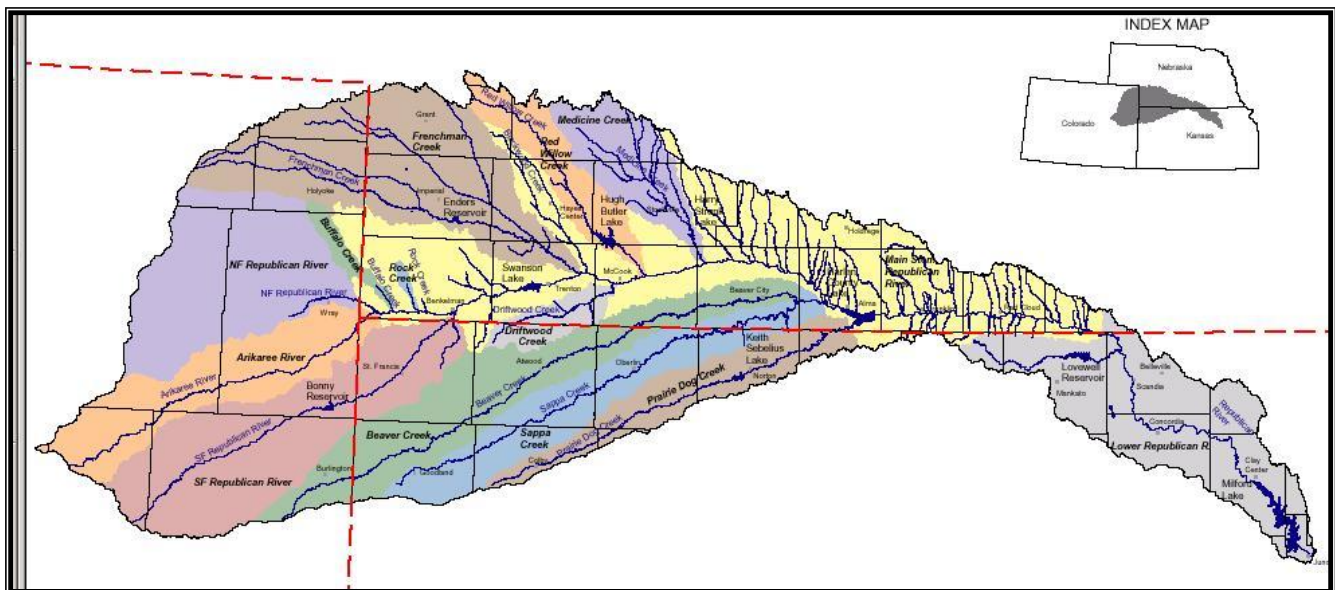


# REPUBLICAN RIVER COMPACT ADMINISTRATION

## 58<sup>TH</sup> ANNUAL REPORT

FOR THE YEAR 2018



**COLBY, KANSAS**

**AUGUST 22, 2019**

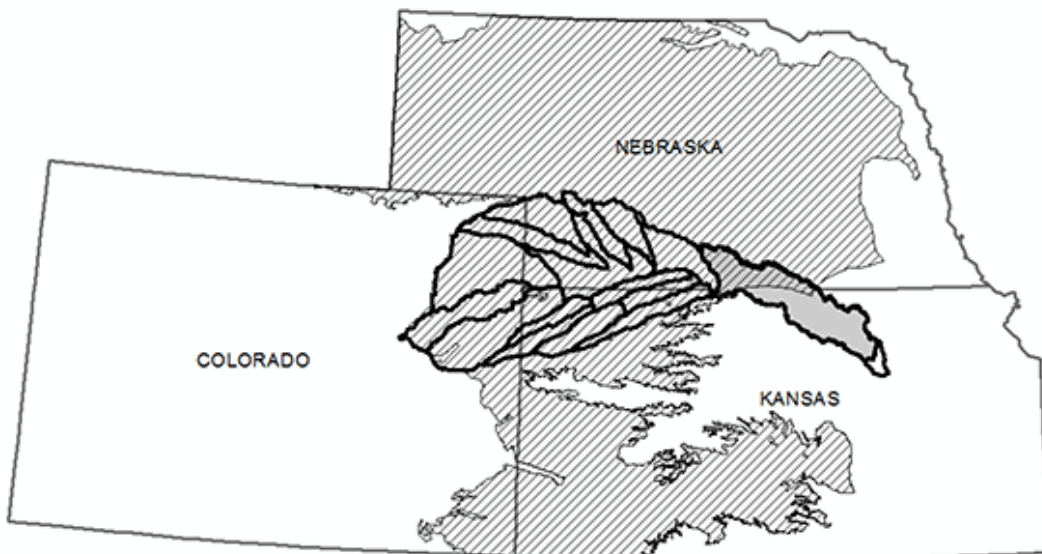
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# **REPUBLICAN RIVER COMPACT ADMINISTRATION**

## **Special Meeting November 6, 2018**

**Discussion of Operation and Accounting for  
the Colorado Compact Compliance Pipeline  
and Colorado's Compliance Efforts in the South  
Fork Republican Basin**



SUMMARY AND MINUTES OF  
THE 2018 SPECIAL MEETING OF  
THE REPUBLICAN RIVER  
COMPACT ADMINISTRATION

NOVEMBER 6, 2018

HELD AT THE COLORADO  
DEPARTMENT OF  
AGRICULTURE

BROOMFIELD, COLORADO

**Summary**

The following summary of the special meeting was prepared utilizing a recording of the meeting.

**Agenda Item 1: Introductions**

The special meeting of the Republican River Compact Administration (RRCA) was called to order by Kansas Commissioner and Chairman David Barfield at 9:05 a.m. MST, November 6, 2018. Commissioner Barfield asked for introductions around the room and on the phone. A complete list of attendees is included as Exhibit A.

<u>Name</u>	<u>Representing</u>
David Barfield	Kansas Commissioner and Chairman
Chris Beightel	Kansas Engineering Committee Member and Chair
Kenneth Titus	Kansas Department of Agriculture Chief Counsel
Gordon “Jeff” Fassett	Nebraska Commissioner
Justin Lavene	Nebraska Attorney General’s Office
Kevin Rein	Colorado Commissioner
Scott Steinbrecher	Colorado Attorney General’s Office

**Agenda Item 2: Adoption of the Agenda**

Commissioner Barfield introduced the proposed agenda and asked for any modifications to the draft agenda. Hearing none, Commissioner Barfield moved to adopt the agenda. A copy of the final agenda is attached as Exhibit B.

**Agenda Item 3: Discuss Action Item**

Commissioner Barfield introduced the agenda item to discuss a proposed amendment to the August 26, 2016 resolution by the RRCA approving the operation and accounting of the Colorado Compliance Pipeline and Colorado’s compliance efforts in the South Fork Republican River basin. Commissioner Barfield asked Scott Steinbrecher of the Colorado Attorney General’s office to provide an overview of the proposed amendment.

Mr. Steinbrecher noted that in 2016, the three states signed a resolution through the RRCA. One of the requirements was that Colorado retire from irrigation a total of 25,000 acres in the South Fork 2027 (10,000 acres by 2022). Mr. Steinbrecher further explained that over the past two years Colorado has negotiated with the Farm Service Agency (FSA) to amend the CREP (Conservation Reserve Enhancement Program) contract to make that dry up possible utilizing CREP. In recognition of those efforts and the time that it has taken to get that approval, this amendment extends the deadlines that were originally contained in the 2016 RRCA resolution. Now Colorado will retire at least 10,000 acres by 2024 and the remaining 15,000 acres by 2029. Mr. Steinbrecher noted that the resolution also recognizes that the Farm Bill has not yet been passed and if the United States House of Representatives and Senate fail to pass the Farm Bill by the end of 2019, the states will get together again to determine whether another extension is necessary.

Commissioner Barfield thanked Mr. Steinbrecher for the review and asked for a motion with respect to the action item. Commissioner Fassett moved to adopt the proposed amendment and Commissioner Rein seconded. Commissioner Barfield asked for any further discussion and then called for a vote upon hearing no further discussion. All three commissioners voted “Aye” with none opposed and the motion passed. The approved resolution will be attached to the special meeting report as Exhibit C.

#### **Agenda Item 4: New Business and Assignments to Compact Committees**

Commissioner Barfield asked for any new business before the RRCA. Commissioner Fassett noted that there had been discussion amongst the states about how the original resolution has been linked to the RRCA Accounting Procedures and Reporting Requirements that the RRCA has approved in the past. The general discussion is that an appropriate package needs to be put together that can make sure the proper linkage is in place between the new resolution, the Compact Administration Rules and the Accounting Procedures. One of the ideas is whether to ask the Engineering Committee to take on an assignment to put that together and bring back to the next Compact Administration meeting.

Commissioner Barfield asked for further discussion on the proposed new business. Hearing none, Commissioner Barfield agreed that it would be a good idea to assign the Engineering Committee to put together an appropriate package of the revised Accounting Resolution and Rules update. Commissioner Barfield called for a motion and Commissioner Fassett so moved to assign the Engineering Committee the effort to put that package together no later than the next annual meeting. Commissioner Rein seconded the motion and Commissioner Barfield asked for any additional discussion before calling the vote. All three commissioners voted “Aye” with none opposing and the motion passed.

Commissioner Barfield asked for other new business and then commented that another item is that no court reporter was retained for this special meeting because of the anticipated short meeting time and limited purpose. Commissioner Barfield noted that a voice recording was obtained for this meeting and suggested creating a summary of the meeting from that recording. Commissioner Barfield asked if that plan for the meeting report was acceptable to the other commissioners. Commissioner Fassett suggested that the summary be circulated to the states and Commissioner

Barfield agreed that a draft would be circulated and approved by the three commissioners and asked that the record reflect that the commissioners agreed to that action.


Commissioner Barfield asked one more time for any new business and Commissioner Fassett asked if an original version of the resolution would be executed on this day. Commissioner Barfield confirmed that original, clean copies were available for signing after the meeting adjourned.

**Agenda Item 5: Adjournment**


Upon hearing no further business, Commissioner Barfield asked for a motion to adjourn and Commissioner Fassett so moved and Commissioner Barfield seconded the motion. All three commissioners voted “Aye” and the meeting was adjourned at 9:20 a.m. MST on November 6, 2018.

The November 6, 2018 Special Meeting report is hereby approved by unanimous vote of the RRCA on this 21<sup>st</sup> day of August, 2020.

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

  
Jesse Bradley (Aug 21, 2020) 14:09 CDT \_\_\_\_\_ DATE SIGNED: Aug 21, 2020  
Jesse Bradley, P.G.  
Nebraska Commissioner  
Chairman, RRCA

  
\_\_\_\_\_ DATE SIGNED: Aug 21, 2020  
Christopher Beightel, P.E.  
Kansas Commissioner

  
\_\_\_\_\_ DATE SIGNED: Aug 23, 2020  
Kevin Rein, P.E.  
Colorado Commissioner

**Exhibits**

- Exhibit A: Attendance for the Special Meeting
- Exhibit B: Agenda for the Special Meeting
- Exhibit C: Proposed Amendment to the August 24, 2016 Resolution by the Republican River Compact Administration Approving Operating and Accounting for the Colorado Compact Compliance Pipeline and Colorado's Compliance Efforts in the South Fork Republican River Basin.

**EXHIBIT A - Attendance**

SPECIAL MEETING OF THE  
REPUBLICAN RIVER COMPACT ADMINISTRATION

November 6, 2018

Meeting held at the Colorado Department of Agriculture in Broomfield, Colorado.

Record of Attendance  
(in alphabetical order)

<u>Name</u>	<u>Representing</u>
David Barfield	Kansas Commissioner and Chairman
Chris Beightel	Kansas Division of Water Resources
Don Blankenau	Nebraska Outside Counsel
Jesse Bradley	Nebraska Department of Natural Resources
Scott Dicke	Nebraska Lower Republican Natural Resources District
Jasper Fanning	Nebraska Upper Republican Natural Resources District
Gordon "Jeff" Fassett	Nebraska Commissioner
Marc Groff	Nebraska Consultant (The Flatwater Group)
Justin Lavene	Nebraska Attorney General's Office
Earl Lewis	Kansas Water Office
Lane Letourneau	Kansas Division of Water Resources
Jacki McClaskey	Kansas Secretary of Agriculture
Kevin Rein	Colorado Commissioner
Scott Steinbrecher	Colorado Attorney General's Office
Tracy Streeter	Kansas Water Office
Kenneth Titus	Kansas Division of Water Resources



**FINAL AGENDA FOR  
SPECIAL MEETING OF THE  
REPUBLICAN RIVER COMPACT ADMINISTRATION**

November 6, 2018, 9:00 AM Mountain Time

Colorado Department of Agriculture  
305 Interlocken Pkwy  
Broomfield, CO 80021  
and via Conference Call

(Phone Number: +1 646-558-8656 Passcode: 594 813 094 #)

1. Introductions
2. Modification and Adoption of the Agenda
3. Action Item
  - a. Discuss proposed Amendment 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.*
4. New Business
5. Adjournment

FIRST AMENDMENT TO 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

RECITALS

**Whereas**, August 24, 2016, the Republican River Compact Administration adopted a resolution approving operation and accounting for the Colorado Compact Compliance Pipeline and Colorado's compliance efforts in the South Fork Republican River Basin ("Resolution");

**Whereas**, paragraph C.1 of the Resolution reads: "Utilizing the Conservation Reserve Enhancement Program or other voluntary programs, Colorado agrees to retire up to an additional 25,000 acres from irrigation in the South Fork Republican River basin. Of that amount, Colorado will retire at least 10,000 acres by 2022 and will retire the remaining 15,000 acres by December 31, 2027";

**Whereas**, the State of Colorado, with the help of Kansas, and Nebraska (collectively the "States"), has spent two years negotiating the terms of a Conservation Reserve Enhancement Program with the United States Department of Agriculture Commodity Credit Corporation, finalizing such terms on August 28, 2018; and

**Whereas**, the States acknowledge uncertainty exists about future funding of the Conservation Reserve Enhancement Program because the United States has failed to enact a replacement for the 2014 Farm Bill;

**Now, therefore**, in consideration of the negotiations recently completed by Colorado, the RRCA extends by two years the deadlines contained in paragraph C.1.

The second sentence of Paragraph C.1, as amended, shall now read:

"Of that amount, Colorado will retire at least 10,000 acres by 2024 and will retire the remaining 15,000 acres by December 31, 2029."

Section C shall further be amended to include Paragraph C.3:

"In the event that the United States fails to enact a new farm bill prior to December 31, 2019, the States agree to review the deadlines contained in this section with the purpose of determining whether any further extensions are necessary."

This amendment does not alter any other terms of the Resolution.



Kevin Rein, P.E.  
Colorado Commissioner



Date

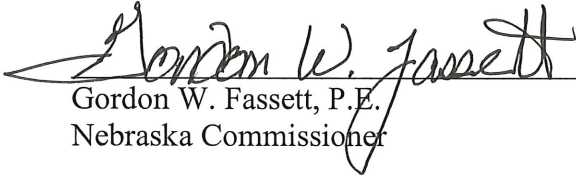
Chairman, RRCA



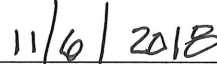
David Barfield, P.E.  
Kansas Commissioner



Date



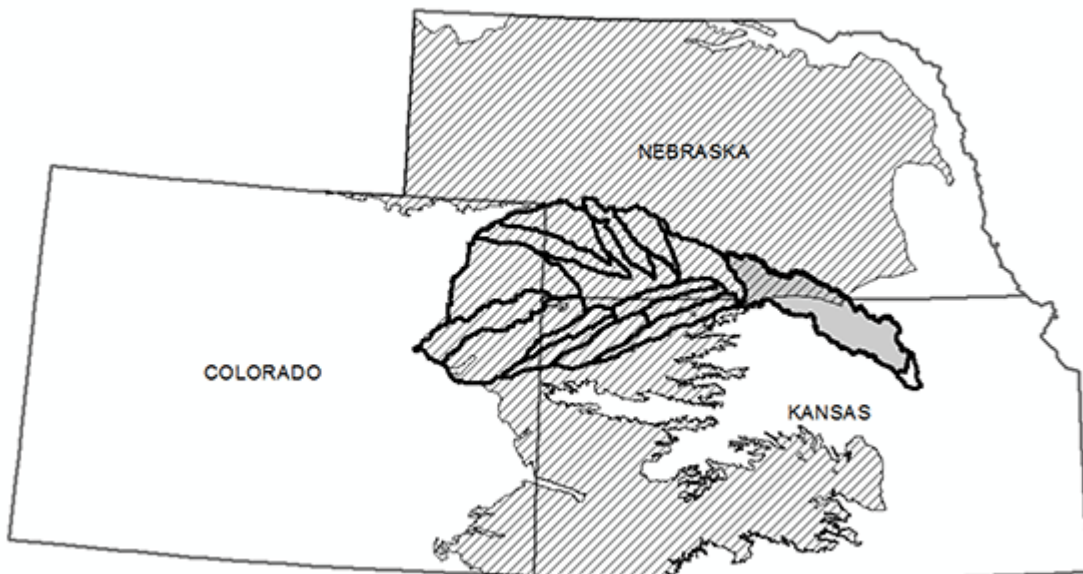
Gordon W. Fassett, P.E.  
Nebraska Commissioner



Date

# **REPUBLICAN RIVER COMPACT ADMINISTRATION**

**Annual Meeting  
August 22, 2019  
Colby, Kansas**



SUMMARY AND MINUTES OF  
THE 2019 ANNUAL MEETING OF  
THE REPUBLICAN RIVER  
COMPACT ADMINISTRATION

AUGUST 22, 2019  
COLBY, KANSAS

**Summary & Minutes**

A transcript of this meeting was prepared by Midwest Reporters, Inc. (Exhibit A). The transcript was reviewed by each of the states, and upon final approval by the Compact Administration the transcript will serve as the official minutes of this Annual Meeting of the Compact Administration. Below is a summary of the meeting.

**Agenda Item 1: Introductions**

The annual meeting of the Republican River Compact Administration (RRCA) was called to order by Kansas Commissioner and Chairman David Barfield at 9:30 a.m., August 22, 2019 in Colby, Kansas. Commissioner Barfield asked for introductions around the room. A typed list of all attendees is attached as Exhibit B, which also includes the original signed attendance sheets. Highlighted attendees include:

<u>Name</u>	<u>Representing</u>
David Barfield	Kansas Commissioner and Chairman
Chris Beightel	Kansas Engineering Committee Member and Chair
Kenneth Titus	Kansas Department of Agriculture Chief Counsel
Gordon “Jeff” Fassett	Nebraska Commissioner
Carol Flaute	Nebraska Engineering Committee Member
Jesse Bradley	Nebraska Department of Natural Resources
Justin Lavene	Nebraska Attorney General’s Office
Kevin Rein	Colorado Commissioner
Mike Sullivan	Colorado Deputy State Engineer
Ivan Franco	Colorado Engineering Committee Member
Scott Steinbrecher	Colorado Attorney General’s Office

**Agenda Item 2: Adoption of the Agenda**

Commissioner Barfield introduced the proposed agenda and asked if there were any changes to the draft agenda. Hearing no changes, the commissioners unanimously adopted the agenda. A copy of the final agenda is attached as Exhibit C.

### **Agenda Item 3: Status of Annual Report for 2018 Annual Meeting**

Commissioner Barfield called for action on the completed RRCA 2018 annual report. Commissioner Rein moved to approve the report and Commissioner Fassett seconded. The commissioners unanimously approved the report.

### **Agenda Item 4: Report of Chairman and Commissioners' Reports**

#### a. Colorado:

- i. Commissioner Rein thanked Kansas for hosting this year's meeting and then recognized Colorado parties in attendance. Commissioner Rein relayed that 2019 was a good water year for Colorado and gave details about the other basins in Colorado. Commissioner Rein mentioned the excellent snowpack carryover, groundwater rules being approved in the Rio Grande basin in March 2019, and a contingency plan signed for the Colorado River Compact.
- ii. Commissioner Rein stated that Colorado is in compliance with the Republican River Compact, noting the significance of that compliance and efforts involved in achieving compliance.
- iii. Commissioner Rein gave an update on the amended CREP agreement with the USDA, most notably mentioning that the agreement was amended to add up to 60,000 acres available in a few more counties in Colorado to take those acres out of irrigation. The agreement also has provisions for the permanent retirement of irrigation wells and a potential provision for dry land use. The Republican River Water Conservation District has had about 3,000 acres of interest in CREP on the South Fork thus far.
- iv. Commissioner Rein gave an update on the compact compliance rules in the Republican River Basin, which were filed with water court in January 2019. The rules are important to allow for administration of water use in the Republican River Basin. Several parties filed in opposition to those rules and one party filed a lawsuit against the State Engineer for administrative practices in the Republican River Basin. The lawsuit was dismissed after the water right was sold to a private entity.
- v. Commissioner Rein gave an update on the boundary amendment for the Republican River Water Conservation District. The boundary for the District was amended by statute and signed by the Colorado Governor on April 16<sup>th</sup>, 2019.

#### b. Nebraska:

- i. Commissioner Fassett noted that 2019 was an incredible water year across the State of Nebraska. The Republican River Basin flows stabilized and had recovery in some areas. Commissioner Fassett noted for the record that Nebraska is in compliance with the compact.
- ii. Commissioner Fassett noted that the ongoing dialogue that the three states have has been very helpful in clearing out issues of concern. He also noted that working with Colorado on FSA and CREP programs has been very helpful.
- iii. Commissioner Fassett mentioned the need for work in the coming year on flood-flow provisions of prior accounting, which had not been tested until 2019.

- iv. Commissioner Fassett reported that Nebraska is not anticipating extra water deliveries this year because of adequate rain but noted that provisions are in place if needed.
  - v. Commissioner Fassett reported that Nebraska completed their 5-year effort to develop a new Republican River Basin-wide plan. He noted there were 15 large stakeholder meetings and 22 coordination meetings with the Natural Resource Districts to create a framework for the next 25 years of water related goals, objections and action items. Commissioner Fassett noted that the number one goal of the basin plan is maintaining compact compliance.
  - vi. Commissioner Fassett gave an update on the Water Sustainability Fund, which funds water projects in Nebraska including activities in the Republican River Basin. He noted that projects received over \$5 million in cost-share which translated to \$10 million investment in projects in the basin. There are new applications for projects being reviewed as well.
  - vii. Commissioner Fassett noted this past year's successes with integrated management planning in partnership with the Natural Resource Districts, such as retirement of acres through CREP program.
  - viii. Commissioner Fassett mentioned working collaboratively with the Frenchman-Cambridge Irrigation District to begin using part of the money from the Colorado settlement for surface water projects.
  - ix. Commissioner Fassett noted recent successes in coordination with the Bureau of Reclamation and Corps of Engineers on various Nebraska projects and operations over the past year.
  - x. There was historic flooding in some areas of the state and collapse of a canal system in Western Nebraska that required immediate attention by the state.
  - xi. Jesse Bradley then reported on water administration activities in Nebraska. The 2018 water year was the sixth consecutive Compact Call Year under the Nebraska forecast as outlined in the integrated management plans. Management activities in Nebraska included closures of water rights for Water-Short Year Administration between Harlan and Guide Rock and administration upstream of the Cambridge diversion. The full Nebraska water administration report is included in the annual report (Exhibit D).
  - xii. Commissioner Fassett concluded his remarks by addressing the Platte River diversion project. The project's application was reviewed over the past year and many issues were addressed, but the state's decision is forthcoming yet.
- c. Kansas:
- i. Commissioner Barfield noted significant changes in Kansas leadership including Governor Laura Kelly and Secretary of Agriculture Mike Beam, as well as Assistant Secretary Kelsey Olson, who was in the audience.
  - ii. Commissioner Barfield described the past year's climate as a historic wet year, especially for eastern Kansas and noted flooding in several reservoirs in the Republican River basin as well.
  - iii. Commissioner Barfield gave an update on the Local Enhanced Management Area (LEMA) tool in the Groundwater Management District #4. He noted that the first LEMA in Sheridan County achieved 40 percent reduction in aquifer use over the past five years. The LEMA was then expanded to the entire GMD4

- area in 2017, which was challenged by a few local water users and they are waiting for a district judge to decide on their challenge.
- iv. Commissioner Barfield gave an update on the Water Conservation Areas (WCA), which are consent agreements between the Chief Engineer and a water user(s) to facilitate water conservation, reduce use and provide flexibility to how water rights are administered in the WCA.
  - v. Commissioner Barfield mentioned the Kansas Water Office program called Water Technology Farms, which are used to demonstrate ways to reduce irrigation use without significantly impacting cost. Such tools include soil moisture probes and irrigation timing. Commissioner Barfield gave an example of the Garden City Company in southwest Kansas that started with an 8,000-acre WCA and recently added an additional 17,000 acres to that conservation area.
  - vi. Commissioner Barfield mentioned that the Kansas Water Office facilitated a meeting of South Fork Republican River stakeholders for determining how to utilize the \$2 million settlement money in the South Fork basin.
  - vii. Commissioner Barfield then updated the group on the Division of Water Resources efforts to implement online water use reporting after about 6 years of development. A filing fee was introduced for the 2018 water year and the state saw online reporting spike from 25 percent to nearly 90 percent.
  - viii. Commissioner Barfield then gave a report on a couple significant Kansas statewide water issues. The City of Hays sought to secure a long-term water supply from 80 miles south of the city and generated controversy about inter-basin transfers. The city's application was reviewed and approved, but it is still undergoing a judicial review. The other water issue is Quivira National Wildlife Refuge impairment complaint, where 1,300 junior water rights were found to be interfering with the Quivira water right. Preliminary planning is underway for an augmentation project remedy and plans for reduction of water use in order to stabilize stream flow in the affected area.
  - ix. Commissioner Barfield concluded his report by announcing that he plans to retire before the next RRCA meeting and mentioned many of the RRCA issues he has dealt with over the past many years. Commissioner Barfield gave a brief history of the RRCA Supreme Court case as well as arbitrations in recent years. He noted the significant actions and efforts for compliance that have resulted in a new era of cooperation between the states.

### **Agenda Item 5: Federal Reports**

- a. Bureau of Reclamation:
  - i. Craig Scott distributed the Bureau's summary report of its operations in the Republican River Basin for 2018 (Exhibit E) and noted that the report included a brief synopsis of operations through July 2019.
  - ii. Mr. Scott noted 2018 precipitation came in timely rainfalls throughout the irrigation season that greatly reduced the irrigation needs from reservoirs. The overall rainfall was near normal to above normal throughout the basin and resulted in carryover



storage in some reservoirs. Mr. Scott noted that the far western reservoirs did not see the same recovery.

- iii. Mr. Scott gave details on current capacity for the reservoirs in the Republican River basin. Enders Reservoir is at 24 percent storage capacity. Swanson Reservoir is at 58 percent storage capacity. Hugh Butler Lake is at 61 percent storage capacity. Harry Strunk is at 101 percent storage capacity. Keith Sebelius Lake is at 74 percent storage capacity. Harlan County Lake is at 158 percent storage capacity. Lovewell is at 86 percent storage capacity.
  - iv. Mr. Scott concluded his report by updating the commissioners on the status of the Bostwick memorandum that was revised in 2018, replacing the MOA that was signed in October 2000. The MOA outlines the procedures for sharing the annual supply for Harlan County Lake, identifies the procedures for accounting of that water supply, and establishes separate accounts for each party's use moving forward.
- b. U.S. Geological Survey:
- i. John Miller distributed a written report for 2018 water year with discharge information for each of the compact sites (Exhibit F).
  - ii. Mr. Miller updated the commissioners on the Arikaree gage move and noted that the record has improved.
  - iii. Mr. Miller concluded his report by mentioning that the 2019 numbers are expected to be tremendous, especially in the lower end of the Republican River. Several sites are expected to set record flows.

### **Agenda Item 6: Engineering Committee Report**

- a. Assignments from 2018 Annual Meeting: Chairman Chris Beightel shared the Engineering Committee (EC) Report (Exhibit G). The EC met four times since the last annual meeting.
- i. The following assignments were completed: (1) hold quarterly meetings, and (2) exchange information listed in Section 5 of the Accounting Procedures and Reporting Requirements, and (3) finalize 2018 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 to develop and maintain the RRCA administration website; (7) continue work and provide updates on improving accounting tools developed by the Committee; (8) work on improving the understanding of and operation of the inputs to the accounting from the Lovewell Ops worksheet; (9) continue work to summarize and document the status of Table 4A in the RRCA Accounting Procedures; and (10) prepare the 2018 RRCA annual meeting report.
  - ii. Ongoing assignments include: (1) hold quarterly meetings; (2) continue work on a document memorializing historic changes to the RRCA Accounting Procedures and Reporting Requirements; (3) provide updates on the progress of new and ongoing management strategies for maintaining compact

compliance; (4) work on maintaining the RRCA public website; and (5) continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- b. New assignments for 2019: (1) exchange, review and recommend for approval the 2019 accounting data; (2) review the flood flow provisions of the RRCA Accounting Procedures, especially as applied to allocations in Tables 5C and 5D to evaluate whether accounting methods are in conformance with the intent of the FSS and if not, then develop a recommendation of how to modify the Accounting Procedures to bring the procedures in to conformance so the 2019 accounting results can be approved at the 2020 meeting.
- c. Recommendations to RRCA: The EC recommends RRCA take action regarding the proposed Engineering Committee assignments for 2019 and approve the completed RRCA accounting tables offered as Attachment 2 of the committee's report.

#### **Agenda Item 7: Old Business**

There were no items presented under Old Business.

#### **Agenda Item 8: New Business and Assignments to Compact Committees**

Commissioner Rein moved to approve the Engineering Committee report and assignments for the upcoming year, as well as approve the 2018 accounting. Commissioner Fassett seconded and commented that the new flood flow task is an important issue to that needs resolution over the coming year. Commissioner Barfield called for all those in favor and the motion passed unanimously.

#### **Agenda Item 9: Remarks from the Public**

Mr. Rod Lenz, president of the Republican River Water Conservation District in Colorado, expressed his appreciation for the improvement in relations between the states. Mr. Lenz highlighted that the CREP program is the foundation to all the District's goals, as far as retiring acreage in the South Fork focus zone and thanked Colorado staff for their assistance in those issues. Mr. Lenz offered his appreciation to Kansas for the \$2 million in funding that is committed to the South Fork area. Mr. Lenz noted that if the dryland management provision is successfully added to the farm bill that there will be many interested parties in the District. Mr. Lenz highlighted the District's success in retiring water rights on the South Fork. Mr. Lenz highlighted the formation of the South Fork River Restoration Coalition, which spent over \$200,000 for feasibility studies so far. Mr. Lenz noted that the District does not have regulatory authority over wells but can educate and incentivize people. There are eight groundwater management districts that have the control over pumping. Mr. Lenz mentioned the Colorado Master Irrigator Program to encourage people to use water better and learn new technology. Mr. Lenz lamented excessive water use on a neighboring farm that seems to be driven by the "use it or lose it" mentality and he hopes with

time that situation will improve across the whole area. Mr. Lenz requested a provision looking forward to a situation when augmentation pumping might not have to occur, and the water could be left in the ground, if reservoir storage has increased.

**Agenda Item 10: Future Meeting Arrangements**


Commissioner Barfield mentioned that the 2020 meeting will be hosted by Nebraska. Commissioner Fassett stated that there is still a debate on where the meeting will occur in the basin, so details will be forthcoming.

**Agenda Item 11: Adjournment**

The meeting was adjourned at 11:02 a.m. on August 22, 2019.

The August 22, 2019 Annual Meeting report is hereby approved by unanimous vote of the RRCA on this 21<sup>st</sup> day of August, 2020.

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

  
Jesse Bradley (Aug 21, 2020 14:09 CDT) \_\_\_\_\_ DATE SIGNED: Aug 21, 2020  
Jesse Bradley, P.G.  
Nebraska Commissioner  
Chairman, RRCA

  
\_\_\_\_\_ DATE SIGNED: Aug 21, 2020  
Christopher Beightel, P.E.  
Kansas Commissioner

  
\_\_\_\_\_ DATE SIGNED: Aug 23, 2020  
Kevin Rein, P.E.  
Colorado Commissioner

**Exhibits**

- Exhibit A: Transcript of the 2019 Annual Meeting
- Exhibit B: Annual Meeting Attendance with Signature Pages
- Exhibit C: Agenda for the 2019 Annual Meeting
- Exhibit D: Nebraska Water Administration Report 2018
- Exhibit E: Bureau of Reclamation Report 2018
- Exhibit F: U.S. Geological Survey Report 2018
- Exhibit G: Engineering Committee Report 2018

**In The Matter Of:**  
*Republican River Compact Meeting*  
*Colby, Kansas*

---

*Annual Meeting*  
*August 22, 2019*

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*Midwest Reporters, Inc.*  
*800-528-3194*  
*www.midwestreporters.net*  
*office@midwestreporters.net*



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NEBRASKA-KANSAS-COLORADO

RRCA OFFICIAL REPORT TO THE

REPUBLICAN RIVER COMPACT ADMINISTRATION

COLBY, KANSAS

AUGUST 22, 2019

Annual Meeting - August 22, 2019  
Republican River Compact Meeting Colby, Kansas

2

1 P R O C E E D I N G S

2

3 Mr. Barfield: All right. Ready.

4 Okay. I'll go ahead and call this --  
5 let's see -- the 2019 annual meeting of the  
6 Republican River Compact Administration to  
7 order. It's just after 9:30 a.m. and we're in  
8 Colby, Kansas, for this year's annual meeting.

9 Appreciate everybody taking time to be  
10 here with us this morning and participate in  
11 this meeting. So, I trust everybody -- on this  
12 table we have agendas and a sign-in. If you  
13 haven't signed in, we would appreciate you  
14 doing that, so we could have a record that you  
15 attended the meeting with us.

16 With that, I'll go ahead and -- we have  
17 a proposed agenda. It starts off with  
18 introductions. I think we'll not go around the  
19 room this time, but I would ask that maybe the  
20 people here at the front table introduce  
21 themselves.

22 Again, my name is David Barfield. I am  
23 Kansas Chief Engineer and Commissioner for  
24 Kansas.

25 Actually, why don't we start with you,

**Annual Meeting - August 22, 2019  
Republican River Compact Meeting Colby, Kansas**

3

1 Scott. Just go around.

2 Mr. Steinbrecher: Scott, Colorado  
3 Attorney General's office.

4 Mr. Franco: Ivan Franco Engineering  
5 Committee member for Colorado.

6 Mr. Rein: Kevin Rein. State  
7 Engineer, Division Water Resources.

8 Mr. Beightel: Chris Beightel.  
9 Kansas Department of Agriculture, Division  
10 Water Resources and Engineering Committee  
11 member for Kansas.

12 Mr. Titus: Kenny Titus. Chief  
13 Counsel, Kansas Department of Agriculture.

14 Mr. Bradley: Jesse Bradley with the  
15 Nebraska Department of Natural Resources.

16 Mr. Fassett: Jeff Fassett, Director  
17 of Department of Natural Resources and Nebraska  
18 Commissioner.

19 Mr. Lavene: Justin Lavene from  
20 Nebraska Attorney General's Office.

21 Ms. Flaute: Carol Flaute, Nebraska  
22 Department of Natural Resources and Engineering  
23 Committee member for Nebraska.

24 Mr. Barfield: Very good. So, can  
25 everybody hear well enough?



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1           We'll pass around the mic when, you  
2 know, people are talking continuously and --  
3 and we have presentations from the various  
4 Federal agencies and others.

5           Why don't you come forward and grab a  
6 mic and just -- you can sort of maybe speak  
7 from next to where Chelsea is here, if that  
8 will work. So.

9           Mr. Barfield: All right. With  
10 that, I would move on to adoption of the  
11 agenda. We have an agenda that has been  
12 proposed.

13           Are there any suggested changes to the  
14 proposed agenda?

15           Okay. All right. Seeing no objections,  
16 we'll move forward with the agenda as proposed.

17           So, the first item is status of the 2018  
18 annual report and possible action by the RRCA.

19           Chris, are you going to handle that?

20           Mr. Beightel: We have sent the 2018  
21 annual report around to the states and everyone  
22 has agreed on it and I think we have a copy  
23 ready for signatures for the -- from the  
24 commissioners right up here. So that's the end  
25 of that report, I guess.

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1                   Mr. Barfield: All right. I would  
2 entertain a motion to approve the annual report  
3 as has been circulated among the states.

4                   Mr. Rein: I'll move to accept the  
5 annual report.

6                   Mr. Fassett: Second.

7                   Mr. Barfield: Any discussions?

8                   Hearing none, how do the states vote?

9                   Mr. Fassett: Aye.

10                  Mr. Rein: Aye.

11                  Mr. Barfield: Aye.

12                  So the report is adopted as has been  
13 circulated among the states and of this  
14 meeting.

15                  With that, we'll move on to  
16 Commissioners' Reports.

17                  We'll start with Colorado. Mr. Rein,  
18 please.

19                  Mr. Rein: Thank you, Mr. Barfield,  
20 and thank you to Kansas for hosting and  
21 coordinating this, appreciate being here.

22                  I'd like to first introduce the folks  
23 from Colorado that are here.

24                  Am I getting through on this?

25                  Audience: Yes.

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1                   Mr. Rein: I'd like to introduce the  
2 folks from Colorado that are here.

3                   Again, you just heard, immediately to my  
4 right my staff member Ivan Franco, also a  
5 member of the Engineering Committee.

6                   To his right Scott Steinbrecher, counsel  
7 of the Colorado Attorney General's office.

8                   Also, from Colorado we have Les Owen  
9 from the Colorado Department of Ag that is here  
10 with us today.

11                   And Mike Sullivan, Deputy Director for  
12 the Division of Water Resources.

13                   We also have from the Republican River  
14 Water Conservation District, we've got Rod Lenz  
15 and Deb Daniel from the Republican River Water  
16 Conservation District and their counsel, Pete  
17 Ampe.

18                   And then we also have Willem Schreuder  
19 from Principia Mathematica, our consultant.

20                   And that, I believe, is everyone I've  
21 gotten from Colorado. Raise your hand if I  
22 missed you, though, but I believe that is who  
23 we have.

24                   For my report this morning, just a  
25 couple items, a statewide positive water year

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1 in Colorado. I think it's just something that  
2 we all know, but we're so happy about it, we  
3 need to say it one more time. It's been a  
4 great water year in Colorado. I look over at  
5 David and I realize our great water year comes  
6 with a difficult water year that's going  
7 downstream. It's certainly a great year for  
8 Colorado to recover around the state with  
9 reservoir storage and just the abundance of  
10 water rights that are able to divert water.

11 I just came from Steamboat Springs last  
12 evening and got to drive through the mountains.

13 It's actually a year, we probably will  
14 have snow pack -- much more snow pack carry  
15 over to this next water year, much more than  
16 usual.

17 That's how nice our year has been.

18 A couple of other quick notes that I  
19 think are of interest. In our Rio Grande Basin  
20 in the southern part of the state, I've talked  
21 in the past and you've heard in the past about  
22 our rulemaking for groundwater rules in the  
23 Rio Grande Basin. Those rules were approved by  
24 the water court judge on March 15th, 2019.

25 That's the culmination of a pretty

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1 significant effort for eight or ten years of  
2 intense effort and good work before that. So,  
3 we're happy about that. We have water users in  
4 that basin that were already making efforts to  
5 comply with the rules, and they pretty much hit  
6 the ground running as soon as those rules were  
7 approved.

8           We have the balance of water users that  
9 also have been very active. They're in a good  
10 position to stay in compliance with -- come  
11 into compliance with the rules during the  
12 rule-based phase-in period. Very good news for  
13 the Republican River Basin.

14           I also want to make a comment on the  
15 West Slope and the Colorado River Compact,  
16 something that many of you may have heard  
17 about. We've been very active with the other  
18 six compact states in the Colorado River Basin.  
19 Earlier this year, a draft contingency plan was  
20 signed and agreed to by the seven compact  
21 states in the Colorado. That was a significant  
22 effort. What it did for the Colorado in the  
23 Upper Basin states is pave the way for an  
24 investigation as to whether demand management  
25 will be a useful effort in the Colorado River

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1 Basin. For Colorado what that means is the  
2 potential to take water rights that are  
3 currently being used and take them out of use  
4 for a time under agreements with water users to  
5 set that water aside to be available should we  
6 need to use them to commit to compact  
7 compliance. It's a very -- a very difficult  
8 effort -- right now it's in the very initial  
9 stages of feasibility, the feasibility of it.  
10 That's a very interesting and a very intense  
11 statewide effort right now that we're going  
12 through.

13 I'll focus on the Republican River right  
14 now for just a couple items. Very notable and  
15 something that's very important, Colorado is  
16 now in compliance with a five-year average.

17 We're in compliance with the compact.  
18 So, I think we need to recognize how  
19 significant that is and the effort that went  
20 into to making that happen.

21 A couple comments on the credit program  
22 of the Republican River. First, last year  
23 Colorado signed on -- signed an amendment to  
24 the FSA contract that increases the acreage  
25 CREP to 60,000 acres to the Republican River

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1 Basin. There is -- it changes incentives for  
2 signup. It includes provisions for the  
3 permanent retirement to the associated well.

4 Another item, Colorado has continued to  
5 work with the FSA CREP program managers, and I  
6 would note that, through the government  
7 shutdown last winter, we stayed active in that  
8 just to ensure that the program continues to  
9 work.

10 The farm bill recently reauthorized  
11 the -- was reauthorized and the risk associated  
12 to that was just a holdup to CREP while rules  
13 were put together and that was a concern, but  
14 working with the FSA administrators, they've  
15 now opened up CREP June 1st. Earlier this  
16 summer, June 1st. So that's active. You know,  
17 a side note to that or additional note to that,  
18 FSA continues to work on other aspects of the  
19 farm bill.

20 One item for that is a potential  
21 provision for dry land use with the CREP  
22 contracts, and at this time we don't have good  
23 information on what those rules would mean as  
24 far as access to the provisions and what would  
25 be required to get access to those provisions,

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1 but that is yet to be seen.

2 I do want to give you some numbers we  
3 heard from the district that, since June 1st,  
4 they've seen good interest in about 3,000 acres  
5 with the Republican River Water Conservation  
6 District. Yeah. 3,000 acres of interest in  
7 CREP on the South Fork and making -- they're  
8 making sure that those fit into the program.

9 But that's the course they're  
10 encouraging.

11 That's a good snapshot of CREP. Two  
12 other items of interest in the Basin. As you  
13 know, Colorado has been working on compact  
14 compliance rules in the Republican River Basin  
15 and we've heard reports in other meetings that  
16 we filed those rules with the water court on  
17 January 11. These rules are very important to  
18 allow for administration of water use in the  
19 Republican River Basin.

20 What we really see the need for out  
21 there at the state is in our office at the  
22 Division of Water Resources, as we are the  
23 administrators and we could be called on to  
24 take administration efforts in the Basin to  
25 ensure compact compliance.



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1           What we need is that set of rules that  
2 ensure the rules are fair, they're certain,  
3 they're predictable so that people see that  
4 it's not an arbitrary action or what would be  
5 perceived as an unfair action. So the rules do  
6 that, give us the road maps to do fair and  
7 certain administration to ensure compact  
8 compliance.

9           That's for surface water as well as  
10 groundwater.

11           The rules also are related -- have a  
12 relationship to a boundary amendment adjustment  
13 that I'm -- sorry -- a boundary adjustment  
14 amendment to the boundary that I'll make a  
15 comment on in a minute.

16           But the rules by our process by the  
17 rule-making authority that we use for those  
18 rules, they were filed in the water court which  
19 means now we get to go through a process where  
20 those parties get to file an opposition to the  
21 rules, and we have many parties, several  
22 parties, do that. For the most part, they're  
23 not in strict opposition or -- in strict  
24 opposition to the rules, but they want to  
25 remain as parties to the implementation to

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1 monitor and watch on the rules.

2           We did have one party, a surface water  
3 user, who, by the way, has filed the lawsuit  
4 against the State Engineer for administrative  
5 practices in the Republican River Basin. Since  
6 that -- and they of course would be active --  
7 would have been active probably in the -- in  
8 the rulemaking.

9           Since that time, that party sold their  
10 water rights to our division of Parks and  
11 Wildlife, Colorado Parks and Wildlife, and in  
12 direct sale, subsequent conveyance of the water  
13 rights to the district. The original party is  
14 no longer a part of the lawsuit. The lawsuit  
15 was dismissed, and we would not see that  
16 opposition to the rules. So that is a very  
17 significant accomplishment that will allow us  
18 to get through those rules.

19           When we do get those rules in place,  
20 again, I think it provides health and surety  
21 for the parties in the Basin. I did just  
22 mention the boundary amendment. I think I just  
23 spoke, but it is the boundary amendment for the  
24 Republican River Water Conservation District.

25           We reported in the past how we have a

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1 misalignment of the district boundaries and the  
2 Republican River Compact model, and the  
3 discrepancy there was the cause for concern  
4 about fairness in the Basin for those water  
5 users who are in the district.

6           The only way to do that, because it is a  
7 statutory item is to have our general assembly  
8 approve a new delineation for the district  
9 boundaries. The general assembly did pass that  
10 bill just reflected the section. Governor  
11 Polis signed the bill on April 16th, 2019. And  
12 it's good not only the way I described to  
13 divide that for the fairness to water users in  
14 the Basin but also for those that were not in  
15 the district.

16           When our rules are final and our rules  
17 are applied, they would be in a position of  
18 needing to find a plan to stay in compact  
19 compliance. So being in the district is a  
20 good, soft landing for them. So it's good in  
21 more ways than one. And I think that is all I  
22 would like to update you on today.

23           If there are no questions, I'll hand  
24 the mic back.

25           Mr. Barfield: Any questions?

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1           All right. I would just say appreciate  
2 that report and appreciate all of Colorado's  
3 compliance efforts, especially, you know, in  
4 the South Fork focus zone, with your CREP  
5 retirements.

6           Mr. Rein: And let me -- since you  
7 said that, let me just add I really like to  
8 hand up -- hand this to Mike Sullivan's deputy  
9 director, who's been so active in that and so  
10 diligent about moving those efforts along. We  
11 would not be where we were if you were not  
12 doing that.

13           Mr. Barfield: Thank you. I'll turn  
14 the mic over -- I guess you already have a mic.  
15 Nebraska.

16           Mr. Fassett: Yeah. Clearly 2019  
17 will go down in the books as an incredible  
18 water year all across Nebraska, but certainly  
19 for the Republican River Basin. I think,  
20 together with Colorado's full compliance now,  
21 we've really seen a stabilization of flows,  
22 some river recovery.

23           Clearly that occurred this year which I  
24 think will bode well in the long term with  
25 other investments that are made and changes

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1 that I'll touch on here shortly.

2 I wanted to note this, that we really  
3 are quite satisfied. I think we've talked  
4 about it since our last annual meeting about  
5 the ongoing dialogue that the three states have  
6 had now for -- throughout the year. That has  
7 really been helpful from our standpoint in  
8 really kind of clearing out issues of concern  
9 that we can bring up in a very good and  
10 productive manner.

11 Working with Colorado and on the FSA and  
12 CREP programs which are really important for us  
13 as well, has been really helpful. We've  
14 struggled to work some of the issues that are  
15 ongoing now with that, but it seems to be in a  
16 better track, so...

17 We'll note for the record that Nebraska  
18 is in compliance, and, of course, we had  
19 permission earlier from the State of Kansas to  
20 use all the water we wanted, if I recall.

21 Mr. Barfield: Under these specific  
22 circumstances, I will note for the record.

23 Mr. Fassett: You knew I couldn't  
24 resist.

25 Yeah. Have you got enough yet?

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1 Mr. Barfield: We do.

2 Mr. Fassett: It's been incredible,  
3 obviously.

4 It's noteworthy to -- as I understand,  
5 I'm sure the Bureau may be reporting later to  
6 us, but when I came to work for the State of  
7 Nebraska, I was told it would never fill again.  
8 And it not only filled, it is at the highest  
9 level ever since it was built. This year. So  
10 it really is incredible. We'll be -- it will  
11 be hard to get out of the flood pool by the end  
12 of this season the way things are -- continuing  
13 to rain. It was really an incredible year.

14 We are in compliance. We appreciate  
15 Colorado's efforts in that regard, the new  
16 accounting that we put in place for forecasting  
17 that we got put in place through our  
18 resolutions is all working quite well. It is  
19 flushing out some interesting issues that we  
20 talked about yesterday at the workshop because  
21 of the flood-flow provisions of prior  
22 accounting that I think we'll be working here  
23 on this coming year that weren't tested until  
24 we actually had flood-flow years, so...

25 We didn't -- I'm not going to

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1 introduce all of my partners here, but my  
2 Natural Resource Districts are all here. They  
3 continue to be really good partners with us,  
4 taking efforts, putting in place, through our  
5 IMP, integrated management planning processes,  
6 all the measures to make sure that we as a  
7 state are in compliance going forward, and we  
8 certainly express our thanks in working with  
9 them and the very good relationships that we  
10 have with them.

11 We're not expecting any anticipated  
12 extra deliveries this year because it keeps  
13 falling from the sky, but the measures are in  
14 place if that is required.

15 It's noteworthy for us, we completed our  
16 five-year efforts at developing our new updated  
17 Republican River Basin-wide planning process.

18 We had a celebration with our staff not  
19 too long ago. This was a five-year effort. We  
20 had over 15 large stakeholder meetings. We had  
21 22 coordination meetings with the Natural  
22 Resource Districts. But that effort has come  
23 to a closure. It went through all the formal  
24 reviews and approval processes by those  
25 districts and my agency. And it's really done

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1 a great job.

2           It lays out the framework for us for the  
3 next 25 years. It lays out great objectives,  
4 goals, action items that are fun to write down,  
5 but now that the plan is done, we're actually  
6 going to have to do all of those things. That  
7 will be our challenge going forward, certainly  
8 in the next several increments.

9           Importantly for this body, the number  
10 one goal is compact compliance, that the Basin  
11 plan is pointed to, all of the work and  
12 measures that we work on are driven to make  
13 sure we are not out of compliance ever again.  
14 It talks a lot about conservation, about  
15 beneficial use.

16           We're increasing the certainty for all  
17 longer term planning and looking at what sort  
18 of additional collaborative efforts we can  
19 really do. It is a significant shift toward  
20 water management that has occurred that's been,  
21 in our opinion, very, very beneficial for both  
22 our water users and our ability to comply.

23           Everybody's enjoying a wet year, but we  
24 know the next drought could start in 2020, and  
25 this basin has that long history. So, we think



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1 we in Nebraska have all the working elements in  
2 place to make sure that we're in a good  
3 position going forward.

4 I've commented in the past about the  
5 investments that we've made in the basin as a  
6 state. Our new Water Sustainability Fund,  
7 which is a statewide fund for water project  
8 applicants for projects in the Republican River  
9 Basin, has been quite successful. They've  
10 received over \$5 million which is in the  
11 cost-sharing, so it really generates almost \$10  
12 million of new investments in projects across  
13 the basin. There are new applications coming  
14 in again this year from elsewhere in the state,  
15 somewhat related to all the flooding that we've  
16 had, but, again, new projects coming forward in  
17 the Republican River Basin that will be  
18 reviewed and considered by our Natural  
19 Resources Commission.

20 We've been working hard, though, with  
21 the NRD partners. We've had excellent support,  
22 quite honestly, from our legislature to  
23 continually to provide the state dollars that  
24 we use in partnership with all the natural  
25 resources districts to invest in the measures

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1 that they have agreed to do through their  
2 integrated management planning. There is a lot  
3 of work in water management, the irrigation  
4 retirements that are continuing, working with  
5 the CREP program, and things of that nature  
6 that really have been quite successful.

7 Those projects are moving forward. My  
8 personal approach has been when we have a wet  
9 year and nobody's complaining about water, this  
10 is when we need to be investing so that when  
11 the bad years come back, and we know they will,  
12 we're just in a position to handle it and to  
13 put things in place that'll be helpful when  
14 things are much tighter than they are this  
15 year.

16 We're working collaboratively. With the  
17 money we're receiving from the State of  
18 Colorado and the settlement, we received  
19 legislative appropriations to spend that money,  
20 and we are beginning to do that, working  
21 cooperatively with the French-Cambridge  
22 Irrigation District and the Bostwick Irrigation  
23 District in particular, but that money will  
24 likely be spread to other surface water  
25 projects, which was the target within Nebraska

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1 for those expenditures.

2 We've already had success working with  
3 Brad and his board in trying to use these  
4 dollars to help leverage other funds that had  
5 other Federal grants through the Water Smart  
6 Program.

7 So, we're looking to get \$10 million  
8 dollars' worth of work out of the \$4 million we  
9 received. So, again, we're really moving  
10 forward aggressively as we can to get those  
11 dollars on the ground into system improvements  
12 that were really necessary in this particular  
13 Basin.

14 I wanted to comment just that we've been  
15 very pleased with the shift in communication  
16 and engagement by the Bureau of Reclamation  
17 with us. We've gotten all of these major  
18 reservoirs in Nebraska that we've become more  
19 active, the state has become more an active  
20 involvement with, but the Bureau has responded  
21 very positively.

22 We'll get their report later, but their  
23 engagement in really focusing on better water  
24 management and measurement and careful use,  
25 beneficial use, of water has been just a great,

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1 helpful partnership with us and our natural  
2 resource partners at the Bureau.

3 Being part of that has really been  
4 something that we are pleased to see and we're  
5 going to continue to move forward on that.

6 We also -- our water users have made  
7 good use of the Water Smart Program, as I  
8 mentioned earlier, and, again, they -- we've  
9 had some real successes getting Water Smart  
10 grants from the Bureau that we are leveraging  
11 with both state and local dollars to implement  
12 larger-scale projects which we think will  
13 really serve our users very well for the long  
14 haul.

15 I think in particular, it's noteworthy,  
16 I know we don't have as much Corps of Engineers  
17 involvement as perhaps the other states do, but  
18 the Bureau in this basin has been very helpful  
19 in coordinating with the Corps of Engineers at  
20 Harlan County Lake, staying in close contact  
21 with the operations that are occurring in  
22 Kansas.

23 Again, we appreciate that active  
24 involvement from the Bureau that helps us  
25 wrestle with the sometimes challenging water

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1 management decisions being made by the Corps  
2 who just views the water issues very  
3 differently than the water consumers might,  
4 so...

5           Again, a really good year from the water  
6 standpoint. Unfortunately, too good in some  
7 areas in Nebraska. We have had historic  
8 flooding. We've had -- well, right before the  
9 gauge washed away, they were at a record high.

10           We lost a lot of equipment. The state  
11 actually has been successful applying for FEMA  
12 grants to replace our washed-away flow gauges  
13 that the state owned and operated. We think  
14 they're somewhere near Missouri by now and they  
15 won't give them back, so. But, yeah, the  
16 record flows -- flows that we've seen in the  
17 Republican have really clobbered most of the  
18 State of Nebraska. While it's not in this  
19 basin, I'll just quickly note we've also had a  
20 horrible, difficult situation in the Panhandle  
21 part of our state. We had a major  
22 hundred-year-old canal system crumble, collapse  
23 from the Gering-Fort Laramie system.

24           It's a canal that diverts in Wyoming.  
25 There's 50,000 acres in Wyoming and another

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1 50,000 acres in Nebraska, both of whom have had  
2 no water for over 45 days since that tunnel  
3 collapsed on the canal, which is way at the  
4 head end, up towards the head gate have failed.  
5 That is desperately needing work done right  
6 now, but it may be too -- even if the canal  
7 comes on at this point of the year, it's  
8 probably too little, too late to save  
9 substantial crops.

10           So, that's really the new emerging  
11 disaster out in the panhandle part of our state  
12 that is really going to cause some difficult  
13 issues, not only for the farmers and producers,  
14 but for those local communities.

15           This is 30 percent of the total  
16 irrigated area in the entire region of both  
17 Wyoming and Nebraska, so. It's quite a bit of  
18 a mess.

19           I think I'll stop there, Mr. Chairman,  
20 but I'll pass to Jesse to talk about water  
21 administration issues.

22           Mr. Bradley: Thank you. Yes. I'll  
23 just go ahead and give a quick summary of the  
24 2018 water administration activities in the  
25 Basin.

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1           Nebraska's water administration very  
2 much ties into a forecast that we do of  
3 available water supplies. That forecast that  
4 was completed for 2018 was the sixth  
5 consecutive year of what we call a "Compact  
6 Call Year." That compact call year drives  
7 certain additional administrative activities  
8 that we do to support compact compliance. So  
9 to support those efforts, on the first of  
10 January, we sent out mailings to the Bureau of  
11 Reclamation. Helps to get additional  
12 information, it helps support our compact  
13 administration activities. Then throughout  
14 spring, early part of the spring, the Cambridge  
15 field office staff worked to get additional  
16 water user support information to help support  
17 our accounting process, so there's a number of  
18 different mailings and activities that go out  
19 to the appropriators throughout the Basin and  
20 working closely with those folks to get them to  
21 get their water use information in so that  
22 could all be channeled into the accounting.  
23 That was done successfully, and information was  
24 provided as part of the data exchange in 2018.

25           Then in mid-April we went ahead and we

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1 printed out closing notices to the junior users  
2 downstream of Harlan to Guide Rock in  
3 compliance with the Water-Short Administration  
4 actions from the FSS to make sure that those  
5 users are falling under the FSS requirements.

6           Then throughout a lot of the late  
7 spring, kind of in April, again, the field  
8 office does a lot of activity communicating  
9 with appropriators to remind them of what the  
10 limits of their permits are and what the  
11 conditions of those permits are. That happened  
12 throughout the month of April, hundreds of  
13 notices and difference communications out from  
14 the field office.

15           Then we got into the sort of, I guess,  
16 the true administration in the summer.

17           Starting on June 19th, there were actual  
18 closing notices issued on natural flow and  
19 storage appropriations, a couple hundred in  
20 total. Those went out on June 19th to protect  
21 natural flow appropriations in parts of the  
22 basin. Those stayed in effect through most of  
23 the irrigation season up until early August.

24           There was a brief break for about five  
25 days in early August when people were able to



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1 be open again, but then they went back under --  
2 until the irrigation season sort of wrapped up  
3 in mid-September. September 17 they were able  
4 to reopen to those appropriators, so then we  
5 began our process again of opening storage  
6 appropriators and then initiating the water use  
7 reporting cycle.

8 So, that was sort of the report for  
9 2018.

10 I guess, I want to make sure the  
11 commissioners know I gave you each a copy of  
12 the full administration report. I'll also give  
13 a copy to the transcriptionist to make sure  
14 it's part of the final transcript for the  
15 meeting.

16 I certainly want to extend a thank you  
17 to the Cambridge field office. They're the  
18 ones sending out those hundreds of notices in  
19 different communications and handling all the  
20 site visits and comp checks as well.

21 And, with that, I guess I would  
22 conclude.

23 Mr. Barfield: Very good. Any  
24 questions for Nebraska?

25 I guess, I would just have one question.

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1           I wonder if you can give an update  
2 on the Platte River diversion issue, Jeff.

3           Mr. Fassett: Sure, Mr. Chairman.  
4 It's moving along at lightning speed. We're a  
5 year into when we received the final  
6 application and we are still getting the chairs  
7 arranged at the table is my short answer. We  
8 are involved with a lot of early procedural  
9 motions to dismiss, challenges to proper  
10 applicants, issues related to standing, all of  
11 those matters are in the midst of being heard,  
12 fully briefed, and not even a -- the first  
13 round of decisions have been made by the  
14 department. So it will be a while before that  
15 issue coalesces.

16           Mr. Barfield: Thank you.

17           I note for the record your -- our  
18 concerns last year, I think, were noted on the  
19 record and Governor Colyer's letter was  
20 attached and those concerns are still there,  
21 but appreciate you keeping us updated on that.

22           We'll track that along with you.

23           And, again, I just -- we appreciate all  
24 your efforts to comply with the compact and the  
25 coordination that we've seen throughout years.

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1           Okay. I have my notes here on my  
2 computer, so I will go ahead and do my report  
3 now.

4           First of all, I guess I would note we  
5 have a new administration. Kansas is generally  
6 dominated by Republicans and in our legislature  
7 and statewide offices. In recent decades  
8 Kansas has sort of switched back and forth  
9 parties with our governors, and last year  
10 Kansas elected Democrat Laura Kelly for  
11 governor.

12           So, her emphasis -- her administrative  
13 emphasis has been on restoring state's budgets  
14 especially for school and child welfare. Her  
15 administration has been very supportive on our  
16 on-going initiatives on prudent water  
17 restrictive management.

18           Mike Beam was appointed and confirmed as  
19 Secretary of Agriculture. Assistant Secretary  
20 Kelsey Olson is here today with us. Appreciate  
21 her being here to be a part of this meeting.

22           I know the report on legislation,  
23 particularly water legislation, last year's  
24 legislature was focused again on taxation and  
25 budget issues, especially funding for schools,

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1 and we had no substantive water legislation to  
2 report on, so...

3           Climate conditions. I could echo Jeff's  
4 remarks with respect to it being a very unique  
5 year, a very wet year, starting in the spring,  
6 especially May was sort of historic in terms of  
7 its level of precipitation, and, again,  
8 particularly in eastern Kansas and -- and  
9 actually other parts of the state have seen  
10 flooding, and we've got reservoir issues, that  
11 Jeff noted the Missouri River has basically  
12 been in a continuous state of being above flood  
13 levels since March and has prevented the  
14 evacuation of significant storage.

15           In Milford Reservoir, our other Kansas  
16 systems, there's still about 50 percent flood  
17 pool waiting to be evacuated with no real clear  
18 path forward for getting that water out of the  
19 system this year, which is concerning. It's  
20 basically sort of decimated the recreation in  
21 those Federal southern lakes for this summer  
22 season, and, again, we're trying to figure out  
23 a way in Milford and Harlan and above it, but  
24 we're going to see the relief in terms of the  
25 flood pool, so stay tuned.

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1 I've reported in the past on our new  
2 management tool, particularly for the overall  
3 aquifer declines. And, again, we're in the  
4 heart of Groundwater Management District #4  
5 for Northwest Kansas. They've been one of the  
6 leaders of using one of those tools, our Local  
7 Enhanced Management Area tool, or LEMA tool.  
8 They have the first one in Sheridan County that  
9 proposed a 20 percent reduction in declines --  
10 over the first five years, and they were very  
11 successful in achieving really closer to double  
12 -- almost 40 percent reduction in the  
13 first five years, and have been renewed as a  
14 report of last year.

15 Based on that, the GMD #4 initiated a  
16 district-wide LEMA in 2017 that was approved  
17 last year. It is currently under judicial  
18 review.

19 They were a group of landowners, water  
20 rights. Owners that object to the reductions  
21 that are provided for in the -- the record is  
22 now complete and we're waiting for the district  
23 judge to make a decision on that.

24 But it's really basically determining  
25 whether this tool is appropriate for the task

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1 that the legislature gave it, and so we hope to  
2 see that decision any day.

3 A second; I reported on our Water  
4 Conservation Areas. These are consent  
5 agreements between the Chief Engineer and water  
6 users or a group of water users to, again,  
7 facilitate water conservation, reduced use,  
8 typically providing some degree of flexibility  
9 with the suite of water rights that they bring  
10 to that Water Conservation Area. That tool is  
11 getting some pretty significant expansion in  
12 use for a number of reasons. One, users are  
13 understanding that in these areas of declining  
14 water levels, that they're pumping their future  
15 and that reducing that use and conserving water  
16 benefits their future use. And so Kansas Water  
17 Office has been very active with sort of --  
18 with something called "Water Technology Farms"  
19 that are sort of demonstrating on the grounds  
20 that there are ways to reduce irrigation use  
21 without significantly impacting the bottom  
22 line, using soil probes, starting irrigation  
23 later, ending it sooner, and sort of the  
24 combination of Water Technology Farms and  
25 demonstration projects that they were really

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1 actively promoting, and then these water  
2 conservation areas to provide people sort of  
3 flexibility in their water rights to facilitate  
4 their conservation is -- it's really starting  
5 to pay off and we're starting to see -- what  
6 started as sort of small Water Conservation  
7 Areas, we're now starting to see some of the  
8 big water users bring in large suites of water  
9 rights. Down in Garden City area, there's a  
10 Garden City company that owns a lot of  
11 irrigation land that started with a 8,000-acre  
12 water conservation area; in recent weeks  
13 they've added another 17,000 acres to that  
14 water conservation area. So -- and, again,  
15 some other big players in southwest Kansas are  
16 using this tool, which is quite gratifying,  
17 so...

18           Yesterday we had a meeting in Saint  
19 Francis. Again, Kansas Water Office Director  
20 Lewis convened that meeting of stakeholders,  
21 again seeking to determine how best to use the  
22 \$2 million from our system, some in terms of --  
23 that money in the South Fork Basin.

24           Plenty of other stuff going on. We have  
25 a very active water use reporting program that

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1 we've had for decades. We're trying to move  
2 people to online water use reporting rather  
3 than using the old paper cards. We've invested  
4 five or six years in developing the online  
5 reporting mechanism for water use and saw that  
6 sort of grow just 25 percent. Secretary  
7 McClaskey, before she left, she had a new  
8 authority where we have both a paper system and  
9 an online system to file various reports. She  
10 was given the ability to charge a fee for the  
11 paper filing of the reports because it's just  
12 -- it's more work and there's greater  
13 efficiency with online, so she imposed a fee  
14 for paper filing and we saw online use go from  
15 25 percent to something approaching 90 percent,  
16 and people went with the fees. And, again, we  
17 appreciate -- there's a lot of effort involved  
18 in our field offices and headquarter to make  
19 that happen, but that provides more accurate  
20 data because the application sort of catches  
21 data mistakes as they're entered and we get  
22 that data available to everybody more quickly.

23 I've kind of reported and I'll report  
24 very briefly here on some of the -- some  
25 significant statewide issues. I don't know --



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1 I'll just mention two of them. The City of  
2 Hays is seeking to go 80 miles to the south to  
3 get a long-term supply for it. And that's  
4 generated a lot of controversy in terms of  
5 inter-basin transfers, so to complete that  
6 process, as I said before, is first is  
7 approving -- provisionally approving the change  
8 applications under normal processes so we know  
9 exactly how much is supposed to be transferred;  
10 and then secondly, a water transfer process to  
11 determine whether that inter-basin transfer  
12 should occur.

13 We -- I did finally approve in March the  
14 change application that is actually going  
15 through a judicial review process now. So we  
16 are waiting for the water transfer process to  
17 complete the judicial review of the change  
18 application process, so...

19 The other thing I've reported on is the  
20 Quivira National Wildlife Refuge impairment  
21 complaint. This is essentially where 1,300  
22 rights, junior rights involved in Quivira  
23 National Wildlife Refuge are -- have been found  
24 to be interfering with the use of that water  
25 right, and we've been spending the last three

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1 years trying to determine what the remedy is.  
2 Basin water users wanted to do an augmentation  
3 project, which we support.

4 They've sort of done some preliminary  
5 planning for where the project could go,  
6 although they haven't moved much further than  
7 that.

8 In addition to the project, we need some  
9 reduction, some honest reductions, of -- to  
10 sort of stabilize stream flows and we have not  
11 been able to get to agreement with Water  
12 Management District 5 about how to accomplish  
13 that, so I'm going to -- I announced my  
14 intention of a few weeks ago to essentially  
15 have 1,300 administrative orders to reduce use  
16 of the appropriators that are interfering with  
17 use as sort of first step for that, providing  
18 three years for them to get on the groundwater  
19 reductions that are also part of the plan.

20 So, that's generating a fair amount of  
21 interest locally there in that action, and  
22 we'll see what that does looking forward, so...

23 But that's my general report here. I  
24 wanted to make a few sort of closing remarks.

25 Today's annual meeting represents my

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1 27th annual meeting and 14 years as an engineer  
2 committee representative and 13 years as Kansas  
3 Commissioner. We had a work session yesterday  
4 afternoon that we do every year and sort of  
5 pave the way for this meeting and get some of  
6 the work done that sort of concluding the  
7 year's work. I informed the commissioners that  
8 my retirement -- I'm not announcing a date yet,  
9 but it's coming hopefully later this year. But  
10 this will be my last annual meeting as a state  
11 employee, and so I wanted just to spend a few  
12 minutes kind of reflecting kind of on my years  
13 and sort of where we've been over the last 27  
14 years just in sort of closing my time here.

15           So, this year's meeting you sort of hear  
16 is a very sort of kumbaya meeting, I mean, as  
17 you hear that the states are getting along very  
18 well, as well as our work with the Federal  
19 partners. That has not always been the case.

20           I guarantee it. We've had a few of  
21 these routine years, especially lately, and  
22 there's been a couple others in my 27 years,  
23 but most of the 27 years have been dominated by  
24 some pretty intense work periods, arbitration,  
25 litigation, settlement discussions. I mean,

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1 for most of the time, it's been pretty intense.

2 But Jeff mentioned the cycle of wet  
3 years and dry years that has been -- that has  
4 been there. My work on this started in 1993  
5 because of a drought sequence in the late '80s  
6 and early '90s that saw Harlan County drop to  
7 what was at that time historic lows. Kansas  
8 irrigation district Pete Gile is here. He  
9 doesn't have a lot of problems this year, but  
10 Kansas back in the '90s -- late '80s, early  
11 '90s, was facing again severe -- some  
12 restrictions, and our legislature heard the  
13 message that this concern we have needs to be  
14 resolved. And so they provided the Division of  
15 Water Resources with three new positions to  
16 really bear down on this interstate concern  
17 that we had, as well as others, and I sort of  
18 got in the engineering position that those  
19 three new positions and got to work studying  
20 the compact and looking at the records and  
21 starting to bring issues to Nebraska in  
22 particular at the time. And so our discussions  
23 got enhanced very quickly. I remember the 1995  
24 annual meeting. Nebraska's Commissioner was a  
25 guy named Mike Jess, and I had refused to sign

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1 an Engineering Committee report that year  
2 because we were objecting to the methods -- the  
3 methods at that time included surface water use  
4 and alluvial use, but didn't really account for  
5 the very significant depletions straight from  
6 the county from, so I refused to sign the  
7 report and Mr. Jess suggested I really should  
8 be fired for that. And I sort of retorted that  
9 it was a good thing I wasn't working for him  
10 but one of the other commissioners.

11 And we had some other issues that year,  
12 basically asking Nebraska to close -- to not  
13 continue to grant new groundwater permits and  
14 basins that they were overusing. That failed  
15 on a two-to-one vote, as we had many of in that  
16 period of time. We basically had the first in  
17 '97 and -- '95 to '97 the first of -- fairly  
18 intensive efforts to try and resolve that  
19 ultimately failed, and we had a preliminary  
20 option settlement that Nebraska brought to the  
21 water users, and the water users weren't  
22 particularly impressed with that proposal, and  
23 so 1998 we had our first -- you know, we  
24 basically started with the first U.S. Supreme  
25 Court litigation. Obviously, that ramped up

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1 the level of effort to sort of work through  
2 that process. The court assigned a special  
3 master, Vincent McKusick to the case. He was a  
4 very -- a really elderly gentleman, a very  
5 gentlemanly gentleman in his demeanor, but a  
6 very tough special master in terms of  
7 scheduling. He didn't -- he didn't provide any  
8 extended discovery periods, kept us on a very  
9 tight schedule. Even as the states moved to  
10 settlement mode, he kept us on -- on the  
11 litigation track while we were trying to settle  
12 the matter. And it was one of the most -- two  
13 very intense periods that we've had on the  
14 River as we -- we tried to work through these  
15 issues. It was a very intense period but a  
16 very gratifying period looking back on it -- it  
17 was sort 1998 to 2003. Out of it came the  
18 final stipulations that really is the  
19 foundation of everything we do now. The  
20 initial Accounting Procedures that implemented  
21 that, and the Republican River Groundwater  
22 Model that allowed us to accurately estimate  
23 the depletions due to all the water pumping,  
24 and, again, provide credit for some of the  
25 water that's brought in from Platte River into

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1 the Republican River Basin. So out of a very  
2 contentious period, the states, at that period,  
3 sort of got together and worked this stuff out.

4 But we came out of that period all  
5 singing the praises of our settlements, all of  
6 us claiming, you know, that this is a victory  
7 for our state, and really I think -- I think  
8 that was actually true. You actually can find  
9 win-win-win when you work together.

10 But that wasn't the end of the story.  
11 As often happens, as soon as the ink was dried,  
12 we went into the next drought sequence and  
13 Colorado and Nebraska didn't really have all  
14 their tools in place and were out of  
15 compliance, and in 2010, we initiated a second  
16 trip to the U.S. Supreme Court over that  
17 failure. And a number of arbitrations and in  
18 the period, it was huge.

19 In a second intensive period from 2010  
20 to 2014, sort of working through those  
21 litigation and arbitrations. But, again,  
22 gratifying. In states started out of that as  
23 the Supreme Court sort of the handwriting sort  
24 of on the wall in terms of what that would  
25 mean. Both states very basically took some

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1 very significant actions that we've heard some  
2 about today to get into compliance, and then a  
3 very active period of three states were working  
4 together to marry Nebraska and Colorado's  
5 compliance efforts with Kansas needs.

6           And, again, it's just been a pleasure to  
7 sort of work through all of this process and  
8 sort of be sitting here today. I think seeing  
9 a Republican River Basin that has a path  
10 forward for all the states to meet their water  
11 use needs and to have meetings like this where  
12 we can basically get along in terms of having a  
13 compact that works as a total package.

14           So anyway, just appreciate -- just  
15 wanted to give you all a little history. These  
16 things are, you know, often difficult and  
17 people don't like the courts, but they sort of  
18 have a role, and, again, just appreciate all  
19 the states' efforts to -- to make all of this  
20 work, so...

21           So, I guess with that I would conclude  
22 my report for this year.

23           So any questions?

24           All right. Thank you very much.

25           I guess, with that, we'll to go on to



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1 the Federal reports. We have first the Bureau  
2 of Reclamation. I don't know if it's -- Mary,  
3 are you going to start or Craig? Craig.

4 Mr. Scott: My name's Craig Scott.  
5 And I'm representing Reclamation Kansas area  
6 office, and I'm going to provide a Reclamation  
7 report this morning.

8 I provided each of the states with a  
9 copy of the report with information on what  
10 we've provided over the last several years.

11 I'll just touch on a few items in that  
12 report. As well current-year data through July  
13 2019 for all our reservoirs in the Basin.

14 Just real quick here, looking at 2018  
15 data. Precipitation for 2018 we did receive  
16 numerous and timely rainfall events throughout  
17 the irrigation season that greatly reduced our  
18 irrigation management reservoirs, but overall  
19 for the year precipitation averaged 104 percent  
20 at Enders Dam to approximately 138 percent at  
21 Lovewell Dam. So precipitation was near normal  
22 to above normal throughout the Basin, and we've  
23 seen and we recognize in carryover storage.

24 Current storage capacity, I'll just  
25 touch on those where we are today. In

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1 reservoirs I note generally this year, like  
2 many of you have already mentioned, we've got a  
3 really good water year. But the western part  
4 of the Basin hasn't been as beneficial as some  
5 of the other parts of the Basin.

6           Enders Reservoir currently is at 24]  
7 percent of capacity.

8           Swanson Reservoir is currently at 58  
9 percent of storage capacity.

10           Butler Lake, currently at 61 percent  
11 storage capacity.

12           And as you move east and in the central  
13 part of the Basin things are definitely better.

14           Harry Strunk currently is right at  
15 full capacity, that 101 percent.

16           Keith Sebelius Lake, down at Norton,  
17 Kansas, currently at 74 percent capacity.

18           Which actually compared that to a year  
19 ago, it's actually doubled in storage capacity,  
20 so it's in really good shape compared to where  
21 we have been in the last several years.

22           Harlan County, as they've mentioned,  
23 currently at 158 percent of full capacity, and,  
24 again, that does more than set the new historic  
25 high elevation in July -- actually on July

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1 23rd, with nearly just over 12 feet of water  
2 storage and flood pool at that point.

3 And the final report, Lovewell report,  
4 current at 86 percent of capacity.

5 So overall, storage going into 2020  
6 looks very favorable. I think we're going to  
7 see the benefits from this recent wet cycle of  
8 the last couple years for sure.

9 And the final item I'd like to mention  
10 -- and I'd like to just note the new Bostwick  
11 memorandum of agreement, or their MOA, that it  
12 was revised in 2018, and commend our irrigation  
13 districts to working together and getting this  
14 done. I know that the administration here was  
15 really wanting to -- pushing to get that done  
16 to really align with the resolution that was  
17 passed in 2016 regarding the Harlan County  
18 operations.

19 And we were able to look through -- oh,  
20 over at least over the last couple years, but  
21 we really focused in 2018 to get back up our  
22 revised and up-to-date to match not only the  
23 resolution that the RRCA passed in 2016, but  
24 also to kind of develop a framework that would  
25 match the administration in the State of

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1 Nebraska that we'd seen over the last several  
2 years at least through -- since 2013. But just  
3 real briefly, the MOA, again, was signed in  
4 2018, and it replaced the MOA that was signed  
5 in October of 2000, so just after the Final  
6 Settlement -- and negotiating the Final  
7 Settlement period, the Bostwick Irrigation  
8 Districts back then signed an MOA that kind of  
9 outlined the procedure for sharing the supply  
10 from Harlan County Lake.

11 And then the three primary areas of the  
12 new MOA addresses is it -- it outlines  
13 procedures, the procedures for sharing the  
14 annual supply for Harlan County Lake, it  
15 identifies the procedures for accounting of  
16 those supplies.

17 Then also, which is a new element to the  
18 MOA, established separate accounts for each  
19 party, each party's use moving forward. And  
20 those accounts historically had always reset on  
21 an annual basis, and under the new MOA those  
22 accounts would be carried forward for perpetual  
23 use.

24 So I think, you know, the overall intent  
25 for that was to capture the framework and the

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1 concepts derived from that 2016 resolution.

2 So, with that, unless you have  
3 questions, that will conclude my report.

4 Mr. Barfield: Any questions?

5 All right. Thank you.

6 I certainly echo Mr. Fassett's comments  
7 earlier about working with the Bureau in the  
8 working relationship as it is now. We  
9 appreciate it.

10 Congratulate the Bostwick's new MOA.

11 Mr. Scott: Thank you.

12 Mr. Barfield: I do believe we had a  
13 USGS report. Is that correct?

14 Mr. Miller: Thank you. I thank you  
15 for this opportunity to present the data and  
16 work down in the Republican River Basin. And,  
17 again, it's been mentioned work.

18 I'm actually out of the North Platte  
19 field office, and I'm responsible in my office  
20 for a lot of upper end and the Basin  
21 tributaries, and we typically see -- or we  
22 typically do the majority of our measurements  
23 by wading.

24 And this is going to be the first year  
25 in the 25 years that I've been there where I

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1 was going to be making more bridge measurements  
2 than we are wading measurements, and that's all  
3 the way up into the Republican River system  
4 it's been mentioned historic flows as seen in  
5 much of -- much Nebraska. And, in fact, I  
6 probably should have jotted this down, but  
7 we'll have a few record sites this year. Just  
8 amazing. Lots of our sites are on the Loup and  
9 the Elkhorn and even the Platte Basin four,  
10 five, six times above normal flow for this time  
11 of year. So there's still a tremendous amount  
12 of water out there.

13 I provided a handout that gives the 2018  
14 -- rather the 20' -- yeah, the 2018 water year.  
15 Discharge information for each of the compact  
16 sites plus added sites that are of, I'm sure,  
17 concern. I'm not going to go through each one.  
18 Pretty general, similar trends have been seen  
19 this year in the western part of the Republican  
20 Basin in Nebraska where they -- they talked  
21 about record flows, but actually Rock Creek had  
22 hit an all-time record low annual mean in the  
23 2018 water year. And 5.4 cfs compared to a  
24 running mean for the period of record of 12.2  
25 cfs.

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1           We continue to push forward with the --  
2 with approving record that a -- a more timely  
3 rate with all of the Republican River Compact  
4 sites and now currently the records are  
5 approved through the May-July time frame that's  
6 actually -- the things that we've put in place  
7 to get that done are going really, really well  
8 even despite the setback that we had with the  
9 -- with the rain flows earlier this year, and  
10 then the March and April flooding was -- was a  
11 pretty big hurdle for us to get through, but  
12 we've made great progress in pushing those  
13 records through.

14           I gave a -- kind of tentative -- a  
15 description of what we've done with the  
16 Arikaree gauge last year, and that's turning  
17 out to be a good move, that record is. It's  
18 still a fair to poor record, but in looking at  
19 the old site, as it turned into this new site  
20 -- we're actually -- have developed a lower end  
21 rating that is producing a much better record.

22           So, with that, that is -- that's all I  
23 have to mention. Next year's -- the numbers  
24 are going to be tremendous, especially in the  
25 -- in the lower end of Republican Basin. I'm

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1     sure several of the sites are going to come in  
2     with record flows, so...

3             Any questions?

4             Mr. Barfield: Any questions for  
5     John?

6             All right. Thank you, John.

7             All right. We're doing very well on  
8     time, so I think I'd like us to take just a  
9     ten-minute break. We've got a number of things  
10    upfront here to -- to partake in, so let's take  
11    a ten-minute break. I'll reconvene us at  
12    10:43.

13            All right. Take a break.

14            (The Proceedings went off the record  
15    for a 15-minute break at 10:30 a.m.)

16            Mr. Barfield: I'll call us back to  
17    order. I think before we move through the  
18    agenda, Mr. Rein had a correction that he  
19    wanted to make.

20            Mr. Rein: Thank you. I appreciate  
21    the opportunity to step outside the agenda and  
22    correct one item in my report. This is due to  
23    an unfortunate assumption of initials resulting  
24    in my reporting that for the Hale Ditch it was  
25    Colorado's CPW that acquired the water rights.



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1           This is, again, an unfortunate  
2 assumption that I and others had made. Others  
3 closer to it had the assumption corrected.  
4 That different CPW acquired the water rights  
5 and then conveyed them to the district.

6           And even though our Colorado Parks  
7 and Wildlife Division is involved, it was water  
8 rights in the area that's been involved. It  
9 was not them. It was a private entity with the  
10 initial CPW.

11           Thank you very much for the opportunity  
12 to correct that.

13           Mr. Barfield: All right. Well, I  
14 can -- I can understand that mistake.

15           Okay. So we will go on to committee  
16 reports. And the lone committee report,  
17 Engineering Committee. I'll turn it over to  
18 Chris for -- to walk us through that.

19           Mr. Beightel: We produced the  
20 written report and he copied that report into  
21 the states' report, including the executive  
22 summary. Details of the assignments made to  
23 the Engineering Committee, our 2018 annual  
24 meeting and the committee's progress on  
25 assignment.

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1           Items for RRCA discussion of possible  
2 action and recommended assignments for coming  
3 year.

4           In brief, the Engineering Committee  
5 met four times since the August 21, 2018  
6 Republican River Compact Administration annual  
7 meeting.

8           Assignments the past year that we  
9 completed:

10           We held quarterly meetings,  
11 exchanged information listed in Section 5 of  
12 the RRCA Accounting Procedures and Reporting  
13 Requirements, including all required data and  
14 documentation.

15           We finalized the 2018 accounting and  
16 we continued work on documenting historical  
17 changes for RRCA Accounting Procedures.

18           We provided updates and progress and  
19 reviewed ongoing management strategies for  
20 maintaining compact compliance.

21           We continued to develop and maintain  
22 the RRCA administrative website that serves as  
23 an informational page for the public and  
24 provided regular updates to the EC.

25           We continued work and provided

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Republican River Compact Meeting Colby, Kansas**

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1 updates on improving accounting tools developed  
2 by the Engineering Committee.

3 We worked on improving the Lovewell  
4 worksheet and completed that assignment.

5 We continued work to summarize and  
6 document the status of Table 4A in the RRCA  
7 Accounting Procedures and we recommended how  
8 that document should be memorialized.

9 Finally, we prepared the 2018 RRCA  
10 annual meeting -- oh. Yeah. Annual meeting  
11 report, which we offer today for approval.

12 Ongoing assignments include to --  
13 for the next year to hold quarterly meetings,  
14 continue work on documenting historical changes  
15 to the Accounting Procedures, provide updates  
16 on the progress of new and ongoing management  
17 strategies for maintenance and compact --  
18 maintaining compact compliance, work on  
19 maintaining the RRCA public website, and  
20 continue work and provide future updates on  
21 improving accounting tools developed by  
22 Engineering Committee.

23 In addition to the ongoing  
24 assignments mentioned, the EC will exchange and  
25 review and recommend for approval the 2019

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Republican River Compact Meeting Colby, Kansas**

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1 accounting data to be approved at the 2020  
2 annual meeting. And at the RRCA work session  
3 yesterday, the commissioners had assigned a new  
4 task to the Engineering Committee which is to  
5 review the flood flow provisions of the RRCA  
6 Accounting Procedures, especially as they are  
7 applied to the allocations in Tables 5C and 5D  
8 to evaluate whether the accounting methods are  
9 in conformance with the intent of the FSS and  
10 if they are not, develop a recommendation for  
11 how to modify the Accounting Procedures to  
12 bring them into conformance so that 2019  
13 accounting results can be approved at the 2020  
14 annual meeting.

15 Attachment 2 of the committee's  
16 report includes the completed RRCA accounting  
17 tables that have been agreed upon by the  
18 committee, its chairman. The Engineering  
19 Committee recommends the RRCA take actions to  
20 approve the report provided, including the  
21 accounting for 2018.

22 That concludes my report.

23 Mr. Barfield: All right. Any  
24 questions for Chris? Or there shouldn't be?

25 All right. I guess we will act on

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1 that at under Agenda Item 8, correct?

2 Mr. Beightel: Correct.

3 Mr. Barfield: Very good. Then we  
4 will move on.

5 Item -- Agenda Item Number 7 is old  
6 business.

7 We did not identify any old business for  
8 today's discussions. Is that still true?

9 All right. Seeing none, we'll move on.

10 Under Agenda Item 8, we have new  
11 business, which is essentially making  
12 assignments to the compact committees. To my  
13 knowledge, we have no assignments for the legal  
14 committee. So that would -- that would entail  
15 just assignments and actions on the Engineering  
16 Committee report, and assignments, as well as  
17 the accounting. As the accounting is within  
18 the Engineering Committee report, I guess I  
19 would entertain a motion to accept the  
20 Engineering Committee report and approve the  
21 accounting therein.

22 Does that sound -- do you think we  
23 can take care of it in one action if I get the  
24 right motion?

25 Mr. Rein: I'll move accepting the

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1 Engineering Committee report and approving  
2 accounting in the report.

3 Mr. Barfield: All right. It's been  
4 moved.

5 Mr. Fassett: Second. And then if I  
6 could comment, Mr. Chairman.

7 Mr. Barfield: Certainly.

8 Mr. Fassett: I think the new task  
9 that Chris just summarized on is an important  
10 issue like we talked about in the work session.  
11 I think I -- just so you -- to set  
12 expectations, since 2019 is obviously going to  
13 be the first year of dealing with flood flow  
14 accounting, we're hopeful that the committee  
15 will be able to work through this matter before  
16 we're faced a year from now with approving the  
17 2019 accounting, so...

18 It's just -- I think we have enough  
19 time to work through the issues that I think  
20 may get raised, but I just wanted to comment on  
21 that.

22 But I second the motion.

23 Mr. Barfield: Very good. And,  
24 Chris, the assignment, that -- that is -- you  
25 have all of the recommended assignments for

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1 next year in the EC report, including the one  
2 we just found out with the flood issue.

3 Mr. Beightel: That's correct.

4 Mr. Barfield: So in accepting the  
5 report, we're making the assignments as well,  
6 correct?

7 Mr. Beightel: Correct.

8 Mr. Barfield: All right. So it's  
9 been seconded.

10 We accept the report, the accounting, and  
11 the recommended assignments.

12 All in -- how do you -- all in favor say  
13 aye?

14 Mr. Fassett: Aye.

15 Mr. Rein: Aye.

16 Mr. Barfield: Aye. Motion  
17 passes. All right. That takes care of,  
18 then, all of our new business.

19 We will move forward with the  
20 remarks from the public. If anyone from the  
21 public wishes to make remarks, I'd ask you to  
22 come forward here and grab the microphone and  
23 make your -- introduce yourself and make your  
24 statement.

25 Mr. Lenz: My name is Rod Lenz. I

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1 am with the Republican River Water Conservation  
2 District in Colorado. This will be my fourth  
3 year in that chair. I wanted to add some more  
4 comments to Commissioner Rein's comments as far  
5 as the Republican River detail.

6 From my perspective, the last four years  
7 I have been involved with the Republican River,  
8 I've noticed a dramatic improvement in relation  
9 to the states. I can't tell you how -- from a  
10 distance it's easier to work with a group that  
11 is trying to get along rather than trying to  
12 find ways to fight. And it's very, very  
13 apparent from where I sit that that is more  
14 constructive. So I just wanted to acknowledge  
15 that.

16 In addition to things that Mr. Rein  
17 suggested that we -- I wanted to add a few more  
18 tidbits as far as what we've accomplished the  
19 last year.

20 The CREP program is foundational to all  
21 of our goals as far as retiring acreage in that  
22 South Fork focus zone, and we're really, really  
23 thankful for the effort that Mike Sullivan has  
24 put forth in that to get that up running. And  
25 we're also appreciative of the \$2 million that



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Republican River Compact Meeting Colby, Kansas**

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1 Kansas has committed to that area. And I will  
2 let you know we are now offering CREP  
3 contracts.

4 We'll be offering CREP contract for  
5 those acres in that zone. I additionally  
6 encourage producers to enroll in that program,  
7 though, I think. And we are getting some good  
8 traction.

9 If we do get the dry land farming  
10 provision to be in the farm bill, I think we  
11 will have a near floodgate with producers  
12 trying to get into the program -- people will  
13 want to get into that program at that point.

14 So, it's encouraging going forward.  
15 It's not all happening right now, but we are  
16 getting acres at the door.

17 In addition to the CREP program, the  
18 RRWCD, in conjunction with NRCS is offering an  
19 Environmental Quality Incentives program (EQIP)  
20 contract and have been working with NRCS's  
21 Clint Evans in making that program more  
22 attractive. At present, the EQIP cost share to  
23 RRWCD is not a level that we can aggressively  
24 seek acres. If we can get a more balanced  
25 approach of cost share between NRCS and RRWCD,

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1 the EQIP program could be as effective as CREP.

2 So, far in 2019, some of the things  
3 we've accomplished, we've got 27 cfs of water  
4 retiring in South Fork. We've got seven CFS  
5 retired on the North Fork of the Republican  
6 River. We've got an additional seven CFS in  
7 the South Fork, with that we're negotiating.  
8 We also -- are in negotiations with another  
9 well owner the our pipeline well field.

10 We are acting in work in all areas,  
11 and always trying to keep us within compliance.  
12 We are providing the dollars for all three  
13 tributaries, trying to mitigate that where we  
14 can.

15 Our South Fork River Restoration  
16 Coalition is the entity that we formed to deal  
17 with the Bonny State Recreation area in its  
18 current state, and it's been a really, really  
19 good exercise in different agencies coming  
20 together for common good.

21 To date we've spent over \$200,000 for  
22 feasibility studies. To date, we've gotten to  
23 use our common sense to see what we can do  
24 going forward.

25 The South Fork River Restoration

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1 Coalition is a coalition made up of the  
2 Republican River Three Rivers Alliance to Yuma  
3 County, Kit Carson County, Parks and Wildlife.

4 And as well so, with the coalition,  
5 we're trying to find answers to what we all  
6 realize, that the situation in Bonny is  
7 difficult.

8 It's always had potential, but it also a  
9 lot of research and work to be done.

10 We're working very hard -- and I will  
11 say we're making progress. I would say our  
12 goals are fairly lofty, but without lofty  
13 goals, you're not going to get anywhere.

14 So, that being said, another thing about  
15 the Republican River. I would -- I wish we  
16 could go out and say you only can pump X amount  
17 of what you're pumping now to leave more water  
18 in the ground.

19 We are -- our job is to help Mr. Rein  
20 stay in compliance, or maybe I should say "us,"  
21 the State of Colorado stay in compliance. And  
22 we do that to through incentivizing and  
23 education. We don't have any regulatory  
24 authority. We can't go out saying you can't  
25 pump. All we can do is encourage people and

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Republican River Compact Meeting Colby, Kansas

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1 educate people and incentivize people.

2 Our regulatory authority lies with the  
3 groundwater management districts, but  
4 understand, the obstacles that they have are  
5 really difficult to overcome. There's eight of  
6 them out in our area. It's groundwater  
7 management districts with different water  
8 availability, eight groundwater management  
9 districts with different soil types, and moving  
10 them all together in any kind of authoritative  
11 restrictions on water, it's -- it's -- just  
12 hasn't happened to date.

13 We can encourage all we want. So the  
14 paradigm is that Republican River has money but  
15 no authority. The groundwater management  
16 districts have authority but no money. So,  
17 most of them are really -- their hands are  
18 tied. So, it's a situation we try to work  
19 through, and we do the best we can.

20 One of things that we are going to do is  
21 -- it's Colorado Master Irrigator Program where  
22 it's something that we can use to encourage  
23 people to use water in more smart ways. It's a  
24 takeoff from the Texas program, and we've  
25 adopted a lot of the concepts, and our first

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1 class will be in 2020. It's a wonderful  
2 opportunity to advance some of the technologies  
3 we have right now.

4 I kind of want to make a couple of  
5 examples before I make a request. I live about  
6 a mile from the state line. And there's a  
7 beautiful circle, an irrigated circle next to  
8 me. It's rented by an out-of-state farmer -- a  
9 good farmer, good reputation, a large farmer --  
10 and that sprinkler's been off twice. It's only  
11 been off twice the whole summer. It just  
12 infuriates me. We have a 1.9-inch rain in 24  
13 hours and that sprinkler's still running.

14 So, when that kind of stuff happens, I  
15 -- don't get me wrong. There's plenty of  
16 Coloradoans that do the same thing. So just  
17 any -- any process of law and order, you wonder  
18 why in the world? Is it "use it or lose it"  
19 mentality for some people or is it cheap  
20 insurance? Or is it just ignorance? I wish we  
21 could go out and do something besides, oh,  
22 please use less water, you know, please pay  
23 attention to your well.

24 So those are some of the challenges that  
25 we have going forward.

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1           And, switching gears, I guess, we're  
2           blessed or cursed depending on where you are  
3           with the extra rain this year. And I would  
4           like to ask the administration to look forward  
5           that -- I know it's a lot to cry for -- Craig  
6           suggested some of the western storages aren't  
7           at capacity.

8           But I would like to have a provision  
9           somewhere looking forward that if we do get  
10          another bump up in reservoir capacity, that  
11          there is a provision that we will not  
12          necessarily have to pump pipelines regardless  
13          of the -- of the conditions throughout the  
14          Basin. It's kind of foolish. I'm pretty  
15          pragmatic as a farmer. I accept our obligation  
16          to the compact, but I also look at what's  
17          practical from the standpoint of if there's  
18          water going out of the bottom of the system and  
19          nobody is in need of water in the system, why  
20          are we dumping water, actually water, in the  
21          top of the system. I'd like for you to have a  
22          serious discussion about our future, a  
23          situation where in the future that a provision  
24          would be, hey, let's leave that water in the  
25          ground

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1           It's still going to be your water down  
2 the line state to state. It's just that --  
3 let's change the timing, okay?

4           So I want to commit to you that  
5 Republican River Water Conservation District  
6 works hard every day and we feel like with the  
7 boundary issue, with the rules, with the  
8 purchase of the Hutton property, we -- or the  
9 settlement of that case, we've done a lot of  
10 things to get a lot of this dirt storming  
11 behind us and we can focus more now on  
12 long-term compliance.

13           That's our goal.

14           We work every day on that and we make a  
15 commitment to you that we will continue to work  
16 very hard on living up to our obligations.

17           Thank you.

18           Mr. Barfield: Thank you for your  
19 remarks.

20           Anyone else have remarks to bring to the  
21 administration?

22           All right. If not, we'll move on to  
23 future meeting arrangements. So, as soon as  
24 this meeting is over, Kansas completes its  
25 two-year cycle of chairing the committees and

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Republican River Compact Meeting Colby, Kansas

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1 the -- hosting the meeting and then we'll to go  
2 Nebraska next year. So I assume there was no  
3 appropriate time when that will be and where it  
4 will be.

5 Mr. Fassett: We're still having a  
6 debate as to where in the Basin that might  
7 occur.

8 Mr. Barfield: Very good.

9 Mr. Fassett: We'll let you know.

10 Mr. Barfield: Okay. Will anything  
11 else to come before the administration today?

12 I'd just like to appreciate my staff,  
13 Chris and headquarters staff and all their  
14 support and field office staff as well, in  
15 particular, to Chelsea for all her work to set  
16 up the meeting again this year.

17 And, with that, I guess I'd take up  
18 motion for adjournment.

19 Mr. Fassett: 2. So moved.

20 Mr. Rein: 2. Second.

21 Mr. Barfield: All right.

22 One down.

23 Mr. Fassett: Aye.

24 Mr. Rein: Aye.

25 Mr. Barfield: Aye. We're good.



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Republican River Compact Meeting Colby, Kansas

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1                   Come eat more -- more food before  
2 you leave.

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4                   (The Proceedings went off the  
5 record at 11:02 a.m.)

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**ANNUAL MEETING OF THE  
REPUBLICAN RIVER COMPACT ADMINISTRATION**

August 22, 2019

Attendance: Colby, Kansas

<u>Name</u>	<u>Representing</u>
Pete Ampe	Republican River Water Conservation District
David Barfield	Kansas Division of Water Resources
Chris Beightel	Kansas Division of Water Resources
Don Blankenau	Outside Counsel for Nebraska
Alex Boyce	Middle Republican Natural Resource District
Jesse Bradley	Nebraska Department of Natural Resources
Kari Burgert	Nebraska Department of Natural Resources
Dale Cramer	Frenchman-Cambridge Irrigation District
Deb Daniel	Republican River Water Conservation District
Scott Dicke	Lower Republican Natural Resource District
Beth Eckles	Nebraska Department of Natural Resources
Brad Edgerton	Frenchman Cambridge Irrigation District
Chelsea Erickson	Kansas Division of Water Resources
Jasper Fanning	Upper Republican Natural Resource District
Jeff Fassett	Director of the Department of Natural Resources
Carol Flaute	Nebraska Department of Natural Resources
Ivan Franco	Colorado Division of Water Resources
Pete Gile	Kansas Bostwick Irrigation District
Katie Goff	Kansas Water Office
Shannon Kenyon	Groundwater Management District #4
Justin Lavene	Nebraska Attorney General's Office
Rod Lenz	Republican River Water Conservation District
Earl Lewis	Kansas Water Office
Lori Marintzer	United States Geologic Survey
John Miller	United States Geologic Survey
Kelsey Olson	Kansas Department of Agriculture
Les Owen	Colorado Department of Agriculture
Ginger Pugh	Kansas Division of Water Resources
Kevin Rein	Colorado State Engineer
Tom Riley	Flatwater Group
Willem Schreüder	Principia Mathematica
Craig Scott	United States Bureau of Reclamation
SL Stanton	Nebraska Department of Natural Resources
Scott Steinbrecher	Colorado Attorney General's Office
Kelly Stewart	Kansas Division of Water Resources
Landon Stouffer	Nebraska Department of Natural Resources
Mike Sullivan	Colorado Division of Water Resources
Aaron Thompson	United States Bureau of Reclamation
Kenneth Titus	Kansas Division of Water Resources
Kurtis Wiard	Kansas Attorney General's Office

# Republican River Compact Administration

## Annual Meeting Attendance

August 22, 2019 Pioneer Memorial Library, Colby, Kansas

No.	Name - please print	Representing
1	Chelsea Erickson	KDA-DWR
2	Landon Stouffer	NDNR
3	Kenneth Titus	KDA-DWR
4	Scott Steinbrecher	CO AGO
5	Willem Schreuder	Principia
6	Jasper Fanning	NE - URURD
7	Don Blankenau	NE
8	Kim Burger	NEDNR
9	Dale Cramer	FCID
10	Lori Marintzck	USGS KS
11	Bob Samoil	R.R.WCD
12	Jesse Bruch	NedNR
13	K-Fer Anje	R.R.WCD
14	Kurtis Wiard	Kansas A.G.
15	Earl Lewis	KS Water Office
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17		
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19		
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# Republican River Compact Administration

## Annual Meeting Attendance

August 22, 2019 Pioneer Memorial Library, Colby, Kansas

No.	Name – please print	Representing
1	Shannon Kenyon	GMP 4
2	Rod Lenz	RRWGD
3	Ginger Pugh	KDA-DWR
4	Ivan Franco	CDWR
5	Kevin Rein	CDWR
6	Mike Sullivan	CDWR
7	Craig Scott	USBR
8	Tom Riley	Flintwater Group
9	Carol Flaute	NEDNR
10	Brad Edgerton	FCID
11	JEFF FASSETT	NEDNR
12	Les Owen	CDA
13	Scott Dicke	LRNRD
14	Chris Brightel	KDA-DWR
15	Kate Goff	KWO
16	Pete Gile	KBIP
17	Dave Barish	KDA-DWR
18	Justin Lavene (added)	NE-AG office
19	John Miller (added)	USGS-North Platte
20		

# Republican River Compact Administration

## Annual Meeting Attendance

August 22, 2019 Pioneer Memorial Library, Colby, Kansas

No.	Name – please print	Representing
1	Kelly Stewart	KDA-DWR
2	SK Stanton	NPNR
3	Kelsey Olson	KDA
4	Aaron Thompson	Reclamation
5	Beth Eckles	NE DWR
6	Alex Boya	MRNEP
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FINAL AGENDA FOR  
**2019 ANNUAL MEETING OF THE  
REPUBLICAN RIVER COMPACT ADMINISTRATION**

August 22, 2019, 9:30 a.m. Central Time

Pioneer Memorial Library

375 West 4<sup>th</sup> Street

Colby, Kansas 67701

1. Introductions
2. Adoption of the Agenda
3. Status of 2018 annual report and possible action by the RRCA
4. Commissioners' Reports
  - a. Colorado
  - b. Nebraska
  - c. Kansas
5. Federal Reports
  - a. Bureau of Reclamation
  - b. U.S. Army Corps of Engineers
  - c. U.S. Geological Survey
6. Committee Reports
  - a. Engineering Committee
    - i. Assignments from 2018 Annual Meeting
    - ii. Committee recommendations to the RRCA
    - iii. Recommended assignments for Engineering Committee
7. Old Business
8. New Business and Assignments to Compact Committees
  - a. Action on Engineering Committee Report and assignments
  - b. Action on 2018 Accounting
9. Remarks from the Public
10. Future Meeting Arrangements
11. Adjournment

## **REPORT OF WATER ADMINISTRATION ACTIVITIES FOR THE REPUBLICAN RIVER BASIN IN NEBRASKA FOR THE CALENDAR YEAR 2018**

### January 1, 2018

A letter was mailed to the USBR notifying them that a Compact Call Year was in effect.

### February 1, 2018

Letters were mailed to irrigators reminding them that the 2016 Water Use Reports (WUR) must be filed with the Cambridge Field Office or they will be closed.

### April 7, 2018

Twenty-Three (23) closing notices were mailed to irrigators who did not return their 2017 WUR notifying them that they are closed.

### April 17, 2018

One hundred twenty five (125) notices were mailed to irrigators reminding them of water-short year administration in the Republican River Basin.

### April 17, 2018

One hundred seventy four (174) notices were mailed to irrigators reminding them of their permit allocation in the Republican River Basin.

### April 25, 2018

Fifty (50) notices were mailed to irrigators reminding them of their permit allocation in the Republican River Basin.

### April 25, 2018

Eight (8) notices were mailed to senior storage use permit holders reminding them of their permit allocation.

### June 19, 2018

One hundred twenty six (126) closing notices were mailed to irrigators in the Republican River Basin.

### June 19, 2018

Eighty-four (84) Storage closing notices were mailed to permit holders in the Republican River Basin

### August 2, 2018

Sixty-seven (67) regulating/opening notices were mailed to irrigators in the Republican River Basin notifying them that they were open and the legal amount they could pump.

### August 7, 2018

Sixty-seven (67) closing notices were mailed to irrigators in the Republican River Basin.

September 17, 2018

One hundred forty (140) regulating/opening notices were mailed to irrigators in the Republican River Basin notifying them that they were open and the legal amount they could pump.

October 16, 2018

Thirteen (13) Storage opening notices were mailed to the USBR for federal reservoirs in the Republican River Basin.

November 21

2018 Water Use Reports were mailed to all IR (irrigation from a natural stream), SI (irrigation from reservoirs on lands also covered by a natural flow appropriation), and SO (irrigation from reservoirs on lands not covered by a natural flow appropriation) permits in the Republican Basin with the exception of federally owned canals.

December 20, 2018

Seventeen (17) Storage closing notices were mailed to permit holders in the Republican River Basin



# RECLAMATION

*Managing Water in the West*

## **Nebraska-Kansas Area Office**

### **Report**

### **To The**

### **Republican River**

### **Compact Administration**

Colby, KS



**U.S. Department of the Interior  
Bureau of Reclamation  
Great Plains Region  
Nebraska-Kansas Area Office**

**August 22, 2019**



## REPUBLICAN RIVER COMPACT MEETING

August 22, 2019

Colby, Kansas

### 2018 Operations

As shown on the attached Table 1, precipitation in the Republican River Basin varied from 138 percent of normal at Lovewell Dam to 104 percent of normal at Enders Dam. Total precipitation at Reclamation project dams ranged from 19.96 inches at Enders Dam to 38.07 inches at Lovewell Dam.

Inflows varied from 53 percent of the most probable forecast at Bonny Reservoir to 135 percent of the most probable forecast at Keith Sebelius Lake. Inflows into Bonny Reservoir totaled 3,575 AF while inflows at Keith Sebelius Lake totaled 8,881 AF.

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

<u>District</u>	<u>Farm Delivery</u>
Frenchman Valley	0.4 inches
H&RW	0.0 inches
Frenchman-Cambridge	3.5 inches
Almena	0.0 inches
Bostwick in NE	4.3 inches
Kansas-Bostwick	6.9 inches

### 2018 Operation Notes

**Bonny Reservoir** – Remained empty at elevation 3638.00 feet, 34.0 feet below the top of conservation. The annual computed inflow totaled 3,575 AF. Reservoir inflows were bypassed the entire year as ordered by the State of Colorado. A total of 898 AF was bypassed into Hale Ditch from April 12<sup>th</sup> through August 3<sup>rd</sup>.

**Enders Reservoir** – The start of the year elevation was 30.5 feet (elevation 3081.83 feet) below the top of conservation, the lowest level ever recorded at the beginning of the year since initial filling. The 2018 computed inflow totaled 5,495 AF. The reservoir level increased gradually during the spring to a peak elevation of 3083.66 feet on May 30<sup>th</sup>. Evaporation decreased the reservoir level from June through early-October reaching elevation 3082.32 feet on October 4<sup>th</sup>. Due to the extremely low water supply available, no water was released from Enders Reservoir during the irrigation season. This was the seventeenth consecutive year that H&RW Irrigation District did not divert water. It was also the fifteenth consecutive year that storage releases were not made for Frenchman Valley Irrigation District. The end of the year reservoir level was 29.3 feet (3083.05 feet) below the top of conservation. This was the third lowest end of year level recorded since initial filling. Frenchman Valley

Irrigation District diverted 7,426 AF of natural flow between May 1<sup>st</sup> and October 3<sup>rd</sup> into Culbertson Canal.

**Swanson Lake** – The lake level began the year at elevation 2737.34 feet (14.7 feet below the top of conservation) and gradually increased throughout the late winter and spring. The annual computed inflow totaled 34,575 AF (includes water pumped from Colorado’s Compact Compliance Pipeline.) The peak elevation on June 26<sup>th</sup> was 2742.68 feet (9.3 feet below the top of conservation). The reservoir level decreased throughout the irrigation season and reached an elevation of 2737.73 feet on October 7<sup>th</sup>. The district diverted 14,295 AF into Meeker-Driftwood Canal from June 18<sup>th</sup> through September 7<sup>th</sup>. At the end of the year, the reservoir level was 12.3 feet below the top of conservation at 2739.74 feet.

**Hugh Butler Lake** –The reservoir level at the first of the year was 2565.94 feet, 15.9 feet below the top of conservation. Late winter, spring and summer inflows gradually increased the lake level to a summer peak of 2569.21 feet on August 4<sup>th</sup>. Due to the low water supply available, there were no diversions into Red Willow Canal for the ninth consecutive year. Late summer evaporation exceeded inflows, decreasing the lake level to 2568.37 feet on October 7<sup>th</sup>. The end of year and yearly peak elevation was 2569.75 feet, 12.1 feet below the top of conservation. The 2018 computed inflow was 9,151 AF, which was the fourth lowest ever recorded.

**Harry Strunk Lake** – The reservoir level at the beginning of 2018 was 7.0 feet below the top of conservation at 2359.09 feet. The reservoir filled to top of conservation on May 5<sup>th</sup> and began spilling over the uncontrolled spillway notch. The reservoir level peaked at elevation 2366.96 feet on May 31<sup>st</sup>. Irrigation releases began in earnest on June 9<sup>th</sup> and continued through September 14<sup>th</sup> reducing the reservoir level to 2361.91 feet. The district diverted 21,005 AF into Cambridge Canal. Frenchman-Cambridge Irrigation District requested to bypass Harry Strunk Lake inflows from mid-September until early-December to support Compact compliance. Winter inflows increased the level of Harry Strunk Lake to elevation 2362.74 feet at the end of the year (3.4 feet below the top of conservation). The 2018 computed inflow was 36,069 AF.

**Keith Sebelius Lake** – The reservoir was 12.8 feet below the top of conservation pool at the first of the year (2291.54 feet). Late winter, spring and summer inflows gradually increased the lake level to a summer peak of 2293.38 feet on August 7<sup>th</sup>. No irrigation releases were made during 2018. Inflows exceeded evaporation for much of the fall and winter gradually increasing the elevation to the end of year and yearly peak elevation of 2294.05 feet, 10.3 feet below the top of conservation. The total 2018 computed inflow was 8,881 AF.

**Harlan County Lake** – Harlan County Lake began 2018 approximately 7.3 feet below the top of conservation pool, at 1938.39 feet. The lake level gradually filled to a peak summer elevation of 1941.30 feet on May 31<sup>st</sup>. Irrigation releases began on May 27<sup>th</sup> and continued through September 3<sup>rd</sup> reducing the reservoir level to 1938.11 feet. The end of year elevation was 1941.05 feet, 4.7 feet below the top of conservation. The 2018 computed inflow totaled 120,146 AF. The projected irrigation supply at the end of June was 106,600 AF. It was determined that Water Short Year Administration would be in effect in 2018. Bostwick Irrigation District in Nebraska released 24,387 AF and Kansas Bostwick Irrigation District

released 29,064 AF from Harlan County Lake in 2018. Irrigation releases from Harlan County Lake totaled 53,451 AF. A ten year summary of Harlan County Lake operations is shown on Table 3.

Kansas Bostwick Irrigation District (KBID) entered into an Excess Capacity Contract (Warren Act Authority) with Reclamation for the use of compact compliance water stored in Harlan County Lake during 2014. The latest amendment to the contract between KBID and Reclamation in December 2017 provided for 12,989 AF of water to be carried over into 2018. No water was released under this contract during the 2018 irrigation season. On May 31<sup>st</sup> this water was converted to Project water.

**Lovewell Reservoir** – The reservoir elevation at the beginning of 2018 was 1581.15 feet (1.5 foot below the top of conservation). The reservoir pool gradually increased reaching a target level of 2.0 feet above top of conservation at the beginning of July. The annual computed inflow total for 2018 was 60,454 AF. Canal releases from Lovewell Reservoir began on May 24<sup>th</sup>, with irrigation releases beginning in earnest on May 29<sup>th</sup>. Irrigation releases continued through September 4<sup>th</sup>. The reservoir elevation at the end of the irrigation season was at 1581.13 feet. KBID diverted a total of 47,615 AF in 2018, including 30,608 AF from Lovewell Reservoir. The pool level at the end of the year was 1583.44 feet (0.8 foot above top of conservation).

### **Current Operations (As of 7/31/19)**

**Bonny Reservoir** – The reservoir is currently empty. Inflows continue to be bypassed through the reservoir as ordered by the State of Colorado. No water has been released into Hale Ditch in 2019. Bonny Dam has recorded 11.64 inches of precipitation during the first seven months of the year (98% of average).

**Enders Reservoir** - The reservoir level is currently 27.8 feet below full and 1.15 feet above last year at this time. Enders Dam recorded 19.54 inches of precipitation during the first seven months of the year (148% of normal). Due to the water supply shortage, H&RW Irrigation District is not irrigating for the eighteenth year in a row. This is also the sixteenth consecutive year that Frenchman Valley Irrigation District has not received storage water for irrigation.

**Swanson Lake** – The lake level is currently 8.24 feet from full and is 2.46 feet above last year at this time. Precipitation for the year is at 127% of normal (17.20 inches). Irrigation releases began on June 27<sup>th</sup>.

**Hugh Butler Lake** – The lake level is currently 9.43 feet below full and is 3.17 feet above last year at this time. Irrigation releases began on June 26<sup>th</sup>. The precipitation total so far this year is 20.64 inches (158% of normal).

**Harry Strunk Lake** – The lake level is currently 1.6 feet above the top of conservation. Precipitation at the dam during the first seven months of the year was 24.81 inches (176% of normal). The lake began spilling March 14<sup>th</sup> and continues to do so. Irrigation releases to

supplement uncontrolled releases from the spillway began on July 28<sup>th</sup>. The lake level is currently 3.2 feet above last year at this time.

**Keith Sebelius Lake** – Currently 3.99 feet below full. Lake level is 6.91 feet above last year at this time. Irrigation releases began August 3<sup>rd</sup>. Precipitation at the dam during the first seven months of the year was 20.13 inches (126% of normal).

**Harlan County Lake** – The current water surface level is approximately 11.95 feet above full. The lake level is 18.94 feet above last year at this time. Harlan County Dam has recorded 23.01 inches of precipitation so far this year (152% of normal). Flood releases began March 19<sup>th</sup>. Irrigation releases began on April 30<sup>th</sup> to season canals. The available irrigation supply from Harlan County Lake on June 30<sup>th</sup> was 139,716 AF with an additional 99,140 AF stored in the flood pool. Harlan County Lake previous elevation record was surpassed on July 11<sup>th</sup>. The July 23<sup>rd</sup> storage of 503,663 AF set the new record, (12.44' in flood, 189,551 AF in flood pool, 37.8% of flood pool filled), 1958.17 ft. The previous record elevation of 1955.66 ft. was set in 1960.

**Lovewell Reservoir** – The reservoir level is currently 5.44 feet above the top of conservation and approximately 5.38 feet above last year's elevation at this time. Lovewell Dam recorded 25.78 inches of precipitation during the first seven months of the year (147% of average). Canal releases began on May 28<sup>th</sup>.

Storm runoff/snowmelt increased Lovewell Reservoir 4.4 feet in 9 days to a peak elevation of 1585.56 on March 18<sup>th</sup>. This is 3.0 feet above the top of conservation with 9,500 AF stored in the flood pool (18.8%). Storage of flood waters helped to alleviate downstream flooding. Releases were started March 18<sup>th</sup> of 600 cfs through the spillway. Releases were slowly staged down as the reservoir reached its operating target of approximately top of conservation, 1582.60. Between March 18<sup>th</sup> and April 25<sup>th</sup> 14,600 AF was released from Lovewell Dam. March inflow of 19,100 AF was the fourth highest for the month on record.

Lovewell Dam recorded 5.25" of precipitation between July 4<sup>th</sup> and July 9<sup>th</sup>. The reservoir increased 2.67 feet in 7 days. A peak elevation of 1592.99 was reached on July 15<sup>th</sup>. This is 10.39 feet above the top of conservation (210% of full) with 39,313 AF stored in the flood pool (77.9%) or 2.31 feet below surcharge level. This was the third highest elevation recorded for Lovewell Dam. Storage of flood waters helped to alleviate downstream flooding. Inflows peaked at approximately 2000 cfs on July 9<sup>th</sup>. Releases were started July 15<sup>th</sup> of 500 cfs and were staged up to 1000 cfs through the spillway. Releases were slowly staged down to 250 cfs as the reservoir reached its operating target of approximately top of conservation, 1582.60. Between July 16<sup>th</sup> and August 13<sup>th</sup> 39,200 AF was released from Lovewell Dam.

A summary of data for the first seven months of 2019 is shown on Table 2.

**TABLE 1**  
**NEBRASKA-KANSAS PROJECTS**  
**Summary of Precipitation, Reservoir Storage and Inflows**  
**CALENDAR YEAR 2018**

Reservoir	Total Precip.	Percent Of Average	Storage 12-31-17	Storage 12-31-18	Gain or Loss	Maximum Content	Storage Date	Minimum Content	Storage Date	Total Inflow	Percent Of Most Probable
	Inches	%	AF	AF	AF	AF		AF		AF	%
Box Butte	21.60	127	5,200	9,478	4,278	9,462	DEC 31	4,445	MAR 30	21,920	142
Merritt	24.99	119	61,100	61,723	623	67,631	JUN 20	58,068	SEP 2	211,086	113
Calamus	29.07	118	98,123	99,655	1,532	121,461	MAY 3	90,231	OCT 8	296,165	111
Davis Creek	35.43	140	12,710	13,223	513	31,768	JUN 10	11,739	APR 23	48,098	100
Bonny	22.55	129	0	0	0	0	N/A	0	N/A	3,575	53
Enders	19.96	104	8,595	9,362	767	9,760	MAY 30	8,601	JAN 1	5,495	90
Swanson	24.86	124	51,342	59,359	8,017	70,048	JUN 26	51,406	JAN 1	34,575	133
Hugh Butler	25.42	129	15,626	19,619	3,993	19,619	DEC 31	15,636	JAN 1	9,151	81
Harry Strunk	26.98	128	23,855	28,994	5,139	36,258	MAY 31	23,921	JAN 1	36,069	91
Keith Sebelius	33.71	136	13,379	16,570	3,191	16,570	DEC 31	13,391	JAN 1	8,881	135
Harlan County	29.61	128	224,247	255,028	30,781	258,075	MAY 31	221,133	AUG 31	120,146	115
Lovewell	38.07	138	31,494	38,229	6,735	40,607	JUL 3	26,503	AUG 14	60,454	109
Kirwin	31.93	134	93,163	104,832	11,669	108,150	MAY 30	93,211	JAN 1	56,980	220
Webster	37.17	157	78,246	78,514	268	104,504	MAY 31	73,179	AUG 30	102,468	596
Waconda	25.34	99	213,045	234,715	21,670	272,343	OCT 15	204,126	MAR 16	298,269	245
Cedar Bluff	28.95	138	51,101	66,266	15,165	66,266	DEC 31	49,041	MAY 28	26,131	207

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

**JANUARY - JULY 2019**

Reservoir	Precip. Inches	Percent Of Average %	Storage 7/31/2018 AF	Storage 7/31/2019 AF	Gain or Loss AF	Inflow AF	Percent Of Most Probable %
Bonny	11.64	98	0	0	0	3,143	65
Enders	19.54	148	9,583	10,353	770	3,746	104
Swanson	17.20	127	64,978	70,200	5,222	26,344	126
Hugh Butler	20.64	158	18,997	22,682	3,685	8,666	117
Harry Strunk	24.81	176	31,890	37,767	5,877	43,359	164
Keith Sebelius	20.13	126	15,661	26,441	10,780	14,451	301
Harlan County	23.01	152	228,139	495,240	267,101	319,191	426
Lovewell	25.78	147	32,078	42,140	10,062	83,398	316

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		End of Year Content (AF)	Projected Irrig. Water Supply On June 30th (AF)
					Harlan County Dam* (% of Average)	Rep. Basin Dams (% of Average)		
2009	136,747	94,079	41,721	24.50	106%	128%	320,258	<b>156,000</b>
2010	239,054	194,055	46,893	31.66	137%	119%	318,364	<b>147,800</b>
2011	174,830	120,989	49,241	30.69	133%	115%	322,964	<b>157,700</b>
2012	78,581	160,221	50,199	18.14	78%	64%	191,125	<b>132,900</b>
2013	48,794	75,355	40,042	17.46	75%	83%	124,522	<b>81,400</b>
2014	92,209	35,502	32,387	18.53	80%	105%	148,842	<b>59,000</b>
2015	106,728	54,502	33,652	28.85	125%	115%	167,416	<b>79,600</b>
2016	126,679	63,972	35,920	27.82	120%	109%	194,203	<b>103,500</b>
2017	118,889	52,764	36,081	26.60	115%	104%	224,247	<b>111,600</b>
2018	120,146	53,451	35,914	29.61	128%	128%	255,028	<b>106,600</b>

NOTE: On June 30, 2019 Projected Irrig. Water Supply was 139,716 AF.

\* Average Annual Precipitation at Harlan County Dam is 23.13 inches

## Republican River Basin streamflow-gaging stations with records published by USGS for water year (WY) 2018

[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 <sup>3</sup> /s)		WY 2018 as percentage of long-term mean	WY 2018 as rank/years (1 highest)	WYs used for long-term mean	Remarks
		WY 2018	Long-term				

### USGS Compact stations supported by the Groundwater Streamflow Information Program (GWSIP)

06821500	Arikaree River at Haigler, Nebr	1.0	15.5	6.7%	76/86	1933 - 2018	
06823000	North Fork Republican River at Colo-Nebr State Line	43.4	41.1	105.6%	32/83	1936 - 2018	
06823500	Buffalo Creek near Haigler, Nebr	2.2	5.8	37.2%	73/78	1941 - 2018	
06824000	Rock Creek at Parks, Nebr	5.4	12.2	44.3%	78/78	1941 - 2018	
06824500	Republican River at Benkelman, Nebr	46.4	79.9	58.1%	49/51	1948 - 1994, 2015-2018	
06827500	South Fork Republican River near Benkelman, Nebr	2.7	32.8	8.3%	72/81	1938 - 2018	
06835500	Frenchman Creek at Culbertson, Nebr	35.1	62.6	56.1%	57/68	1951 - 2018	Since Enders Reservoir
06836500	Driftwood Creek near McCook, Nebr	5.3	8.0	66.2%	48/72	1947 - 2018	
06838000	Red Willow Creek near Red Willow, Nebr	5.3	12.9	41.1%	55/57	1962 - 2018	Since Hugh Butler Lake
06847000	Beaver Creek near Beaver City, Nebr	1.4	14.5	9.5%	56/81	1938 - 2018	
06847500	Sappa Creek near Stamford, Nebr (USACE funds DCP)	14.5	36.3	39.9%	36/72	1947 - 2018	
06852500	Courtland Canal at Nebr-Kans State Line (USBR DCP)	74.9	75.0	99.9%	31/64	1955 - 2018	
06853020	Republican River at Guide Rock, Nebr	68.1	248.5	27.4%	57/68	1951 - 2018	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	39.5	90.1	43.8%	57/68	1951 - 2018	Funded by USACE and GWSIP
06837000	Republican River at McCook, Nebr	53.4	117.6	45.4%	51/64	1955 - 2018	Funded by USBR, NDNR, and GWSIP
06844500	Republican River near Orleans, Nebr	93.9	219.3	42.8%	64/71	1948 - 2018	Funded by USACE and GWSIP

### NDNR stations with USGS/USACE support for DCP, Web display, review, and publishing

06834000	Frenchman Creek at Palisade, Nebr	20.4	57.3	35.6%	60/68	1951 - 2018	
06843500	Republican River at Cambridge, Nebr	65.5	201.8	32.5%	64/69	1950 - 2018	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

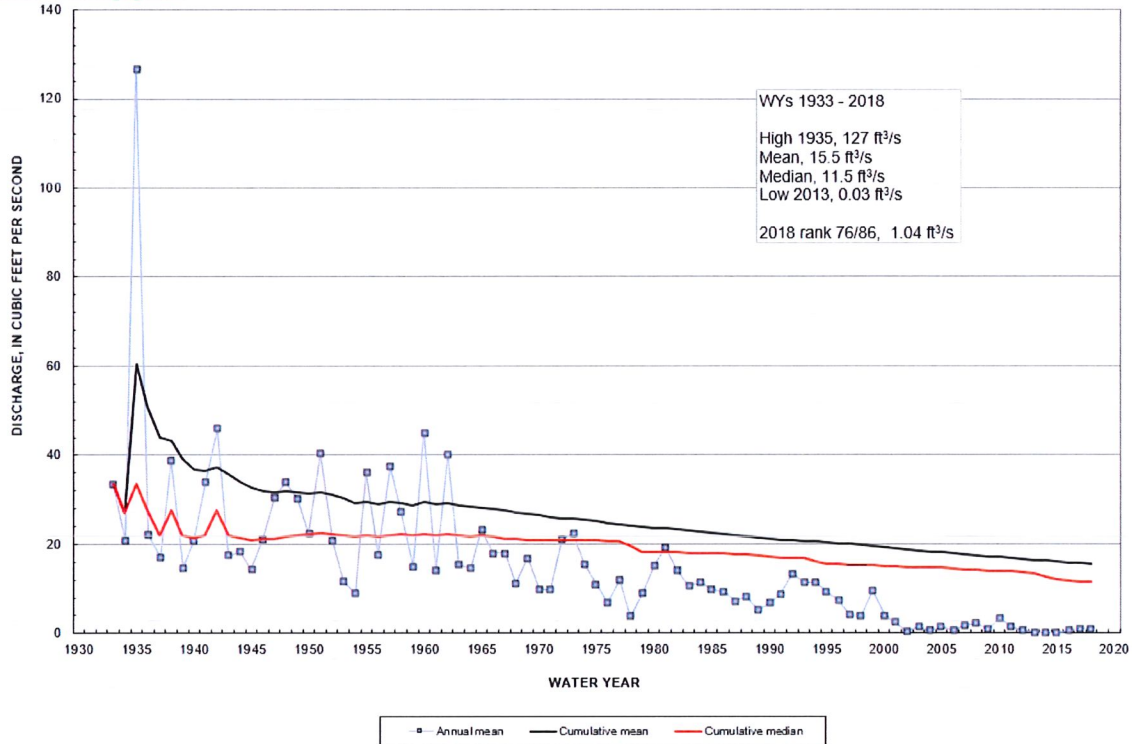
### USGS Lincoln Field Office

Tim Boyle (tboyle@usgs.gov)

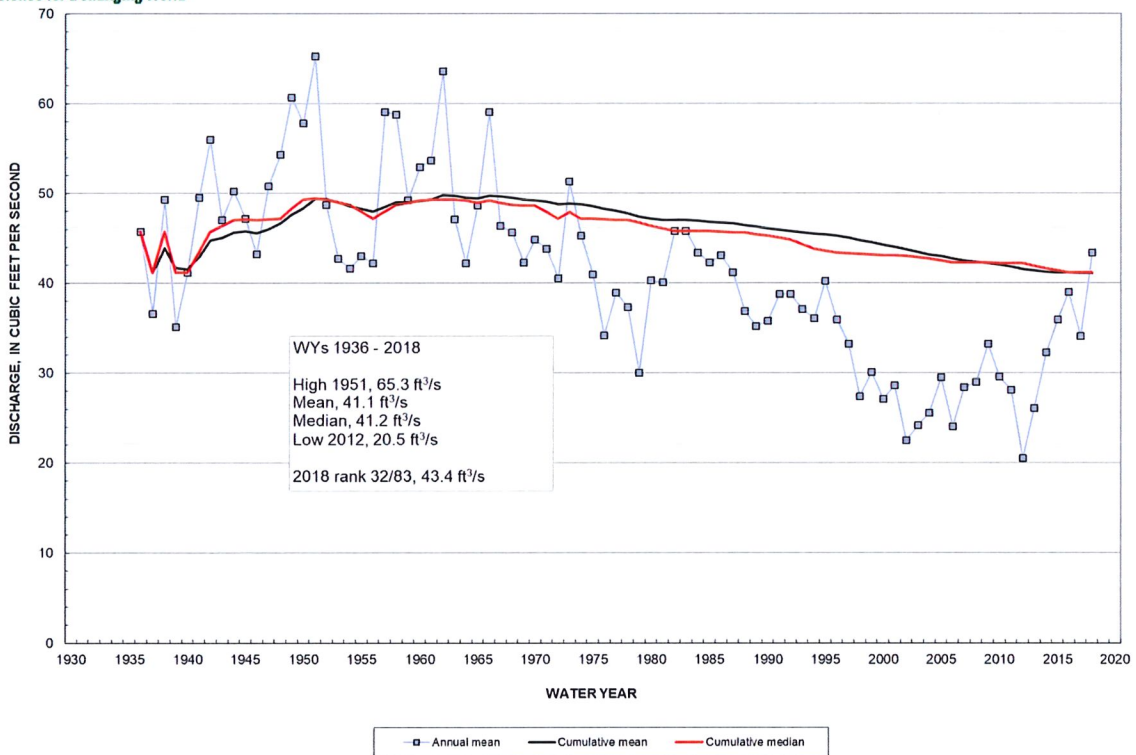
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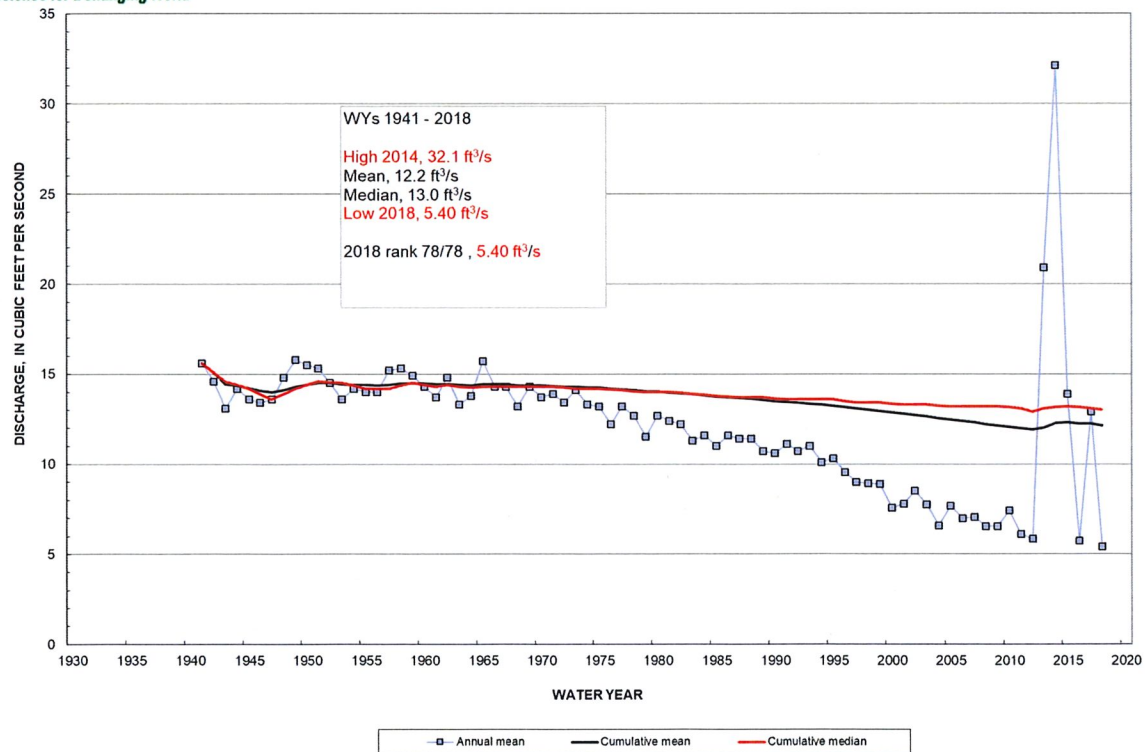
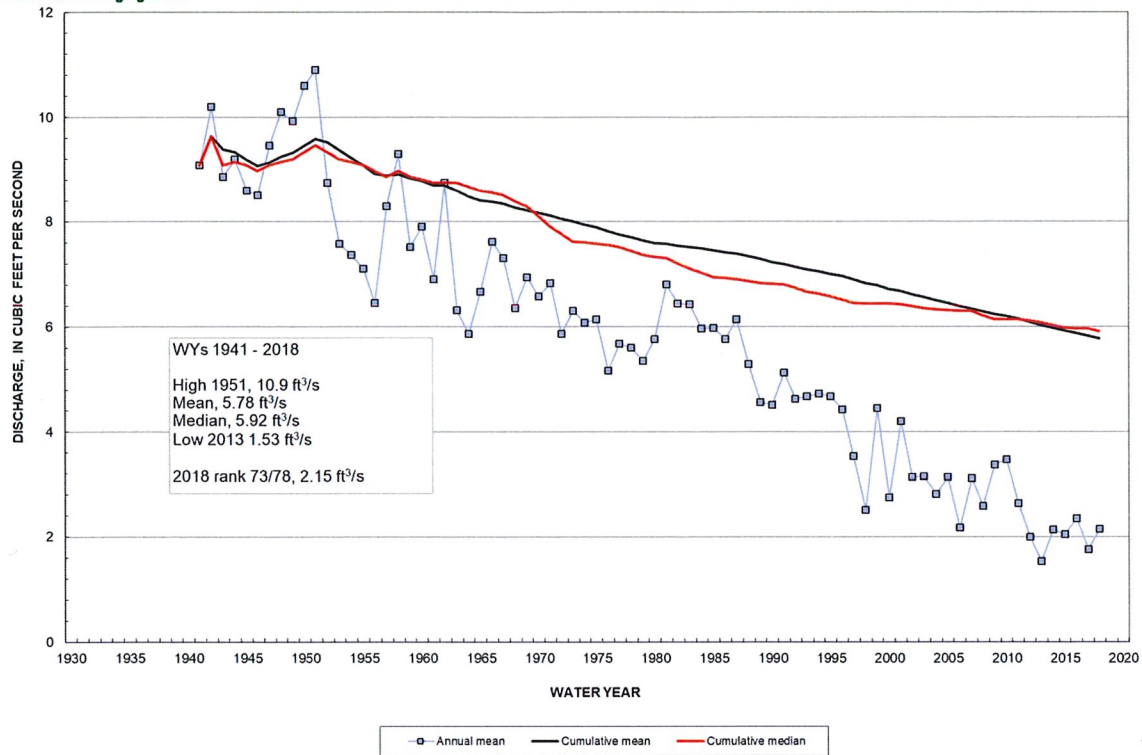


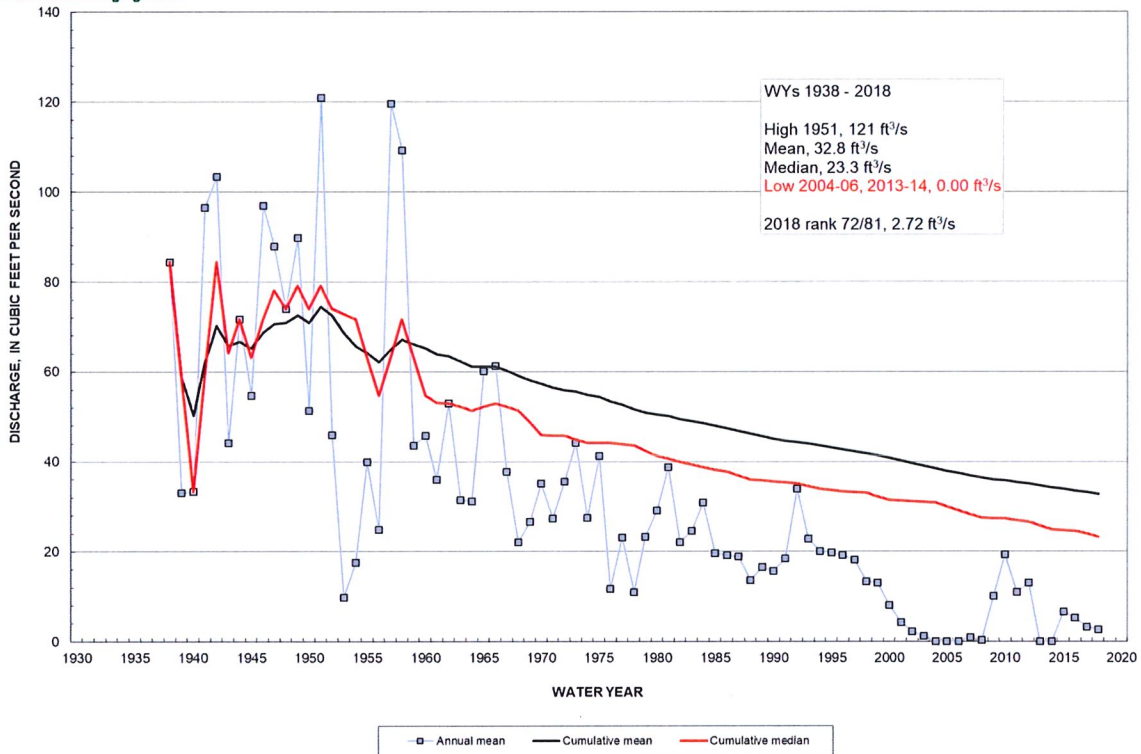
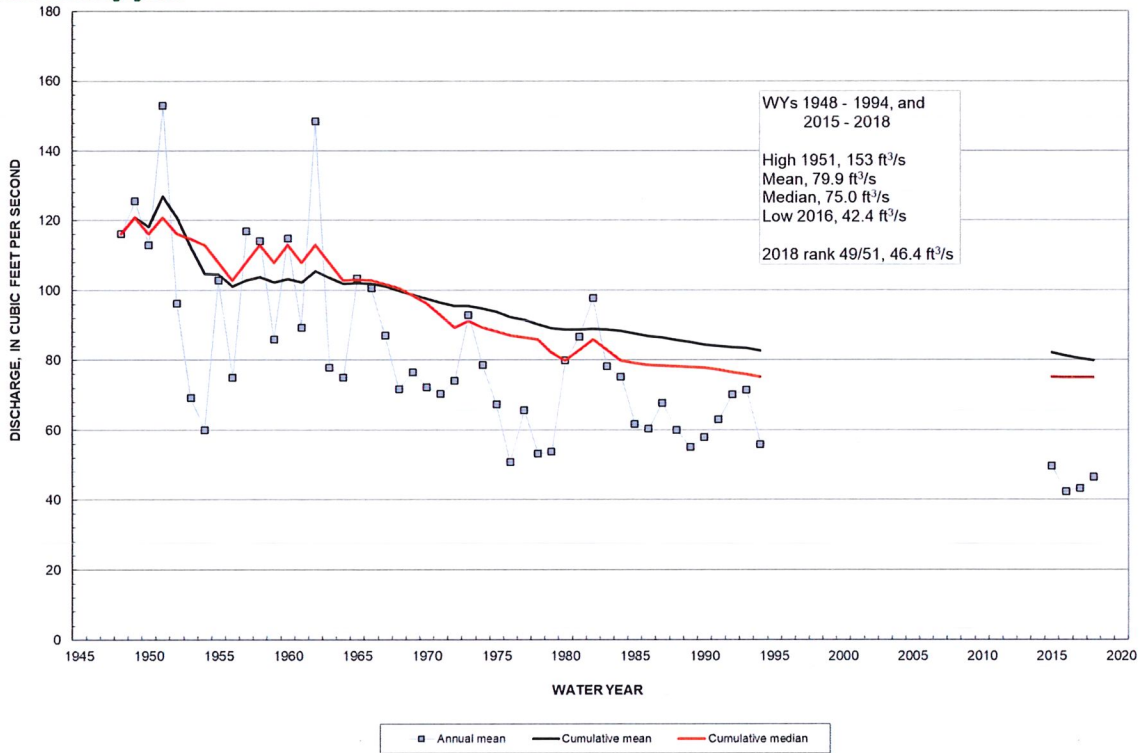
06821500 Arikaree River at Haigler, NE



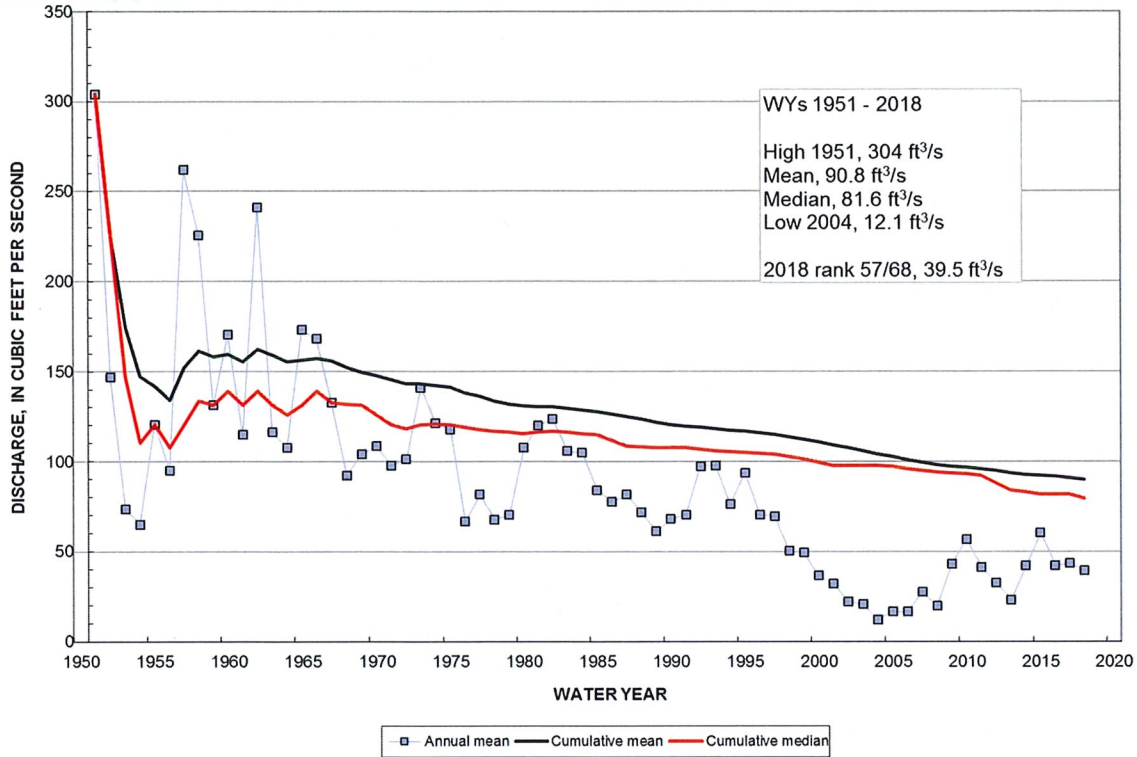
06823000 N Fk Republican River at CO-NE State Line



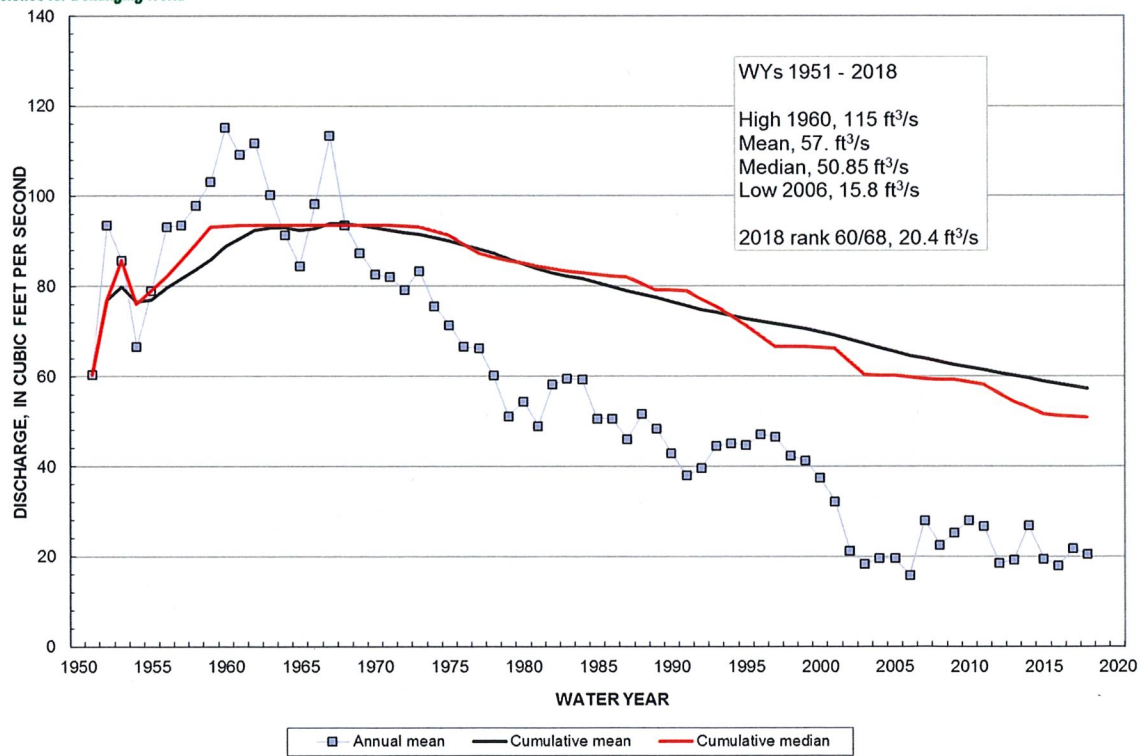




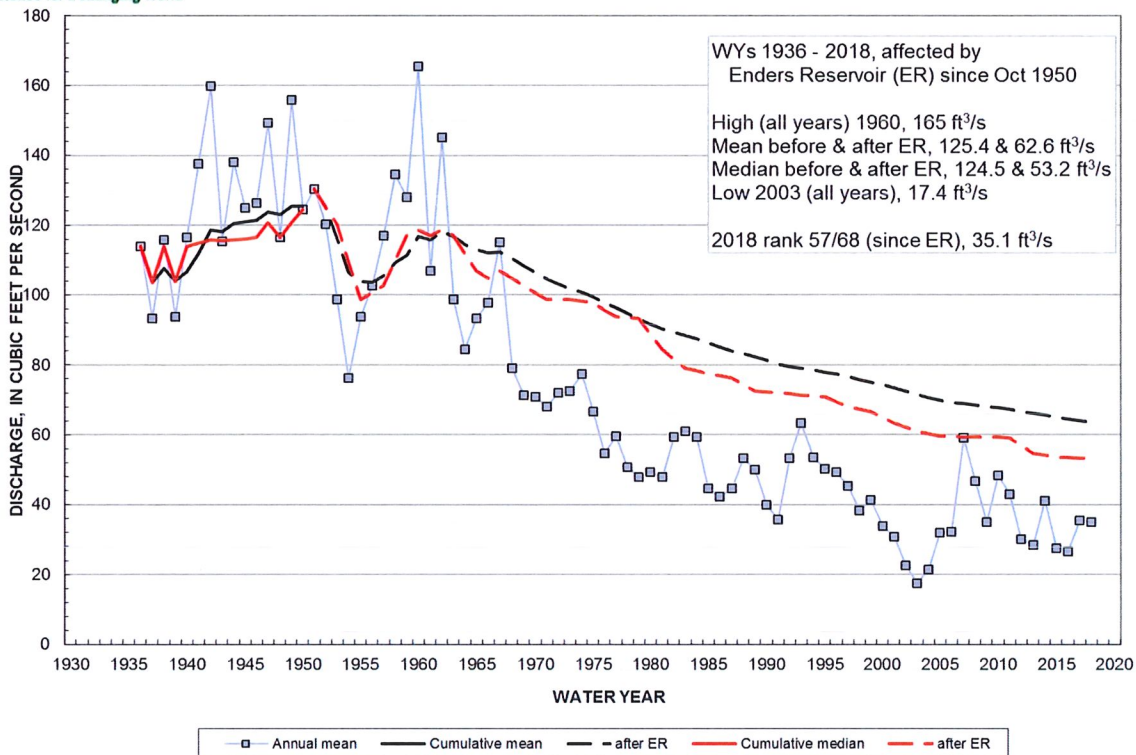
06828500 Republican River at Stratton, NE



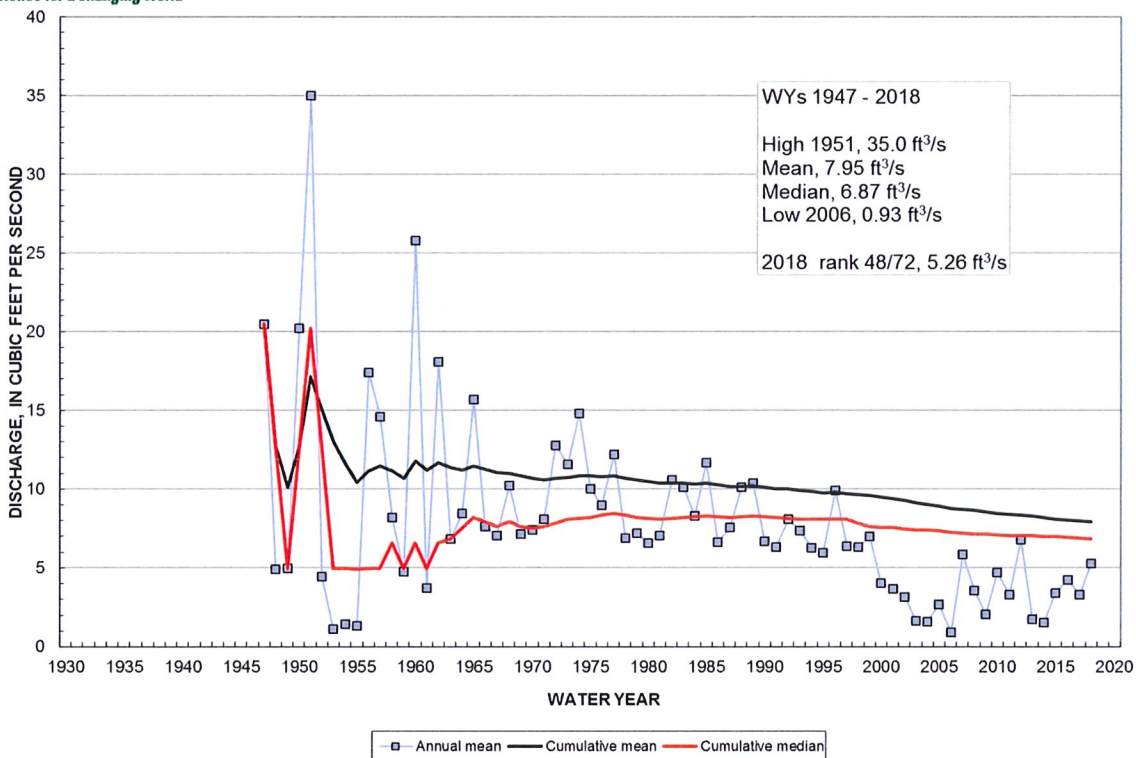
06834000 Frenchman Creek at Palisade, NE



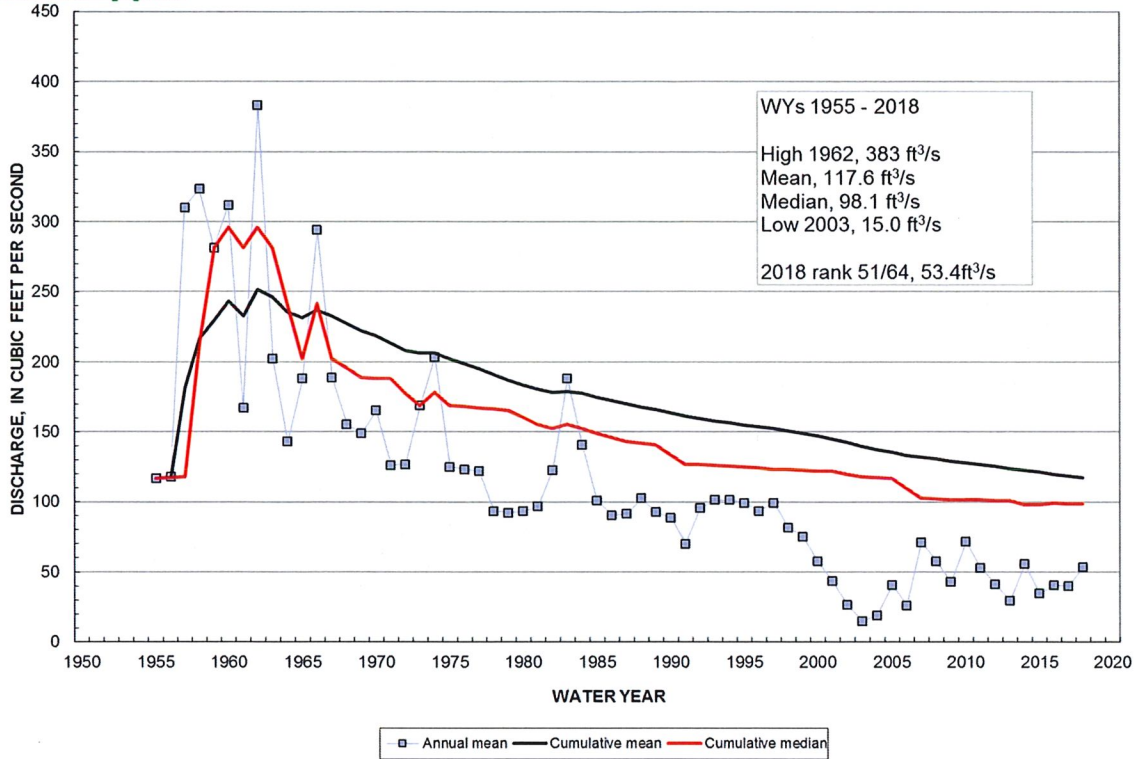
06835500 Frenchman Creek at Culbertson, NE



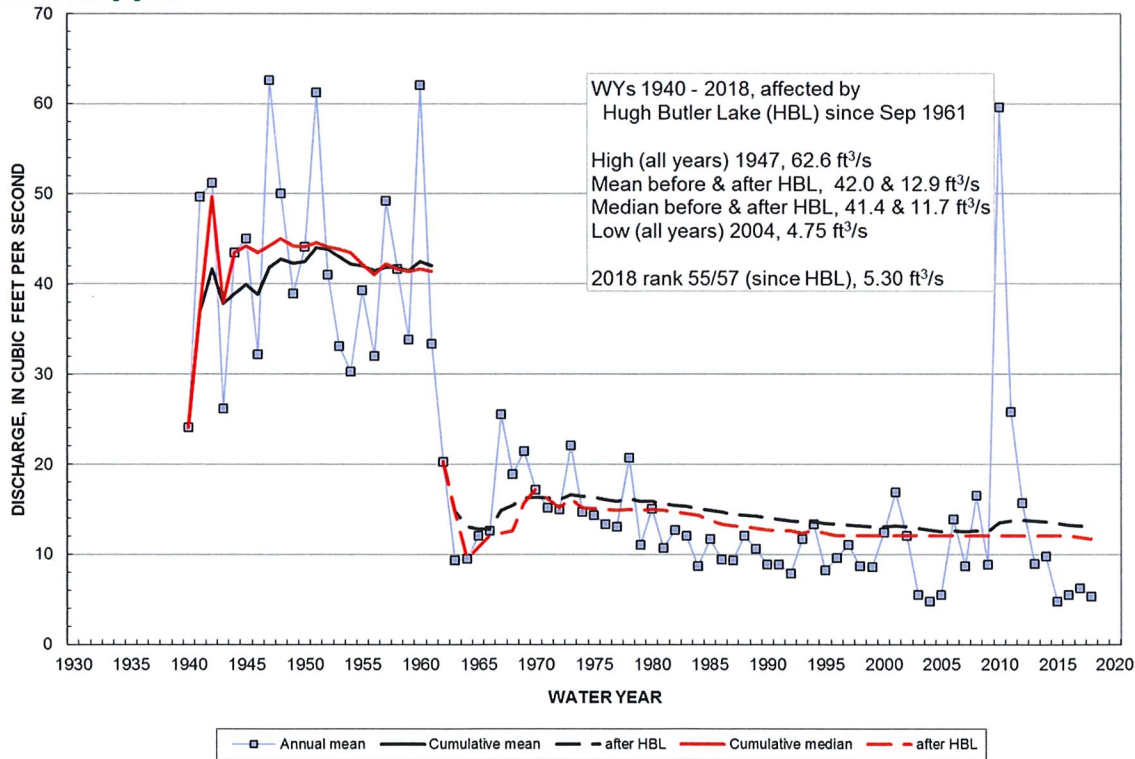
06836500 Driftwood Creek near McCook, NE



06837000 Republican River at McCook, NE

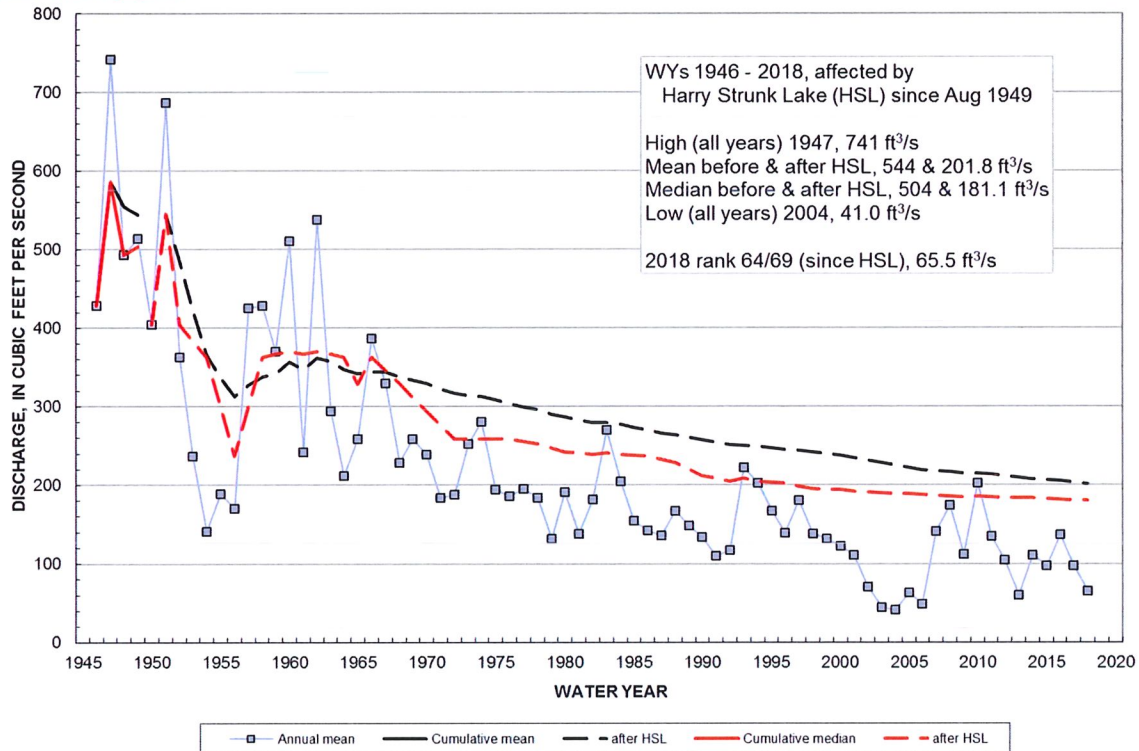


06838000 Red Willow Creek near Red Willow, NE

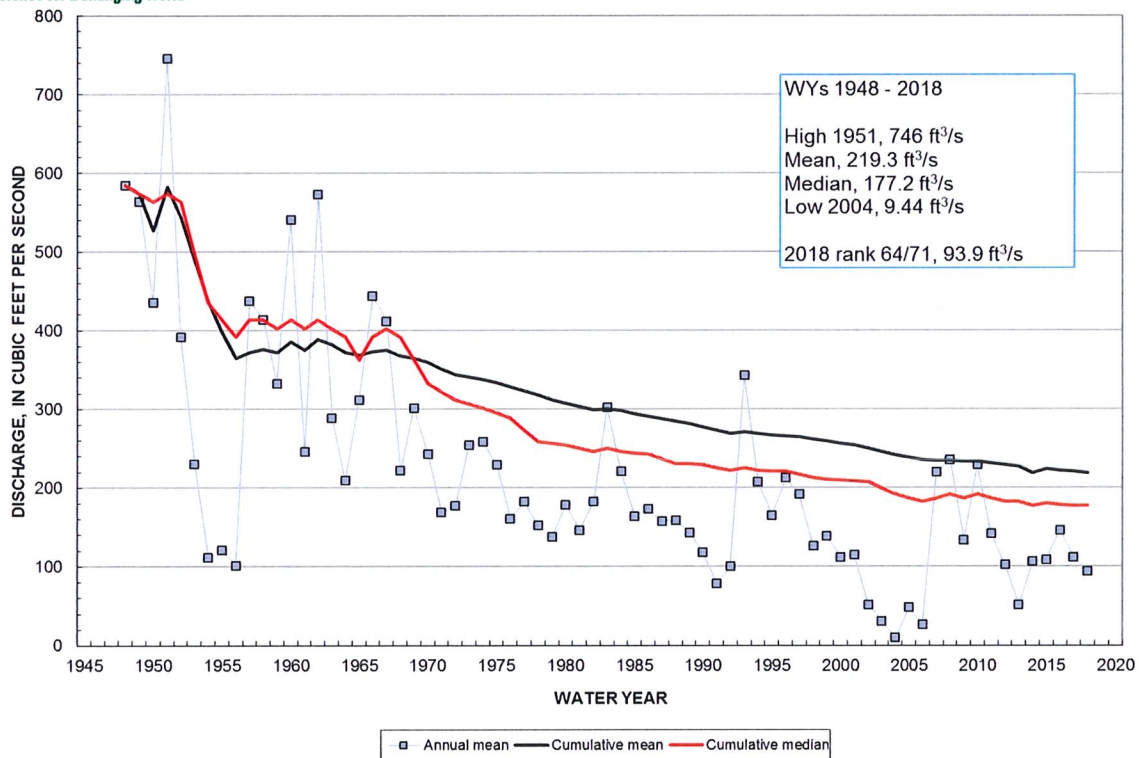




06843500 Republican River at Cambridge, NE

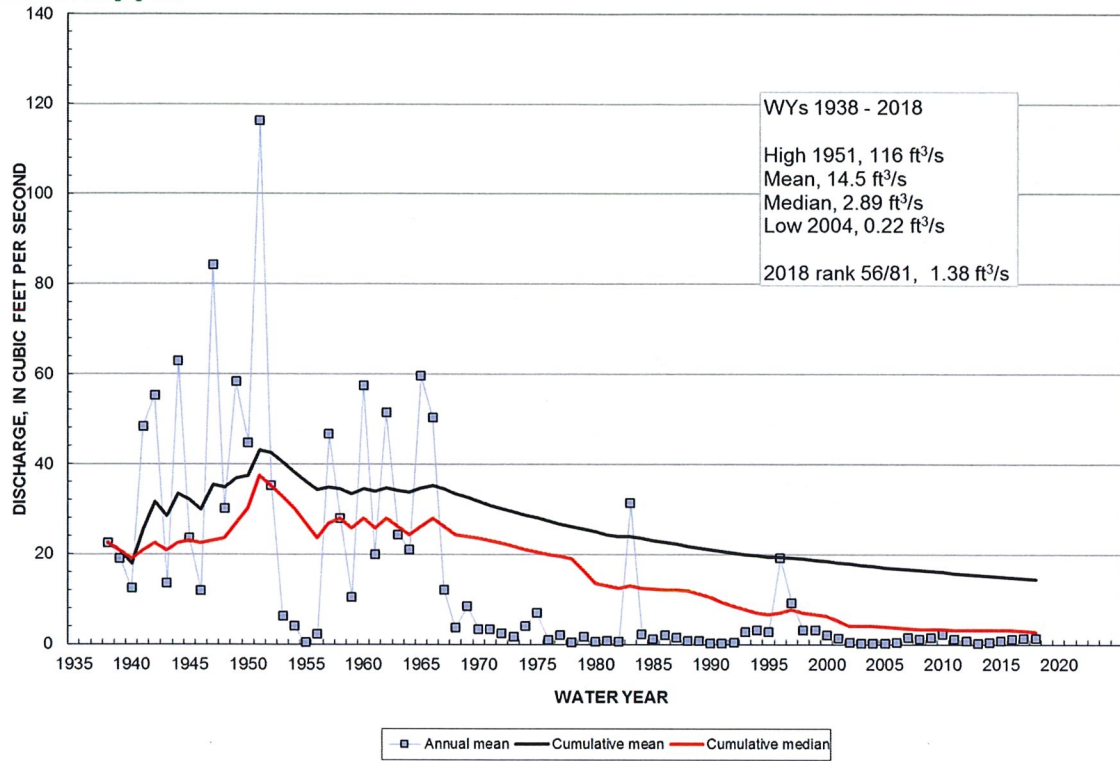


06844500 Republican River near Orleans, NE

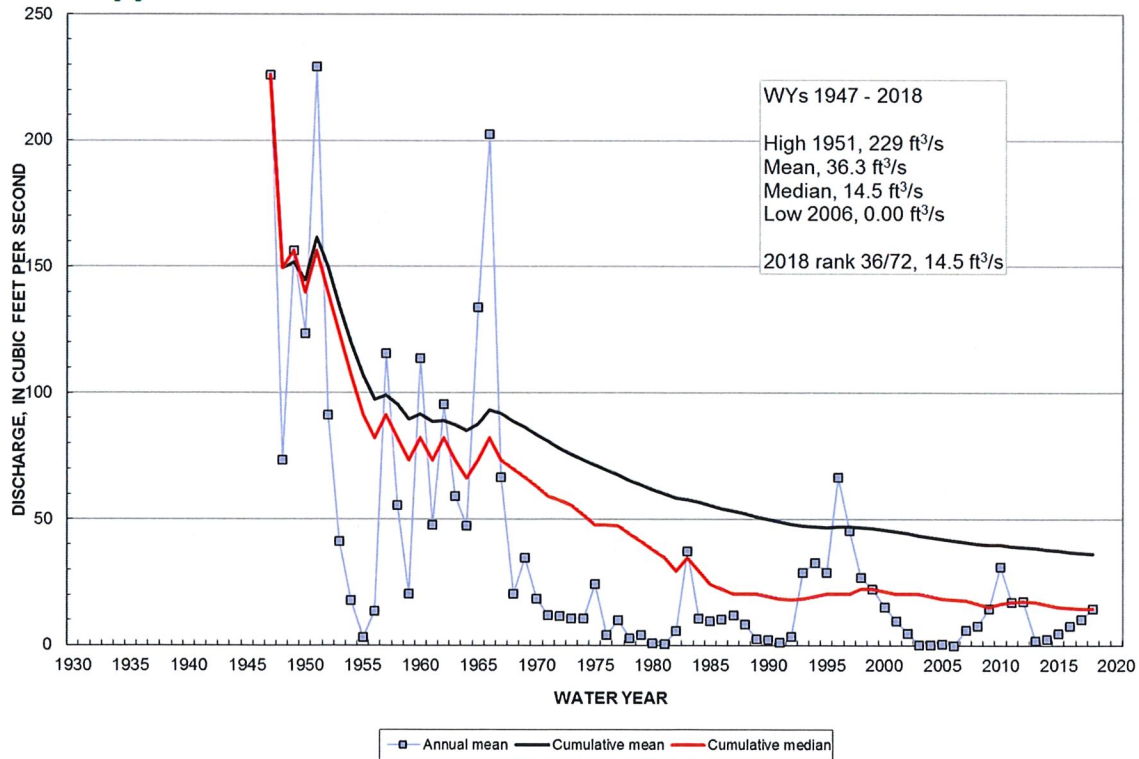




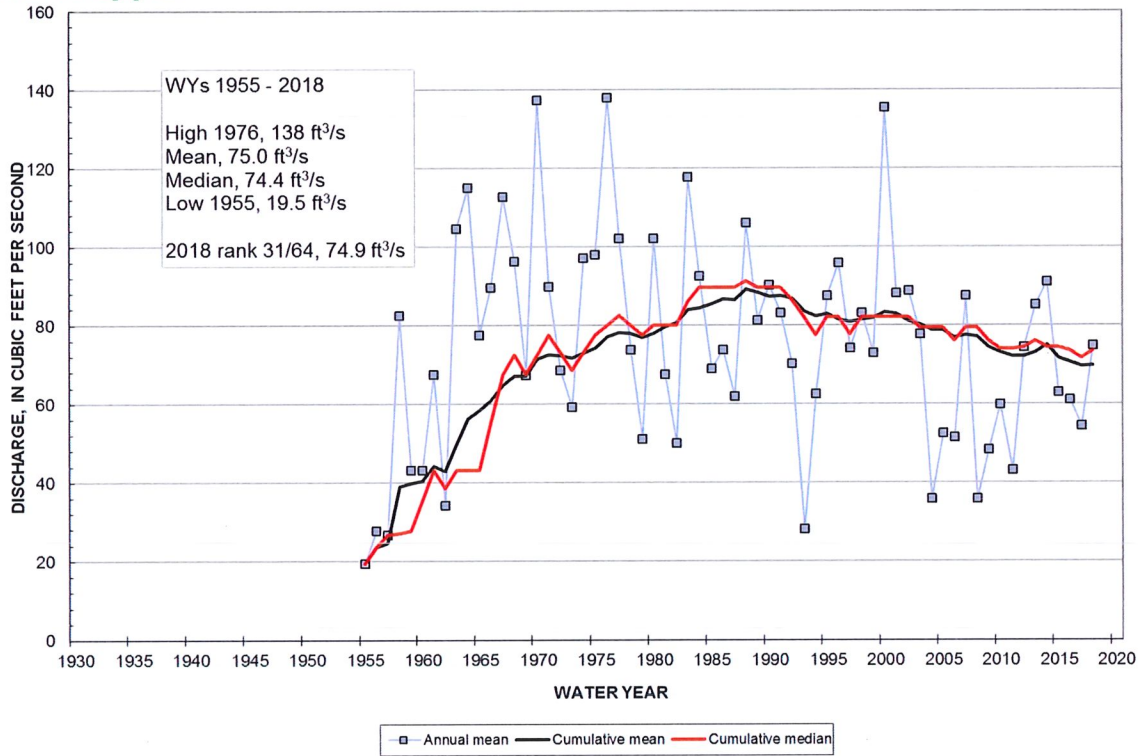
06847000 Beaver Creek near Beaver City, NE



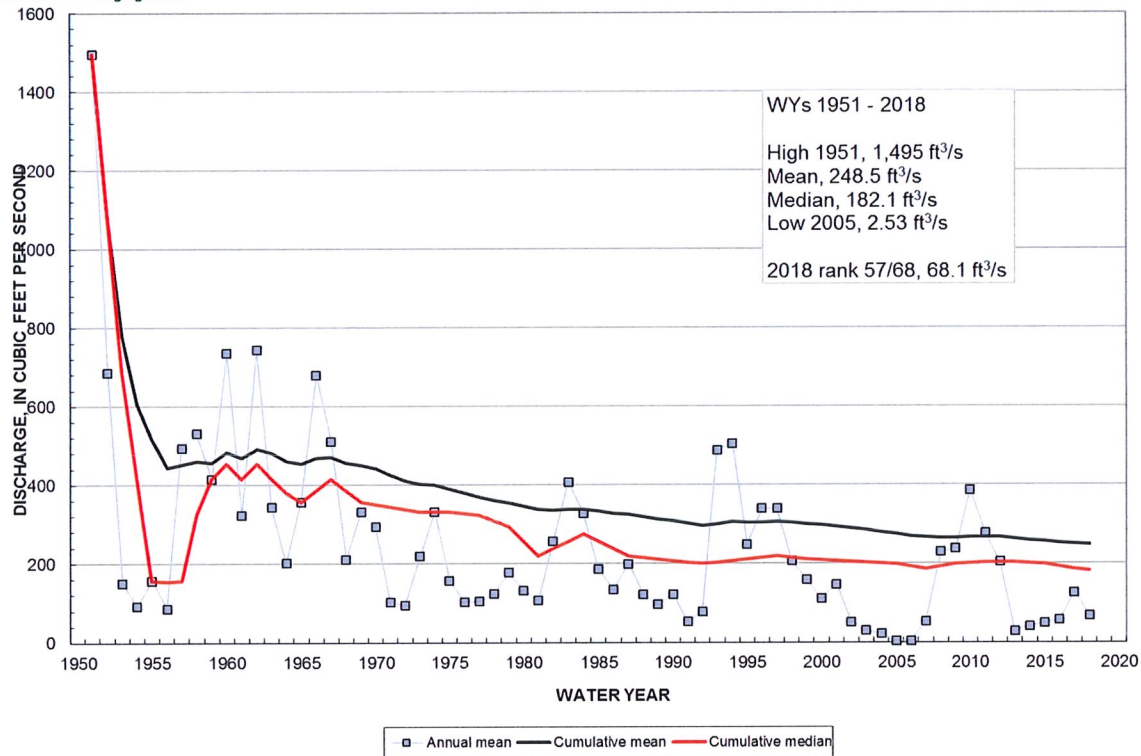
06847500 Sappa Creek near Stamford, NE



06852500 Courtland Canal at NE-KS State Line



06853020 Republican River at Guide Rock, NE



# **Engineering Committee Report**

## **Republican River Compact Administration**

August 22, 2019

Colby, KS

### **EXECUTIVE SUMMARY**

The Engineering Committee (EC) met four times since the August 21, 2018, 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 2018 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 on improving the the Lovewell Ops worksheet; 9) Continue work to summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized, and 10) Prepare the 2018 RRCA annual meeting (KS) report.

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; and 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 and documentation and the modeling runs completed by Principia Mathematica for 2018, discussion on the proposed 2018 accounting, and the recommended EC assignments for the following 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 2018 recommended by the EC for approval by the RRCA

Attachment 3: Description of Lovewell net evaporation and Courtland Canal outflow charged to Republican River

Attachment 4: Status of Table 4A

## COMMITTEE ASSIGNMENTS AND RELATED WORK ACTIVITIES

1. Meet quarterly to review the tasks assigned to the committee.
  - a. The EC met November 19, 2018; March 1, 2019; May 16, 2019; and July 23, 2019. See Attachment 1 for the approved notes of these meetings.
  - b. The EC met August 21, 2019 to finalize the annual EC report for the 2019 RRCA annual meeting.
  - c. The EC recommends that this task continue.
2. Exchange by April 15, 2019, 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, 2018, the states will exchange any updates to these data.
  - a. Nebraska posted its data on April 12, 2019 and provided an update on May 23, 2019.
  - b. Kansas posted its preliminary data on April 15, 2019, and made several updates to the data, declaring it final on July 11, 2019.
  - c. Colorado reported that its accounting data were posted April 2, 2019. Colorado provided its Crop Irrigation Requirement analysis on August 21, 2019.
3. Finalize the 2018 accounting and recommend it for approval by the RRCA.
  - a. Colorado, Kansas, and Nebraska accounting data for 2018 is final and the EC hereby recommends its approval 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.
  - a. A draft of this document has been developed by Kansas and is currently being reviewed by Colorado and Nebraska.
  - b. The EC recommends that this task continue.
5. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
  - a. Nebraska provided updates on the N-CORPE and Rock Creek augmentation projects, and on the status of the proposed Platte-Republican Diversion Project.
  - b. Colorado provided updates on the operations of the Colorado Compact Compliance Pipeline project.
  - c. The EC recommends that this task continue.
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.
  - b. The EC recommends this task as a recurring assignment to maintain the website and provide regular updates to the EC.
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 and the accounting spreadsheet to compare results. The comparisons continue to be favorable.
  - b. The EC recommends that this task continue.
8. Work on improving the understanding of/operation of the inputs to the accounting from the Lovewell Ops worksheet.
  - a. Kansas has proposed to return to a simplified version of Lovewell calculations for evaporation charged to the Republican River, and to Republican River water diversions to the district below Lovewell. The method was previously used in 1995-2002 accounting.
  - b. Kansas' proposal was provided to the EC for its review on August 3, 2018.
  - c. At its November 19, 2018 meeting, the EC unanimously approved the methodology laid out in Kansas' proposal, which was used in preparing the 2018 accounting, and which shall be used henceforth.
  - d. The newly adopted methodology is included in this report as Attachment 3.
  - e. The EC reports that his task is completed.
9. Summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized.
  - a. Kansas provided the EC with a proposal to document the status Table 4A on February 15, 2018.
  - b. At the March 1, 2019 EC meeting Kansas and Colorado reported that they were comfortable with the simple statement on the status of Table 4A that Kansas provided to the EC on February 15, 2018. Nebraska did not believe the statement adequately described the disputed issues, but has agreed that the simple statement fulfills the intent of the assignment to document the status of Table 4A. All States agreed that the simple statement be included with the final EC report to memorialize the document and complete this assignment (Attachment 4).
10. Prepare the 2018 RRCA annual meeting report for approval by the RRCA at the 2019 annual meeting
  - a. The report has been finalized and approved by the EC and is hereby recommended for approval by the RRCA.

## **ITEMS FOR RRCA DISCUSSION & ACTION**

1. Data exchange and modeling results for 2018. The EC recommends the proposed 2018 accounting presented in Attachment 5 and in the spreadsheet titled “RRCA Accounting 2018 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 2019. The EC recommends that Principia Mathematica continue to perform periodic model and accounting updates at the same level of service as in 2018.
3. During 2018-2019, the EC maintained and updated the RRCA website. The website’s purpose is to provide public information, including history of the compact and the RRCA, links to compact-related data and reports, state information, etc. The EC requests any additional comments and direction from the commissioners on the content that the RRCA wants published to the website
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 2020 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, 2020, 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, 2020, the states will exchange any updates to these data.
3. Finalize the 2019 accounting and recommend it for approval by the RRCA.
4. Review the Flood Flow provisions of the RRCA Accounting Procedures, especially as they are applied to the allocations in Tables 5C and 5D, to evaluate whether the accounting methods are in conformance with the intent of the FSS and if they are not, develop a recommendation for how to modify the Accounting Procedures to bring them into conformance so that 2019 accounting results can be approved at the 2020 Annual Meeting.
5. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures.
6. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
7. 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.

8. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
9. Prepare the 2019 RRCA annual meeting (KS) report.

The Engineering Committee Report and the exchanged data will be posted on the web at

**SUBMITTED TO THE RRCA BY**



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Ivan Franco  
Engineering Committee Member for Colorado



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Carol J. Myers Flaute  
Engineering Committee Member for Nebraska



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Chris Beightel  
Chair, Engineering Committee Member for Kansas



Meeting Notes for the  
**QUARTERLY MEETING of the  
ENGINEERING COMMITTEE of the  
REPUBLICAN RIVER COMPACT ADMINISTRATION**  
19 November 2018, 2:00 PM CST  
Meeting was held telephonically

**Attendees:**

Chris Beightel, Kansas  
Chelsea Erickson, Kansas  
Ginger Pugh, Kansas  
Sam Perkins, Kansas  
Carol Myers Flaute, Nebraska  
Catherine Jensen, Nebraska  
Jennifer Schellpeper, Nebraska  
Brian Harmon, Nebraska  
Ivan Franco, Colorado  
Willem Schreüder, Principia Mathematica

**Agenda Items and Notes:**

1. Introductions
2. Review/Modify Agenda
  - a. No modifications were suggested.
3. Review and Update Progress on Engineering Committee Task List
  - a. Meet quarterly to review the tasks assigned to the committee.
    - i. The committee met November 19, 2018.
    - ii. The committee upcoming meetings May 16, and July 25.
  - b. Exchange by April 15, 2019, 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, 2019, the states will exchange any updates to these data.
    - i. No updates yet.
  - c. Finalize the 2018 accounting and recommend it for approval by the RRCA.
    - i. No updates yet.
  - d. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures.
    - i. Document is in draft form yet. Kansas will circulate the draft before the February EC meeting.

- e. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
  - i. This is a placeholder for discussing any new projects.
  - ii. Kansas
    - 1. Chris Beightel reported that Kansas hosted a meeting October 2<sup>nd</sup> to discuss Bonny Reservoir and the settlement funds from Colorado. There were 150 public responses to the questionnaire provided.
  - iii. Nebraska
    - 1. Carol Flaute reported that Nebraska held a forecast meeting on November 14<sup>th</sup> and 2019 will be a Compact Call Year.
    - 2. The Republican River Basin-Wide Plan was reviewed with the public during meetings on November 13<sup>th</sup> and 14<sup>th</sup>. Now there are 60 days to adopt the plan either with or without modifications. Highlights include that the plan is 140 pages and there is a 2 page executive summary.
    - 3. Willem Schreüder asked if 2019 will be a Water Short Year and Carol Flaute responded that it depends because the numbers are very close to the 119,000 AF trigger.
  - iv. Colorado – Ivan Franco reported no updates at this time.
- f. 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.  
[www.republicanriver.org](http://www.republicanriver.org)
  - i. No update yet. Chelsea Erickson reported that technical difficulties have prevented uploading new documents.
- g. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
  - i. Schreüder reported that 2018 diversion data is available and will update the files.
  - ii. Kansas and Nebraska reported no additional updates.
- h. Work on improving the Lovewell Ops worksheet.
  - i. Beightel reported that Kansas had made a proposal and that Nebraska and Colorado staff were reviewing that proposal.
  - ii. Schreüder added that he was looking to Nebraska to review the proposal due to the use of Nebraska datasets that he did not have access to.
  - iii. Flaute reported that Kari Burgert and other staff had looked over the proposal and approved.
  - iv. Beightel then concluded that the Engineering Committee agreed and accepted the proposal and will recommend that it be adopted into the Accounting Procedures. No objections were reported.
- i. Continue work to summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized.

- i. Document historical perspective to describe those blanks in the accounting. Use the Accounting Procedure tracking document to memorialize the issue.
      1. Flaute questioned if the EC was waiting on responses from lawyers. Beightel said he would check and report back.
    - j. Prepare the 2018 RRCA annual meeting (KS) report.
      - i. 55<sup>th</sup> & 56<sup>th</sup> annual reports circulated by Erickson on October 12, 2018 via email. Those versions included a Table of Contents and signed approval pages.
      - ii. Status of transcript for 2018 annual meeting
        1. Erickson is checking the transcript edits and will distribute the final document.
        2. Franco and Flaute reported that they approve the final transcript pending Erickson's review.
      - iii. Status of 57<sup>th</sup> annual report (KS)
        1. Kansas staff is preparing the report and will circulate when finished.
    - k. A Special Meeting of the RRCA was held on November 6, 2018.
      - i. The EC will prepare a resolution for the outcome of that meeting.
      - ii. The EC will then modify the Accounting Procedures and Reporting Requirements and the RRCA Rules & Regulations for approval at the 2019 RRCA annual meeting.
      - iii. The November 6<sup>th</sup>, 2018, meeting will also be part of the 2019 annual report prepared by Kansas.
      - iv. Kansas is preparing the necessary documents for the special meeting report and will circulate when finished.
  4. Summary of Meeting Actions/Assignments
    - a. Nebraska will provide the executive summary of the Republican River Basin-wide Plan.
    - b. Erickson will update the RRCA website with recent documents.  
[www.republicanriver.org](http://www.republicanriver.org).
    - c. The EC has approved the KS proposal on Lovewell Ops method, so Kansas will draft a resolution to incorporate into the Accounting Procedures.
    - d. Beightel and Franco will reach out to their respective attorneys to see what progress can be made on the Table 4a documentation.
    - e. Erickson will finalize review of the draft 2018 August annual meeting transcript.
    - f. Kansas will prepare the updated Accounting Procedures and Rules & Regulations, as well as a resolution of the RRCA to adopt them pursuant to the November 6, 2018 special meeting.
  5. Future Meetings
    - a. May 16, July 25. 2 pm central, same call information.
  6. Adjournment

Meeting Notes for the  
**QUARTERLY MEETING of the  
ENGINEERING COMMITTEE of the  
REPUBLICAN RIVER COMPACT ADMINISTRATION**  
1 March 2019, 10:00 AM CST  
Meeting was held telephonically

**Attendees:**

Chris Beightel, Kansas  
Chelsea Erickson, Kansas  
Ginger Pugh, Kansas  
Sam Perkins, Kansas  
Carol Myers Flaute, Nebraska  
Catherine Jensen, Nebraska  
Kari Burgert, Nebraska  
Ivan Franco, Colorado  
Willem Schreüder, Principia Mathematica

**Agenda Items and Notes:**

1. Introductions
2. Review/Modify Agenda
  - a. No modifications were suggested.
3. Review and Update Progress on Engineering Committee Task List
  - a. Meet quarterly to review the tasks assigned to the committee.
    - i. The committee's upcoming meetings are May 16 and July 25.
  - b. Exchange by April 15, 2019, 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, 2019, the states will exchange any updates to these data.
    - i. Beightel gave an update on the Kansas online water use report system. March 1 is the deadline for water users to file their reports. Kansas has had a no-fee online system available for a couple years, but this year the state imposed a \$20 per water right fee on paper filing. Last year about 27% of the reports were filed online. This year, online reporting is nearing 90% of reports submitted. The online system will increase efficiency with meeting the April 15 data exchange.
    - ii. Schreüder asked if Nebraska could complete the surface water input spreadsheet with the April 15 data exchange. Burgert responded that Nebraska plans to provide the Nebraska inputs to the SWInputs spreadsheet with the data exchange from now on.

- iii. Schreüder mentioned that Colorado data comes from the HydroBase system, which keeps track of diversions across the states. The system was updated February 28, but it will be a couple weeks before final data is available for use.
  - 1. Beightel asked for a description of HydroBase and how long Colorado has been using it. Schreüder responded it has been in place for a while but has taken time to incorporate the meter readings which were required only five years ago or so. He further explained that individuals report meter readings to the Division office and then the office enters the data into HydroBase.
  - 2. Beightel inquired when the meter readings are due to the Division offices. Schreüder relayed that water users have about 45 days to provide their readings after irrigation season.
- c. Finalize the 2018 accounting and recommend it for approval by the RRCA.
  - i. No updates yet.
- d. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures.
  - i. The document is still in draft form. Kansas will circulate the draft after the March 1 EC meeting. Beightel mentioned that future edits to the document would include the November 6 special meeting changes and the revised Lovewell Ops methodology.
- e. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
  - i. Kansas
    - 1. Beightel reported that Kansas is working on identify a stakeholder group to address the best use of the South Fork Republican River settlement funds. Kansas staff reviewed responses from the South Fork users survey. Generally, there are strongly held preferences for both increasing streamflow into Kansas and storing water in Bonny Reservoir, which are mutually exclusive. There was a recent news article about the Colorado South Fork Coalition and KS staff will be tracking that group's recommendations to see if there is an opportunity for the states to work together for a common goal.
    - 2. Beightel also reported on the February 28 meeting of the Lower Republican River Access District Steering Committee. Participants included KBID, USBR, KS Water Office and KS Division of Water Resources. The goal was to identify and address challenges for when water might be available to the proposed access district. There was discussion of how Warren Act water could be used. The state is looking at when and where to utilize available water to relieve water users subject to Minimum Desirable Streamflow restrictions downstream of KBID.

3. Beightel mentioned that the 3 States group will meet next Thursday in Denver. Colorado's new Agriculture Commissioner and the new Kansas Secretary of Ag Mike Beam will be there and plan to review the 2016 long-term agreement provisions.
  - ii. Nebraska –Flaute reported that the Republican River Basin-Wide Plan went into effect March 1 and that she provided Beightel and Franco with copies of the document and summary. Flaute also mentioned that the Platte River Diversion Project permit application is still being reviewed by the department at this time. The applicant has filed legal briefs responding to legal challenges to the project and now the state is reviewing the legal briefs. Beightel asked what the next steps are for the project. Flaute responded that after reviewing the legal briefs, the department will decide how to move forward on the procedural questions raised by the legal arguments.
  - iii. Colorado – Schreüder reported that to minimize the negative effects of a cycle of over-delivery and under-delivery year over year, Colorado plans to over-deliver through the CCP by about 2,000 AF for 2019. The unknown element is how much flow to expect from the Arikaree and South Fork, as the streams have started to flow early but keep freezing with the wintery weather. The goal is to run the CCP through the end of March, review predictions for summer conditions, and then possibly shut the pipeline off in April. So far, the project has delivered about 4,000 AF. Beightel asked if Colorado is reconsidering the over-delivery amount and Schreüder clarified that the state is trying to determine how much of the delivery will be pipeline versus natural flow.
- f. 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.  
[www.republicanriver.org](http://www.republicanriver.org)
- i. Erickson reported that documents from the annual meeting and special meeting have been added to the website.
  - ii. Erickson asked for a meeting of the website committee to review the website prior to promoting the upcoming annual meeting.
  - iii. Flaute mentioned that Nebraska will appoint a website representative soon to replace Brian Harmon who has moved on.
- g. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
- i. Beightel reported that at the last EC meeting the accounting method for Lovewell Ops worksheet was approved by the EC. Beightel committed to providing drafts of the updated Accounting Procedures, RRCA Rules, and a resolution to the other states by May 2 for review.
- h. Work on improving the Lovewell Ops worksheet.
- i. Beightel noted that the issue was already discussed as part of #7.

- i. Continue work to summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized.
  - i. Document historical perspective to describe those blanks in the accounting. Use the Accounting Procedure tracking document to memorialize the issue.
    1. Beightel reported that he had talked with Kansas' attorney who in turn has discussed the issue with Colorado's attorney. The status is that Kansas and Colorado are comfortable with the simple statement on the status of Table 4A that Beightel provided to the EC on February 15, 2018. Beightel mentioned that the issue could be further discussed by the commissioners, but that for now, the EC has taken it as far as it can. Flaute will share the status of the issue with Nebraska's Commissioner.
  - j. Prepare the 2018 RRCA annual meeting (KS) report.
    - i. Status of transcript for 2018 annual meeting
      1. Erickson distributed the final transcript for the annual meeting via email on February 18.
    - ii. Status of 57<sup>th</sup> annual report (KS)
      1. Kansas staff is preparing the report and will circulate a draft to the other states by mid-March for review by early May.
  - k. Document the November 6, 2018 RRCA special meeting.
    - i. KS staff will draft a resolution, and updates to the Accounting Procedures and Reporting Requirements, and the Rules & Regulations for approval at the 2019 RRCA annual meeting.
    - ii. The November 6, 2018 meeting will be part of the 2019 annual report prepared by Kansas.
      1. There was no court reporter for the special meeting. The commissioners directed the EC to make an audio recording of the meeting and then prepare a summary of it to include in the annual report.
      2. Kansas is preparing a summary of the meeting and will also share the audio recording of the meeting with the EC, as requested by Flaute.
4. Summary of Meeting Actions/Assignments
  - a. Kansas will send the draft Accounting Procedure tracking document to the other states.
  - b. The website committee will meet and review the site after Nebraska appoints a new member.
  - c. Kansas will prepare drafts of the updated Accounting Procedures and Rules & Regulations, as well as a resolution of the RRCA to adopt the new documents pursuant to the November 6, 2018 special meeting and the updated Lovewell Ops methodology.
  - d. Kansas staff will prepare draft reports for the 2018 annual meeting and November 6 special meeting for review by the other states.
5. Future Meetings
  - a. May 16 at 2 pm central, same call information.
  - b. July 25 at 2 pm central, same call information.
6. Adjournment 10:38

Meeting Minutes for the  
**QUARTERLY MEETING of the  
ENGINEERING COMMITTEE of the  
REPUBLICAN RIVER COMPACT ADMINISTRATION**  
16 May 2019, 2:00 PM CST  
Meeting was held telephonically

**Attendees:**

Chris Beightel, Kansas  
Chelsea Erickson, Kansas  
Ginger Pugh, Kansas  
Sam Perkins, Kansas  
Carol Myers Flaute, Nebraska  
Sarah Nevison, Nebraska  
Kari Burgert, Nebraska  
Ivan Franco, Colorado  
Willem Schreüder, Principia Mathematica

**Agenda Items and Notes:**

1. Introductions
2. Approve Minutes
  - a. Engineering Committee Chair Chris Beightel asked for approval of the March 1, 2019 EC minutes. Members Carol Myers Flaute and Ivan Franco affirmed approval of the minutes for the March 1<sup>st</sup> EC meeting.
3. Review/Modify Agenda
  - a. The agenda was modified by Kansas to add approval of the March 1, 2019 minutes. No other modifications were presented.
4. Review and Update Progress on Engineering Committee Task List
  - a. Meet quarterly to review the tasks assigned to the committee.
    - i. The committee's final quarterly meeting will be held July 23, 2019.
  - b. Exchange by April 15, 2019, 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, 2019, the states will exchange any updates to these data.
    - i. Beightel reported that the Kansas data was about 90% accurate and complete with a few corrections needed in the coming weeks.
    - ii. Schreüder reported that the Colorado data was posted and close to final. Flaute requested that Colorado provide notice in the future when their data are posted. Schreüder confirmed they can do that. Beightel inquired if the Colorado meter data was posted and Schreüder reported that the data is on the website.



- iii. Burgert reported that a couple of corrections to the Nebraska data will be finalized in the coming week.
  - iv. Flaute asked if there was any portion of the Kansas data that is ready to review. Sam Perkins responded that the surface water data is final, but the groundwater data is still being updated.
  - v. Schreüder asked Burgert if the spreadsheet she had sent had been corrected. Burgert confirmed that the formulas have been corrected.
- c. Finalize the 2018 accounting and recommend it for approval by the RRCA.
- i. Beightel noted that this task appears to be on track.
- d. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures.
- i. Beightel noted that Chelsea Erickson sent a version to the EC for review and once that document is agreed to by the states, it will be attached to the Accounting Procedures and updated with AP changes in the future.
  - ii. Flaute asked about the depth of the review and the intent of the tracking document. The language is not clear if this document would be the official record or just be a description of the official record. Flaute suggested adding a caveat that if a question arises that the annual reports would be the official record still.
  - iii. Beightel agreed with the concerns Flaute expressed and suggested the word “record” was too strong. Beightel would discuss the intent of the tracking document with David Barfield.
  - iv. Franco concurred with Flaute that the tracking document should not supersede the annual report.
- e. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
- i. Kansas and Nebraska had no updates at this time.
  - ii. Schreüder reported that some of the Colorado compliance pipeline equipment was ruined in recent storms and the amount pumped was just short of 6,000 acre-feet. The plan is to pump again in November, but the target amount is yet to be determined.
- f. 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.  
[www.republicanriver.org](http://www.republicanriver.org)
- i. Erickson reported that the website committee met, but no changes were suggested or made. The annual meeting information will be added once final plans are in place.
- g. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.

- i. There were no state updates at this time.
    - ii. Schreüder mentioned that he used the same tool as last time to check the spreadsheet and it did find mistakes, so the tool works great.
  - h. Work on improving the Lovewell Ops worksheet.
    - i. Beightel noted that this task is done. Beightel had suggested via email to the Committee that the reference does not need to be added to the Accounting Procedures document, but that the procedure will be memorialized in this year's Engineering Committee report as an attachment.
    - ii. Franco and Flaute agreed with the plan, but Franco said he would review the issue with Mike Sullivan and Kevin Rein.
  - i. Continue work to summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized.
    - i. Beightel reported that there was no change in the status of this task.
    - ii. Colorado and Nebraska concurred.
  - j. Prepare the 2018 RRCA annual meeting (KS) report.
    - i. Status of 57<sup>th</sup> annual report (KS)
      - 1. Erickson reported that the annual report was circulated to Nebraska and Colorado. The states will be reviewing the documents over the coming weeks and provide edits to Erickson.
  - k. A Special Meeting of the RRCA was held on November 6, 2018.
    - i. KS will prepare the meeting report and circulate to the other states.
    - ii. Beightel made the voice recording available to the states for their records.
    - iii. Flaute agreed with Beightel's email suggestion that this special meeting result did not need to be put into the Accounting Procedures or Rules and Regulations.
    - iv. Franco is waiting for an official response from Commissioner Rein on the issue.
- 5. Summary of Meeting Actions/Assignments
  - a. Kansas will provide the Lovewell Ops document as an attachment to the forthcoming Engineering Committee report. Franco will get an official response from Colorado on the issue.
  - b. Kansas will provide a summary of the November special meeting for the states to review.
  - c. Kansas will be providing accounting corrections to the 2018 data and Nebraska will also provide updates soon.
  - d. The states will be reviewing the Accounting Procedure tracking document.
  - e. Nebraska and Colorado will be reviewing the 2018 annual report as provided by Kansas.
- 6. Future Meetings
  - a. July 23, 2019, 2 pm central, same call information.
- 7. Adjournment 2:28 PM central

Meeting Minutes for the  
**QUARTERLY MEETING of the  
ENGINEERING COMMITTEE of the  
REPUBLICAN RIVER COMPACT ADMINISTRATION**  
23 July 2019, 2:00 PM CST  
Meeting was held telephonically

**Attendees:**

Chris Beightel, Kansas  
Chelsea Erickson, Kansas  
Ginger Pugh, Kansas  
Carol Myers Flaute, Nebraska  
Sarah Nevison, Nebraska  
Kari Burgert, Nebraska  
Ivan Franco, Colorado  
Willem Schreüder, Principia Mathematica

**Agenda Items and Notes:**

1. Introductions
2. Approve Minutes
  - a. Engineering Committee Chair Chris Beightel asked for approval of the May 16, 2019 EC minutes. Members Carol Myers Flaute and Ivan Franco affirmed approval of the minutes for the May 16<sup>th</sup> EC meeting.
3. Review/Modify Agenda
  - a. No modifications were presented.
4. Review and Update Progress on Engineering Committee Task List
  - a. Meet quarterly to review the tasks assigned to the committee.
  - b. Exchange by April 15, 2019, 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, 2019, the states will exchange any updates to these data.
    - i. Beightel reported that Kansas data exchange is complete.
    - ii. Burgert reported the Nebraska data exchange is complete.
    - iii. Schreüder reported that all the Colorado data is final, but the CIR data is still being processed and should be available within a few days.
    - iv. Schreüder noted that a model update was posted and asked if the Nebraska proposed accounting spreadsheet was finalized. Burgert reported that Nebraska is still reviewing the last Kansas data submission over the coming days and then will finalize the Nebraska spreadsheet.
  - c. Finalize the 2018 accounting and recommend it for approval by the RRCA.
    - i. Beightel noted that this task is on track as noted in task #2.

- ii. There was discussion about the process of finalizing the accounting spreadsheet. Schreüder clarified that he takes the Nebraska spreadsheet and checks what all three states submitted and then runs the model. There were past issues with minor differences in acre-feet between the states' spreadsheets, so for the past three years this has been the procedure used.
- d. Continue work on creating a document memorializing when RRCA Accounting Procedures have changed over the years and incorporate it into the Accounting Procedures.
  - i. Beightel noted that a draft document was circulated to the states for review. Beightel confirmed that the accounting procedure change document is only an explanatory document and would not supersede the RRCA transcripts or resolutions.
  - ii. Myers Flaute noted that the Nebraska review is underway but asked for the addition of a table or summary of each change with a brief description to help understand the timeline of changes. Franco agreed with that suggestion and noted that Colorado's review is still in progress as well.
- e. Provide updates on the progress of new and ongoing management strategies for maintaining compact compliance.
  - i. Kansas and Nebraska had no updates at this time.
  - ii. Schreüder reported no change in Colorado's pipeline pumping plans from previous reports. The South Fork Republican has a total of 2500 acre-feet and the Arikaree is still running at this time.
- f. 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.  
[www.republicanriver.org](http://www.republicanriver.org)
  - i. Erickson reported that the website committee was solicited for comments, but no changes were suggested. The annual meeting information was added to the website main page.
- g. Continue work and provide future updates on improving accounting tools developed by the Engineering Committee.
  - i. No further updates at this time.
- h. Work on improving the Lovewell Ops worksheet.
  - i. No further updates at this time.
- i. Continue work to summarize and document the status of Table 4A in the RRCA accounting procedures and recommend how said document should be memorialized.
  - i. No further updates at this time.
- j. Prepare the 2018 RRCA annual meeting (KS) report.
  - i. Status of 57<sup>th</sup> annual report (KS)

1. Erickson reported that the annual report was circulated to Nebraska and Colorado. The states are reviewing the documents and will provide edits to Erickson.
- k. A Special Meeting of the RRCA was held on November 6, 2018.
  - i. Erickson noted that a summary has been prepared but needs further review before circulating to the states for comments.
5. Summary of Meeting Actions/Assignments
  - a. Nebraska will finalize the accounting spreadsheet after review of Kansas data. Schreüder will do a final review of the accounting spreadsheet for the annual Engineering Committee report.
  - b. Kansas will create a summary table of the accounting procedure changes to aid in the understanding of the accounting tracking document. Nebraska and Colorado continue their review of the current document.
  - c. Nebraska and Colorado will be reviewing the 2018 annual report as provided by Kansas.
  - d. Kansas will provide a summary of the November special meeting for the states to review.
  - e. Kansas will circulate a draft of the annual Engineering Committee report for the other states to review.
6. Future Meetings
  - a. RRCA working session Wednesday August 21<sup>st</sup> in Colby at the Pioneer Memorial Library.
  - b. RRCA annual meeting Thursday August 22<sup>nd</sup> at the same location.
7. Adjournment 2:24 p.m. central

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# ACCOUNTING INPUTS

Calendar Year		2018
<b>Groundwater Data</b>		
North Fork Subbasin	GW CBCU Colorado	17,365
	GW CBCU Kansas	0
	GW CBCU Nebraska	1,205
Arikaree Subbasin	GW CBCU Colorado	2,639
	GW CBCU Kansas	178
	GW CBCU Nebraska	112
Buffalo Subbasin	GW CBCU Colorado	521
	GW CBCU Kansas	0
	GW CBCU Nebraska	3,601
Rock Subbasin	GW CBCU Colorado	123
	GW CBCU Kansas	0
	GW CBCU Nebraska	5,200
South Fork Subbasin	GW CBCU Colorado	14,602
	GW CBCU Kansas	6,630
	GW CBCU Nebraska	974
Frenchman Subbasin	GW CBCU Colorado	1,175
	GW CBCU Kansas	0
	GW CBCU Nebraska	82,359
Driftwood Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	0
	GW CBCU Nebraska	867
Red Willow Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	0
	GW CBCU Nebraska	9,645
Medicine Creek Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	0
	GW CBCU Nebraska	21,374
Beaver Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	6,564
	GW CBCU Nebraska	4,284
Sappa Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	2,960
	GW CBCU Nebraska	2,144
Prairie Dog Subbasin	GW CBCU Colorado	0
	GW CBCU Kansas	9,886
	GW CBCU Nebraska	0
Mainstem Subbasin	GW CBCU Colorado	(1,978)
	GW CBCU Kansas Above Guide Rock	964
	GW CBCU Kansas Below Guide Rock	47
	GW CBCU Nebraska Above Guide Rock	88,133
	GW CBCU Nebraska Below Guide Rock	2,440
<b>Import Water Data</b>		
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	10
Driftwood Subbasin	Imported Water Nebraska	0
Red Willow Subbasin	Imported Water Nebraska	65
Medicine Creek Subbasin	Imported Water Nebraska	11,274
Beaver Subbasin	Imported Water Nebraska	0
Sappa Subbasin	Imported Water Nebraska	58
Prairie Dog Subbasin	Imported Water Nebraska	0
Mainstem Subbasin	Imported Water Nebraska Above Guide Rock	14,529
	Imported Water Nebraska Below Guide Rock	(17)
	Total	25,919



Calendar Year		2018
<b>SW Pumping Data</b>		
North Fork Subbasin	SW Diversions - Irrigation -Non-Federal Canals- Colorado	463
	SW Diversions - Irrigation - Small Pumps - Colorado	16
	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
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	241
	SW Diversions - Irrigation - Small Pumps - Nebraska	4
	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	6
	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	11
	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	11
	SW Diversions - M&I - Nebraska - Below Gage	0

Calendar Year		2018
<b>SW Pumping Data</b>		
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	3
	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	436
	SW Diversions - M&I - Kansas	307
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska -Below Gage	0
	SW Diversions - Irrigation - Small Pumps -Nebraska - Below Gage	110
	SW Diversions - M&I - Nebraska - Below Gage	0
Mainstem Subbasin	SW Diversions - Irrigation - Non-Federal Canals- Kansas	0
	SW Diversions - Irrigation - Small Pumps - Kansas	690
	SW Diversions - M&I - Kansas	0
	SW Diversions - Irrigation - Non-Federal Canals - Nebraska	2,677
	SW Diversions - Irrigation - Small Pumps - Nebraska	1,489
	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	1,177
	SW Diversions - M&I - Nebraska - Below Guide Rock	0

**Non-Federal SW Consumptive Use**

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

Calendar Year		2018
<b>Non-Federal Reservoir Evaporation Data</b>		
North Fork Subbasin	Non-Federal Reservoir Evaporation - Colorado	38
Arikaree Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	12
	Non-Federal Reservoir Evaporation - Nebraska	0
Buffalo Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Nebraska	8
Rock Subbasin	Non-Federal Reservoir Evaporation - Nebraska	87
South Fork Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	106
	Non-Federal Reservoir Evaporation - Nebraska	0
Frenchman Subbasin	Non-Federal Reservoir Evaporation - Nebraska	53
Driftwood Subbasin	Non-Federal Reservoir Evaporation - Kansas	8
	Non-Federal Reservoir Evaporation - Nebraska	0
Red Willow Subbasin	Non-Federal Reservoir Evaporation - Nebraska	137
Medicine Creek Subbasin	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	162
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	2
Beaver Subbasin	Non-Federal Reservoir Evaporation - Colorado	0
	Non-Federal Reservoir Evaporation - Kansas	197
	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	71
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	0
Sappa Subbasin	Non-Federal Reservoir Evaporation - Kansas	211
	Non-Federal Reservoir Evaporation - Nebraska - Above Gage	27
	Non-Federal Reservoir Evaporation - Nebraska - Below Gage	1
Prairie Dog Subbasin	Non-Federal Reservoir Evaporation - Kansas	141
	Non-Federal Reservoir Evaporation - Nebraska	7
Mainstem Subbasin	Non-Federal Reservoir Evaporation - Kansas	50
	Non-Federal Reservoir Evaporation - Nebraska - Above Guide Rock Gage - Whole Basin Value:	632
	Non-Federal Reservoir Evaporation - Nebraska - Below Guide Rock Gage - Whole Basin Value:	(9)

**Stream Gage Data**

North Fork Subbasin	North Fork Republican River At Colorado-Nebraska State Line	32,580
Arikaree Subbasin	Arikaree River At Haigler	821
Buffalo Subbasin	Buffalo Creek Near Haigler	1,858
Rock Subbasin	Rock Creek At Parks	4,095
South Fork Subbasin	South Fork Republican River Near Benkelman	1,970
Frenchman Subbasin	Frenchman Creek At Culbertson	25,906
Driftwood Subbasin	Driftwood Creek Near McCook	3,911
Red Willow Subbasin	Red Willow Creek Near Red Willow	3,932
Medicine Creek Subbasin	Medicine Creek Below Harry Strunk	25,135
Beaver Subbasin	Beaver Creek Near Beaver City	1,023
Sappa Subbasin	Sappa Creek Near Stamford	12,574
Prairie Dog Subbasin	Prairie Dog Creek Near Woodruff	4,205
Mainstem Subbasin	Republican River At Guide Rock	63,585
	Republican River Near Hardy	110,861

**Hardy Gage Data**

USGS Gage 06853500 Republican River Near Hardy, NE

Mainstem Subbasin	January	4,619
	February	5,521
	March	7,386
	April	3,658
	May	2,309
	June	7,601
	July	3,805
	August	5,065
	September	23,848
	October	17,603
	November	9,231
	December	20,216
		ANNUAL

Calendar Year		2018
<b>Reservoir Data</b>		
South Fork Subbasin	Bonny Reservoir Evaporation	0
	Bonny Reservoir Change In Storage	0
Frenchman Subbasin	Enders Reservoir Evaporation	1,482
	Enders Reservoir Change In Storage	767
Red Willow Subbasin	Hugh Butler Lake Evaporation	1,395
	Hugh Butler Lake Change In Storage	3,993
Medicine Creek Subbasin	Harry Strunk Lake Evaporation	2,357
	Harry Strunk Lake Change In Storage	5,139
Prairie Dog Subbasin	Keith Sebelius Lake Evaporation	1,399
	Keith Sebelius Lake Change In Storage	3,191
Mainstem Subbasin	Swanson Lake Evaporation	4,441
	Swanson Lake Change In Storage	8,017
	Harlan County Evaporation Subject to Nebraska/Kansas Split	7,127
	Harlan County Evaporation Charged to Kansas	345
	Harlan County Change In Storage	30,781
	Lovewell Reservoir Ev charged to the Republican River	(194)

**Canal Data**

North Fork Subbasin	Haigler Canal Diversions - Colorado	0	
	Haigler Canal Diversions - Nebraska	3,676	
	Haigler Canal Diversions	3,676	
South Fork Subbasin	Hale Ditch Diversions	594	
Frenchman Subbasin	Champion Canal Diversions	0	
	Riverside Canal Diversions	0	
	Culbertson Canal Diversions	7,426	
	Culbertson Canal Extension Diversions	0	
	Culbertson Canal % Return Flow	80%	
	Culbertson Canal Extension % Return Flow	100%	
Driftwood Subbasin	Meeker-Driftwood Canal Diversions	14,295	
	Meeker-Driftwood Canal % Return Flow	65.7%	
Red Willow Subbasin	Red Willow Canal Diversions	0	
	Red Willow Canal % Return Flow	100%	
Prairie Dog Subbasin	Almena Canal Diversions	0	
	Almena Canal % Return Flow	100.0%	
Mainstem Subbasin	Bartley Canal Diversion	9,172	
	Bartley Canal % Return Flow	76%	
	Cambridge Canal Diversion	21,005	
	Cambridge Canal % Return Flow	64.2%	
	Naponee Canal Diversion	660	
	Naponee Canal % Return Flow	67%	
	Franklin Canal Diversion	15,780	
	Franklin Canal % Return Flow	69%	
	Franklin Pump Canal Diversions	813	
	Franklin Pump Canal % Return Flow	55%	
	Superior Canal Diversions	8,121	
	Superior Canal % Return Flow	66%	
		Courtland Canal Diversions At Headgate	46,704
		Diversions to Nebraska Courtland	532
		Nebraska Courtland % Return Flow	24%
		Courtland Canal, Loss in NE assigned to upper Courtland KS	1,548
		Courtland Canal, Loss in NE assigned to delivery to Lovewell	4,065
		Courtland Canal At Kansas-Nebraska State Line	40,559
		Courtland Canal Diversions to the Upper Courtland District	17,007
		Courtland Canal Above Lovewell % Return Flow	53.7%
		Courtland Canal, Loss assigned to deliveries of water to Lovewell, Stateline to Lovewell	5,681
		Courtland Canal Deliveries To Lovewell Reservoir	19,419
	Diversions of Republican River water from Lovewell Reservoir to the Courtland Canal below Lovewell	14,050	
	Courtland Canal Below Lovewell % Return Flow	49.4%	
	<b>To allocate Harlan County evaporation:</b>		
	Kansas Bostwick Diversions During Irrigation Season (actual, or 3-year average)	37,077	
	Nebraska Bostwick Diversions During Irrigation Season (actual or 3-year average)	25,860	

# ACCOUNTING TABLES

2018 Basin	Virgin Water Supply	Computed Water Supply	Allocations				Computed Beneficial Consumptive Use		
			Colorado	Kansas	Nebraska	Unallocated	Colorado	Kansas	Nebraska
North Fork	41,570	41,570	9,310	0	10,230	22,030	17,690	0	3,410
Arikaree	3,760	3,760	2,950	190	630	(10)	2,640	190	110
Buffalo	6,140	6,140	0	0	2,030	4,110	520	0	3,760
Rock	9,510	9,510	0	0	3,800	5,710	120	0	5,290
South Fork	24,640	24,640	10,940	9,910	340	3,450	14,960	6,740	970
Frenchman	114,230	113,460	0	0	60,810	52,650	1,180	0	85,380
Driftwood	2,540	2,540	0	180	420	1,940	0	10	870
Red Willow	19,050	15,060	0	0	2,890	12,170	0	0	9,930
Medicine	42,910	37,770	0	0	3,440	34,330	0	0	21,560
Beaver	12,140	12,140	2,430	4,710	4,930	70	0	6,760	4,360
Sappa	16,830	16,830	0	6,920	6,920	2,990	0	3,170	2,170
Prairie Dog	19,310	16,120	0	7,370	1,230	7,520	0	11,910	90
Main Stem	187,690	147,550	0	75,400	72,150	0	(1,980)	22,670	128,180
Total All Basins	500,320	447,090	25,630	104,680	169,820	146,960	35,130	51,450	266,080
Main Stem Including Unallocated		294,510	0	150,500	144,010				
Total	500,320	447,090	25,630	179,780	241,680	0	35,130	51,450	266,080

**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**

	Col. 1	Col. 2	Col. 3	Col. 4
				Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit and CORWS Credit Col 1 – (Col 2- Col 3)
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit and CORWS	
2014	21,900	32,100	7,448	(2,752)
2015	24,760	33,780	10,760	1,740
2016	25,190	33,930	10,130	1,390
2017	22,960	31,810	11,330	2,480
2018	25,630	35,130	13,578	4,078
Avg 2014-2018	24,090	33,350	10,650	1,390

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

	Col. 1	Col. 2	Col. 3	Col. 4
				Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit Col 1 – (Col 2- Col 3)
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit	
2014	102,760	60,060	NA	42,700
2015	163,420	50,890	NA	112,530
2016	156,760	51,320	NA	105,440
2017	177,230	62,040	NA	115,190
2018	179,780	51,450	NA	128,330
Avg 2014-2018	155,990	55,150	NA	100,840

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

	Col. 1	Col. 2	Col. 3	Col. 4
				Difference between Allocation and the Computed Beneficial Consumptive Use offset by Imported Water Supply Credit and NERWS Credit Col 1 – (Col 2- Col 3)
Year	Allocation	Computed Beneficial Consumptive	Imported Water Supply Credit and NERWS	
2014	168,970	206,010	75,136	38,096
2015	223,860	243,530	36,171	16,501
2016	217,880	256,120	61,816	23,576
2017	238,540	242,140	39,439	35,839
2018	241,680	266,080	25,943	1,543
Avg 2014-2018	218,190	242,780	47,700	23,110



**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.

**2018**

	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****2018**

	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	152	(10)	122	N/A	264	198	66
South Fork	9,684	3,370	0	N/A	13,054	6,278	6,776
Driftwood	92	1,008	0	N/A	1,100	10	1,090
Beaver	4,146	62	2,138	N/A	6,346	5,962	384
Sappa	3,600	1,556	0	N/A	5,156	1,434	3,722
Prairie Dog	4,852	4,956	0	N/A	9,808	8,212	1,596

**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 Computed Beneficial Consumptive Use offset by Imported Water Supply Credit and CORWS Credit (Col. 4 - Col. 5 + Col. 6)
2014	Yes	21,900	1,228	20,672	32,100	7,448	(3,980)
2015	Yes	24,760	1,406	23,354	33,780	10,760	334
2016	Yes	25,190	1,650	23,540	33,930	10,130	(260)
2017	No	22,960	0	22,960	31,810	11,330	2,480
2018	Yes	25,630	1,852	23,778	35,130	13,578	2,226
Avg 2014-2018	Yes	24,090	1,230	22,860	33,350	10,650	160

**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	2,430	1852

**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 Consumptive 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)
2017	24,490	6,004	1,380	31,874	24,830	N/A	7,044
2018	29,280	8,156	1,400	38,836	28,780	N/A	10,056
Avg 2017-2018	26,885	7,080	1,390	35,355	26,805	N/A	8,550

**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)
2017	238,540	11,539	227,001	1,320	242,140	3,585	238,555	39,466	29,232
2018	241,680	19,786	221,894	1,340	266,080	3,314	262,766	25,943	(13,590)
Avg 2017-2018	240,110	15,660	224,450	1,330	254,110	3,450	250,660	32,700	7,820

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

Year	Allocation				Computed Beneficial Consumptive Use			Supply Credit and	and Computed Beneficial
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)
2016	217,880	12,878	205,002	1,193	256,120	2,758	253,362	61,841	14,675
2017	238,540	11,539	227,001	1,320	242,140	3,585	238,555	39,466	29,232
2018	241,680	19,786	221,894	1,340	266,080	3,314	262,766	25,943	(13,590)
Avg 2016-2018	232,700	14,730	217,970	1,280	254,780	3,220	251,560	42,420	10,110

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

Year	Allocation			Computed Beneficial Consumptive Use	Water Supply Credit and AWS	Allocation - (CBCU - IWS- AWS)
	Sub-Basin Total	Share of Unallocated Supply	Total			
2016	89,960	71,096	161,056	136,720	52,742	77,078
2017	92,370	70,186	162,556	132,440	30,481	60,597
2018	97,670	71,863	169,533	137,900	11,446	43,079
Avg 2016-2018	95,020	71,025	166,045	135,170	20,964	51,838

# ATTACHMENTS

## Attachment 1: Sub-basin Flood Flow Thresholds

Sub-basin	Sub-basin Flood Flow Threshold Acre-feet per Year <sup>3</sup>
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

<sup>3</sup> 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

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 Guide 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
2018	147,550	110,861	63,585	62,438	8,121	5,315	5,377	10,692	3,314	565	3,878	36,584	40,463	107,087	52,366	54,722	19,786	20,676

COURTLAND CANAL					
	2014	2015	2016	2017	2018
Return Flow From Courtland Canal To Republican River Above Lovewell From Kansas	813	764	563	789	608
Return Flow From Courtland Canal To Republican River Above Hardy From Nebraska	4,465	5,027	5,055	7,785	4,706
Courtland Canal Diversions At Headgate	59,654	57,452	44,129	62,438	46,704
Courtland Canal At Kansas-Nebraska State Line	54,209	50,960	37,548	52,599	40,559
NE Courtland Canal CBCU (includes transportation loss)	0	361	416	345	405
Superior Canal CBCU	0	2,157	2,049	2,616	2,744

NEBRASKA					
	2014	2015	2016	2017	2018
SW Diversions - Irrigation - Small Pumps - Nebraska Below Guide Rock	476	786	655	1,261	1,177
SW Diversions - M&I - Nebraska - Below Guide Rock	0	0	0	0	0
SW Non-Federal Reservoir Evaporation - Below Guide Rock	67	14	34	93	(9)
SW Return - Irrigation	119	197	164	315	294
SW Return - M&I	0	0	0	0	0
GW CBCU Nebraska Below Guide Rock	1,911	2,337	2,233	2,546	2,440

KANSAS					
	2014	2015	2016	2017	2018
SW CBCU - Irrigation - Small Pumps	484	554	535	727	518
SW CBCU - M&I	0	0	0	0	0
GW CBCU Kansas Below Guide Rock	31	28	43	53	47

**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	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
Σ Irrigation Season											
Σ Non- Irrigation Season											
Culbertson	7,426	194	7,232	319	6,913	30%	96	7,009	82%	5,941	80%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
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	14,295	617	13,678	4,264	9,414	30%	1,279	10,693	82%	9,385	65.7%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Red Willow	0	0	0	0	0	30%	0	0	82%	0	100.0%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Bartley	9,172	2,477	6,695	1,733	4,962	30%	520	5,482	82%	6,972	76.0%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Cambridge	21,005	2,307	18,698	7,235	11,463	30%	2,171	13,634	82%	13,486	64.2%
	0	0	0	0	0	30%	0	0	92%	0	100.0%
Naponee	660	88	572	212	360	35%	74	434	82%	444	67.3%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Franklin	15,780	2,064	13,716	4,614	9,102	35%	1,615	10,717	82%	10,852	68.8%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Franklin Pump	813	5	808	406	402	35%	142	544	82%	451	55.5%
	0	0	0	0	0	35%	0	0	92%	0	100.0%
Almena	0	0	0	0	0	30%	0	0	82%	0	100.0%
Superior	8,121	269	7,852	2,352	5,500	31%	729	6,229	82%	5,377	66.2%
	0	0	0	0	0	31%	0	0	92%	0	100.0%
Nebraska Courtland	539	0	539	497	42	23%	114	156	82%	128	23.8%
Courtland Canal Above Lovewell (KS)	17,007	1,026	15,981	7,928	8,053	23%	1,823	9,876	82%	9,125	53.7%
Courtland Canal Below Lovewell	30,608	2,648	27,960	16,558	11,402	23%	3,808	15,210	82%	15,120	49.4%



Attachment 8

CCV and RCCV Tracking <sup>a</sup>												
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
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
	=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 <sup>d</sup>
2007	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
2009	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
2011	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
2013	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	8332	0	8332	8332	0	0	8332	8332	0
2016	0	0	41,935	24752	0	24752	33084	5084	4321	23679	15347	9,300
2017	9300	0	20,000	20,000	0	20000	43679	20000	2241	21438	-2241	9,300
2018	9300	0	0	0	0	0	21438	0	1339	20099	-1339	9,300

APV and RWS					RCCV Calc
Colorado		Nebraska			
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)
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	15,766	0	15,766	0
7,448	7,448	19,397	42,758	62,155	0
10,760	10,760	1,098	25,932	18,698	8332
10,130	10,130	499	22,803	41,935	449
11,330	11,330	4,563	11,106	20,000	0
13,578	13,578	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)					
	2014	2015	2016	2017	2018
January	1,704	1,390	5,429	11,315	4,619
February	4,733	2,093	6,532	6,369	5,521
March	4,560	2,027	6,415	6,420	7,386
April	1,638	2,364	6,625	6,933	3,658
May	2,138	34,054	13,501	33,286	2,309
June	5,818	36,781	5,901	11,956	7,601
July	5,726	7,906	4,844	24,712	3,805
August	6,893	7,712	6,153	5,874	5,065
September	4,491	2,180	9,868	3,532	23,848
October	4,717	1,690	5,278	8,752	17,603
November	4,167	1,944	5,286	2,399	9,231
December	3,779	4,790	4,685	5,575	20,216
ANNUAL	50,364	104,931	80,515	127,122	110,862
Over 400K	0	0	0	0	0

Sub-basin Flows Above Attachment 1 Flood Flow Thresholds					
	2014	2015	2016	2017	2018
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	0	0	0	0
Prairie Dog	0	0	0	0	0
Sub-basin Sum	0	0	0	0	0

5-month Consecutive Period Flows (acre-feet)					
	2014	2015	2016	2017	2018
Jan-May	14,773	41,928	38,501	64,322	23,494
Feb-Jun	18,887	77,319	38,973	64,964	26,475
Mar-Jul	19,880	83,132	37,285	83,307	24,760
Apr-Aug	22,213	88,817	37,023	82,760	22,438
May-Sep	25,066	88,633	40,266	79,359	42,628
Jun-Oct	27,645	56,269	32,043	54,825	57,922
Jul-Nov	25,994	21,432	31,428	45,268	59,552
Aug-Dec	24,047	18,316	31,269	26,132	75,962

5-month Consecutive Period Test					
	2014	2015	2016	2017	2018
Jan-May	0	0	0	0	0
Feb-Jun	0	0	0	0	0
Mar-Jul	0	0	0	0	0
Apr-Aug	0	0	0	0	0
May-Sep	0	0	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	0	0	0	0

2-month Consecutive Period Flows (acre-feet)					
	2014	2015	2016	2017	2018
Jan-Feb	6,437	3,483	11,960	17,683	10,140
Feb-Mar	9,293	4,120	12,946	12,789	12,907
Mar-Apr	6,198	4,391	13,039	13,353	11,045
Apr-May	3,776	36,418	20,126	40,219	5,967
May-Jun	7,956	70,835	19,402	45,242	9,910
Jun-Jul	11,544	44,687	10,744	36,668	11,406
Jul-Aug	12,619	15,618	10,996	30,586	8,870
Aug-Sep	11,384	9,892	16,020	9,406	28,912
Sep-Oct	9,208	3,870	15,146	12,283	41,451
Oct-Nov	8,884	3,634	10,564	11,151	26,834
Nov-Dec	7,946	6,734	9,971	7,974	29,447

2-month Consecutive Period Test					
	2014	2015	2016	2017	2018
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	0	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	0	0	0	0

Final Sub-basin Flood Flows					
	2014	2015	2016	2017	2018
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	0	0	0	0
Prairie Dog Flood Flow	0	0	0	0	0
Mainstem Flood Flow	0	0	0	0	0

Combined Test					
	2014	2015	2016	2017	2018
FINAL TOTAL	0	0	0	0	0

Description of Lovewell net evaporation and Courtland Canal outflow charged to Republican River  
David Barfield, Chris Beightel and Sam Perkins June 19, 2018 (revised August 3, 2018)

### Summary

This note is in response to Willem's request for us to clarify how we calculate CBCU charges to the Republican River for Lovewell reservoir evaporation and diversions to Courtland Canal below Lovewell. These CBCU charges have been calculated annually in sheet Computations of Excel files Lovewell\_Ops\_YYYY.xls for years YYYY = 2003 to 2017 according to a procedure that maintains storage accounts for both Republican R (RR) and White Rock C (WRC) inflows with monthly time steps. For years 1995-2002, a simpler procedure was used to calculate these charges retrospectively with annual time steps in file Lovewell1995-02.xls. Based on a review of these procedures, we propose to use the simpler form of CBCU calculations with annual time steps as implemented in the file Lovewell1995-2017.xlsx.

CBCU charges to Kansas associated with Lovewell Reservoir evaporation of Republican R water and diversions to Courtland Canal below Lovewell are identified in RRCA Accounting Procedures under Part B.15, "Specific Formulas" for the North Fork and the Main Stem. The FSS Appendix C specifies that net evaporation be split according to inflows from Republican R via Courtland Canal and White Rock Creek.

Some of the data sources for the updated version differ from the original 1995-2002 calculations. For the update, WRC inflow is given by flow at the USGS Burr Oak gage instead of BOR calculated WRC inflow; and total Lovewell outflow is based on BOR instead off the USGS gage below Lovewell, which terminated operation in September 2002.

Entries to the Kansas Input sheet (file KS\_input\_sheet\_2017.xlsx) include the following three items:

RR inflow from Courtland Canal to Lovewell (cell J19):	line 269
Net reservoir evaporation assigned to RR (EvapRR, cell O19):	line 228
RR water diverted to lower Bostwick district (cell S19):	line 270

Only the second and third of these appear in the RRCA SWInput.xls for RRCA accounting; as explained by Willem in an email (7/10/2018), "Only deliveries FROM Lovewell are used in the accounting."

### Data sources and calculations

RR Inflow from Courtland Canal is given by sheet 'C-LOV' of BOR file BOST-MISC3MWD.xlsx.

White Rock Creek (WRC) inflow to Lovewell is assumed to be the flow at Burr Oak, USGS gage 06853800.

Lovewell discharge to lower KS Bostwick District [BOR: from sheet 'C-BELOW', file KS-BOST3MWD.xlsx (Courtland Canal, Mile 38.0).

Lovewell reservoir Net evaporation (= evaporation – direct precipitation) is calculated in sheet Net\_Evap, file Lovewell.xls.

[A question for EC: why is precipitation subtracted? Since direct precipitation on the reservoir is included in the forebay elevation measurement, is precipitation counted twice?]

The fraction of net evaporation charged to RR is given by the RR inflow fraction,  $RR / (RR + WRC)$ .

RR diversions to the Bostwick district below Lovewell are given by the minimum of (a) RR inflow to Lovewell minus RR evaporation charge, and (b) Lovewell discharge to the lower district. This is based on the assumption that all spills to WRC are from WRC water, consistent with original calculations for 1995-2002 (file Lovewell1995-02.xls).

The above data and calculations are in sheet RR\_CBCU, columns a through k of Excel file Lovewell1995-2017.xlsx; values for the previous versions are in columns P:W. The following descriptions for columns a through k are repeated in sheet Doc of the Excel file.

- a) Calendar year
- b) Lovewell Net evaporation (NetEvap), [EC]: calculated in sheet Net\_Evap of file Lovewell.xlsx, given by Lovewell evaporation – direct precipitation as prescribed by RRCA EC for federal reservoirs.
- c) RR Inflow from Courtland Canal [BOR: sheet ‘C-LOV’, file BOST-MISC3MWD.xlsx; entered in KS accounting input sheet, line 269 but not used in compliance accounting as noted above]
- d) WRC Inflow [USGS]: mean annual flow at Burr Oak USGS gage 06853800 and converted to acre-feet.
- e) Lovewell discharge to lower KS Bostwick District [BOR: from sheet ‘C-BELOW’, file KS-BOST3MWD.xlsx (Courtland Canal, Mile 38.0).
- f) Lovewell outflow, af [BOR: file Lov-outfl.xlsx; copy: sheet LVKS\_Out\_AF Lovewell1995-2017.xlsx]
- g)  $fRR = RR / (RR + c * WRC)$  [RR: col. C, WRC: col. D,  $c = A2/A1 = 1.52$ , ratio of basin drainage areas for USGS White Rock C gages at Lovewell and Burr Oak]
- h) RR Evap charge,  $EvapRR = fRR * NetEvap$  (cols. G and B); **compliance accounting input line 228.**
- i) Diversion to Lower District =  $\text{Min}(RR - EvapRR, \text{Outflow to lower district})$  [cols. C, H, E]; **compliance accounting input line 270.**
- j) WRC diversion to Lower District = [col. E] – [col. I]
- k) WRC spill: Lovewell total discharge – Lovewell discharge to Lower District = [col. F] – [col. E].

#### Comparison of results with previous calculation of RR evap charge and diversion to lower district

Fig. 1 plots annual calculation of the RR evaporation charge with previously calculated results for 1995-2017 that include an annual calculation for 1995-2002 and monthly accounting of stored RR and WRC water for 2003-2017. The comparison shows that the proposed annual calculation of the RR evaporation charge closely approximates the previous calculation with annual time steps for 1995-2002, but differs significantly from monthly calculations based on RR and WRC storage accounts in files Lovewell\_Ops\_YYYY.xls for years YYYY = 2003 to 2017. RR evap charge averaged over 2000-2016 is 1575 ac-ft as revised, compared with 908 ac-ft for original calculations.

Fig. 2 plots annual calculation of RR diversion to the Lower District (column I of RR\_CBCU), and compares these with previously calculated values from Lovewell\_Ops\_YYYY.xls. Discrepancies for 1995-2002 are significant and likely due to the change in data sources for WRC inflow and Lovewell total outflow. Discrepancies in most subsequent years are small, and average RR diversions over 2000-2016 are nearly the same: 26.4 KAF for revised calculations and 26.6 KAF for original calculations.

Fig. 3 superimposes annual plots of RR and WRC inflows to Lovewell, RR evaporation charge, Lovewell discharge to the Lower District and RR diversion to the Lower District.

The following table summarizes inflow to Lovewell from Courtland Canal (RR) and White Rock Creek (WRC); evaporation charged to RR (EvapRR); and diversions to the Lower District below Lovewell from RR and WRC, averaged over years 2000-2016.

Average inflows from RR and WRC to Lovewell, RR CBCU charge for net evaporation and diversions to lower district from RR and WRC; averages over years 2000-2016. [range a55:f58 of sheet RR\_CBCU]

units	Inflow to Lovewell		EvapRR	Diversions to Courtland below Lovewell	
	RR	WRC		RR	WRC
vol. afy	28,499	13,311	1,587	26,360	10,960
ratios	68.16%	31.84%		70.63%	29.37%

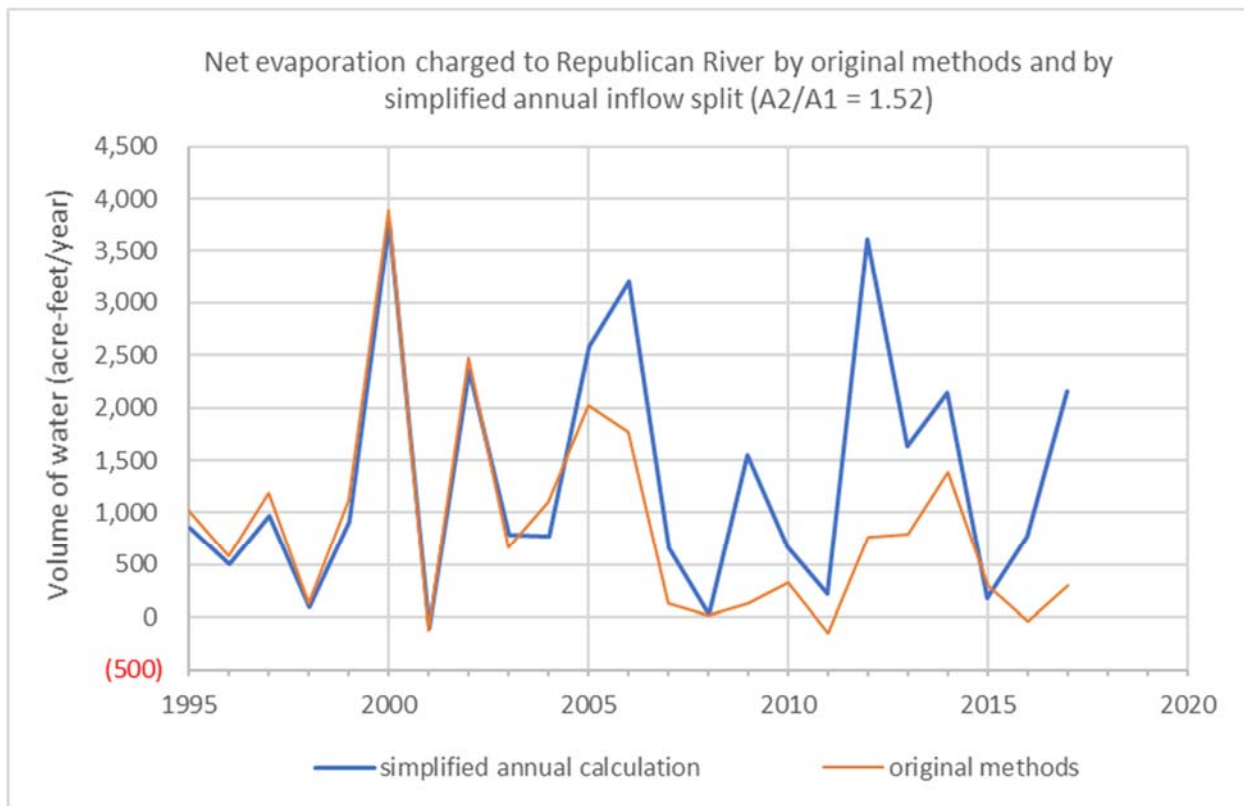


Fig. 1. Lovewell net evaporation charged to Republican River 1995-2017. Comparison of simplified annual calculation based on RR fraction of inflow vs. previous method of tracking RR and WRC storage accounts. [sheet RR\_CBCU at P42 in Lovewell1995-2017.xlsx]

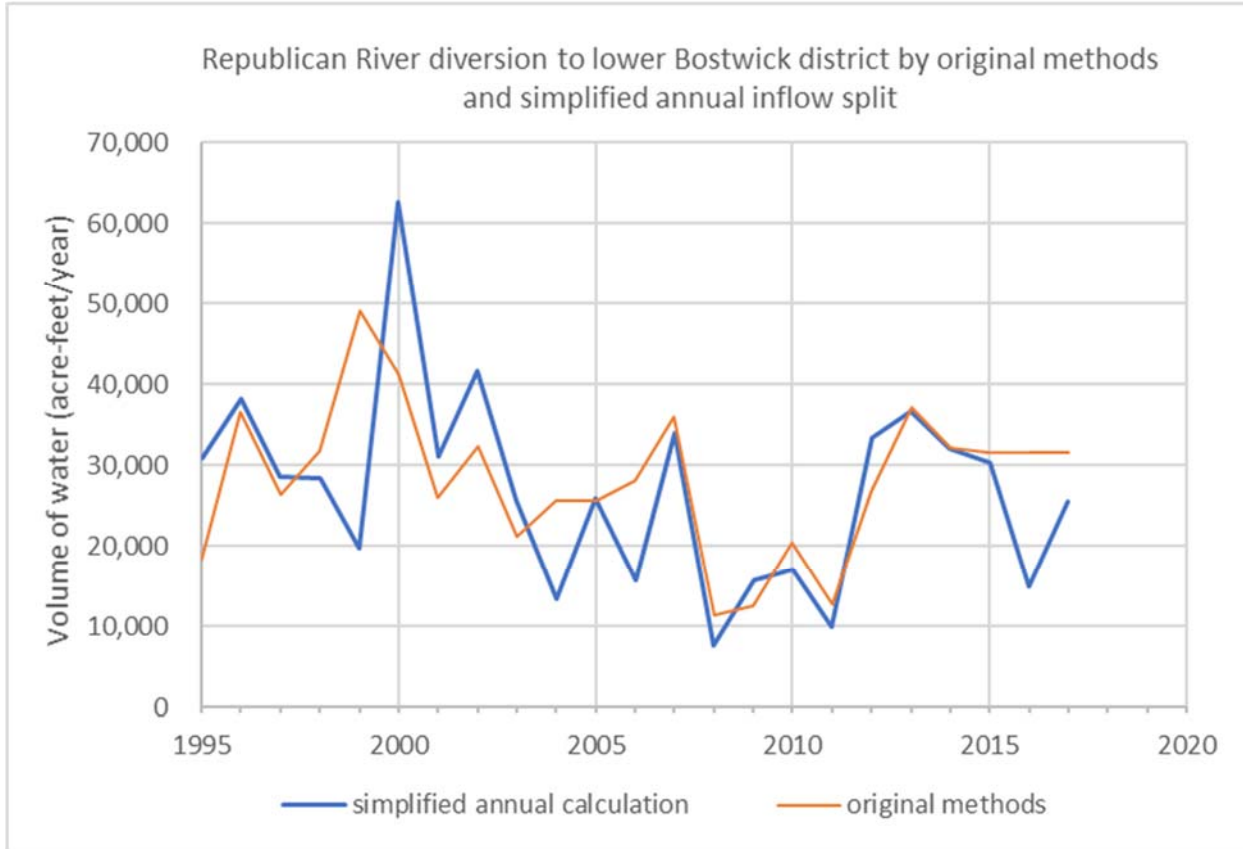


Fig. 2. Republican River diversion to lower Bostwick district 1995-2017. Comparison of simplified annual calculation based on RR fraction of inflow vs. previous method of tracking RR and WRC storage accounts. [sheet RR\_CBCU at P68 in Lovewell1995-2017.xlsx]

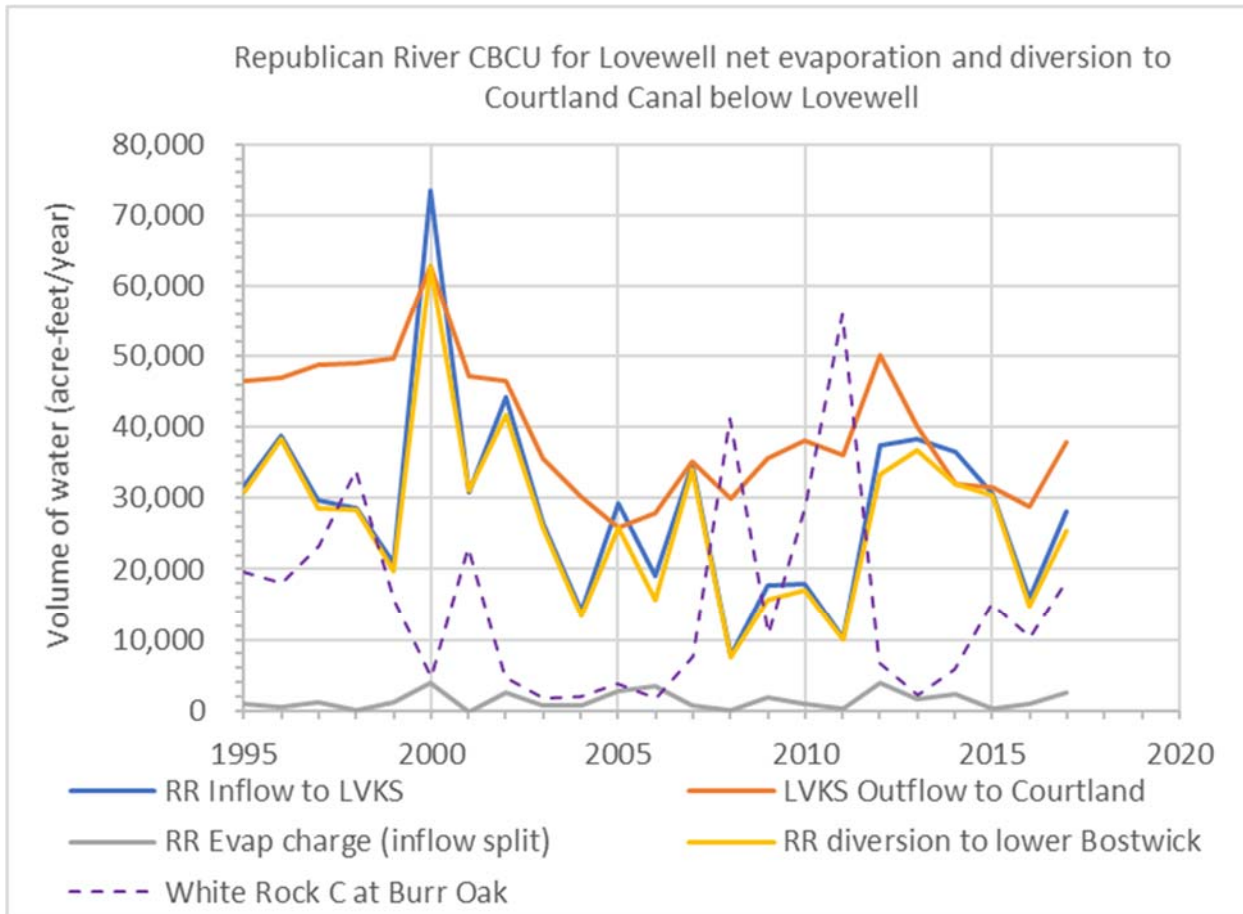


Fig. 3. RR diversion to Courtland bl Lovewell (yellow), RR evap charge (gray), RR inflow (blue), WRC inflow (dashed) and Lovewell discharge to Lower District (orange). [sheet RR\_CBCU at I42 in Lovewell1995-2017.xlsx]

Notes on the status of Table 4A

At the August 24, 2016 RRCA annual meeting in Burlington, Colorado, the RRCA adopted a resolution concerning the Colorado Compliance Pipeline and Colorado's compliance efforts in the South Fork Republican river basin "CCP/SF Resolution". Attachment 10. Section E of the CCP/SF Resolution explicitly preserves each state's legal positions concerning the use of Unallocated Supply of the South Fork.

As part of a negotiated agreement to approve the 2007-2015 Accountings and to normalize the Administration's approval of the 2016 Accounting and subsequent years' accountings, citing Section E of the CCP/SF Resolution, Table 4A "Colorado Compliance with the Sub-basin Non-impairment Requirement" is left blank and effectively removed, both as a test of compliance and as a required accounting metric, from the accountings beginning with 2007 and for so long as the CCP/SF Resolution remains in effect.

Explanatory language is included on pages 2 and 24 of the RRCA Engineering Committee Report, which includes the 2007-2015 accountings presented to, and subsequently approved by the Administration at the May 25, 2017 Special Meeting; and above Table 4A in the approved 2016 Accounting.



The 2019 annual report of the Republican River Compact Administration is hereby approved by unanimous vote on this 21<sup>st</sup> day of August, 2020.

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

  
Jesse Bradley (Aug 21, 2020) 14:09 CDT DATE SIGNED: Aug 21, 2020

Jesse Bradley, P.G.  
Nebraska Commissioner  
Chairman, RRCA

  
DATE SIGNED: Aug 21, 2020

Christopher Beightel, P.E.  
Kansas Commissioner

  
DATE SIGNED: Aug 23, 2020

Kevin Rein, P.E.  
Colorado Commissioner












# RRCA Annual Report

Final Audit Report

2020-08-23

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