enhanced with the '23 session this past year.

So we -- kind of the primary one we, of course, are working on is the Perkins County Canal, which is related to the South Platte River, and some Compact provisions that allow Nebraska to build and divert a canal -- divert water out of the Colorado through a canal into Nebraska, which in essence allows us to secure our non-irrigation water supplies and store those throughout the year.

So that project is continuing to move forward. The legislature this past session set aside full funding, $628 million, for that project. We're aggressively moving forward on design work and moving forward on that project as quickly as we can.

There was also an investment made in surface water irrigation infrastructure. There was a $50 million one-time investment by the legislature in 2022. We have about 60 irrigation districts across the state of Nebraska, and we've been using that funding to get those out for critical infrastructure repairs in each of those irrigation

districts.

You know, like most western states we have a lot of irrigation infrastructure that's over 100 years old, and really a lot of need for repair. We've been able to obligate out over 25 million already from that fund in less than a year to about 25 districts, and hopefully here by the end of this year we'll have the remaining funding fully obligated across the state.

We also had a number of projects that were funded through what we refer to as ARPA, that's the American Rescue Plan Act, in which states got a federal allocation of dollars, and in our state we had a number of water projects that were beneficiaries of some of that funding. Probably the biggest one we had was the City of Lincoln, which is working to secure a second source of water beyond just what they have currently, the Platte River, as their source, and they allocated almost $200 million to move that effort forward.

There were also investments in -- there was a significant collapse of a tunnel, an irrigation delivery tunnel in western Nebraska back in 2019. They provided 23 -- a little over $23 million for the permanent repair of that

structure, and then there was some smaller allocations going to the City of Norfolk and one to our agency to improve data collection. We got about a $2-1/2 million investment to further enhance our data collection, things like stream gaging, ground level water monitoring, climate information.

The last one I'll touch on is a project that is a project that is referred to as the Jedi initiative. It was -- it came out of the Star Wars Committee, so you can see where this is going.

But anyhow, that project is aimed at looking at development of a recreational lake between Omaha and Lincoln. We're in the early phases of that project, and there was really sort of two key checkpoints we have to identify and work through before we move into a true feasibility study, and we're implementing those two checkpoints now.

The first of those is, as I said, Lincoln has a current source of water in that Platte River Basin, kind of the watershed where this potential lake could exist, and Omaha also has a significant wellfield in that area, so we need to go through and look at any potential implications on both water quantity and quality that a recreational lake in

that area could have on those municipal supplies. So we're working on that currently.

The other part we're working on is the goal of construction in this is that it would be through a public-private partnership, where each dollar that's invested of public money from the State would be matched by a dollar from the private community and philanthropic community.

So we're looking at the interest from the private community and the philanthropic community on making those investments, you know, and kind of how much money could be raised based on the type of amenities this lake could have.

Once we get through kind of answering those first two questions, which we hope to have in place by early next summer, then we decide whether or not to continue to move forward and look at the full feasibility of constructing such a -- such a lake.

The last thing that I conclude with is just an update on our Platte-Republican diversion project. This is a project where there's a group looking to take water from the Platte River watershed, and move it into the Republican River Basin. It's gone through what we call a contested

case process and oral arguments were heard in front of the Nebraska Supreme Court just earlier this week. The early issues on this case focus on standing, so, you know, those issues were argued in front of a court.

We would hope to have an answer from the Court by the end of this year, and that will really then just set the course for whether or not we continue the contested case process where there's multiple parties, or whether we just move forward through our agency, evaluate the merits of the application with the applicant. So we'll get the answer to that question hopefully by the end of the year and then that process will continue to move forward.

With that, I'll conclude and see if there's any questions by either of the commissioners.

MR. LEWIS: Just one question, and maybe a comment on the Nebraska Bostwick project. Can you remind me of when that project, and what's the status of when it's going to be operational? Just get a timeline?

MR. BRADLEY: Yeah. So the plan right now is that the district is working with an engineering

firm to finalize the design. They have to file a few relocation petitions with our agency. I believe they're trying to get that ready for bid this fall. Construction, I think, would occur through '24, maybe into early '25, and potentially being operational by the '25 irrigation season. Certainly wouldn't see it happening any sooner than that time frame.

MR. LEWIS: Thank you. The comment really was just that while we're not sure whether it's a Compact issue or not, any additional diversion that's close to the state line, because a number of our water users that pump water from the Republican River itself, a lot of concerns, so we'll want to continue to have discussions to make sure we understand what -- how that progresses and what implications there might be for our users. So appreciate the effort.

MR. BRADLEY: Yeah. And, you know, we've been talking and we'll continue to talk with you and Chris as you guys have questions related to the project.

UNIDENTIFIED SPEAKER: Could you do a little clarification on what the water usage was going to be for is it --

MR. REIN: Pardon me. I'm sorry for interrupting. But if you have public comment, there will be an opportunity toward the end.

UNIDENTIFIED SPEAKER: I just wanted clarification on the water use, but okay.

MR. BRADLEY: Were there any other questions?

MR. REIN: If there was something that we needed to clarify, but --

MR. BRADLEY: Yeah, and I'm happy to clarify it, if you want to go ahead. I didn't hear your question. I'm sorry.

UNIDENTIFIED SPEAKER: I was just wanting to -- the water usage that you're going to build on this canal from Colorado to Nebraska, would it be for public use?

MR. BRADLEY: I think so. The -- there's two different projects I was describing. There was the Perkins County Canal project. That project would be for irrigation. That's the purpose of that project. The other project I was describing is the recreational lake project. That's -- that would be done through a public-private partnership.

UNIDENTIFIED SPEAKER: Okay.

UNIDENTIFIED SPEAKER: Can we get your

name for the record?

MR. BRADLEY: They want your name.

UNIDENTIFIED SPEAKER: (Undecipherable)

(Interruption by the court reporter.)

UNIDENTIFIED SPEAKER: He'll give it to us.

MR. BRADLEY: Any other questions?

MR. REIN: I have no questions.

Thank you, Mr. Bradley. I apologize to the audience. We need to -- (undecipherable) under the Compact we need (undecipherable) and allow the commissioners to interact in their capacity and then have public comment at the end, but I appreciate your desire for clarification.

And with that, I'm going to move on to federal reports with the U.S. Bureau of Reclamation.

MR. SCOTT: Okay. Good morning and thank you for having us, Commissioners. My name is Craig Scott and I represent the Nebraska-Kansas Area Office located in McCook, Nebraska.

So as in previous years, Reclamation has put a report together for the record. That covers all of our 2022 reservoir operations data as well as data through July 31st of 2023. And I did provide some extra copies, if anybody wants one, on the

table over here to the left.

I will highlight just a few things here real briefly that's covered in the report. And I'll just start with precip. As the commissioners have all mentioned previously, last year's climate was a little difficult and challenging on Reclamation's projects as well. Precip at our facilities was below average at all of our dams in the basin, averaging approximately 47 percent at Trenton Dam and ranging to about 82 percent at Medicine Creek Dam.

The precip at Trenton, the annual precip that we recorded 9.56 inches, which was the lowest precip that we recorded at that facility since 1956, and was actually the second lowest on record, so as a result of that, there were extremely high irrigation demands on all of our projects in the basin, and that resulted in a lot of high storage use as well, leaving very little carryover into the 2023 irrigation season.

Moving on to irrigation deliveries for 2022, those range from about 7 inches per acre in the Nebraska Bostwick and Frenchman-Cambridge Irrigation District, both located in Nebraska, and we delivered approximately 10 inches per acre in the

Kansas Bostwick Irrigation District.

Harlan County irrigation storage -- or Harlan County reservoir storage reached full pool prior to the irrigation season in 2022, and the irrigation supplies in review of final calculations for water short year administration at the end of June was 130,000 acre-feet, so as a result of that, the water short year administration was not required in 2022.

A couple of other items to note, we still experience extremely low base flows and inflows into Red Willow -- or Hugh Butler and Enders Reservoirs. Both of those facilities experienced all-time low annual inflows in 2022, and then we still see declines in this reservoir elevation at Enders from evaporation.

Last year through the summer and fall months, the elevation in Enders Reservoir continued to decline and actually reached dead pool for the first time since initial filling -- initial filling. So we have rebounded there and in 2023, but we still overall experienced some declining inflows at those facilities.

Moving on to 2023, all of our storage capacities are summarized in Table 2 of that report,

so I won't go into those individually.

I will mention that all project areas, with the exception of Harlan County experienced limited irrigation supplies going into 2023. Frenchman-Cambridge elected not to deliver water to their four facilities this year. They did not make any irrigation diversions from Meeker-Driftwood Canal or Red Willow Canal.

Then lastly, Jesse did cover this, but I will mention irrigation supplies from Harlan County Lake in 2023. We did project irrigation supplies to be less than 119,000-acre-feet when our initial irrigation projections was made in January; however, we did receive some pretty timely and beneficial inflows during the months of May and June, and at the end of June of 2023 the irrigation supply did reach 119,000-acre-feet. So 2023 was actually the fifth consecutive year in which water short administration was not required, so that was actually some good news.

So with that, unless there's any questions, I'll complete my report.

MR. REIN: Thank you. Thank you, Craig. Any questions from our commissioners?

MR. LEWIS: Mr. Chair, you might have

mentioned it, but can you talk a little bit more about the study on Bonny Reservoir and the dam and where that's at?

MR. SCOTT: Sure. So as we've updated the states previously, there are some dam safety concerns with cracking in that embankment, since the reservoir's been dry since really the fall of 2011. Reclamation is in the initial stages of looking at those concerns and looking at what the options will be to mitigate those.

So the plan right now is to get a group of our -- essentially our engineering and dam experts together in a value planning study, which is scheduled for November of this year. So we're waiting on that study or that analysis to be complete before we move forward with any recommended measures there.

And we do plan to invite stakeholders. If any of the dam safety folks from each of your states would like a say in that, we will put that invitation out probably at the end of October, and then we also would likely make an invitation to the RRWCD if they would like to participate in it.

So that's really all we have right now. We're kind of waiting for the outcome of that study

to give us some recommendations before we move forward on that.

MR. REIN: Thank you, Mr. Scott. Anything else from Kansas?

(No response.)

MR. REIN: Nebraska?

MR. BRADLEY: No questions.

MR. REIN: Thank you. The next federal report will be from the U.S. Army Corps of Engineers. I don't see -- I don't think we have someone from the Corps. Okay.

Then we'll move ahead to Item 5(c), federal reports. U.S. Geological Survey.

MR. MILLER: Good morning, everyone. I'm John Miller reporting for the U.S. Geological Survey in the Nebraska Water Science Center.

I'd like to thank the commissioners for this opportunity to present the work that the USGS continues to do in the Republican River Basin.

Consistent with the numbers that Craig reported with the extreme low precip numbers in the water year 2022, the numbers that we're seeing from our gage stations are obviously going to be extremely low.

I'm probably going to point out a little

bit more than I normally do just because of some of the amazing records that we've seen at the gaging stations in the Republican River Basin. All of these numbers are on that sheet that I passed out. I'll skip some things, but all of this is there. And generate some questions if -- if needed.

Starting from upstream to downstream in order, the Arikaree River at Haigler gage. So the level of lowest for the period of record -- and this is one of the things that's fascinating to me. We're approaching on some of these gaging stations near -- we've got a little bit to go, but approaching the century mark, nearly 100 years of record on some of these records, upwards of 90 years. I think it's the most right now that -- the Arikaree River, we've been collecting data 90 years and this was the 11th lowest year. At the annual mean it was 1.5 CFS, and the long-term mean, which is over that 90 years, is 14.9.

The North Fork and Republican River at the state line gage was the 16th lowest for the period of record, which was 87 years. It's been a number of years ago, this is kind of getting into the weeds a little bit, but we -- we kind of temporarily abandoned the stilling well that was there, some of

you that are familiar with that gage, and actually installed a radar gage there, and that's proven to be really, really beneficial to improve the data collection there substantially at that state line gage.

The Buffalo Creek near Haigler gage was the lowest annual mean reported in 82 years of record. The Rock Creek gage, also the lowest reported annual mean in 82 years of record. You can see these -- these numbers on that sheet that I passed you out.

As on that Rock Creek, many of you know that during drought years tumbleweeds thrive, they do really well, and we -- we had a tremendous battle with weed problems in a number of these gages this past spring on into early summer. Actually, we -- in some of the gages, Rock Creek specifically, hired backhoes and other things to come in and clean them out, but we finally do have a clear channel into all of our sites down here.

Rock Creek and a couple of the other gages, we have upwards of -- of 14, 15 visits already this year just to do the best we can do to complete discharge. Most years we visit those sites just 10, 11 throughout the entire year, so it's been

quite an effort to collect discharge data at some of these sites this last year.

The Republican River at Benkelman gage again reported the lowest annual mean in 55 years of record.

The South Fork near the Republican River gage, another record was set. The lowest mean in 55 years of record. Actually, that's 85 years. Excuse me. 85 years of record at that South Fork and Benkelman gage.

The Frenchman Creek/Culbertson was near an all-time low. It was just second lowest in 72 years of record. Driftwood Creek, fourth lowest in 76 years of record, and Red Willow was the lowest in 61 years of record.

And then a couple of non-compact sites that I'll mention. The Republican River at McCook and the Frenchman Creek at Palisade, that is operated by the Nebraska Department of Resources, also reported the lowest in 68 and 72 years of record respectively there.

And just a little forecast on 2023's numbers, they're going to be much, much improved. I don't know how many of you go to the USGS site often and look at the southwest corner of Nebraska and

it's coded brown, yellow and orange, which is indicative of drought, extremely low flows, this year those colors have been greens and blues, which has been good to see.

So with that, any questions I can answer at this time?

UNIDENTIFIED SPEAKER: Can I ask a question? Where is the Kansas-Colorado gage stream flow at on this map?

MR. MILLER: Kansas --

UNIDENTIFIED SPEAKER: Is Kansas-Colorado on the Republican -- South Fork of the Republican?

MR. MILLER: Yeah, I'm just reporting on what is operated out at the Nebraska Water Center.

UNIDENTIFIED SPEAKER: Okay.

MR. REIN: Thank you for that report. Any questions from the commissioners?

MR. BRADLEY: No questions from Nebraska.

MR. REIN: Thank you for your report.

Move on to Item 6, committee reports, and a committee report from the Engineering Committee.

Ms. Burgert, can I ask you to give that report?

MS. BURGERT: Hi. I'm Kari Burgert, happy to provide a report on behalf of our chair Ivan

Franco. And thank you to Chris Beightel, fellow Engineering Committee member, and two people that did the most work for the Engineering Committee this past year, Ivan and Dr. Willem Schreuder, our consultant, who were not able to make it.

And I was looking at last year's Engineering Committee report all morning, but I think I found the right pages and I've got them up here with me, so I'll report on the assignments from last year's Annual Meeting, our recommendations to the committee -- or to the commissioners, and our recommended assignments for this next year.

So what we have completed over the past year, we held four quarterly meetings, exchanged information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, including all data and documentation; we finalized the 2022 accounting; we continue to work on documenting historical changes to the RRCA Accounting Procedures; we provided updates on the progress of new and ongoing management strategies for maintaining Compact compliance; we continued development and maintenance of the RRCA administrative website that serves as an informational page for the public and provided

regular updates at our committee meetings; we continued work and provided updates on approving accounting tools; and we worked to prepare the 2022 RRCA Annual Meeting Report that got approved earlier. And those were our assignments from the last annual meeting, and we've had one additional assignment, which was to work on a solution regarding the NCORPE pumping reporting error from the 2021 accounting. And all of our detailed progress on those items are provided in our annual report.

So items for RRCA discussion are, one, the data exchange and modeling results for 2022 incorporating the Engineering Committee's proposed course of action for dealing with the correction of the 2021 NCORPE pumping data, and the Engineering Committee recommends the proposed 2021 accounting presented in Attachment 2 of our report, and in a spreadsheet titled RRCA Accounting 2022 Final for approval by the RRCA, and upon approval of that accounting the spreadsheet will be placed on the public website.

No. 2 for discussion are the modeling and data tasks to be assigned to Principia Mathematica for 2023. We recommend the Principia Mathematica

continue to maintain the web-based accounting tool and perform periodic model and accounting updates at the same level of service as this past year.

The document summarizing historical changes to the RRCA Accounting Procedures is current and is being maintained by the Engineering Committee. We recommend that that document continue to be maintained by the Engineering Committee as an ongoing assignment.

And lastly, discussion of the recommended Engineering Committee assignments and potential other assignments for this next year and agreement upon a final set of assignments.

And I'll present our recommended list of assignments. Okay. So those are, one, to meet quarterly; two, to exchange data listed in Section 5 of the Accounting Procedures, and by July 15th of each year to provide any final data; three, finalize the 2023 accounting recommended for approval by the RRCA; four, maintain and publish updates to the Accounting Procedures tracking document; five, provide updates on the progress of new and ongoing management strategies for maintaining Compact compliance; six, continue development and maintenance of the RRCA administrative website;

seven, continue work and provide future updates on improving accounting tools and development -- developed by the Engineering Committee; and, eight, prepare the 2023 Annual Meeting Report for approval at the next annual meeting.

That concludes what I have to report on for the Engineering Committee report. Is there any discussion on that report or the assignments?

MR. LEWIS: No discussion. Just want to express my appreciation to the engineering staff that are working on this and the good work to get us to this point.

MS. BURGERT: And I'd like to thank the USGS and Bureau of Reclamation for all of the data you provided to us.

MR. REIN: Thank you, Ms. Burgert. Anything else from the commissioners?

I want to repeat and affirm what Mr. Lewis said, is the Engineering Committee seems to be the backbone of everything we look at in this meeting, so I certainly appreciate the work that you do and appreciate you stepping up for Mr. Franco at the last minute today.

MS. BURGERT: No problem. Thank you.

MR. REIN: Okay. The next item on the

agenda is just somewhat of a continuation of that new business and assignment to Compact committees.

Item 7(a) action on Engineering Committee report and assignments. And I believe that -- I believe -- I'm sorry, is that okay?

THE COURT REPORTER: I can hear you fine now. Thanks.

MR. REIN: I believe that we would have two actions to decide today, and that is to accept as the Compact commission the report from the Engineering Committee and, further, to accept the assignments and recommendations going forward. Is there any discussion on that?

MR. LEWIS: No discussion, and I would move that we accept the engineering report as presented.

MR. BRADLEY: Nebraska would second.

MR. REIN: Can I ask for clarification, Mr. Lewis? In your motion in accepting the report, that includes accepting the recommended actions for the upcoming year?

MR. LEWIS: I think it was splitting the report versus the assignments as two separate actions.

MR. REIN: Thank you. So the motion is

just to accept the report and it was seconded. No further discussion. All in favor say aye.

MR. LEWIS: Aye.

MR. BRADLEY: Aye.

MR. REIN: Aye.

Thank you. Then let's move on to the second action I mentioned. That would be to adopt the recommended actions for the upcoming year by motion.

MR. BRADLEY: I'd move to adopt those recommended assignments from the Engineering Committee.

THE COURT REPORTER: Repeat that.

MR. LEWIS: I'd second that.

MR. REIN: That motion was made and seconded. I will just note that related to the Engineering Committee and assignments, I would ask for additional assignments, but I will do that under Item 7(c) as a separate action item.

All in favor of the motion.

MR. BRADLEY: Aye.

MR. LEWIS: Aye.

MR. REIN: Aye.

That motion passes.

Next we'll move to Item 7(b), action on

2022 accounting. If there's any discussion on that, I'll entertain it, otherwise there can be a motion.

MR. BRADLEY: I'd move to adopt the 2022 accounting as presented by the Engineering Committee.

MR. LEWIS: Kansas will second that motion.

MR. REIN: No further discussion. All in favor say aye.

MR. LEWIS: Aye.

MR. BRADLEY: Aye.

MR. REIN: Aye.

Thank you. That motion carries.

Item 7(c) as amended by me earlier in the meeting.

I would like to just make a comment to start out with what we know is the 2016 resolution and the reason behind that resolution and the difficult task that it has put on our Colorado water users and the Republican River Water Conservation District, and I have a letter that I'm prepared to enter into the record, and I will provide copies to the other Compact commissioners and I will provide a copy to the court reporter, but I would like to take a couple minutes if I could read into the record a

couple of provisions of that, and I will make the motion following that.

This is a letter to the Republican River Compact Administration, including my fellow commissioners, from me, and the subject is Colorado's partial completion of Item C.1 of the 2016 resolution, as amended, between Kansas, Nebraska, and Colorado, retirement of irrigated land in the South Fork of the Republican River Basin.

This letter does give some background on what the resolution and the amended resolution requires, and then the part that I would like to read, if you could just indulge me for a couple of minutes, the letter says since its creation the Republican River Water Conservation District has implemented numerous efforts to reduce groundwater consumption in the Republican River Basin through internally-generated fees and programs such as CREP, EQIP and RAMP, as well as the use of available ARPA funding specifically in the South Fork, to create incentives to retire land from irrigation. As of the date of this letter, the district has acquired contracts with water users to retire over 10,000 acres of land from irrigation in the South Fork Republican River Basin.

I would like to formally recognize the Republican River Water Conservation District for their efforts to acquire these contracts. The work of the district board and staff, their members and the Department of Natural Resources in securing additional funding that has been critical to meeting this obligation. I congratulate them all for their accomplishment.

The Republican River Water Conservation District has provided data to me as Colorado's Compact Commissioner that includes a list of redacted contracts associated with the retired land, the acreage associated with each contract, and the location of the retired land, and a copy of each redacted contract, and a map of the South Fork of the Republican River Basin and the location of the land associated with each contract. Colorado intends to provide this information to you, Compact commissioners, after the 2023 Compact Administration Meeting. Upon delivery of that information, it is my hope that you, as Compact commissioners acting on behalf of Kansas and Nebraska, will work with Colorado in an effort to finalize the verification of Colorado having met the initial obligation of the 2016 resolution as amended in 2018. It is also my

hope that the verification, once completed, will be memorialized by the Compact Administration at or before the 2024 Compact Administration Meeting, and certainly before December 31st, 2024?

Again, thank you for letting me read verbatim part of that letter. And if the commissioners have any questions, you can ask me, otherwise I will enter a motion.

No comments or questions?

MR. BRADLEY: No questions from Nebraska.

MR. REIN: With that, I'd like to make the following motion. I move that the Commission formally recognize the Republican River Water Conservation District for its efforts to obtain contracts to retire at least 10,000 acres from irrigation in the South Fork Republican River Basin and that the Compact commissioners from Kansas, Colorado and Nebraska work together through the Engineering Committee to identify a mutually agreeable verification process with criteria so that, subject to agreement of having met the criteria, the Compact commissioners can verify that Colorado met its obligation of retiring 10,000 acres on or before the date of the 2024 Compact Administration Meeting.

MR. LEWIS: I would second that motion.
MR. REIN: So we have a motion and a second. If there's no further discussion, all commissioners in favor say aye.
MR. BRADLEY: Aye.
MR. LEWIS: Aye.
MR. REIN: Aye.
Thank you, and that motion carries.
Ms. Burgert, that will be an assignment for the Engineering Committee in the upcoming year.
Continuing on the agenda, Item 8, other business. Do any of the commissioners have other business?
MR. LEWIS: No additional business for Kansas.
MR. REIN: Okay. Now I'd like to move on to the public comment period and entertain any remarks from the public.
MR. LENZ: Good morning. My name is Rod Lenz. I'm president of the Republican River Water Conservation District. I'm joined by Deb Daniel, our general manager.
And I appreciate the opportunity to talk to you and speak to you in this public comment section. I think it's really important that we're

able to communicate back to the Administration so -- our view on the ground of what we've tried to do and what we've accomplished to date. So we're going to take a little bit of time and show you just a few slides and communicate to you what we're doing.

MS. DANIEL: So while we have a little bit of technical difficulty right here, I would like to thank all of the commissioners and the staff for attending our reception last night. It's so good to be able to have some time to just get to know you and know that you're not the demons that we've all been told you were. Actually, you're good people just doing your job the same as all the rest of us, so thank you all for coming and participating and for allowing us the opportunity to participate with you.

I also want to thank all of the public who took time out. While we've got just a few minutes, would all of my Republican River District board members please stand up? I'd like to acknowledge all of you. We have several of them here, took time out of your day. So thank you very much, gentlemen and women, thank you. And while I have a few more minutes, I'd also like to recognize my staff. Reon McBride, who is our financing and office manager,

and Payton Liming, who is our administrative assistant. It is with the three of us that we've been able to take the tools that we've been given by our board members and been able to be able to successfully retire over 10,000 acres as -- as the commissioner has spoke.

So we're just going to talk really briefly, and we're going tag team this microphone back and forth. And I'll let you go first.

MR. LENZ: We've come to believe that it's not just about meeting Compact obligations. It's the same for all three states. We've got family farms that are so dependent on this resource of water, so it becomes more of a personal issue when we talk about the families and communities that are involved, so we just want to share a little about that, make that connection to this little presentation.

MS. DANIEL: So you've been able to meet some of my board members, and I hope that you can see there are 17 women and men who serve on the Republican River Water Conservation District, and there you can see also the staff members we have.

MR. LENZ: And that is the Colorado portion of the Republican River Basin, and

there's -- we have eight groundwater management districts, we have eight counties that are represented, and one person from the Colorado Groundwater Commission to make up our 17 board members.

MS. DANIEL: Okay. So we've been talking about how we've been able to retire acres, and our main focus at the district office is the retirement of irrigated acres in the South Fork Focus Zone, so we do have conservation programs that are available to anyone who is eligible inside the South Fork -- or inside the Republican River Basin, but we focus a lot of the dollars from ARPA and our own, and along with our state. Our state has offered incentive payments, and so you can see there that if an individual inside the blue-shaded area wants to retire through the conservation program, you can see the different dollar values that they would be paid, and this is a big reason why we've been so successful in getting the acres that we have now.

This is another map, a little bit more of a close-up of the South Fork Republican -- or the South Fork focus zone. Currently Payton and Reon and I have been able to retire 11,322 acres in that area. You can see on the shaded -- in this shaded

area here what a portion of our entire boundary -- our entire area that this particular zone takes up.

And these are the dollars that we've been able to bring in from CREP and from our NRCS programs, EQIP. You can see here that we've been able to save over 33,000 acre-feet of water through the CREP program and almost the same amount through our EQIP program.

We have spent over $12 million of Republican River dollars for the retirement of acres through the CREP program. These are dollars that came from within this basin. Until last year we hadn't pursued any additional funding from outside of this basin.

And we spent more money on our EQIP program. It's been over -- almost 16 million that we've put into retirement for those of our own dollars.

You can see through the EQIP program, had a lot more -- different programs that we've had. EQIP, AWEP, Ogallala Aquifer Initiative, and through CREP we've had a 2006 CREP and a 2018 CREP.

So this is a picture that I took on the Bonny Dam in 2011, just as our -- our state engineer Dick Wolfe that year called for it to be drained,

and within less than a year you can see that it was completely dry, as -- as I remember those, the dry riverbed -- or reservoir bed was filled up with phreatophytes, and the pictures here were taken in 2022 but, trust me, they're much worse than that now.

MR. LENZ: One thing that's difficult to comprehend about the Bonny reservoir area, is that last year, in 2022, we know how dry it was, and we didn't expect any flow-through through Bonny and we didn't get any. This year it was incredibly wet, we had great flows at Flagler and upstream from Bonny, and so we had some good movement into the reservoir area. We still only had one day where we had water come out of the outfall structure.

So we've got a huge problem there, and we recognize that if we're going to get any benefit on -- at the gage at Benkelman we've got to get through Bonny, and for the growers of northwest Nebraska, they've got the same issue. They're not going to have anything to recharge the alluvium. We've got to get water through the Bonny.

We have a common problem that we're trying to solve. In this particular picture we've been working with the Water Conservation Board, this is a

particular tour we gave to some of the board members out there trying to demonstrate our issues out there, and we're continuing to seek -- seek funding to take the next steps to alleviate some of the issues.

Okay. This last year we -- we initiated a bill through our state representatives to do a study on what would happen if we failed to accomplish a 2016 resolution, fulfillment of that -- of that resolution. And it's nothing about our intention not to succeed in that, we have every intention to succeed in the 2016 resolution, it's more about what -- what are the impacts and who's impacted.

We certainly know that everybody in the district will be impacted in a very immediate way to take away the irrigation if we're forced to curtail it, but who else is going to be impacted? What's that going to do to Colorado's state economy, and actually the regional economy? There's a lot of interstate commerce that goes across the state lines to the east. How is it going to impact all of us?

You know, the point isn't to point fingers. It's we know -- we're grateful for the ARPA funds, that $30 million we obtained to fulfill these programs that we've got. We -- even though we

doubled our fee, and gone from a $7.5 million budget to a $30 million budget, we expect that by the time we finish this 2029 obligation, we're going to need another influx, and we want good third-party numbers to go to the state House, to the federal government to say, hey, we need another shot, but we want good numbers. So we're kind of thinking forward, and over the next few years we'll finish this study, and hopefully have the numbers say this is what's at stake, and that's what's driving this still.

And the third-party is the Colorado Water Center, and John Tracy is the head of that center. We've got two lead studiers in Jordan Suter and Dale Manning, and they've worked with us before and they're very familiar with the project.

The Colorado Compliance Pipeline, it continues to grow. It's working. It's done exactly what we wanted it to do. We continue to be adding water to the pipeline for the future needs, so we think we're at a good spot there, but we know we have to be forward thinking in that as well. As many of you know, we have acquired another property that's adjacent to the pipeline with future expectations that we've got to add to that water supply.

And as a grower that lives in that area, it's hard to watch us dry up those acres, but we know that's the cost of doing business in the future.

To close out the little short presentation, the Republican River Water Conservation District has taking on a much greater role from its inception to now. We have got so many things we're involved in. We have gotten to the point where we're involved in the state House on a regular basis pushing bills, making relationships, being involved in the Colorado water plan. It has been rewarding to be part of the bigger process. We used to think keep our -- lay low, keep your head down, stay out of the political aspect of water. We've come to find out that being part of the process is so much better for us.

I like to look at that bottom right side, water influencer for Colorado, and recently last week at the Colorado Water Congress we attended, we were acknowledged in almost every presentation that was made there, and that's very rewarding, so we know our voice is being heard in the Colorado Senate, and that's very, very appreciated.

MS. DANIEL: So one thing that I just

noticed looking out in the crowd, we want to thank the commissioners that work with us here in the Republican River District. So would the three of you please stand up? Randy, Matt and Chris are phenomenal to work with the growers out in our area. We couldn't do it without their help and the help of Kevin Rein and his staff, so thank you all very much.

So working together with the different entities, we're able to continue to be successful in the Republican. We tried to hurry as requested.

The one last thing I would like for you to all know is that we really need our farm bill passed before, you know, election, and we're hoping from what we hear from Washington, DC, that it sounds like we will have one after the first of the year, but anything that you can do to promote trying to get the farm bill through so that we can continue having these conservation dollars available will be hugely supporting towards our efforts.

Also, we have a couple of flyers that we put on the -- one pagers we put on the table when you sign in, talking about Senator Bennett's bills. One of them is the CREP Improvement Act, it's for the dryland farmable CREP, and it needs to be

approved, so any support that we can get, because I know Senator Marshall is also a signator on that bill.

So we just so much appreciate you guys allowing this time and opportunity. Are there any questions?

MR. LEWIS: Mr. Chairman, there are no questions, but I want to just take an opportunity, Rod, and your directors, to add our congratulations, and thanks for all the work that you've done to get to this point. I want to encourage you to keep going. You don't need my encouragement to keep going, but we -- you know, I do think that the work that you've done is a really good example of a local, state and federal partnership working with individual producers to try and solve the problem. That's not an easy task to do. It takes a lot of time and a lot of effort and a lot of trust-building, and obviously you did a lot of that. So thank you for what you've done, and certainly appreciate the effort.

MR. LENZ: Thank you, Commissioner Lewis. And I want you to know we know our job's not done.

MS. DANIEL: And I remember last year you asked me specifically, Well, do you think you're

going to make it? I know you did. So yes, sir. We waded through it. Yes, sir, we're going to make it.

MR. REIN: Any other questions for Mr. Lenz or Ms. Daniel?

MR. BRADLEY: You had mentioned the CCP operations and where you were looking to do some expansion there, so you had said the pipeline would be delivering about 60 acres per day on the project. What do you anticipate after you do that expansion?

MR. LENZ: Well, it's going to be whatever we call for. We've got capacity for 22,000 acre-feet a year with the whole pipeline. We've got appropriations that's less than -- well, approximately half of that right now. So we know we have to add appropriations to that capacity to reach our capacity.

So the pipeline is not pressured at this time, but we just know we have to have more water rights to feed that capacity.

MR. BRADLEY: Thank you. I also want to commend you on your efforts to meet that target. That's fantastic work (undecipherable).

MR. REIN: Thank you, Commissioners. Thank you, Rod and Deb. Is there other public comment?

(No response.)

MR. REIN: Okay. Item 10 on the agenda, future meeting arrangements. And if I'm not mistaken, I have the pleasure of turning the next two meetings over to Kansas, Mr. Lewis, and often we can identify that during this meeting and then details are forthcoming, but I'll let you address that.

MR. LEWIS: Yeah. Thank you, Mr. Chairman. We have the opportunity to host for the next couple of years, and while as you say we don't have dates and all the details set, our intention is that next year will probably be in Colby in 2024 and probably the Lower Republican in 2025. So, again, information coming soon, but our intention, we're hoping next year.

MR. REIN: Thank you. Any questions from Nebraska on that?

MR. BRADLEY: No. No questions.

MR. REIN: Thank you, Commissioner Lewis. I have no questions.

That seems to have taken us through our agenda, and we have one item left, and I'll entertain a motion to adjourn the meeting.

MR. BRADLEY: I'd move for adjournment of

the meeting.

MR. LEWIS: I second.

MR. REIN: All in favor of adjournment say aye.

MR. LEWIS: Aye.

MR. BRADLEY: Aye.

MR. REIN: Aye.

Thank you. That concludes this year's Compact Administration Meeting. Thank you.

(The proceedings concluded at 11:33 a.m., August 31, 2023.)

STATE OF COLORADO)
) ss. REPORTER'S CERTIFICATE
COUNTY OF DENVER)

I, Vanessa D. Campbell, do hereby certify that I am a Registered Professional Reporter within the State of Colorado.

I further certify that these proceedings were taken in shorthand by me at the time and place herein set forth and was thereafter reduced to typewritten form, and that the foregoing constitutes a true and correct transcript.

I further certify that I am not related to, employed by, nor of counsel for any of the parties or attorneys herein, nor otherwise interested in the result of the within action.

In witness whereof, I have affixed my signature this 11th day of September, 2023.

Vanessa D. Campbell, RPR, CRR
216 - 16th Street, Suite 600
Denver, Colorado 80202

Exhibit B: Attendance

ANNUAL MEETING OF THE
REPUBLICAN RIVER COMPACT ADMINISTRATION
August 31, 2023
Attendance by Location

Name	Representing
Burlington, CO	
Kevin G. Rein	Colorado Commissioner and Chairperson
Daniel Steuer	Colorado Attorney General's Office
Jesse Bradley	Acting Nebraska Commissioner
Justin Lavene	Nebraska Attorney General's Office
Kari Burgert	Nebraska Department of Natural Resources
Samantha Capps	Nebraska Department of Natural Resources
Chris Beightel	Kansas Division of Water Resources
Kurtis Wiard	Kansas Attorney Generals Office
Earl Lewis	Kansas Division of Water Resources and Commissioner
Chelsea Erickson	Kansas Division of Water Resources
Stephanie Kramer	Kansas Attorney General's Office
Keadron Pearson	Kansas Division of Water Resources
Spencer Schlepp	Republican River Water Conservation District Member
Don Blankenau	Attorney State of Nebraska
Deb Daniel	Republican River Water Conservation District
Peyton Liming	Republican River Water Conservation District
Reon McBride	Republican River Water Conservation District
Pete Ampe	Republican River Water Conservation District
Danielle Holzwarth	Cheyenne County Operations District Manager
Brian Holzwarth	Landowner
Aaron Thompson	U.S. Bureau of Reclamation
Rod Lenz	Republican River Water Conservation District
Lori Marintzer	U.S. Geologic Survey
Craig Scott	U.S. Bureau of Reclamation
John Miller	U.S. Geologic Survey
Alicia Klinzmann	Farm Service agency
Matt Blecha	Colorado Division of Water Resources
Rod Mason	Republican River Water Conservation District
Willem Schreuder	Principia Mathematica
Brian Lengel	Farmer/Rancher
Rick Billinger	Kansas State Senator
Tracy Kosloff	Colorado Division of Water Resources

BAD Guest
PW: guest5650

Republican River Compact Administration – Annual Meeting Attendance Sheet

August 31, 2023

Location: Burlington, CO

Name – Please Print Legibly	Affiliation/Group
Tracy Kosloff	CO DWR
Craig Scott	BOR
Chris Kucera	CO DWR
Kari Burgert	NeDNR
Sara Capps	NeDNR
Chris Beightel	KDA-DWR
Chelsea Erickson	KDA- DWR
Brandi Bequera	CO DWR
Peter Amp.	RRWCD
Deb Daniel	RRWCD
PAYTON LIMING	RRWCD
REON McBRIDE	RRWCD
Rod Mason	AGWMD
MATT BLECHA	OWR
DAN STEUER	CO AG
Aaron Thompson	BOR
Rod Lenz	RRLWCD
Lori Marintzer	USGS KS

Republican River Compact Administration – Annual Meeting Attendance Sheet

August 31, 2023

Location: Burlington, CO

Name – Please Print Legibly	Affiliation/Group
Don Blankenau	Neb.
Dani Holzwarth	CN Co. Conservation Dist. St. Francis
Brian Holzwarth	Landowner
Brian Lengel	Farm/Ranch/ AGWMD
Sam Capps	NeDNR
Steve Kramer	RRWCD
Alicia Klinzmann	FSA
Rick Billinger	KS State Senator
Headon Pearson	KS Water Office
Spencer Schlepp	CN CO KS Conservation District
Kurtis Ward	KS A.G.

Exhibit C: Agenda

AGENDA FOR

2023 ANNUAL MEETING OF THE REPUBLICAN RIVER COMPACT ADMINISTRATION

August 31, 2023

10:00 a.m. Mountain Time/11:00 a.m. Central Time

Burlington Community Center, 340 S 14th St, Burlington, CO 80807

1. Introductions
2. Adoption of the Agenda
3. Status of annual report for the year 2021 and possible action by the RRCA
4. Commissioners' Reports
    a. Kansas
    b. Colorado
    c. Nebraska
5. Federal Reports
    a. U.S. Bureau of Reclamation
    b. U.S. Army Corps of Engineers
    c. U.S. Geological Survey
6. Committee Reports
    a. Engineering Committee
        i. Assignments from 2022 Annual Meeting
        ii. Committee recommendations to the RRCA
        iii. Recommended assignments for Engineering Committee
        iv. Discussion of Engineering Committee Report and assignments
7. New Business and Assignments to Compact Committees
    a. Action on Engineering Committee Report and assignments
    b. Action on 2022 Accounting
    c. Recognition of Colorado's acquisition of the contracts for retirement of at least 10,000 acres toward the 2016 resolution obligations
8. Other Business
9. Remarks from the Public
10. Future Meeting Arrangements
11. Adjournment

Exhibit D: U.S. Bureau of Reclamation

RECLAMATION

Managing Water in the West

Nebraska-Kansas Area Office

Report

To The

Republican River

Compact Administration

Burlington, Colorado

BUREAU OF RECLAMATION

U.S. Department of the Interior
Bureau of Reclamation
Missouri Basin Region
Nebraska-Kansas Area Office

August 31, 2023

REPUBLICAN RIVER COMPACT MEETING

August 31, 2023
Burlington, Colorado

2022 Operations

As shown on the attached Table 1, precipitation in the Republican River Basin varied from 82 percent of normal at Medicine Creek Dam to 47 percent of normal at Trenton Dam. Total precipitation at Reclamation project dams ranged from 9.56 inches at Trenton Dam to 20.59 inches at Lovewell Dam.

Inflows varied from 29 percent of the most probable forecast at Bonny Reservoir to 73 percent of the most probable forecast at Harry Strunk Lake. Inflows into Bonny Reservoir totaled 1,492 AF while inflows at Harlan County Lake totaled 64,506 AF.

Average farm delivery values for total irrigable acres were as follows:

District	Farm Delivery
Frenchman Valley	0.2 inches
Frenchman-Cambridge	6.7 inches
Almena	1.9 inches
Bostwick in NE	7.0 inches
Kansas-Bostwick	9.9 inches

2022 Operation Notes

Bonny Reservoir – Remained empty at elevation 3638.00 feet, 34.0 feet below the top of conservation. The annual computed inflow totaled 1,492 AF, the lowest on record. Reservoir inflows were bypassed the entire year as ordered by the State of Colorado. No water was bypassed into Hale Ditch in 2022.

Enders Reservoir – The reservoir level began the year at a level of 3,080.81 feet (31.5 feet below the top of conservation). This was the lowest start of the year elevation recorded since initial filling. The reservoir level increased gradually during the spring to a peak elevation of 3,081.59 feet on March 29th. Evaporation decreased the reservoir level from June through mid-November reaching elevation 3,077.83 feet on November 23. This was the lowest elevation observed since initial filling of the reservoir. Due to the extremely low water supply available, no water was released from Enders Reservoir during the irrigation season. The end of the year reservoir level was 3,078.21 feet (34.1 feet below the top of conservation). This was the lowest end of year level recorded since initial filling. The Frenchman Valley Irrigation District diverted 3,788 AF of natural flow from Frenchman Creek in 2022. In 2022, H&RW Irrigation District, who's contract expired in 2021, notified Reclamation of their intent to disband the district.

Swanson Lake – The lake level began the year at elevation 2,735.70 feet (16.4 feet below the top of conservation) and gradually increased throughout the late winter and spring. The peak elevation occurred on May 9th at 2,738.32 feet (13.7 feet below the top of conservation). The reservoir level decreased throughout the irrigation season and reached an elevation of 2,727.51 feet on December 21. The district diverted 21,898 AF into Meeker-Driftwood Canal. At the end of the year, the reservoir level was at 2,727.58 feet (24.4 feet below the top of conservation).

Hugh Butler Lake – The reservoir level at the first of the year was 2,566.13 feet (15.7 feet below the top of conservation). Late winter, spring and summer inflows gradually increased the lake level to a summer peak of 2,567.89 feet on May 12th. Due to extremely dry conditions, Reclamation approved the district's request to lower the irrigation pool elevation. The district diverted 5,451 AF into Red Willow Canal. Late summer and early fall evaporation exceeded inflows, decreasing the lake level to 2,559.87 feet on October 18th. The end of year elevation was 2,560.72 feet (21.1 feet below the top of conservation).

Harry Strunk Lake – The reservoir level at the beginning the year was 2,361.83 feet (4.3 feet below the top of conservation). The reservoir filled to top of conservation on April 11th. Irrigation releases started May 11th. The reservoir level peaked at elevation 2,366.98 feet on May 13th. The district diverted 26,873 AF into Cambridge Canal. The end of year elevation was 2,361.83 feet at the end of the year (10.8 feet below the top of conservation).

Keith Sebelius Lake – The reservoir elevation was 2,294.90 feet (9.4 feet below the top of conservation) at the first of the year. Late winter, spring and summer inflows gradually increased the lake level to a summer peak of 2,295.31 feet on June 9th. Irrigation releases began July 3rd and finished for the season on July 19th. Approximately 3,023 AF was released from Norton Dam for irrigation. 2,108 AF was diverted into the Almena Canal. Inflows in December exceeded evaporation, gradually increasing the elevation to the end of year elevation of 2,290.62 feet (13.7 feet below the top of conservation).

Harlan County Lake – Harlan County Lake began 2022 at 1,943.11 feet (2.3 feet below the top of conservation). The conservation pool was filled May 25th. The conservation and accumulated flood pool were split June 11th as irrigation releases began. The projected irrigation supply at the end of June was 130,000 AF. It was determined that Water Short Year Administration would not be in effect in 2022. Bostwick in Nebraska Irrigation District diverted 39,402 AF in 2022. Kansas-Bostwick Irrigation District diverted 59,333 AF in 2022. A ten-year summary of Harlan County Lake operations is shown on Table 3. The end of year elevation was 1,938.50 feet (7.2 feet below the top of conservation).

Lovewell Reservoir – The reservoir elevation at the beginning of 2022 was 1,580.92 feet (1.7 foot below top of conservation). Rains in late May totaling 2.89" raised the lake elevation to a yearly peak of 1583.41 (0.8 feet above top of conservation). All flood water accumulations were utilized for irrigation. Irrigation releases for canal seasoning/flushing began May 19th with releases in earnest beginning starting mid-June and continued until September 16th. Irrigation releases lowered the lake to an annual low of 1574.07 (8.5 feet below conservation) on September 16th. Republican River flow was diverted via the Courtland Canal into

Lovewell Reservoir after the irrigation season. The pool level at the end of the year was 1,578.59 feet (4.0 foot below top of conservation).

Current Operations (As of 7/31/23)

Bonny Reservoir – The reservoir is currently empty. No water has been released into Hale Ditch in 2023. Bonny Dam has recorded 16.97 inches of precipitation during the first seven months of the year (143% of average).

Enders Reservoir - The reservoir level is currently 30.8 feet below full and 1.53 feet above last year at this time. Enders Dam recorded 18.03 inches of precipitation during the first seven months of the year (136% of normal). This is also the twentieth consecutive year that Frenchman Valley Irrigation District has not received storage water for irrigation.

Swanson Lake – The lake level is currently 13.7 feet from full and is 5.6 feet above last year at this time. Precipitation for the year is at 134% of normal (18.14 inches). No irrigation releases are being made due to low initial reservoir elevation.

Hugh Butler Lake – The lake level is currently 15.58 feet below full and is 3.11 feet above last year at this time. No irrigation releases are being made due to low initial reservoir elevation. The precipitation total so far this year is 21.17 inches (162% of normal).

Harry Strunk Lake – The lake level is currently 2.1 feet below the top of conservation. Precipitation at the dam during the first seven months of the year was 15.10 inches (107% of normal). Irrigation releases began on June 25th. The lake level is currently 4.7 feet above last year at this time.

Keith Sebelius Lake – The lake is currently 9.9 feet below full. Lake level is 2.2 feet above last year at this time. Precipitation at the dam during the first seven months of the year was 17.7 inches (111% of normal).

Harlan County Lake – The lake level is approximately 5.5 feet below full. The lake level is 4.0 feet below last year at this time. Harlan County Dam has recorded 16.96 inches of precipitation so far this year (112% of normal). Irrigation releases started on May 30th. The available irrigation supply from Harlan County Lake on June 30th was 119,000 AF.

Lovewell Reservoir – The reservoir level is currently 4.6 feet below the top of conservation and approximately 2.0 feet below last year's elevation at this time. Lovewell Dam recorded 12.11 inches of precipitation during the first seven months of the year (69% of average). Canal releases began on May 30th.

A summary of data for the first seven months of 2023 is shown on Table 2.

TABLE 1
NEBRASKA-KANSAS PROJECTS
Summary of Precipitation, Reservoir Storage and Inflows
CALENDAR YEAR 2022

Reservoir	Total Precip. Inches	Percent Of Average %	Storage 12-31-21 AF	Storage 12-31-22 AF	Gain or Loss AF	Maximum Content AF	Storage Date	Minimum Content AF	Storage Date	Total Inflow AF	Percent Of Most Probable %
Box Butte	16.53	96	10,681	9,113	-1,568	16,831	7/10	6,860	9/7	15,657	102
Merritt	14.72	69	60,966	61,533	567	66,320	5/30	33,185	9/11	201,345	106
Calamus	14.09	56	92,689	96,605	3,916	123,571	5/2	51,478	9/18	267,875	99
Davis Creek	14.92	57	13,024	12,838	-186	31,651	6/5	12,133	3/21	65,259	135
Bonny	12.56	71	0	0	0	0	#N/A	0	#N/A	1,492	29
Enders	11.32	59	7,983	6,545	-1,438	8,449	3/29	6,351	11/23	3,405	68
Swanson	9.56	47	46,186	24,473	-21,713	54,545	5/9	24,315	12/21	14,318	57
Hugh Butler	12.07	61	15,811	10,986	-4,825	17,599	5/12	10,315	10/18	6,355	62
Harry Strunk	17.26	82	27,646	19,165	-8,481	36,296	5/13	12,856	9/9	29,388	73
Keith Sebelius	14.15	57	17,753	12,322	-5,431	18,343	6/9	12,267	12/20	4,119	63
Harlan County	17.02	73	280,385	225,470	-54,915	317,555	6/11	225,025	12/12	64,506	62
Lovewell	20.59	74	30,861	23,703	-7,158	38,135	5/29	15,495	9/16	38,720	73
Kirwin	19.70	82	85,227	70,612	-14,615	95,738	6/13	70,240	11/29	21,128	73
Webster	14.69	61	62,254	44,193	-18,061	70,562	6/13	44,112	12/22	12,766	66
Waconda	19.33	76	220,177	159,307	-60,870	233,146	6/10	158,517	11/18	94,772	68
Cedar Bluff	11.46	54	98,996	83,230	-15,766	99,041	1/2	83,152	12/27	6,024	52

TABLE 2
NEBRASKA-KANSAS AREA OFFICE
Summary of Precipitation, Reservoir Storage and Inflows

JANUARY - JULY 2023

Reservoir	Precip. Inches	Percent Of Average %	Storage 7/31/2023 AF g	Storage 7/31/2022 AF	Gain or Loss AF	Inflow AF	Percent Of Most Probable %
Bonny	16.97	143	0	0	0	1,052	29
Enders	18.03	136	7,510	8,406	896	3,958	136
Swanson	18.14	134	37,523	54,612	17,089	36,047	180
Hugh Butler	21.17	162	12,999	15,900	2,901	7,591	117
Harry Strunk	15.10	107	24,133	31,055	6,922	20,092	75
Keith Sebelius	17.68	111	14,126	16,996	2,870	8,078	172
Harlan County	16.96	112	282,145	233,787	(48,358)	64,215	86
Lovewell	12.11	69	26,889	21,656	(5,233)	26,261	140

Inflow at Swanson Lake includes water from augmentation (pumping) projects.

TABLE 3
HARLAN COUNTY LAKE

Year	Inflow (AF)	Outflow (AF)	Gross Evap. (AF)	Precip. (Inches)	Precipitation: Harlan County Dam* (% of Average)	Precipitation: Rep. Basin Dams (% of Average)	End of Year Content (AF)	**Projected Irrig. Water Supply On June 30th (AF)**
2013	48,794	75,355	40,042	17.46	75%	83%	124,522	**81,400**
2014	92,209	35,502	32,387	18.53	80%	105%	148,842	**59,000**
2015	106,728	54,502	33,652	28.85	125%	115%	167,416	**79,600**
2016	126,679	63,972	35,920	27.82	120%	109%	194,203	**103,500**
2017	118,889	52,764	36,081	26.60	115%	104%	224,247	**111,600**
2018	120,146	53,451	35,914	29.61	128%	128%	255,028	**106,600**
2019	402,546	272,471	55,374	30.94	134%	132%	329,729	**139,716**
2020	125,674	130,068	45,704	17.38	75%	74%	279,631	**143,392**
2021	130,998	88,222	42,022	28.22	121%	91%	280,385	**141,404**
2022	64,506	70,579	48,842	17.02	73%	66%	225,470	**130,000**

NOTE: On June 30, 2023 Projected Irrigation Water Supply was 119,000 AF.
* Average Annual Precipitation at Harlan County Dam is 23.13 inches

Exhibit E: U.S. Geological Survey Report

Republican River Basin streamflow-gaging stations with records published by USGS for water year (WY) 2022

[DCP, data-collection platform; NDNR, Nebraska Department of Natural Resources; USACE, U.S. Army Corps of Engineers; USBR, U.S. Bureau of Reclamation; USGS, U.S. Geological Survey]

Station number	Station name	Mean discharge (ft^3/s) WY 2022	Mean discharge (ft^3/s) Long-term	WY 2022 as percentage of long-term mean	WY 2022 as rank/years (1 highest)	WYs used for long-term mean	Remarks
USGS Compact stations supported by the Groundwater Streamflow Information Program (GWSIP)							
06821500	Arikaree River at Haigler, Nebr	1.5	14.9	10.1%	79/90	1933 - 2022	
06823000	North Fork Republican River at Colo-Nebr State Line	30.4	40.8	74.5%	71/87	1936 - 2022	
06823500	Buffalo Creek near Haigler, Nebr	1.5	5.6	26.8%	82/82	1937 - 2022	
06824000	Rock Creek at Parks, Nebr	4.3	11.8	36.7%	82/82	1938 - 2022	
06824500	Republican River at Benkelman, Nebr	28.4	76.9	36.9%	55/55	1939 - 2022	
06827500	South Fork Republican River near Benkelman, Nebr	0.0	31.4	0.0%	85/85	1940 - 2022	
06835500	Frenchman Creek at Culbertson, Nebr	19.4	61.6	31.5%	71/72	1941 - 2022	Since Enders Reservoir
06836500	Driftwood Creek near McCook, Nebr	1.5	7.7	19.6%	72/76	1942 - 2022	
06838000	Red Willow Creek near Red Willow, Nebr	4.0	12.5	32.1%	61/61	1943 - 2022	Since Hugh Butler Lake
06847000	Beaver Creek near Beaver City, Nebr	0.7	13.9	5.0%	71/85	1944 - 2022	
06847500	Sappa Creek near Stamford, Nebr (USACE funds DCP)	9.8	35.9	27.2%	51/76	1945 - 2022	
06852500	Courtland Canal at Nebr-Kans State Line (USBR DCP)	70.6	74.5	94.8%	39/68	1946 - 2022	
06853020	Republican River at Guide Rock, Nebr	63.0	251.6	25.0%	61/72	1947 - 2022	Based on record from this and upstream station 06853000
USGS stations supported by USGS and/or other Federal or State agencies							
06828500	Republican River at Stratton, Nebr	18.9	87.0	21.7%	69/72	1951 - 2022	Funded by USACE and GWSIP
06837000	Republican River at McCook, Nebr	14.6	112.8	12.9%	68/68	1955 - 2022	Funded by USBR, NDNR, and GWSIP
06844500	Republican River near Orleans, Nebr	60.5	216.2	28.0%	69/75	1948 - 2022	Funded by USACE and GWSIP
NDNR stations with USGS/USACE support for DCP, Web display, review, and publishing							
06834000	Frenchman Creek at Palisade, Nebr	14.4	55.0	26.2%	72/72	1951 - 2022	
06843500	Republican River at Cambridge, Nebr	53.9	196.2	27.5%	70/73	1952 - 2022	Since Harry Strunk Lake

Online Annual Water Data Reports available at or through:

http://wdr.water.usgs.gov

https://www.usgs.gov/centers/ne-water

USGS North Platte Field Office
John Miller (jdmiller@usgs.gov)
308-532-5323

USGS Lincoln Field Office
Tim Boyle (tboyle@usgs.gov)
402-328-4125

Exhibit F: Engineering Committee Report

Engineering Committee Report Republican River Compact Administration

August 31st, 2023

EXECUTIVE SUMMARY

This document reports the activities of the RRCA Engineering Committee from the August 31st, 2022 RRCA Annual Meeting to the August 31st, 2023 RRCA Annual Meeting. The Engineering Committee (EC) met four times since the August 31st, 2022, Republican River Compact Administration (RRCA) Annual Meeting. Over the past year, the EC completed these assignments: 1) hold quarterly meetings; 2) exchange information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, including all required data and documentation; 3) finalize 2022 accounting; 4) continue work on documenting historical changes to the RRCA Accounting Procedures; 5) provide updates on the progress of new and ongoing management strategies for maintaining compact compliance; 6) continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC; 7) continue work and provide updates on improving accounting tools developed by the Engineering Committee; 8) work to prepare the 2022 RRCA annual meeting report; and 9) work to find a solution regarding the NCORPE pumping reporting error in the 2021 accounting.

Ongoing assignments include: 1) hold quarterly meetings; 2) continue work on documenting historical changes to the RRCA Accounting Procedures; 3) provide updates on the progress of new and ongoing management strategies for maintaining compact compliance; 4) work on maintaining and enhancing the RRCA public website; 5) continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

The EC recommends discussion by the RRCA on the exchange of data, modeling results, and proposed accounting for 2022 incorporating the EC′s proposed course of action for dealing with correction of 2021 NCORPE pumping; modeling and data tasks to be assigned to Principia Mathematica for 2023; the document summarizing historical changes to the RRCA Accounting Procedures; and recommended EC assignments and other potential assignments for the next year.

Details of the various EC tasks are described further in the remainder of this report, including:

Attachment 1: Minutes of the quarterly meetings of the EC
Attachment 2: Accounting Inputs and Accounting Tables from the RRCA Accounting for 2022 recommended by the EC for approval by the RRCA (Task 3)
Attachment 3: Report on Error in the 2021 NCORPE augmentation project pumping data

COMMITTEE ASSIGNMENTS AND RELATED WORK ACTIVITIES

1. Meet quarterly to review the tasks assigned to the committee.
    a. The EC met November 10, 2022; January 19, 2023; April 20, 2023; and July 13, 2023. See Attachment 1 for the approved minutes of these meetings.
    b. The EC recommends that this task continue.

2. Exchange by April 15, 2023, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2023, the states will exchange any updates to these data.
    a. Nebraska posted its data on April 14, 2023, and provided an update on July 14, 2023.
    b. Kansas posted its data on April 14, 2022, and provided an update to the data on July 6, 2023.
    c. Colorado posted its data on April 4, 2023, and added Crop Irrigation Requirement (CIR) data on July 1, 2023.
3. Finalize the 2022 accounting and recommend it for approval by the RRCA.
    a. Colorado, Kansas, and Nebraska accounting data for 2022 are final and the EC hereby recommends approval of the accounting by the RRCA.
    b. The applicable summary accounting tables are presented in Attachment 2.
4. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures (AP).
    a. The EC will continue to maintain the AP tracking document and publish it on the website.
5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
    a. Nebraska provided updates on the current year forecasting and kept the other states abreast of the status of Water Short and Compact Call Year determinations. Nebraska discussed anticipated management actions for the 2023.
    b. Kansas informed the EC that minimum desirable streamflows were being enforced in parts of the basin. The EC heard several updates on the status of automation efforts on the Courtland Canal along with preliminary information on the status of the NRCS-sponsored Regional Conservation Partnership Program in the Upper Republican River Basin, which will focus on phreatophyte removal along the river channel.
    c. The EC continued to explore use of the climate-based analyses for projecting pumping by Kansas.
    d. Colorado provided updates on deliveries by the Colorado Compliance Pipeline.
    e. The EC recommends this task as a recurring assignment.
6. Continue efforts to develop and publish an administrative website that would be an informational page for the public.
    a. State staff have maintained and updated the website, which is accessible to the public, and reported back to the EC.
    b. The EC recommends this task as a recurring assignment.

7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
    a. The EC continues to use the website accounting tool to validate the accounting spreadsheet results.
    b. The EC discussed the overlap in the Courtland Canal above Lovewell and Attachment 7 inputs and calculations that when combined with varying data sources were causing inconsistencies in the accounting spreadsheet. The EC will address this issue by performing a quality control check upon receiving these data from the United States Bureau of Reclamation.
    c. The EC recommends this task as a recurring assignment.
8. Prepare the 2022 RRCA annual meeting report for approval by the RRCA at the 2023 annual meeting.
    a. The report has been finalized and approved by the EC and is hereby recommended for approval by the RRCA.
9. Make a recommendation on a course of action for dealing with the 2021 NCORPE data correction.
    a. On January 12, 2023, Nebraska provided a memorandum (Attachment 3) describing an error in 2021 NCORPE augmentation pumping data and updated 2021 pumping data from the NCORPE augmentation project wells. Since 2021 accounting was approved at the 2022 annual meeting, the memorandum from Nebraska also provided the differences in pumping and concluded that the differences in pumping would not impact the results of the 2021 accounting. The EC discussed how to calculate the accounting for 2022.
    b. The EC recommends that the approved accounting for 2021 be left as it is since correcting the 2021 groundwater model runs results in no change to the 2021 groundwater impacts to streamflow.
    c. The EC recommends that the 2022 accounting use groundwater model runs with starting heads for 2022 that incorporate the correction for 2021, and documentation explaining the difference is included with the 2022 accounting.

ITEMS FOR RRCA DISCUSSION & ACTION

1. Data exchange and modeling results for 2022 incorporating the EC′s proposed course of action for dealing with correction of 2021 NCORPE pumping. The EC recommends the proposed 2022 accounting presented in Attachment 2 and in the spreadsheet titled “RRCA Accounting 2022 Final.xlsx” for approval by the RRCA. Upon approval of the accounting, the above-mentioned spreadsheet file will be placed on the public website.
2. Modeling and data tasks to be assigned to Principia Mathematica for 2023. The EC recommends that Principia Mathematica continue to maintain the web-based accounting tool and perform periodic model and accounting updates at the same level of service as in 2022.

3. The document summarizing historical changes to the RRCA Accounting Procedures is current and being maintained by the EC. The EC recommends that the document continue to be maintained by the EC as an ongoing assignment.
4. Discussion of the recommended EC assignments and other potential assignments for the next year and agreement on a final set of assignments. The EC presents the following list of recommended assignments to report on at the 2024 annual meeting of the RRCA.

RECOMMENDED ASSIGNMENTS FOR THE COMING YEAR

The Engineering Committee recommends that the Republican River Compact Administration assign the following tasks:

1. Meet quarterly to review the tasks assigned to the committee.
2. Exchange by April 15, 2024, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2024, the states will exchange any updates to these data.
3. Finalize the 2023 accounting and recommend it for approval by the RRCA.
4. Maintain and publish updates to *Summary of Historical Changes to the RRCA's Accounting Procedures and Reporting Requirements* as necessary.
5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
6. Continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC.
7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
8. Prepare the 2023 RRCA annual meeting report for approval by the RRCA at the 2024 annual meeting.

The Engineering Committee Report and the exchanged data will be posted on the web at http://republicanriver.org/

SUBMITTED TO THE RRCA BY

Ivan Franco, Chair and Engineering Committee Member for Colorado

Christopher Beightel, Engineering Committee Member for Kansas

Kari Burgert, Engineering Committee Member for Nebraska

MINUTES for the
QUARTERLY MEETING of the
ENGINEERING COMMITTEE of the
REPUBLICAN RIVER COMPACT ADMINISTRATION
November 10, 2022 9:00 AM Mountain Time

Meeting was held via Google Meet.

Attendees:

Chris Beightel, KS
Kari Burgert, NE
Hongsheng Cao, KS
Jesse Bradley, NE
Chelsea Erickson, KS
Elizabeth Esseks, NE
Samantha Capps, NE
Brian Flynn, NE
Ivan Franco, CO
Sam Perkins, KS
Willem Schreüder CO

ENGINEERING COMMITTEE TASK LIST

1. Introductions
   1.1. The meeting started at approximately 9:00 a.m. MT
2. Review/Modify Agenda
   2.1. No revisions or modifications to the agenda.
3. Review and Update Progress on Engineering Committee Task List
   3.1. Meet quarterly to review the tasks assigned to the committee.
   - This is the first meeting of the year and the subsequent meetings have been scheduled.

   3.2. Exchange by April 15, 2023, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2023, the states will exchange any updates to these data.

   - Willem emailed all parties at the start of November with a CBCU update that included climate data updated thru October of 2022. The update also included a preliminary 2023 model run assuming the year would be water short.

   3.3. Finalize the 2022 accounting and recommend it for approval by the RRCA.

   - Courtland Canal Data is in two locations in the accounting.
     - Nebraska informed the group that they continue to work on an email detailing Courtland Canal Data improvements.
     - **Action Item: Kari will draft an email distilling down where we have seen issues with the data reporting in order to get a good sense of the issue and for the EC to be able to provide feedback to the USBR.**

   3.4. Maintain and publish updates to Summary of Historical Changes to the RRCA's Accounting Procedures and Reporting Requirements as necessary.

   - No discussion necessary

   3.5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.

   - Willem noted that the CCP forecast is out and that the pipeline is expected to run into April 2023 as the forecast is less than optimal. The original estimate put the pumping at 9,500 acre-feet and we expect a rise of perhaps 2,000 acre-feet to account for the water short year.
   - Kari noted that Nebraska has their early forecast meeting with the natural resources districts and the

irrigation districts coming up next week and the final forecast will be out by the end of the year. Her intuition is that 2023 would likely be a Compact Call Year.

- Chris informed the group that Kansas is enforcing minimum desirable stream flows in their part of the basin due to streamflow declines. Chris reminded the group of the automation taking place throughout the KBID/NBID system. Chelsea informed the group of the Upper Republican South Fork work being done. She noted that in the 2021 bid round there were more than 70 applicants for things like soil moisture probes, nozzle packages, pivot controls and so on. Chelsea noted that there is still about 1.2 million left to be awarded.

3.6. Continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC.

- There have been no significant changes to the website. Chelsea noted that Kansas renewed the hosting and backup service for another three years.
- Sam Capps informed the group that Avery Dresser would now be the contact person for Nebraska on the website committee.

3.7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- Continue evaluating usefulness/applicability of the climate pumping estimator proposed by Kansas.
- Willem informed the group that he is still thinking about how to best utilize Sam Perkins' precipitation estimate methodology. Willem noted that Sam provides a result in inches of application and Willem is still unsure of how to convert that into a useful pumping distribution. Willem noted that the CBCU is not terribly sensitive to this year's pumping based on a model run where he mistakenly entered zero pumping.
- Chris thought it would be interesting to understand when each year's pumping had the largest impact on the system. Willem noted that as the system is non-linear it would be difficult to pinpoint exactly but his intuition was that it was likely a decade, or so, out from the actual pumping year.

3.8. Prepare the 2022 RRCA annual meeting report for approval by the RRCA at the 2023 annual meeting.

- Kansas has performed an initial review and edit of the 2022 annual meeting transcript and has forwarded along the edited document to Nebraska for further edits. The plan moving forward is to collect everyone's final edits and return the draft document to the stenographer's office for production of a final copy.

4. Summary of Meeting Actions/Assignments (in bold)
   - **Kari will send out an email summarizing the Courtland Canal issue.**
   - **Sam Perkins will continue to work with Willem on how best to utilize the pumping estimate tool.**
5. Future Meetings
   5.1. **The next meeting will be on January 19th, 2023 at 1 pm MST.**
6. Adjourn
   6.1. The meeting adjourned at approximately 9:29 a.m.

MINUTES for the
QUARTERLY MEETING of the
ENGINEERING COMMITTEE of the
REPUBLICAN RIVER COMPACT ADMINISTRATION
January 19, 2023 1:00 PM Mountain Time

Meeting was held via Google Meet.

Attendees:

Chris Beightel, KS
Kari Burgert, NE
Hongsheng Cao, KS
Jesse Bradley, NE
Chelsea Erickson, KS
Lizzie Hickman, KS
Samantha Capps, NE
Brian Flynn, NE
Ivan Franco, CO
Sam Perkins, KS
Willem Schreüder CO
Elizabeth Esseks, NE

ENGINEERING COMMITTEE TASK LIST

1. Introductions
   1.1. The meeting started at approximately 1:00 P.M. MT
2. Review/Modify Agenda
   2.1. No revisions or modifications to the agenda.
3. Review and Update Progress on Engineering Committee Task List
   3.1. Meet quarterly to review the tasks assigned to the committee.
   - This is the second meeting of the year and the subsequent meetings have been scheduled.

   3.2. Exchange by April 15, 2023, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2023, the states will exchange any updates to these data.

   - Kari noted that Elizabeth has been working with Nebraska staff who will be copying everyone on data request emails to the Bureau of Reclamation.
   - Willem noted that one last piece of data that he is waiting on is for the USGS to clean up the icing record on the gauges from November 2022.

   3.3. Finalize the 2022 accounting and recommend it for approval by the RRCA.

   - Courtland Canal Data is in two locations in the accounting.
     - Nebraska informed the group that they continue to work on an email detailing Courtland Canal Data improvements.
     - Chris asked if the BOR was providing two sets of data. Kari noted that Nebraska receives the monthly water distributions spreadsheet and a ”Court wrk sht” spreadsheet and at times the data can differ.
     - **Action Item: Kari will draft an email distilling down where we have seen issues with the data reporting in order to get a good sense of the issue and for the EC to be able to provide feedback to the USBR.**

   3.4. Maintain and publish updates to Summary of Historical Changes to the RRCA’s Accounting Procedures and Reporting Requirements as necessary.

   - No discussion necessary

   3.5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.

- Kari noted that Nebraska's forecast for 2023 was completed at the end of 2022 and has designated 2023 as a Compact Call Year. All states should have received this letter. In April, Nebraska will send a letter of proposed Water Short Year Administration (which is anticipated) measures for 2023 as required by the FSS.
- Willem noted that the CCP pipeline is running. The pipeline should be running into April 2023. There are a number of CREP acres coming into retirement on the South Fork so that is looking promising.
- Chris noted that Kansas was planning on contacting the Cheyenne County Conservation District to discuss the RCPP. Chelsea noted that she contacted Dani Holzwarth and she noted that this is no forward movement on this project. There appears to be a hang-up on the Federal level. The planned activities largely revolve around phreatophyte removal.
- Chris further noted that Pete Gile had a useful presentation that the Engineering Committee may be interested in hearing. The presentation revolved around efficiency improvements that have been implemented in the District.

3.6. Continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC.

- There have been no significant changes to the website. Chelsea noted that the updated version of the CCP agreement with the new dates was somewhat difficult to locate. In order to remedy this the document may be copied to a new location that makes more sense.

3.7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- Continue evaluating usefulness/applicability of the climate pumping estimator proposed by Kansas.
    - Sam Perkins has no further discussion prepared for this. Chris noted that Kansas was not interested in pressing this issue further. If there was utility to be gained from it that is great. Chris noted it may be useful in scaling the previous year's pumping and if it's useful to Willem that is up to him.
    - Willem noted that he was developing a procedure where he took the estimated pumping from the previous three years and applied a scaling factor to each states pumping using the climate-based estimator methodology and compared it to the pumping that actually occurred in that year, as reported.
    - Willem noted that the state-by-state correlation was about 0.6 and the basin wide correlation was about 0.7. He is still trying to understand why looking at state-by-state precipitation would be less accurate than a basin wide precipitation analysis.

3.8. Prepare the 2022 RRCA annual meeting report for approval by the RRCA at the 2023 annual meeting.

- Samantha Capps noted that there was a lot of work done on the transcripts by Kansas and Nebraska. The transcriptionist had many areas where she was not able to make out what was being said and, in some places, appears to have paraphrased the discussions.
- Chelsea noted that some areas were quite difficult to edit and that it required an extensive effort to get the current draft version. Chelsea believes that the final copy that includes everyone's edits will be very good.
- Elizabeth Esseks noted that the original version of the transcripts were very poor.
- Samantha noted that each state has focused on their individual sections and that Colorado should work thru everything putting an emphasis on Colorado's section.
- Nebraska noted that they have a contact with a transcriptionist that is more familiar with water terminology and that may be an available option for the 2023 annual meeting.
- Chris suggested including language in the Engineering Committee Report that staff had to make an

unusually high amount of edits the transcript or something to that effect, and this would be sufficient when approving the transcripts. The group generally felt that this would be a good idea.

- Chelsea noted that she had not posted any versions of the 2022 Annual Meeting video on the website and was not sure if we would or not. Ivan Franco noted that he would look into potentially producing a final version suitable for posting on the RRCA website.

4. Nebraska identified an issue with the NCORPE pumping date for 2021
    - Kari explained that the discrepancy identified occurred because monthly summary data as received from the NCORPE data systems was not properly vetted/corrected. Nebraska is actively working to assure that a process is in place to assure this error does not happen again.
    - Kari provided the group with a report describing the issue dated January 12, 2023.
    - Willem asked if it was possible to pump up to 14,000 acre-feet per year in one cell as the report describes. Willem was wondering if there was a limit that could be inserted to that an upper bound check could be integrated into his analysis.
    - Willem noted that there is no actual difference in the total approved accounting. Willem noted that in the past a new run is produced which addresses the error and a new starting head is ready for 2022. The alternative solution would be to change the pumping inputs to the model and change the model run that was used for 2021. The group noted that this second option has never been exercised and the EC has produced new starting heads for the upcoming years twice prior, this would potentially be the third time. The group decided to continue to think about how to move forward correcting the issue that Nebraska identified.
5. Summary of Meeting Actions/Assignments (in bold)
    - **Kari will send out an email summarizing the Courtland Canal issue.**
    - **Sam will continue to work with Willem on how best to utilize the pumping estimate tool.**
    - **The group will consider how best to resolve the NCORPE over pumping issue identified by Nebraska.**
6. Future Meetings

    6.1. **The next meeting will be on April 20th, 2023 at 9 am MST.**
7. Adjourn

    7.1. The meeting adjourned at approximately 1:50 p.m.

MINUTES for the
QUARTERLY MEETING of the
ENGINEERING COMMITTEE of the
REPUBLICAN RIVER COMPACT ADMINISTRATION
April 20, 2023 9:00 AM Mountain Time

Meeting was held via Google Meet.

Attendees:

Chris Beightel, KS
Kari Burgert, NE
Hongsheng Cao, KS
Sam Perkins, KS
Chelsea Erickson, KS
David Engelhaupt, KS
Stefan Remund, NE
Samantha Capps, NE
Brian Flynn, NE
Ivan Franco, CO
Willem Schreüder, CO
Elizabeth Esseks, NE

ENGINEERING COMMITTEE TASK LIST

1. Introductions
   1.1. The meeting started at approximately 9:00 A.M. MT
2. Review/Modify Agenda
   2.1. No revisions or modifications to the agenda.
3. Review and Update Progress on Engineering Committee Task List
   3.1. Meet quarterly to review the tasks assigned to the committee.
   - This is the third meeting of the year and the Annual Meeting has been scheduled for August 31st, 2023.

   3.2. Exchange by April 15, 2023, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2023, the states will exchange any updates to these data.

   - Ivan noted that each state had distributed their preliminary data, and Willem had produced a preliminary run from said data. Each state explicitly stated when the data was distributed.
   - Data for Kansas was made available on April 10th.
   - Data for Nebraska was made available on April 14th.
   - Data for Colorado was made available on April 4th.
   - Kari noted that the USGS is in the process of finalizing any preliminary gage data that is left.
   - Willem noted that the CIR data is coming soon from Randy Hendrix and there will likely not be any changes to Colorado data.
   - Chris noted that he thought the Kansas data was about 95% complete with only slight updates coming in July.

   3.3. Finalize the 2022 accounting and recommend it for approval by the RRCA.

   - Courtland Canal Data is in two locations in the accounting.
     - Nebraska informed the group that they continue to work on an email detailing Courtland Canal Data improvements. Kari contacted the BOR by email on the 13th or 14th of April telling the BOR that the data they had provided was contradicting itself in the Attachment7 and Courtland Canal worksheet. Kari noted that this worked and this may just end up being a quality control issue each year when these are received.

- Kari noted that in the coming weeks she would provide a preliminary accounting sheet for comparison to Willem's sheet.
- **Action Item: Kari will draft an email distilling down where we have seen issues with the data reporting in order to get a good sense of the issue and for the EC to be able to provide feedback to the USBR.**

3.4. Maintain and publish updates to Summary of Historical Changes to the RRCA's Accounting Procedures and Reporting Requirements as necessary.

- No discussion necessary

3.5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.

- Samantha noted that Nebraska has distributed its annual letter to the states, earlier in the month, detailing the anticipated management actions. Conditions will continue to be monitored and updates will continue to be provided as the year progresses.
- Willem noted that the CCP had pumped about 7,000 acre-feet and in the next 10 days another 500 acre-feet will likely be pumped. The current projection is for 12,500 acre-feet and we are still anticipating a water short year for 2023, but that may change.
- Chelsea provided an update on Northwest Kansas activities. Dan Holzwerth with the Cheyenne County Conservation District provided Chelsea an updated on the RCPP. A partnership agreement is getting closer to being finalized and there are still meetings with groups to figure out logistics. Applications may start to be accepted this summer. Originally, Kansas Water Office provided five-hundred thousand dollars and this was matched by other sources and and is earmarked for a number of equipment improvements throughout the region.

3.6. Continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC.

- There have been no significant changes to the website. When annual meeting data is made available those documents will be posted on the website.
- Samantha noted that Stefan Remund will be the new Nebraska contact for the website committee.

3.7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- Continue evaluating usefulness/applicability of the climate pumping estimator proposed by Kansas.
- No further discussion on these topics.

3.8. Prepare the 2022 RRCA annual meeting report for approval by the RRCA at the 2023 annual meeting.

- Ivan noted that the transcripts are very close to being finalized and he had received final comments from Kansas and when Nebraska completes their review he would send them to the transcriptionist for production of a final copy.

4. Nebraska identified an issue with the NCORPE pumping data for 2021
   - The group discussed the issue and the two proposed solutions. Ultimately, the group decided that either solution would work but that the decision should be left in the hands the commissioners. The group agreed to speak with their respective commissioner so that they were abreast of the situation. At some point in the future the three commissioners should decide on a path forward on this issue.
5. Summary of Meeting Actions/Assignments (in bold)
   - **Kari will send out an email with summarizing the Courtland Canal issue.**
   - **Kari would send out a preliminary accounting run for comparison purposes.**
   - **Sam will continue to work with Willem on how best to utilize the pumping estimate tool.**

- **The group will consult their individual commissioners on how to resolve the NCORPE over pumping issue identified by Nebraska.**

6. Future Meetings
   6.1. **The next meeting will be on July 12th, 2023 at 9 am MST.**
7. Adjourn
   7.1. The meeting adjourned at approximately 9:33 a.m.

MINUTES for the
QUARTERLY MEETING of the
ENGINEERING COMMITTEE of the
REPUBLICAN RIVER COMPACT ADMINISTRATION
July 13, 2023 9:00 AM Mountain Time

Meeting was held via Google Meet.

Attendees:

Chris Beightel, KS
Kari Burgert, NE
Hongsheng Cao, KS
Sam Perkins, KS
Willem Schreüder, CO
Stefan Remund, NE
Samantha Capps, NE
Brian Flynn, NE
Ivan Franco, CO
Chelsea Erickson, KS
David Engelhaupt, KS

ENGINEERING COMMITTEE TASK LIST

1. Introductions
   1.1. The meeting started at approximately 9:00 A.M. MT
2. Review/Modify Agenda
   2.1. No revisions or modifications to the agenda.
3. Review and Update Progress on Engineering Committee Task List
   3.1. Meet quarterly to review the tasks assigned to the committee.
   - The Engineering Committee has now met four times and the next meeting will be the Annual Meeting on August 31st in Burlington.

   3.2. Exchange by April 15, 2023, the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2023, the states will exchange any updates to these data.

   - Ivan noted that Kari has sent out Nebraska's most current accounting for comparison to Willem's accounting. There was only one very minor difference that needs addressing.
     - Willem sent out an email earlier in the week detailing one difference when he compared the two accounting calculations, which occurs for Table 3C. Willem has changed which output he uses for Nebraska Imported Water Supply Credit. He is now pulling row 28 from the Nebraska Mound impacts which sums the pre-rounded subbasin values instead of row 31, which sums the subbasin rounded values. This approach is slightly different and makes a 10-acre-foot difference only. However, it is something to consider if we want the exact same number. Kari will look into this and get back to group but would likely implement Willem's change.
   - Kari noted that a very slight change to 2022 data would be coming from Nebraska by the end of the week. The volume of water has not changed but the location will be changed to reflect the correct canal return flow location.
   - Colorado does not expect any additional changes to their data between now and July 15, 2023.

   3.3. Finalize the 2022 accounting and recommend it for approval by the RRCA.

   - Courtland Canal Data are in two locations in the accounting.
     - Previously, Kari contacted the BOR by email on the 14th of April telling the BOR that the data they had provided was contradicting itself in the Monthly Water Distribution for Courtland in Nebraska and Courtland Canal worksheet. Kari noted that this fixed the discrepancy and any

implications in the accounting. Kari suggested that, rather than pursuing any modifications to the locations of the data in the accounting spreadsheet, the EC continue this assignment to implement a quality control check on this data every year.

- **Action Item: Ivan Franco will change this item to continue forward as implementation of a quality control check that should be performed each year.**

3.4. Maintain and publish updates to Summary of Historical Changes to the RRCA's Accounting Procedures and Reporting Requirements as necessary.

- Ivan noted that the Commissioners unanimously decided during a three-states meeting on June 20, 2023 to proceed to amend Nebraska's 2021 NCORPE pumping in a manner similar to the PRISM data correction. Therefore, updates to this document will be necessary. He noted his uncertainty as to whether this should be updated at the Annual Meeting in 2023 or afterwards as a housekeeping task for the Engineering Committee.
- Prior to the meeting, Kari provided language for the suggested update. Ivan noted he would take another look at that document and incorporate/edit the suggested language and make sure other changes are not required.

3.5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.

- Ivan started by noting that Colorado had reached its goal of retiring more than 10,000 acres of land along the South Fork and that initial documents had been forwarded to each state. A response was received by Nebraska asking for a map and suggesting packaging all pertinent documentation for acceptance by the RRCA at the Annual Meeting in 2023. Colorado is working on putting together an overall package so that it may be included in the annual meeting data and the commissioners can make a motion for acceptance.
- Ivan noted that 2023 will not be a water short year and therefore this changes some early predictions for Colorado's pumping but other factors are at play as well and he asked Willem to elaborate.
- Willem informed the group that Colorado's predicted pumping for 2023 remains unchanged at 12,500 acre-feet due to the effects of the wet spring on the current year's consumptive use.
- Kari informed the group that while 2023 is officially not water short, it is still a compact call year and therefore pursuant to the resolution Nebraska is still required to send monthly updates by the 10th of each month. The other states can expect normal updates pursuant to a compact call year.
- Samantha noted that there are contracts in the works for telemetry meters in Lower Republican Natural Resources District in Nebraska and a Lower Republican augmentation project. Chris asked the group if there was a timeline for the augmentation project. Samantha noted the project is still in the consultation phase with some pump testing being performed.
- Chelsea provided an update on RCPP monies. Contracts or beginning to sign contracts for phreatophyte removal. Work on some of this removal may start as soon as this fall/winter.

3.6. Continue development and maintenance of the RRCA administrative website that serves as an informational page for the public and provide regular updates to the EC.

- There have been no significant changes to the website. When annual meeting data are made available those documents will be posted on the website.

3.7. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- Continue evaluating usefulness/applicability of the climate pumping estimator proposed by Kansas.
  - Willem informed the group that he would like to continue this task and is looking forward to utilizing this tool to better estimate 2023's pumping impacts.
- Chris Beightel asked Willem a question about the preliminary accounting posted on the website and

what a page that shows differences was intended to delineate.

- Willem noted that when he runs the integrated accounting, he has a program that reads all of the fields in the spreadsheet and in the integrated accounting and if there's a difference, it just says, there's a difference between what's in the official accounting spreadsheet and what the integrated accounting would show.

3.8. Prepare the 2022 RRCA annual meeting report for approval by the RRCA at the 2023 annual meeting.

- Ivan noted that a couple of weeks ago he sent a copy of the draft annual meeting report that contained the final amended transcripts (this was not noted in the email) and that Kansas is taking a first stab at edits and will forward comments to Nebraska.
- Chelsea noted that she had sent edits to the April meeting minutes and had already commented on the previous two meeting minutes. Nebraska sent out an email, prior to the meeting, where they provided edits on the three previous meetings. Ivan noted that he had received all of these comments and would incorporate all of these changes in the final copies.

4. Nebraska identified an issue with the NCORPE pumping data for 2021
   - As noted, the Commissioners unanimously decided to amend Nebraska's 2021 NCORPE pumping in a manner similar to the PRISM data correction. Prior to the meeting, Kari sent draft language that could be included in the EC report and with the 2022 accounting to note the revisions. Willem has already implemented the change in the groundwater model runs.
5. Summary of Meeting Actions/Assignments (in bold)
   - **The group will continue to review/compare draft accounting for final approval at the annual meeting.**
   - **The group will continue to review the draft 2022 Annual Meeting Report that is circulating.**
   - **Ivan Franco will draft the Engineering Committee Report**
     - **The report will include language regarding QAQC for item 3.3 of this agenda.**
     - **Ivan will review Kari's draft language for the NCORPE pumping fix**
     - **Colorado will continue to work on producing an acceptable package showing acreage retirement in the South Fork.**
   - **Sam will continue to work with Willem on how best to utilize the pumping estimate tool.**
6. Future Meetings

   6.1. **The next meeting will be on August 31st in Burlington, Colorado.**
7. Adjourn

   7.1. The meeting adjourned at approximately 9:38 a.m.

Table of Contents

Accounting Inputs

Calendar Year		**2022**
Groundwater Data		
North Fork Subbasin	GW CBCU Colorado	*17,903*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*1,288*
Arikaree Subbasin	GW CBCU Colorado	*735*
	GW CBCU Kansas	*128*
	GW CBCU Nebraska	*105*
Buffalo Subbasin	GW CBCU Colorado	*394*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*3,535*
Rock Subbasin	GW CBCU Colorado	*88*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*5,015*
South Fork Subbasin	GW CBCU Colorado	*12,347*
	GW CBCU Kansas	*4,381*
	GW CBCU Nebraska	*820*
Frenchman Subbasin	GW CBCU Colorado	*192*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*76,085*
Driftwood Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*866*
Red Willow Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*7,773*
Medicine Creek Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*0*
	GW CBCU Nebraska	*19,933*
Beaver Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*3,243*
	GW CBCU Nebraska	*1,840*
Sappa Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*51*
	GW CBCU Nebraska	*1,011*
Prairie Dog Subbasin	GW CBCU Colorado	*0*
	GW CBCU Kansas	*1,450*
	GW CBCU Nebraska	*0*
Mainstem Subbasin	GW CBCU Colorado	*(5,340)*
	GW CBCU Kansas Above Guide Rock	*(103)*
	GW CBCU Kansas Below Guide Rock	*63*
	GW CBCU Nebraska Above Guide Rock	*43,723*
	GW CBCU Nebraska Below Guide Rock	*2,203*

Import Water Data		
North Fork Subbasin	Imported Water Nebraska	*0*
Arikaree Subbasin	Imported Water Nebraska	*0*
Buffalo Subbasin	Imported Water Nebraska	*0*
Rock Subbasin	Imported Water Nebraska	*0*
South Fork Subbasin	Imported Water Nebraska	*0*
Frenchman Subbasin	Imported Water Nebraska	*0*
Driftwood Subbasin	Imported Water Nebraska	*0*
Red Willow Subbasin	Imported Water Nebraska	*26*
Medicine Creek Subbasin	Imported Water Nebraska	*9,351*
Beaver Subbasin	Imported Water Nebraska	*0*
Sappa Subbasin	Imported Water Nebraska	*13*
Prairie Dog Subbasin	Imported Water Nebraska	*0*
Mainstem Subbasin	Imported Water Nebraska Above Guide Rock	*6,769*
	Imported Water Nebraska Below Guide Rock	*(17)*
	Total	***16,142***
SW Pumping Data		
North Fork Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	349
	SW Diversions - Irrigation - Small Pumps - Colorado	7
	SW Diversions - M&I - Colorado	0
Arikaree Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	0
	SW Diversions - Irrigation - Small Pumps - Colorado	0
	SW Diversions - M&I - Colorado	0
	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	0
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0

Calendar Year		2022
Buffalo Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	0
	SW Diversions - Irrigation - Small Pumps - Colorado	0
	SW Diversions - M&I - Colorado	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	29
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
Rock Subbasin	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
South Fork Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	0
	SW Diversions - Irrigation - Small Pumps - Colorado	0
	SW Diversions - M&I - Colorado	0
	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	0
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
Frenchman Subbasin	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
Driftwood Subbasin	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	0
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
Red Willow Subbasin	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	0
	SW Diversions - Irrigation - Small Pumps - Nebraska	0
	SW Diversions - M&I - Nebraska	0
Medicine Creek Subbasin	SW Diversions - Irrigation - Non-Federal Canals - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Small Pumps - Nebraska - Above Gage	68
	SW Diversions - M&I - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska -Below Gage	0
	SW Diversions - Irrigation - Small Pumps -Nebraska - Below Gage	62
	SW Diversions - M&I - Nebraska - Below Gage	0
Beaver Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	0
	SW Diversions - Irrigation - Small Pumps - Colorado	0
	SW Diversions - M&I - Colorado	0
	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	14
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Small Pumps - Nebraska - Above Gage	0
	SW Diversions - M&I - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska -Below Gage	0
	SW Diversions - Irrigation - Small Pumps -Nebraska - Below Gage	0
	SW Diversions - M&I - Nebraska - Below Gage	0
Sappa Subbasin	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	0
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Small Pumps - Nebraska - Above Gage	0
	SW Diversions - M&I - Nebraska - Above Gage	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska -Below Gage	0
	SW Diversions - Irrigation - Small Pumps -Nebraska - Below Gage	0
	SW Diversions - M&I - Nebraska - Below Gage	0
Prairie Dog Subbasin	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	531
	SW Diversions - M&I - Kansas	383
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska -Below Gage	0
	SW Diversions - Irrigation - Small Pumps -Nebraska - Below Gage	63
	SW Diversions - M&I - Nebraska - Below Gage	0
Mainstem Subbasin	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	797
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	3,332
	SW Diversions - Irrigation - Small Pumps - Nebraska	1,830
	SW Diversions - M&I - Nebraska	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska Below Guide Rock	0
	SW Diversions - Irrigation - Small Pumps - Nebraska Below Guide Rock	763
	SW Diversions - M&I - Nebraska - Below Guide Rock	0

Calendar Year		**2022**

Non-Federal SW Consumptive Use		
	% Non-Federal Canal Diversion Consumed	60%
	% Small Surface Water Pumps Consumed	75%
	% Municipal And Industrial SW Consumed	50%

Non-Federal Reservoir Evaporation Data		
North Fork Subbasin	Non-Federal Reservoir Evaporation - Colorado	44
Arikaree Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	21
	Non-Federal Reservoir Evaporation - Nebraska	0
Buffalo Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Nebraska	16
Rock Subbasin	Non-Federal Reservoir Evaporation - Nebraska	184
South Fork Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	180
	Non-Federal Reservoir Evaporation - Nebraska	0
Frenchman Subbasin	Non-Federal Reservoir Evaporation - Nebraska	154
Driftwood Subbasin	Non-Federal Reservoir Evaporation - Kansas	22
	Non-Federal Reservoir Evaporation - Nebraska	0
Red Willow Subbasin	Non-Federal Reservoir Evaporation - Nebraska	353
Medicine Creek Subbasin	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	413
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	5
Beaver Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	522
	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	226
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	0
Sappa Subbasin	Non-Federal Reservoir Evaporation - Kansas	561
	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	99
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	6
Prairie Dog Subbasin	Non-Federal Reservoir Evaporation - Kansas	410
	Non-Federal Reservoir Evaporation - Nebraska	33
Mainstem Subbasin	Non-Federal Reservoir Evaporation - Kansas	135
	Non-Federal Reservoir Evaporation - Nebraska - Above Guide Rock Gage - Whole Basin Value:	1,934
	Non-Federal Reservoir Evaporation - Nebraska - Below Guide Rock Gage - Whole Basin Value:	95

Stream Gage Data		
North Fork Subbasin	North Fork Republican River At Colorado-Nebraska State Line	21,129
Arikaree Subbasin	Arikaree River At Haigler	982
Buffalo Subbasin	Buffalo Creek Near Haigler	1,030
Rock Subbasin	Rock Creek At Parks	2,955
South Fork Subbasin	South Fork Republican River Near Benkelman	0
Frenchman Subbasin	Frenchman Creek At Culbertson	10,761
Driftwood Subbasin	Driftwood Creek Near McCook	992
Red Willow Subbasin	Red Willow Creek Near Red Willow	2,678
Medicine Creek Subbasin	Medicine Creek Below Harry Strunk	29,716
Beaver Subbasin	Beaver Creek Near Beaver City	484
Sappa Subbasin	Sappa Creek Near Stamford	5,718
Prairie Dog Subbasin	Prairie Dog Creek Near Woodruff	2,414
Mainstem Subbasin	Republican River At Guide Rock	32,213
	Republican River Near Hardy	69,608

Hardy Gage Data	USGS Gage 06853500 Republican River Near Hardy, NE	
Mainstem Subbasin	January	8,005
	February	7,615
	March	9,074
	April	6,592
	May	4,958
	June	3,981
	July	18,172
	August	3,666
	September	2,326
	October	1,624
	November	1,775
	December	1,815
	ANNUAL	69,603

Calendar Year		**2022**
Reservoir Data		
South Fork Subbasin	Bonny Reservoir Evaporation	0
	Bonny Reservoir Change In Storage	0
Frenchman Subbasin	Enders Reservoir Evaporation	2,133
	Enders Reservoir Change In Storage	(1,438)
Red Willow Subbasin	Hugh Butler Lake Evaporation	4,171
	Hugh Butler Lake Change In Storage	(4,825)
Medicine Creek Subbasin	Harry Strunk Lake Evaporation	4,246
	Harry Strunk Lake Change In Storage	(8,481)
Prairie Dog Subbasin	Keith Sebelius Lake Evaporation	4,223
	Keith Sebelius Lake Change In Storage	(5,431)
Mainstem Subbasin	Swanson Lake Evaporation	10,634
	Swanson Lake Change In Storage	(21,713)
	Harlan County Evaporation Subject to Nebraska/Kansas Split	31,111
	Harlan County Evaporation Charged to Kansas	0
	Harlan County Change In Storage	(54,915)
	Lovewell Reservoir Ev charged to the Republican River	3,332

Canal Data		
North Fork Subbasin	Haigler Canal Diversions - Colorado	0
	Haigler Canal Diversions - Nebraska	6,216
	Haigler Canal Diversions	***6,216***
South Fork Subbasin	Hale Ditch Diversions	0
Frenchman Subbasin	~~Champion Canal Diversions~~	~~0~~
	Riverside Canal Diversions	0
	Culbertson Canal Diversions	3,788
	Culbertson Canal Extension Diversions	0
	Culbertson Canal % Return Flow	82%
	Culbertson Canal Extension % Return Flow	100%
Driftwood Subbasin	Meeker-Driftwood Canal Diversions	21,898
	Meeker-Driftwood Canal % Return Flow	62.3%
Red Willow Subbasin	Red Willow Canal Diversions	5,451
	Red Willow Canal % Return Flow	65%
Prairie Dog Subbasin	Almena Canal Diversions	2,542
	Almena Canal % Return Flow	61.3%
Mainstem Subbasin	Bartley Canal Diversion	6,640
	Bartley Canal % Return Flow	59%
	Cambridge Canal Diversion	26,873
	Cambridge Canal % Return Flow	55.6%
	Naponee Canal Diversion	1,288
	Naponee Canal % Return Flow	71%
	Franklin Canal Diversion	24,542
	Franklin Canal % Return Flow	67%
	Franklin Pump Canal Diversions	1,739
	Franklin Pump Canal % Return Flow	61%
	Superior Canal Diversions	9,827
	Superior Canal % Return Flow	66%
	Courtland Canal Diversions At Headgate	*74,964*
	Diversions to Nebraska Courtland	2,007
	Nebraska Courtland % Return Flow	29%
	Courtland Canal, Loss in NE assigned to upper Courtland KS	4,905
	Courtland Canal, Loss in NE assigned to delivery to Lovewell	12,385
	Courtland Canal At Kansas-Nebraska State Line	*55,667*
	Courtland Canal Diversions to the Upper Courtland District	22,666
	Courtland Canal Above Lovewell % Return Flow	*53.3%*
	Courtland Canal, Loss assigned to deliveries of water to Lovewell, Stateline to Lovewell	*6,051*
	Courtland Canal Deliveries To Lovewell Reservoir	*31,855*
	Diversions of Republican River water from Lovewell Reservoir to the Courtland Canal below Lovewell	28,522
	Courtland Canal Below Lovewell % Return Flow	*42.3%*
	To allocate Harlan County evaporation:	
	Kansas Bostwick Diversions During Irrigation Season (actual, or 3-year average)	44,970
	Nebraska Bostwick Diversions During Irrigation Season (actual or 3-year average)	39,336

NOTE:
The initial heads for the RRCA Groundwater Model 2022 Update are the ending heads from a groundwater model generated using corrected 2021 pumping data from the NCORPE augmentation project wells rather than the RRCA Groundwater Model 2021 Update used for approved 2021 accounting. After the 2021 Update was approved, Nebraska provided updated pumping for NCORPE wells. The corrected 2021 groundwater model run used to generate the 2022 initial heads has 2,264.63 acre-feet of NCORPE pumping rather than 38,438.22 acre-feet used in the approved 2021 groundwater model runs. The updated 2022 initial heads will serve as the basis for future RRCA Groundwater Model updates.

Accounting Tables

Table 1: Annual Virgin and Computed Water Supply, Allocations, and Computed Beneficial Consumptive Uses by State, Main Stem, and Sub-Basin

2022	Virgin Water	Computed	Allocations				Computed Beneficial Consumptive Use		
Basin	Supply	Water Supply	Colorado	Kansas	Nebraska	Unallocated	Colorado	Kansas	Nebraska
North Fork	38,290	38,290	8,580	0	9,420	20,290	18,160	0	5,020
Arikaree	1,980	1,980	1,550	100	330	0	740	150	110
Buffalo	4,990	4,990	0	0	1,650	3,340	390	0	3,570
Rock	8,250	8,250	0	0	3,300	4,950	90	0	5,200
South Fork	17,730	17,730	7,870	7,130	250	2,480	12,350	4,560	820
Frenchman	89,090	90,530	0	0	48,520	42,010	190	0	79,050
Driftwood	(1,390)	(1,390)	0	(100)	(230)	(1,060)	0	20	870
Red Willow	15,220	20,050	0	0	3,850	16,200	0	0	8,730
Medicine	36,530	45,010	0	0	4,100	40,910	0	0	20,450
Beaver	6,330	6,330	1,270	2,460	2,570	30	0	3,780	2,070
Sappa	6,950	6,950	0	2,860	2,860	1,230	0	610	1,120
Prairie Dog	4,640	10,070	0	4,600	770	4,700	0	7,660	80
Main Stem	88,090	160,360	0	81,940	78,420	0	(5,340)	50,990	122,870
Total All Basins	316,700	409,150	19,270	98,990	155,810	135,080	26,580	67,770	249,960
Main Stem Including Unallocated		295,440	0	150,970	144,470				
Total	316,700	409,150	19,270	168,020	221,860	0	26,580	67,770	249,960

Table 2: Original Compact Virgin Water Supply and Allocations

Basin	Virgin Water Supply	Colorado Allocation	% of Basin Supply	Kansas Allocation	% of Basin Supply	Nebraska Allocation	% of Basin Supply	Unallocated	% of Basin Supply
North Fork	44,700	10,000	22.4%			11,000	24.6%	23,700	53.0%
Arikaree	19,610	15,400	78.5%	1,000	5.1%	3,300	16.8%	(90)	-0.4%
Buffalo	7,890					2,600	33.0%	5,290	67.0%
Rock	11,000					4,400	40.0%	6,600	60.0%
South Fork	57,200	25,400	44.4%	23,000	40.2%	800	1.4%	8,000	14.0%
Frenchman	98,500					52,800	53.6%	45,700	46.4%
Driftwood	7,300			500	6.9%	1,200	16.4%	5,600	76.7%
Red Willow	21,900					4,200	19.2%	17,700	80.8%
Medicine	50,800					4,600	9.1%	46,200	90.9%
Beaver	16,500	3,300	20.0%	6,400	38.8%	6,700	40.6%	100	0.6%
Sappa	21,400			8,800	41.1%	8,800	41.1%	3,800	17.8%
Prairie Dog	27,600			12,600	45.7%	2,100	7.6%	12,900	46.7%
Tributaries Sub-Total	384,000							175,500	
Main Stem	94,500								
Main Stem + Unallocated	270,000			138,000	51.1%	132,000	48.9%		
Total	478,900	54,100		190,300		234,500			

Table 3A: Table to Be Used to Calculate Colorado's Five-Year Running Average Allocation and Computed Beneficial

	Col. 1	Col. 2	Col. 3	Col. 4
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit and CORWS	Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit and CORWS Credit Col 1 – (Col 2- Col 3)
2018	25,630	35,130	13,578	4,078
2019	22,710	32,740	8,905	(1,125)
2020	24,200	26,910	6,218	3,508
2021	22,790	30,200	9,390	1,980
2022	19,270	26,580	8,501	1,191
Avg 2018-2022	22,920	30,310	9,320	1,930

Table 3B: Table to Be Used to Calculate Kansas's Five-Year Running Average Allocation and Computed Beneficial

	Col. 1	Col. 2	Col. 3	Col. 4
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit	Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit Col 1 – (Col 2- Col 3)
2018	179,780	51,450	NA	128,330
2019	333,300	47,910	NA	285,390
2020	247,750	53,810	NA	193,940
2021	201,890	57,130	NA	144,760
2022	168,020	67,770	NA	100,250
Avg 2018-2022	226,150	55,610	NA	170,530

Table 3C: Table to Be Used to Calculate Nebraska's Five-Year Running Average Allocation and Computed Beneficial

	Col. 1	Col. 2	Col. 3	Col. 4
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit and NERWS	Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit and NERWS Credit Col 1 – (Col 2- Col 3)
2018	241,680	266,080	25,943	1,543
2019	389,300	262,870	26,541	152,971
2020	303,070	252,400	18,995	69,665
2021	258,180	252,650	21,456	26,986
2022	221,860	249,960	16,157	(11,943)
Avg 2018-2022	282,820	256,790	21,820	47,840

Table 4A: Colorado Compliance with the Sub-basin Non-impairment Requirement

Table 4A is left unpopulated pursuant to the August 24, 2016 "RESOLUTION BY THE REPUBLICAN RIVER COMPACT ADMINISTRATION APPROVING OPERATION AND ACCOUNTING FOR THE COLORADO COMPACT COMPLIANCE PIPELINE AND COLORADO'S COMPLIANCE EFFORTS IN THE SOUTH FORK REPUBLICAN RIVER BASIN", paragraph E.

2022

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
Sub-basin	Colorado Sub-basin Allocation (Five-year Running Average)	Unallocated Supply (Five-year Running Average)	Credits from Imported Water Supply and CORWS Credit (Five-year Running Average)	Total Available Supply (Five-year Running Average)	Colorado Computed Beneficial Consumptive Use (Five-year Running Average)	Difference Between Available Supply and Computed Beneficial Consumptive Use (Five-year Running Average)
North Fork						
Arikaree						
South Fork						
Beaver						

Table 4B: Kansas's Sub-Basin Non-impairment Compliance

2022

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
Sub-basin	Kansas Sub-basin Allocation (Five-year Running Average)	Unallocated Supply (Five-year Running Average)	Unused Allocation from Colorado (Five Year Running Average)	Credits from Imported Water Supply (Five-year Running Average)	Total Available Supply Col 1 + Col 2 + Col 3 + Col 4 (Five-year Running Average)	Kansas Computed Beneficial Consumptive Use (Five-year Running Average)	Difference Between Available Supply and Computed Beneficial Consumptive Use Col 5 - Col 6 (Five-year Running Average)
Arikaree	162	(10)	790	N/A	942	138	804
South Fork	8,426	2,936	0	N/A	11,362	4,746	6,616
Driftwood	44	500	0	N/A	544	16	528
Beaver	4,034	60	2,080	N/A	6,174	5,856	318
Sappa	7,472	3,230	0	N/A	10,702	2,172	8,530
Prairie Dog	8,124	8,298	0	N/A	16,422	10,324	6,098

Table 5A: Colorado's Compliance During Water-Short Year Administration

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7
Year	Is the year Water Short Pursuant to III.J?* (Yes or No)	Statewide Allocation	Beaver Creek Reduction Pursuant to Table 5F	Allocation - Beaver Creek Reduction (Col. 2 - Col.3)	Computed Beneficial Consumptive (excluding the Beaver Creek Sub-basin)	Imported Water Supply Credit - IWS Beaver Creek + CORWS Credit	Difference between Allocation and the Compuated Beneficial Consumptive Use offset by Imported Water Supply Credit and CORWS Credit (Col. 4 - Col. 5 + Col. 6)
2018	Yes	25,630	1,852	23,778	35,130	13,578	2,226
2019	No	22,710	0	22,710	32,740	8,905	(1,125)
2020	No	24,200	0	24,200	26,910	6,218	3,508
2021	No	22,790	0	22,790	30,200	9,390	1,980
2022	No	19,270	0	19,270	26,580	8,501	1,191
Avg 2018-2022	Yes	22,920	370	22,550	30,310	9,320	1,560

Table 5F: Colorado's Beaver Creek Reduction During Water-Short Years

Water Short Year (WSY) Pursuant to III.J	Beaver Creek Allocation	Reduction = Average of last five WSY Beaver Creek Allocations
	Col. 1	Col. 2
2002	770	N/A
2003	260	N/A
2004	360	N/A
2005	910	N/A
2006	1,420	N/A
2007	2,320	744
2013	1,130	1,054
2014	1,250	1,228
2015	2,130	1,406
2016	2,430	1,650
2018	1,940	1,852

Table 5B: Kansas's Compliance During Water-Short Year Administration
Kansas

Year	Allocation				Computed Beneficial Consumptive Use	Imported Water Supply Credit	Difference Between Allocation and the Computed Beneficial Consumpitve Use offset by Imported Water Supply Credit
Column	1	2	3	4	5	6	7
	Sum Sub-basins	Kansas' Share of Unallocated Supply	Kansas' Share of the Unused Colorado Allocation	Total Col 1 + Col 2 + Col 3			Col 4 - (Col 5 - Col 6)
2021	25,860	6,607	1,589	34,056	20,650	N/A	13,406
2022	17,050	3,771	1,063	21,884	16,780	N/A	5,104
Avg 2021-2022	21,455	5,189	1,326	27,970	18,715	N/A	9,255

Table 5E: Nebraska's Tributary Compliance During Water-Short Year Administration

	Allocation			Computed Beneficial Consumptive Use	Imported Water Supply Credit and AWS	Allocation - (CBCU - IWS-AWS)
Year	Sub-Basin Total	Share of Unallocated Supply	Total			
2020	95,240	78,440	173,680	132,980	10,716	51,416
2021	89,710	68,225	157,935	133,520	10,822	35,237
2022	77,390	66,054	143,444	127,090	9,442	25,796
Avg 2021-2022	83,550	67,140	150,690	130,305	10,132	30,517

Table 5C: Nebraska's Compliance During Water-Short Year Administration

Year	Allocation				Computed Beneficial Consumptive Use			Imported Water Supply Credit and NERWS Credit	Difference Between Allocation and Computed Beneficial Consumptive Use offset by Imported Water Supply Credit Above Guide Rock and NERWS Credit
Column	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
	State-Wide Allocation	Allocation Below Guide Rock	Allocation Above Guide Rock	Nebraska's Share of Unused Colorado Allocation	State-Wide CBCU	CBCU Below Guide Rock	CBCU Above Guide Rock	Credits Above Guide Rock	Col 3 + Col 4 - (Col 7 - Col 8)
2021	258,180	6,503	251,677	1,521	252,650	3,084	249,566	21,485	25,116
2022	221,860	9,277	212,583	1,017	249,960	2,870	247,090	16,174	(17,316)
Avg 2021-2022	240,020	7,890	232,130	1,270	251,310	2,980	248,330	18,830	3,900

Table 5D: Nebraska's Compliance Under a Alternative Water-Short Year Administration Plan

Year	Allocation				Computed Beneficial Consumptive Use			Imported Water	Difference Between Allocation
Column	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
	State-Wide Allocation	Allocation Below Guide Rock	Allocation Above Guide Rock	Share of Unused Colorado Allocation	State-Wide CBCU	CBCU Below Guide Rock	CBCU Above Guide Rock	Credits Above Guide Rock	Col 3 + Col 4 - (Col 7 - Col 8)
2020	303,070	17,777	285,293	1,628	252,400	2,266	250,134	18,995	55,783
2021	258,180	6,503	251,677	1,521	252,650	3,084	249,566	21,485	25,116
2022	221,860	9,277	212,583	1,017	249,960	2,870	247,090	16,174	(17,316)
Avg 2020-2022	261,040	11,190	249,850	1,390	251,670	2,740	248,930	18,880	21,190

Attachments

Attachment 1: Sub-basin Flood Flow Thresholds

Sub-basin	Sub-basin Flood Flow Threshold Acre-feet per Year[3]
Arikaree River	16,400
North Fork of Republican River	33,900
Buffalo Creek	9,800
Rock Creek	9,800
South Fork of Republican River	30,400
Frenchman Creek	51,900
Driftwood Creek	9,400
Red Willow Creek	15,100
Medicine Creek	55,100
Beaver Creek	13,900
Sappa Creek	26,900
Prairie Dog	15,700

[3] Flows considered to be Flood Flows are flows in excess of the 94% flow based on a flood frequency analysis for the years 1971-2000. The Gaged Flows are measured after depletions by Beneficial Consumptive Use and change in reservoir storage.

Attachment 6: Computing Water Supplies and Consumptive Use Above Guide Rock

Note: At its Annual Meeting on August 21, 2020, the RRCA agreed that the Accounting Procedures (Rev. May 25, 2017) do not properly implement the Flood Flows provisions at the Hardy gage with respect to the calculation of Computed Water Supply above and below Guide Rock. The current implementation could impact Nebraska's Table 5C compliance test, specifically the Allocation above Guide Rock. Nebraska and Kansas each offered proposals to resolve the issue but could not reach agreement on a solution. Due to the infrequent occurrence of Flood Flows, the RRCA deferred resolution of the matter to a future date necessitated by and preceding impact to Nebraska's Table 5C compliance. The states wish to acknowledge and memorialize the issue to encourage work towards its resolution. As it stands, Attachment 6 calculates Virgin Water Supply Guide Rock to Hardy rather than Computed Water Supply Guide Rock to Hardy which would reduce Virgin Water Supply by the relevant Flood Flows as described in Section II. Definitions and Section III. Basic Formulas.

Year	Total Mainstem CWS	Hardy Gage	Superior Courtland Diversion Dam	Courtland Canal Diversions	Superior Canal Diversion	Courtland Canal Returns	Superior Canal Returns	Total Bostwick Returns Below Guide Rock	NE CBCU Below Guide Rock	KS CBCU Below Ruide Rock	Total CBCU Below Guide Rock	Gain Guide Rock to Hardy	VWS Guide Rock to Hardy	Mainstem VWS Above Guide Rock	NE MS Allocation Above Guide Rock	KS MS Allocation Above Guide Rock	Nebraska Guide Rock to Hardy Allocation	Kansas Guide Rock to Hardy Allocation
2022	160,360	69,608	32,213	73,224	9,827	15,494	6,460	21,954	2,870	661	3,531	15,441	18,972	141,388	69,139	72,249	9,277	9,695

COURTLAND CANAL					
	2018	2019	2020	2021	2022
Return Flow From Courtland Canal To Republican River Above Lovewell From Kansas	608	761	536	912	835
Return Flow From Courtland Canal To Republican River Above Hardy From Nebraska	4,706	3,519	6,791	9,625	14,659
Courtland Canal Diversions At Headgate	46,704	55,120	44,380	73,224	74,964
Courtland Canal At Kansas-Nebraska State Line	40,559	50,721	35,756	60,776	55,667
NE Courtland Canal CBCU (includes transportation loss)	405	108	342	711	1,420
Superior Canal CBCU	2,744	1,433	2,046	3,076	3,367

NEBRASKA					
	2018	2019	2020	2021	2022
SW Diversions - Irrigation - Small Pumps - Nebraska Below Guide Rock	1,177	84	552	665	763
SW Diversions - M&I - Nebraska - Below Guide Rock	0	0	0	0	0
SW Non-Federal Reservoir Evaporation - Below Guide Rock	(9)	(6)	84	51	95
SW Return - Irrigation	294	21	138	166	191
SW Return - M&I	0	0	0	0	0
GW CBCU Nebraska Below Guide Rock	2,440	1,723	1,769	2,534	2,203

KANSAS					
	2018	2019	2020	2021	2022
SW CBCU - Irrigation - Small Pumps	518	148	565	667	598
SW CBCU - M&I	0	0	0	0	0
GW CBCU Kansas Below Guide Rock	47	49	51	56	63

2022

Attachment 7: Calculations of Return Flows from Bureau of Reclamation Canals

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12
Canal	Canal Diversion	Spill to Waste-Way	Net Diversion	Field Deliveries	Canal Loss	Average Field Loss Factor	Field Loss	Total Loss from District	Percent Field and Canal Loss That Returns to the Stream	Total return to Stream from Canal and Field Loss	Return as Percent of Canal Diversion
Name Canal Σ Irrigation Season Σ Non- Irrigation Season	Headgate Diversion	Sum of measured spills to river	Col 2 - Col 3	Sum of Deliveries to the field	Col 4 - Col 5	1 -Weighted Average Efficiency of Application System for the District*	Col 5 x Col 7	Col 6 + Col 8	Estimated Percent Loss*	Col 9 x Col 10 + Col 3	Col 11/Col 2
Culbertson	3,575	0	3,575	23	3,552	30%	7	3,559	82%	2,918	82%
	213	0	213	0	213	30%	0	213	92%	196	92.0%
Culbertson Extension	0	0	0	0	0	30%	0	0	82%	0	100%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Meeker - Driftwood	21,898	2,740	19,158	8,381	10,777	30%	2,514	13,291	82%	13,639	62.3%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Red Willow	5,451	389	5,062	1,699	3,363	30%	510	3,873	82%	3,565	65.4%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Bartley	6,640	355	6,285	2,735	3,550	30%	821	4,371	82%	3,939	59.3%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Cambridge	26,873	1,188	25,685	12,715	12,970	30%	3,815	16,785	82%	14,951	55.6%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Naponee	1,288	355	933	383	550	35%	134	684	82%	916	71.1%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Franklin	24,542	2,299	22,243	7,468	14,775	35%	2,614	17,389	82%	16,558	67.5%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Franklin Pump	1,739	415	1,324	816	508	35%	286	794	82%	1,066	61.3%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Almena	2,542	0	2,542	915	1,627	30%	275	1,902	82%	1,559	61.3%
Superior	9,827	1,224	8,603	3,214	5,389	31%	996	6,385	82%	6,460	65.7%
	0	0	0	0	0	31%	0	0	92%	0	100.0%
Nebraska Courtland	2,007	0	2,007	1,677	330	23%	386	716	82%	587	29.2%
Courtland Canal Above Lovewell (KS)	22,667	1,453	21,214	10,725	10,489	23%	2,467	12,956	82%	12,077	53.3%
Courtland Canal Below Lovewell	36,666	4,095	32,571	24,228	8,343	23%	5,572	13,915	82%	15,506	42.3%

* The average field efficiencies for each district and percent loss that returns to the stream may be reviewed and, if necessary, changed by the RRCA to improve the accuracy of the estimates.

Attachment 8: Calculations of the Computed Water Supply Adjustment and Remaining Compact Compliance Volume for implementation of 2016 RRCA Resolution

	CCV and RCCV Tracking[a]												APV and RWS						RCCV Calc
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Colorado		Nebraska				
Year	Start of Year RCCV	RCCV Adjustment	CCV	CCV Inflow Into HCL	RCCV Inflow Into HCL	Total CCV and RCCV Inflow Into HCL	Total CCV and RCCV Available for Release	CCV Released from HCL as Flow	CCV Released from HCL as Evaporation	CCV Retained in HCL (at End of Year)	CWSA	End of Year RCCV	Aug. Pumping Volume (APV)	Resolution Water Supply Credit (CORWS)	Aug. Pumping Volume (APV) Rock Creek That Passed Sub-basin Gage in the Current Year	Aug. Pumping Volume (APV) N-CORPE That Passed Sub-basin Gage in the Current Year	Resolution Water Supply Credit (NERWS)	Extra CCV Efforts Above CCV (Use with RCCV Calc)
	=Col 12 of previous year	[b]	[c]			= Col. 4 + Col. 5	=Col. 6 + Col. 10 of previous year			= Col. 7 – (Col. 8 + Col. 9)	=Col. 10 – Col. 10 of previous year	= Col. 1 – Col. 2 + Col. 3 - Col. 6[d]						
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15,766	0	15,766	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	7,448	7,448	19,397	42,758	62,155	0
2015	0	0	0	8332	0	8332	8332	0	0	8332	8332	0	10,760	10,760	1,098	25,932	18,698	8332
2016	0	0	41,935	24752	0	24752	33084	5084	4321	23679	15347	9,300	10,130	10,130	499	22,803	41,935	449
2017	9300	0	20,000	20,000	0	20000	43679	20000	2241	21438	-2241	9,300	11,330	11,330	4,563	11,106	20,000	0
2018	9300	0	0	0	0	0	21438	0	1339	20099	-1339	9,300	13,578	13,578	0	0	0	0
2019	9300	0	0	0	0	0	20099	0	2340	17759	-2340	9,300	8,905	8,905	0	0	0	0
2020	9300	1860	0	0	0	0	17759	0	3889	13870	-3889	7,440	6,218	6,218	0	0	0	0
2021	7,440	1860	0	0	0	0	13870	0	1550	12320	-1550	5,580	9,390	9,390	0	0	0	0
2022	5,580	1860	0	0	0	0	12320	0	4354	7966	-4354	3,720	8,501	8,501	0	0	0	0

a. Calculations for RCCV, CWSA, & RWS don't start until Oct. 1, 2015

b. See Provision 10 of the RRCA Resolution signed August 24, 2016, titled “Resolution Approving Long-Term Agreement Related to the Operation of Harlan County Lake for Compact Call Years” for the terms of assigning RCCV Adjustment. The RCCV Adjustment for each year is equal to 20% of the unadjusted portion of the RCCV, if it is a non-Compact Call Year, plus any remaining volumetric reductions from the previous four years.

c. In years when the contributions from Nebraska’s water management activities, consistent with the 2016 CCY HCL Operations Resolution, are greater than CCV and the NERWS is equal to the greater contribution volume, CCV in Column 3 should also be set equal to the contribution.

d. The formula for calculation of RCCV is based on calendar year operations and will vary when operations occur in a different calendar year than NERWS Credit is applied.

Flood Flow Calculations Based on Accounting Procedures III.B.1 and Attachment 1.

Hardy Gage Monthly Data (acre-feet)					
	2018	2019	2020	2021	2022
January	4,619	13,289	55,339	7,475	8,005
February	5,521	6,875	33,332	7,332	7,615
March	7,386	61,131	33,775	28,746	9,074
April	3,658	21,669	23,421	20,400	6,592
May	2,309	66,000	31,732	25,198	4,958
June	7,601	69,761	10,810	14,672	3,981
July	3,805	118,015	30,811	8,141	18,172
August	5,065	82,834	8,337	8,550	3,666
September	23,848	30,188	3,488	3,034	2,326
October	17,603	21,527	4,298	2,535	1,624
November	9,231	59,330	7,632	7,470	1,775
December	20,216	75,757	8,265	8,600	1,815
ANNUAL	110,862	626,376	251,239	142,153	69,603
Over 400K	0	226,376	0	0	0

Sub-basin Flows Above Attachment 1 Flood Flow Thresholds					
	2018	2019	2020	2021	2022
North Fork	0	0	0	0	0
Arikaree	0	0	0	0	0
Buffalo	0	0	0	0	0
Rock	0	0	0	0	0
South Fork	0	0	0	0	0
Frenchman	0	0	0	0	0
Driftwood	0	0	0	0	0
Red Willow	0	0	0	0	0
Medicine Creek	0	0	0	0	0
Beaver	0	0	0	0	0
Sappa	0	15,988	0	0	0
Prairie Dog	0	25,260	0	0	0
Sub-basin Sum	0	41,248	0	0	0

5-month Consecutive Period Flows (acre-feet)					
	2018	2019	2020	2021	2022
Jan-May	23,494	168,964	177,598	89,151	36,244
Feb-Jun	26,475	225,436	133,069	96,348	32,220
Mar-Jul	24,760	336,576	130,548	97,157	42,777
Apr-Aug	22,438	358,279	105,110	76,961	37,369
May-Sep	42,628	366,798	85,177	59,595	33,103
Jun-Oct	57,922	322,325	57,743	36,932	29,769
Jul-Nov	59,552	311,894	54,566	29,730	27,563
Aug-Dec	75,962	269,636	32,020	30,189	11,206

5-month Consecutive Period Test					
	2018	2019	2020	2021	2022
Jan-May	0	0	0	0	0
Feb-Jun	0	0	0	0	0
Mar-Jul	0	1	0	0	0
Apr-Aug	0	1	0	0	0
May-Sep	0	1	0	0	0
Jun-Oct	0	0	0	0	0
Jul-Nov	0	0	0	0	0
Aug-Dec	0	0	0	0	0
TOTAL	0	3	0	0	0

2-month Consecutive Period Flows (acre-feet)					
	2018	2019	2020	2021	2022
Jan-Feb	10,140	20,164	88,671	14,807	15,620
Feb-Mar	12,907	68,006	67,107	36,078	16,689
Mar-Apr	11,045	82,800	57,195	49,146	15,666
Apr-May	5,967	87,669	55,152	45,598	11,550
May-Jun	9,910	135,761	42,541	39,870	8,939
Jun-Jul	11,406	187,776	41,621	22,813	22,153
Jul-Aug	8,870	200,849	39,148	16,691	21,838
Aug-Sep	28,912	113,022	11,825	11,584	5,992
Sep-Oct	41,451	51,715	7,786	5,569	3,950
Oct-Nov	26,834	80,857	11,930	10,005	3,399
Nov-Dec	29,447	135,087	15,898	16,070	3,590

2-month Consecutive Period Test					
	2018	2019	2020	2021	2022
Jan-Feb	0	0	0	0	0
Feb-Mar	0	0	0	0	0
Mar-Apr	0	0	0	0	0
Apr-May	0	0	0	0	0
May-Jun	0	0	0	0	0
Jun-Jul	0	0	0	0	0
Jul-Aug	0	1	0	0	0
Aug-Sep	0	0	0	0	0
Sep-Oct	0	0	0	0	0
Oct-Nov	0	0	0	0	0
Nov-Dec	0	0	0	0	0
TOTAL	0	1	0	0	0

Final Sub-basin Flood Flows					
	2018	2019	2020	2021	2022
North Fork Flood Flow	0	0	0	0	0
Arikaree Flood Flow	0	0	0	0	0
Buffalo Flood Flow	0	0	0	0	0
Rock Flood Flow	0	0	0	0	0
Southfork Flood Flow	0	0	0	0	0
Frenchman Flood Flow	0	0	0	0	0
Driftwood Flood Flow	0	0	0	0	0
Red Willow Flood Flow	0	0	0	0	0
Medicine Creek Flood Flow	0	0	0	0	0
Beaver Flood Flow	0	0	0	0	0
Sappa Flood Flow	0	15988	0	0	0
Prairie Dog Flood Flow	0	25260	0	0	0
Mainstem Flood Flow	0	185128	0	0	0

Combined Test					
	2018	2019	2020	2021	2022
FINAL TOTAL	0	4	0	0	0

NEBRASKA
Good Life. Great Water.
DEPT. OF NATURAL RESOURCES

Pete Ricketts, Governor

Date: 1/12/2023

To: RRCA EC Representatives - Ivan Franco, Colorado, and Chris Beightel, Kansas

From: Kari Burgert, Nebraska RRCA EC representative

Subject: Report on error in the 2021 NCORPE augmentation project pumping data

Summary

The purpose of this document is to inform the Engineering Committee of an issue in the 2021 NCORPE well pumping volumes that were included in the 2021 RRCA Groundwater Model and 2021 Accounting and to initiate correction. Over 36,000 acre-feet of NCORPE pumping were erroneously reported by Nebraska for 2021. The lagged impacts from this pumping error will continue to affect future CBCU calculations. Nebraska recommends the Engineering Committee discuss and propose a solution to the RRCA at the 2023 Annual Meeting.

2021 NCORPE Data Error and Impacts on Accounting

On December 16, 2022, Nebraska Department of Natural Resources (NeDNR) received confirmation that the NCORPE augmentation project pumping data reported to the RRCA for 2021 is incorrect. The following table displays originally reported and correct total 2021 pumping for each well. The spreadsheet titled *2021Aug_NcorpeCorrect.*xlsx has the correct 2021 monthly pumping for each well.

Well	Model Row	Model Column	Original (acre-feet)	Correct (acre-feet)
W132	**18**	**161**	1.05	0.00
W133	**19**	**160**	357.79	0.00
W134	**19**	**161**	0.28	0.00
W143	**19**	**159**	168.81	0.00
W144	**19**	**160**	0.00	0.00
W154	**19**	**159**	21.56	0.00
W161	**18**	**163**	0.01	0.00
W163	**19**	**163**	335.74	475.62

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Well	Model Row	Model Column	Original (acre-feet)	Correct (acre-feet)
W164	**19**	**164**	11.79	649.99
W171	**18**	**162**	79.75	4.74
W172	**18**	**163**	3.10	0.00
W173	**19**	**162**	109.10	0.00
W174	**19**	**163**	13.57	0.00
W181	**18**	**161**	0.00	0.00
W182	**18**	**162**	376.80	0.00
W183	**19**	**161**	289.90	0.00
W184	**19**	**162**	0.00	0.00
W191	**19**	**161**	6,588.47	531.07
W192	**19**	**162**	0.11	0.00
W201	**19**	**162**	19.65	0.00
W202	**19**	**163**	0.01	0.00
W211	**19**	**163**	0.31	0.00
W212	**19**	**164**	14,811.44	0.00
W213	**20**	**163**	7,827.75	599.37
W222	**19**	**159**	7,189.49	0.00
W231	**19**	**159**	18.52	0.00
W232	**19**	**160**	0.58	0.00
W241	**19**	**160**	209.25	3.85
W242	**19**	**161**	1.86	0.00
W281	**20**	**163**	1.53	0.00
		2021 Total	38,438.22	2,264.63

In total, approximately 36,174 acre-feet of pumping was over-reported for the NCORPE wells for 2021.

We corrected the 2021 NCORPE pumping and re-ran the RRCA Groundwater Model to obtain the 2021 Impacts in acre-feet shown in the following table. There were no differences in the 2021 Impacts with the corrected NCORPE pumping.

2021	Colorado		Kansas		Nebraska		Mound	
Location	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**
Arikaree	1,443	1,443	115	115	110	110	0	0
Beaver	0	0	5,163	5,163	3,228	3,228	0	0
Buffalo	437	437	0	0	3,569	3,569	0	0
Driftwood	0	0	0	0	828	828	0	0
Frenchman	183	183	0	0	74,743	74,743	0	0
North Fork	17,951	17,951	0	0	1,272	1,272	0	0
Above Swanson	-3,856	-3,856	34	34	6,209	6,209	0	0
Swanson - Harlan	0	0	-470	-470	29,183	29,183	9,921	9,921
Harlan - Guide Rock	0	0	0	0	26,527	26,527	742	742
Guide Rock - Hardy	0	0	56	56	2,534	2,534	-14	-14
Medicine	0	0	0	0	20,219	20,219	10,693	10,693
Prairie Dog	0	0	2,164	2,164	0	0	0	0
Red Willow	0	0	0	0	6,670	6,670	49	49
Rock	82	82	0	0	5,113	5,113	0	0
Sappa	0	0	1,241	1,241	1,560	1,560	29	29
South Fork	12,250	12,250	5,155	5,155	774	774	0	0
Hugh Butler	0	0	0	0	2,192	2,192	0	0
Bonny	1,514	1,514	21	21	0	0	0	0
Keith Sebelius	0	0	560	560	0	0	0	0
Enders	17	17	0	0	5,179	5,179	0	0
Harlan	0	0	83	83	730	730	36	36
Harry Strunk	0	0	0	0	343	343	0	0
Swanson	17	17	0	0	302	302	0	0
Mainstem	-3,866	-3,866	-371	-371	64,452	64,452	10,649	10,649
Total	30,029	30,029	14,137	14,137	191,284	191,284	21,471	21,471

Using Willem's January 2, 2023, groundwater model update and carrying the resulting 2021 heads from the corrected run forward to the 2022 and 2023 model projections, we obtain 2022 and 2023 CBCU shown in the following tables. Impact differences are in bold italics.

2022	Colorado		Kansas		Nebraska		Mound	
Location	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**
Arikaree	728	728	128	128	122	122	0	0
Beaver	0	0	3,406	3,406	1,863	1,863	0	0
Buffalo	391	391	0	0	3,525	3,525	0	0
Driftwood	0	0	0	0	816	816	0	0
Frenchman	174	174	0	0	71,053	71,053	0	0
North Fork	17,977	17,977	0	0	1,288	1,288	0	0
Above Swanson	-5,509	-5,509	52	52	4,275	4,275	0	0
Swanson - Harlan	0	0	-458	-458	11,095	11,095	6,113	6,113
Harlan - Guide Rock	0	0	0	0	26,024	26,024	701	701
Guide Rock - Hardy	0	0	62	62	2,272	2,272	-19	-19
Medicine	0	0	0	0	19,248	19,247	***9,490***	***9,492***
Prairie Dog	0	0	872	872	0	0	0	0
Red Willow	0	0	0	0	5,429	5,429	26	26
Rock	88	88	0	0	5,012	5,012	0	0
Sappa	0	0	128	128	1,013	1,013	13	13
South Fork	10,755	10,755	4,369	4,369	811	811	0	0
Hugh Butler	0	0	0	0	2,270	2,270	0	0
Bonny	1,542	1,542	22	22	0	0	0	0
Keith Sebelius	0	0	580	580	0	0	0	0
Enders	18	18	0	0	5,265	5,265	0	0
Harlan	0	0	66	66	727	727	38	38
Harry Strunk	0	0	0	0	351	351	0	0
Swanson	16	16	0	0	296	296	0	0
Mainstem	-5,516	-5,516	-335	-335	43,666	43,666	6,795	6,795
Total	26,173	26,173	9,241	9,241	162,755	1627,55	***16,376***	***16,378***

2023	Colorado		Kansas		Nebraska		Mound	
Location	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**	**Original**	**Corrected**
Arikaree	976	976	175	175	135	135	0	0
Beaver	0	0	3,131	3,131	1,455	1,455	0	0
Buffalo	386	386	0	0	3,559	3,559	0	0
Driftwood	0	0	0	0	817	817	0	0
Frenchman	164	164	0	0	76,768	76,768	0	0
North Fork	18,588	18,588	0	0	1,320	1,320	0	0
Above Swanson	-2,102	-2,102	0	0	8,324	8,324	0	0
Swanson - Harlan	0	0	-1,350	-1,350	21,565	21,565	6,697	6,697
Harlan - Guide Rock	0	0	0	0	26,563	26,563	745	745
Guide Rock - Hardy	0	0	66	66	2,522	2,522	-16	-16
Medicine	0	0	0	0	***21,491***	***21,486***	***10,888***	***10,910***
Prairie Dog	0	0	1,369	1,369	0	0	0	0
Red Willow	0	0	0	0	6,816	6,816	37	37
Rock	94	94	0	0	5,057	5,057	0	0
Sappa	0	0	-350	-350	872	872	0	0
South Fork	12,499	12,499	5,801	5,801	856	856	0	0
Hugh Butler	0	0	0	0	2,334	2,334	0	0
Bonny	1,568	1,568	23	23	0	0	0	0
Keith Sebelius	0	0	596	596	0	0	0	0
Enders	20	20	0	0	5,342	5,342	0	0
Harlan	0	0	60	60	728	728	40	40
Harry Strunk	0	0	0	0	351	351	0	0
Swanson	21	21	0	0	298	298	0	0
Mainstem	-2,106	-2,106	-1,275	-1,275	58,974	58,974	7,425	7,425
Total	32,210	32,210	9,537	9,537	***187,173***	***187,169***	***18,405***	***18,427***

Since Willem's January 2, 2023, groundwater model update used 2021 pumping files for 2022 and 2023 impacts runs, we ran additional 2022 and 2023 runs that have the 2021 heads from the corrected 2021 and the corrected 2021 pumping repeated. As expected, there was no difference in the 2022 Impacts and a 2 acre-feet difference in 2023 Mound Impacts with the corrected starting heads and approved or corrected 2021 pumping repeated.

The following table summarizes the change in total CBCU by year in acre-feet from correcting the 2021 NCORPE pumping in the 2021 run and carrying the corrected heads forward to the 2022 and 2023 runs.

Impact difference in acre-feet	2021	2022	2023
Colorado	0	0	0
Kansas	0	0	0
Nebraska	0	0	-4
Mound	0	2	22

The two attached accounting spreadsheets are a draft 2023 Accounting spreadsheet with the original model impacts (from the uncorrected runs) and that accounting spreadsheet updated with the impacts from the corrected runs to show the difference in 2022 and 2023 Accounting balances that result from the correction.

Discussion

As shown above, the correction of NCORPE pumping has no effect on the Impacts from the RRCA Groundwater Model for 2021. Due to the location of the NCORPE wells, there is a lag from the time of pumping to the impacts to streamflow, which we expect to peak in future years. In addition, the pumping from these wells primarily impact the Medicine Creek subbasin. With the current model runs, the impacts to the Mound begin in 2022. Nebraska's CBCU begins to change in 2023. Since the CBCU decrease is to the Medicine Creek subbasin, allocation of that subbasin is reduced which does not affect Colorado's balances and slightly decreases Kansas's balance in 2023. Nebraska's allocation is also decreased but the reduction in Nebraska's CBCU and increase in Imported Water Supply credit increases Nebraska's balances.

Nebraska recommends that the Engineering Committee recognize this error and take action to correct it to continue to use the best available data. There are two general courses of action that Nebraska would propose:

1. Revise the 2021 Model with the correct data inputs
2. Establish a new 2022 starting head condition for the model based on the corrected model output (this approach would be similar to the approach used to correct erroneous PRISM data that was identified after the 2019 data was approved by the RRCA)

Since there are no changes to any approved Accounting, option 1 would allow for correction of the error while keeping the post-2020 runs continuous. Whereas, option 2 would allow correction of the error with no revisions to any approved 2021 datasets, but would create an additional discontinuity for the model starting heads.

Nebraska recommends the Engineering Committee discuss and propose a solution to the RRCA at the 2023 Annual Meeting.

Attachments: 2021Aug_NcorpeCorrect.xlsx,
20230103_RRCAAccounting_EarlyDraft2023_NoCorrection.xlsx,
20230103_RRCAAccounting_EarlyDraft2023_Correction.xlsx

Exhibit H: Acting Commissioner Email Nebraska

From: Riley, Tom
To: Burgert, Kari
Subject: FW: This week"s RRCA meeting in Burlington
Date: Monday, August 28, 2023 4:46:11 PM

Thomas E. Riley, P.E.
Director

Nebraska Department of Natural Resources
245 Fallbrook Blvd., Suite 201
Lincoln, NE 68521

OFFICE 402-471-2363 / FAX 402-471-2900
Tom.Riley@nebraska.gov

dnr.nebraska.gov

From: Riley, Tom
Sent: Monday, August 28, 2023 4:06 PM
To: Kevin Rein <kevin.rein@state.co.us>; Lewis, Earl [KDA] <Earl.Lewis@ks.gov>
Cc: Bradley, Jesse <Jesse.Bradley@nebraska.gov>; Beightel, Chris [KDA] <Chris.Beightel@ks.gov>; ivan.franco@state.co.us; Capps, Sam <Sam.Capps@nebraska.gov>; Lavene, Justin <Justin.Lavene@nebraska.gov>
Subject: This week's RRCA meeting in Burlington

Dear Commissioners Rein and Lewis,

This note is to inform you that Assistant Director Jesse Bradley will be representing Nebraska in her official capacity at this year's RRCA annual meeting Burlington, Colorado. I appreciate the remote accommodation that will be available; however, to avoid any potential technical issue that might come on my end, Mr. Bradley will be Nebraska's acting commissioner for the day enjoying all the rights and privileges that come with the honor.

Thank you and safe travels to all.

Thomas E. Riley, P.E.
Director

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245 Fallbrook Blvd., Suite 201
Lincoln, NE 68521

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Tom.Riley@nebraska.gov

The 2023 annual report of the Republican River Compact Administration is hereby approved by unanimous vote on this 28th day of August 2024.

DATE SIGNED: 8/28/2024

Earl Lewis, Chair and Kansas Commissioner

DATE SIGNED: 8/28/24

Jason T. Ullmann, Colorado Commissioner

DATE SIGNED: 8/28/24

Jesse Bradley, Acting Nebraska Commissioner