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Comments on First Draft
Quivira Initial Impairment Investigation Report May 18, 2016

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Comment A

4/5/2016

To: David Barfield, P.E., and Chief Engineer

Kanas Division of Water Resources

From: Water PACK Board, and Members

Re: Quivira Impairment Comments

Mr. Barfield

As you are aware the board of Water PACK represents the majority of agricultural water users in Barton, Pratt, Pawnee, Stafford, Kiowa, and Edwards Counties. The outcome of this impairment process could have a catastrophic effect on the people and economies of these counties if not handled properly. We appreciate the opportunity to submit our comments on the initial draft of the impairment findings. We also look forward to continuing to work with your office, USFW, and GMD 5 to reach the best solution possible for all affected parties.

The official comments of the Water PACK organization are as follows:

1. Irrigators in the Rattlesnake Basin must continue to use water as conservatively as possible to protect the resource. They should also continue to look for new techniques in application, scheduling, and crop rotation to make the most efficient use of water possible.
2. Quivira should review their current methods of storing, moving, metering, and managing their water to see if there are any efficiencies that can be gained within their system.
3. Water Pack feels that augmentation holds the greatest promise to resolve the impairment. All other solutions will only result in incremental gains that will take years to positively impact streamflow. Augmentation needs to be modeled to determine the most effective plan possible.
4. At this time Water PACK feels that the refuge does not have adequate metering in place to account for water entering, exiting, and being diverted on the refuge. This needs to be resolved to obtain the best data possible for modeling before solutions can be explored. Accurate data is critical to this process. As a water right holder in GMD 5 the refuge should be held to the same metering and reporting standards as the rest of the water users in the district.
5. Water PACK does not agree that the upper Rattlesnake basin is a decline area. Over all the area from Macksville to the refuge is very stable in regards to groundwater levels. Many of the wells in the area are still at predevelopment levels.
6. Reduction in allocations from current levels would have a devastating economic effect on the people, and the communities in the Rattlesnake corridor. Reductions in allocation should not be a consideration.
7. The DWR model runs should be reviewed by Balleau to verify their accuracy. This will insure that we are working with the best data possible to reach a solution.
8. Water PACK supports the clearing of trees and brush from the creek. Clearing the stream bed from the refuge to the western border of Stafford County would reduce the riparian impact on stream flow benefiting the refuge.

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9. In total there are four parties involved in this issue. US Fish and Wildlife, Kansas Division of Water Resources, the communities in and around the Rattlesnake corridor, and the agricultural water users. It is the responsibility of DWR, USFW, and the Ag water users to develop a long term sustainable solution without negatively impacting the economies, and quality of life in the fragile communities along the Rattlesnake corridor.

Thank you for taking the time to review this. Again Water PACK is very appreciative that you are giving such weight to our input.

Respectfully,



Pat Janssen

Water PACK Board Secretary

Water PACK Board of Directors

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Comment B



Stafford County Farm Bureau Association

306 N. Main, Box 308, St. John, Kansas 67576 / (620) 549-3292

May 3, 2016

David W. Barfield, P.E.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, Ks. 66502

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Dear Mr. Barfield,

The Stafford County Farm Bureau is submitting written comments on the chief engineer's impairment findings on Quivira Wildlife Refuge. We understand the complexity of this issue, but we as a board disagree with your findings. We do not believe that the refuge has been impacted to the severity that you stated in your findings. We do not see severe cutbacks in groundwater usage as a solution; augmentation has to be seriously considered as a significant part of the solution.

Looking across Stafford County since the 1950's, noticeable changes have occurred. The moldboard plow and treeless plains used to be the norm. Today, we have abundant trees, strip tillage, no till, irrigation and thousands of acres of CRP ground. Conservation efforts have led to less soil erosion and less runoff from precipitation events. Streamflow has been affected by all these factors and the only way to return to the old days is to eliminate all the progress that has occurred since the 1950's. This is not a plausible solution; so therefore, we must be innovative and look to the future with great vision.

Stafford County has always been at the forefront when it comes to being willing to step forward and innovate and lead into the future. We are proud of the job past members and current members of our GMD#5 board have done. They were the first to cut back water appropriations during development, and then close the district to further appropriations in 1993. This was a great vision that began long before anyone else in the state of Kansas acted. Waterpack was formed in the 90's to lead efforts on the state and national level as a proactive organization and to lead for incentive based solutions rather than regulatory solutions. Stafford County KSU extension service is very active in promoting technologies to help agricultural producers conserve and be efficient users of our natural resources. Stafford County Farm Bureau board members continually promote agriculture in our county, the state of Kansas and on the national level. We promote agriculture in the classroom at our schools and have

supported Stafford County school children to visit Quivira Wildlife Refuge. We lobby legislators at both the state and national level. In the past, we have lobbied on behalf of Quivira Wildlife Refuge.

The first comment we would like to make is on the perfection year 1987. This is the year that set the record for Max daily discharge at the Zenith gauge. It was the eighth wettest year out of 100 years of data. Although we understand the concept of the perfection period and it being based on the year of maximum diversions, we wonder if this is a reflection on stream base flow perfecting water right #7571 or runoff from storms perfecting this water right.

Our next concern is the Services Operational Guide. It is our understanding that this operational guide was just developed by the service at the request of the chief engineer.

1. How does this compare to the original management plan that on page 872 of the Quivira document states, "To fully utilize the water available in Rattlesnake creek it is estimated that active storage capacity for 6000 acre feet or more must be provided"?
2. How does it compare to the plan developed by the refuge in 1993? It was to be done with the conservation officer in the Topeka office of DWR. Page 617 of the Quivira document.
3. Does the operational service plan reflect the wording in the transmittal letter to Cheryl Willis prepared 1/17/93 where it is stated "Please be aware the diversion rate and quantity of water defined in the Certificate of Appropriation are for maximum conditions. The available water in most years will not facilitate utilization of water to that extent. Management plans for the refuge area should be based on probable flows in Rattlesnake creek". Page 408 of the Quivira document.
4. Does the operational service plan resemble the conservation plan in 1995 in the certification memo on page 61 of the chief engineer's impairment finding?
5. April 10, 2000 wording in the Quivira Management plan states. "The water management currently done at the refuge consists of storing as much water as is available starting in February to create habitat for migrating waterfowl and shorebirds. Water is diverted into management units and the units are held as full as possible to offset the possibility that water will not be available to refill the units later in the summer and fall". Page 285 of the Quivira document.
6. Does the operational plan still maintain that "The Big Salt Marsh is also highly attractive to shorebirds, and in a normal year almost all water that is found in the Big Salt Marsh is a result of groundwater upwelling and local runoff."? Page 285 of the Quivira document.
7. Also stated in this same Quivira Management Plan. "From May until September, most units are managed so that they dry out gradually. It is impractical to attempt to maintain all the units during the hot summer months, except when precipitation is unusually high". Page 285 of the Quivira document.
8. Has the Wetland Restoration project, specifically the re-contouring process, increased the demands for water at different times of the year?

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We are concerned that the Service operational plan is a change in management on the Quivira National Refuge. It appears that now we have seasonal Rattlesnake Creek surface water need estimates that have never existed until the last couple of years. We have gone from planning, managing and storing for the benefit of the refuge to, "We want our water when we want it." This raises these questions: has the water that is now being diverted been kept on the refuge and put to beneficial use and has consumptive use on the refuge increased under this new operational service plan? We would like to see the water that leaves the refuge monitored by meters at the point it exits the refuge. Without meters, there is no way to measure the following:

- 1.) "provided you do so within the constraints of the permit to proceed, it is also my duty to ensure that the consumptive use of water at the Refuge does not increase." Quoted text found on page 3 of David Pope's letter to Ralph Morgenweck dated May 27, 1994.
- 2.) "once this water has been diverted, provided it is retained on the authorized place of use (the Refuge) and not used in a wasteful manner, the water may be used in the manner required for the proper management of the Refuge." Quoted text found on page 2 of David Pope's letter to Ralph Morgenweck dated May 27, 1994.

At a minimum, we believe that the monitoring gauge at Raymond should be put back in service as a monitoring device of water leaving the refuge.

The next area we would like to comment on are the diversions that have been reported since 1967.

- A. In the following years, these diversions were reported. Nov-Dec of 1994 and with Jan-Feb of 1995 total diversions of 901.5, Nov-Dec of 2003 and with Jan-Feb of 2004 total diversions of 1086.7, Nov-Dec of 2006 and with Jan-Feb of 2007 total diversions of 1714.1, Nov-Dec of 2012 and with Jan-Feb of 2013 total diversions of 0.00 occurred respectively. These four years all take the refuge from $\frac{1}{4}$ full Nov. 1st to full on March 1st. Does this imply that the 75% of the refuge water needs can be met with less than 1714.1 acre feet of diversions, the highest amount of the four years needed to fill the refuge?
- B. In the year of 1999 diversions from March 1st to Nov 1st totaled 2181.10 acre feet. The year of 2002 diversions from March 1st to Nov 1st totaled 6474.90 acre feet. The refuge started both these periods at 75% full and ended at 75% full. What dynamics are at play here to need almost 300% more diversions in 2002 than was necessary in 1999?

In reviewing the certificate issued to Quivira Wildlife refuge we would like to comment on this section.

"The right of the appropriator shall relate to a specific quantity of water and such right must allow for a reasonable raising or lowering of the static water level and for reasonable increase and decrease of the stream flow at the appropriator's point of diversion."

It is our belief that Stafford County, as evidenced by the water level measurements of GMD#5 over time and the Great Bend Prairie Regional Planning Area Usable Lifetime of the High Plains Aquifer

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map, is very close to equilibrium with regards to irrigation withdrawals and recharge rates in the county. Referring to this map, approximately 85% of Stafford county has over 250 years before saturated thickness reaches minimum thresholds. Analysis of annual water level measurements leads us to believe that a reasonable raising or lowering of the static water level is occurring in our county. There are irrigation wells that were established in the 60's that in 2010 were equal or exceeded the static water level of the day they were drilled.

How do we define what is a reasonable increase and decrease of the stream flow at the appropriators point of diversion? The components of this are many fold. We realize the effect the cone of depression from irrigation well has on the stream, but we also know that the year of perfection for this water right, the majority of irrigation wells affecting the stream were already present. Was this water right not perfected with irrigation already established? The other components are numerous. Changes in farming practices contribute to less runoff making it to the streambed. Millions of dollars have been invested by farmers in our county on technological advances to maximize efficiencies to conserve a precious natural resource. CRP acres are here by thousands of acres, therefore, runoff no longer occurs from these lands. Trees line streambeds that use to be barren. A mature cottonwood exceeds a thousand gallons of water use per day. We have hundreds of cottonwoods, cedars and other trees per mile now in our county. Amy Bickel at the Hutchinson News reported in Purging the Prairie, "Some people have seen it within a week – water flowing again in streams," referencing the killing of the red cedars in the massive wildfire in southern Kansas this spring and the effect on stream flow. Conservation efforts have been promoted, encouraged and paid for with programs directed by the Natural Conservation Resource Service that all are aimed at reducing runoff and keeping every inch of water that falls on the land where it falls. Looking in the near future, how will the new WOTUS program affect land next to the stream? It's a guess, but we feel it will decrease stream flow further.

Our next area of concern is the table that starts on page 69 of the chief engineer's impairment findings. We understand the table and how the amount short of needs is calculated. We provide these thoughts.

1A. Does the Seasonal Rattlesnake Creek surface water need estimates from Quivira NWR that is used to figure the amount short of needs column accurately reflect past management practices?

2A. Since it appears that no allowance has been made for evaporation and storage in the 14,587 acre feet that is permitted, should the beginning number for the diversions not be 10,129.7 acre feet? If not, then we suggest that an additional column for evaporation and storage needs to be added into the table. This number then needs to be added into the refuge reported diversions column so that an accurate number representing the amount short of needs can be calculated. We raise this question based on the fact that 10,129.7 acre feet were actually diverted; the balance to 14,587 acre feet in Quivira Refuge certificate was credit for evaporation and storage. To ask simply, if diversions of 14,587 acre feet are allowed at the Refuge diversion points, then if evaporation and storage are calculated, would not this be an over appropriation of the Refuge certified water right?

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3A. In 1995, 2004 and 2005 there appear to be times when the refuge was full, however the amount short of needs column showed a shortage occurred.

4A. Why is the full appropriated water right being used to calculate the amount of need when the Refuge has been notified numerous times not to expect their full allotment every year as it is a maximum quantity perfected, not a guaranteed quantity every year?

Before we summarize our concerns we want to make it known we support the language that David Pope wrote on page four of the letter dated May 27, 1994 to Mr. Ralph Morgenweck.

“Even under pristine conditions, most of the streams in Central and Western Kansas are not continuously dependable sources of supply. Particularly in the case of very large water rights, such as the Quivira Refuge right, the water holder should not expect to be able to fully exercise the right each and every year. I should also point out that a certificate states the maximum quantity of water that may be diverted in any year. Because certificates are based on the maximum year of record, no water right holder should expect to need or have available the maximum authorized quantity every year.”

The Stafford County Farm Bureau board appreciates the hard work put in on this impairment issue by you and your staff. We have raised several important issues in our minds that need addressed and look forward to your response. We do not believe the refuge is impaired to the extent that you have suggested in your preliminary findings. We have tried to detail why in this letter we feel that way. Severe cutbacks only destroy our local economy, county valuations, schools, businesses and forces individuals to look elsewhere for jobs as they become unemployed. Furthermore, severe cutbacks will not guarantee the Refuge water when they want it. The only realistic solution to this problem is augmentation, if impairment exists. We are more than willing to step forward and help in any way we can when it comes to design, planning and implementation of an augmentation plan. We support augmentation for the Quivira Wildlife Refuge, but in no way can we support severe cutbacks in ground water pumping when it destroys our county while not satisfying the Refuge water right. We also believe further reductions in ground water pumping can be achieved through incentive based programs that reward conservation of water. Several of these programs have just been finalized, and now are being promoted. We also would like to suggest that the possibility that the waste water treatment facility for St. John, Kansas that currently sets on the banks of the Rattlesnake Creek could be converted to return water to the stream.

Our vision for Stafford County as a Farm Bureau board is to sustain and conserve our natural resources for the benefit of the many generations to come after us. We are proponents of agriculture, communities, and conservation. We believe in our people of Stafford County and together we are willing to move forward with a sensible innovative solution to this issue. It is in all of our best interests to resolve this among Stafford County residents and the Quivira Refuge for the good of the county and the many generations to come in the future. We would again like to express our thanks for allowing us to respond to the impairment investigation findings.

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Respectfully,



Justin K. Vosburgh	Stafford County Farm Bureau President
Shon Meschberger	Stafford County Farm Bureau Vice-President
Marlyn Spare	Stafford County Farm Bureau Secretary-Treasurer
Tyler Alpers	Stafford County Farm Bureau board member
Brian Dunn	Stafford County Farm Bureau board member
Cammie Vaupel	Stafford County Farm Bureau board member
Keith McNickle	Stafford County Farm Bureau board member

cc: Jackie McClasky Secretary of Kansas Department of Agriculture
Richard Felts Kansas Farm Bureau President
Keith Miller Kansas Farm Bureau
Kent Askern Kansas Farm Bureau
Matt McCabe Kansas Farm Bureau
Senator Pat Roberts
Senator Jerry Moran
Representative Mike Pompeo
Kansas Senator Mitch Holmes
Kansas Representative Greg Lewis
GMD#5
Waterpack
Stafford County Extension

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Comment C



To: David Barfield, Chief Engineer, Division of Water Resources

From: Greg Krissek, CEO, Kansas Corn Growers Association

Date: May 13, 2016

Re: **Quivira National Wildlife Refuge Impairment Complaint**

Thank you for the opportunity to provide written comments regarding the Quivira National Wildlife Refuge (the Refuge) impairment complaint. My name is Greg Krissek. I am providing these comments in my role as CEO of the Kansas Corn Growers Association (KCGA.) KCGA represents Kansas corn producers on a variety of issues that concern our members.

Kansas corn producers have a vested interest in the conversation about water quantity and quality in our state. Water quantity is a key issue for our growers as is protecting our water quality through improved farming practices, using best management practices for pesticides and fertilizers, employing conservation measures like reduced and no-till farming, and installing riparian buffers. By controlling sedimentation and pesticide runoff, we are also controlling our future access to crop protection tools and ultimately the use of our land to produce needed crops.

Farmers are always looking to the future, especially when we talk about water quantity. Irrigation has been key to growers in specific areas of the state, including the Rattlesnake Creek basin. This resource plays a key role in the economic well-being of Kansas. Examples of productive agriculture such as corn farming, cattle feeding, hog facilities, dairies, beef processing, grain handling, ethanol production, equipment and implement dealers, ag retailers, and transportation companies to move corn, cattle, pigs, meat, milk, ethanol, distiller's grains and a host of other products, have all contributed to build a thriving agribusiness complex in Kansas.

Most irrigators are already taking measures to conserve water as a practical business decision driven by economics. Corn farmers have made great strides in water conservation through improved farming practices, improved irrigation mechanics and technology, and continuing advances in the corn seed itself through breeding and biotechnology. As we continue down this path, we must remember that technological advances in corn and corn farming will continue to occur and improve the efficient use of water for this needed crop.

Impairment Report Issues

The Initial Report of the Chief Engineer Concerning a Claim of Water Right Impairment In the Matter of Water Right File No. 7,571 (Initial Report) contains many errors. The errors are so numerous as to make the findings of the report appear to be in error.

First, the entire impairment claim is based on a water schedule that the Refuge claims they need. The Refuge provides no proof showing that the water is needed at the specific times they have listed in their schedule. Furthermore, the water use that they have reported does not mirror the schedule at any point in the past 30 years. In fact, during most of the periods that show impairment in the analysis in Attachment 6 of the Initial Report, it appears the Refuge did not even utilize all of the water that was available. Using the Refuge's schedule, there was impairment in the year that the water right was certified. It would seem logically impossible to have impairment on the certification year. Furthermore, the use of the water during the certification year was not in line with the claimed needs of the refuge. Therefore, the Refuge's claim of impairment would not be valid since they were not utilizing the water that is available to them. Additionally, basing an impairment analysis on the "claimed" needs and timing of the complaining party without requiring any verification of those needs and timing is not the proper way to make a decision on impairment.

There also appear to be numerous potential problems with the perfection and certification of Water Right 7,571. In reviewing the water right file, it appears that the perfection and certification of the right should have occurred by December 26, 1982. The file for the Water Right 7,571 indicates that DWR had received a "Notice and Proof of Completion of Works for Diversion Works" on December 26, 1978. K.A.R. 5-8-6(a) makes it clear that a water right should be perfected within four years of the completion of the diversion works. Therefore, the water right should have been perfected and certified between 1979 and 1982. If the water right file is missing an extension of that time period, then many other issues may arise regarding what portions of the water right file are missing.

Finally, the permit for Water Right 7,571 states that the water right "must allow for the reasonable raising or lowering of the static water level and for the reasonable increase or decrease of stream flow at the appropriator's point of diversion." The Initial Report does not attempt to analyze whether the alleged impairment is caused by either a reasonable lowering of the static water level or a reasonable decrease of stream flow. Specifically, there is no analysis in the Initial Report regarding the Refuge's proposed water schedule and the reasonableness of that schedule with their historic use and the historic stream flow of the Rattlesnake Creek.

For the aforementioned reasons, the initial report is wholly lacking in finding impairment. The analysis of the impairment complaint should include a look at the reasonableness of the alleged water shortages as compared to the alleged needs of the Refuge. Additionally, a legal analysis should be completed to determine if 1987 was truly the proper year to certify and perfect the water right.

Augmentation

While there is still a valid question regarding whether an actual impairment exists in this situation, it is important to note that should impairment be found, augmentation should be utilized as the best method to satisfy the needs of the water right. Kansas Corn Growers Association and numerous other groups worked to ensure that augmentation can be a potential solution to impairment claims in the Rattlesnake Creek Basin. Therefore, we strongly encourage DWR to look at augmentation should an impairment be found in the future.

Comment D

5/13/2016

TO

DAVID BARFIELD
1320 RESEARCH PARK DRIVE
MANHATTAN KS, 66502

FROM

STAN E CHRISTIANSEN
640 NE 190th
HUDSON KS 67545

TOPIC

QUIVIRA NWR / RATTLESNAKE
CREEK IMPAIRMENT

5/13/2010

Mr David Bayfield;

I live at 680 NE 190th & Hudson
Kansas 67545. The location is
seven miles as a crow flies from
the main lake. I have averaged
crossing the mud flats once a
day for the last 40 years.
I have ground in Kib and Reno
counties that borders the Refuge

had was born in 1906 and
hunted ducks and geese starting
in 1919 or 1920. He passed away
at 93. The first year there was
a limit on ducks, the limit
was 40 ducks a day.

The reason I bring this up
is the first year he saw the main
lake dry was 1980. That year
there was no reason for it to
be dry. The Refuge had the
water flowing out of cattle ponds
when they could or should have
put the water in the big marsh.

(2)

The Refuge had built nest Tern
nests on the north mud flats.

Cattle were about to destroy
the nests when I called the Refuge.

I also helped with the cattle and
after talking with the Refuge manager

I asked whether we were pumping
water out the Pottersnake creek
instead of into the main lake
to keep it from going dry.

The next day the flow in the
creek stopped.

It was too late to keep the
lake from drying up. The
Refuge had the water, but
just left it flow out.

I am 13 years old. I
have seen wasteful water
practices every year. They
get the water every year.

There is I believe never
a reason ^{not} to hold as much water
as they can, except in a flood.

(3)

They can move the water through the impoundments and hold and hold the water for further use instead of letting it flow out of the Refuges.

They have spent all the money to build impoundments. Let's use them for efficient water management.

In the 1980's when it started raining and they didn't have the boards in the dikes to hold the water, I put the boards in the dikes to hold the water. I also called them and told them I was doing it. They told me that if they caught me, they would arrest me.

That's when I told them to get out and put them in themselves. They didn't seem interested so I kept putting them in.

(4)

Mr. Bayfield, there are many more instances of waste water management, I have not mentioned. I would be glad to visit with you if you want.

Sincerely

Stan E. Christiansen

STAN E CHRISTIANSEN
640 NE 190th
HUDSON, KS 67545

620-493-6878 LODGE
314-651-7911 CALL
STAN C 942@GMAIL.COM

Comment E



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To: David Barfield, Chief Engineer, Division of Water Resources
From: John Donley, Legal Counsel, Innovative Livestock Services, Inc.
Date: May 13, 2016
Re: **Comments on the Initial Report of the Chief Engineer Concerning a Claim of Water Right Impairment in the Matter of Waater Right File No. 7,571 Owned and operated by U.S. Fish and Wildlif Service**

Thank you for the opportunity to provide written comments regarding the U.S. Fish & Wildlife Service (the “Service”) impairment complaint. My name is John Donley. I am providing these comments in my role as Legal Counsel for Innovative Livestock Services, Inc. (“ILS”). ILS owns and operated numerous water rights in the Rattlesnake Creek Basin that is subject to this impairment investigation. ILS incorporates the comments of the Board of Directors for Big Bend Groundwater Management District #5 into these comments.

In reviewing the Initial Report of the Chief Engineer Concerning a Claim of Water Right Impairment in the Matter of Water Right File No. 7,571 (the “Initial Report”), many problems were found with the water right itself as well as the analysis used to determine impairment. Many of these issues will be addressed in these comments. The short time frame for comments made it difficult to conduct a complete analysis of the file and to study the model runs used in the initial report. The Division of Water Resources (“DWR”) took 20 months to complete the impairment investigation and publish the Initial Report. For all interested parties to be expected to analyze the same issue and prepare comments in less than six months is grossly inadequate. Furthermore, Water Right File No. 7,571 was only available to review for less than four months. For these reasons, ILS affirmatively asserts that other issues may be raised in the future should litigation or further comments need to occur in order to reach a legal conclusion to this matter.

Issues discovered in reviewing Water Right File No. 7,571 and the Intitial Report

Upon review of the file, there are numerous problems regarding the perfection and certification of Water Right 7,571. It appears that the perfection and certification of the right should have occurred by December 26, 1982. The file indicates that DWR received a “Notice and Proof of Completion of Works for Diversion Works” on December 26, 1978. K.A.R. 5-8-6(a) states that a water right should be perfected within four years of the completion of the diversion works. Under this rule, the water right perfection period ended December 26, 1982. If the water right file is missing an extension of that time period, it raises the question as to what other documents are missing from the file.

The permit for Water Right 7,571 states that the water right “must allow for the reasonable raising or lowering of the static water level and for the reasonable increase or decrease of stream flow at the appropriator’s point of diversion.” The Initial Report does not attempt to analyze whether the alleged impairment is caused by either a reasonable lowering of the static water level or a reasonable decrease of stream flow. Specifically, there is no analysis in the Initial Report regarding the Service’s proposed water schedule and the reasonableness of that schedule with their historic use and the historic stream flow of the Rattlesnake Creek.

The Service received notification from DWR multiple times regarding the fact that the full amount of the water right may not be reasonably available at all times. Specifically, DWR sent a letter to the service on August 19, 1993 stating that “it is quite probable that the natural flows of water to the full extent of the water right will not be available in *most* years.” (emphasis added) In correspondence dated May 27, 1994, DWR again notified the Service that “no water right holder should expect to need or have available the maximum authorized quantity every year.” Why didn’t DWR utilize a reasonableness standard when drafting the initial report?

There is also a question regarding the inclusion of the evaporated amount as the amount diverted in 1987. The file never gives legal justification for including this amount. The water that was evaporated in 1987 was actually diverted in previous years. Therefore, the authorized quantity for File No. 7,571 should have been the actual amount diverted in 1987 (assuming DWR had extended the perfection period to include 1987), which was 10,129.7 acre feet. If the evaporated amount is to be included, why hasn’t the service reported the evaporated amounts in their annual water use reports?

Another problem that exists in the Initial Report, is the fact that the entire impairment claim is based on a water schedule that was recently submitted by the Service. None of the Annual Water Management Plans contained in the file for the water right reference the water schedule submitted to DWR in the past. Those plans never reference anything close to the alleged needs submitted by the service in May 2015 (see Attachment 5 of the Initial Report). Why did DWR simply accept Scenario 3 found in Attachment 5 of the Initial Report? It seems that the application of Scenario 1 from the Attachment 5 or a similar historic use of the water would be more accurate than a subjective assessment that maximizes the Service’s claim of impairment.

Furthermore, the water use that the Service has reported does not coincide with the schedule used in the Initial Report at any point in the past 30 years. In fact, during most of the periods that show impairment in the analysis in Attachment 6 of the Initial Report, it appears the Refuge did not even utilize all of the water that was available. Using the Refuge’s schedule, there was impairment in 1987; the year that the water right was certified. It would seem logically impossible to have impairment on the certification year. Furthermore, the use of the water during the certification year was not in line with the claimed needs of the refuge.

There are multiple months where there is water available to meet the alleged needs of the service, and they do not even divert their alleged needs. Therefore, the Refuge’s claim of impairment would not be valid since they were not utilizing the water that was available to them. Additionally, basing an impairment analysis on the “claimed” needs and timing of the complaining party without requiring any verification of those needs and timing is not the proper

way to make a decision on impairment. This portion of the analysis alone should require that DWR reevaluate this impairment claim.

For these and many other reasons, the initial report does not provide the legal or factual foundation to find impairment. A more thorough and accurate analysis of the impairment complaint should include a look at the reasonableness of the alleged water shortages as compared to the alleged needs of the Service. Furthermore, the alleged needs of the Service should be scrutinized. Finally, a legal analysis should be completed to determine if 1987 was truly the proper year to certify and perfect the water right.

Potential for Augmentation

While there is still a valid question regarding whether an actual impairment exists in this situation, it is important to note that should impairment be found, augmentation should be utilized as the best method to satisfy the needs of the water right. All potential options for augmentation should be analyzed to satisfy a call for water should impairment be found.

Conclusion

As stated earlier, the initial report does not provide the legal or factual foundation to find impairment. A more thorough and accurate analysis of the impairment complaint should include a look at the reasonableness of the alleged water shortages as compared to the alleged needs of the Service. The alleged needs of the Service should be scrutinized. A legal analysis should be completed to determine if 1987 was truly the proper year to certify and perfect the water right. Additionally, all questions raised in these and other comments should be answered before moving forward with a final report. Furthermore, should impairment be found, would any call for water be a futile call. Shutting down groundwater wells would not provide the relief necessary if the Service's right is being impaired as they allege. Therefore, it appears that augmentation would be the best alternative should impairment be found.

Comment F



The Wildlife Society
The Kansas Chapter

Promoting Excellence in Wildlife Stewardship through Science and Education

13 May 2016

David W. Barfield. PE.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Par Drive
Manhattan, KS 66502

Dear Mr. Barfield:

This letter constitutes comment by The Kansas Chapter of The Wildlife Society (KSTWS)—a professional society of wildlife biologists, land managers, researchers, and educators in the state of Kansas—on the “Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service.” Our chapter strongly encourages the Kansas Department of Agriculture’s Division of Water Resources (DWR) to adhere to all relevant regulations and water rights in fully restoring water flow in Rattlesnake Creek to provide sufficient flows to Quivira National Wildlife Refuge (QNWR), a site managed by the U.S. Fish and Wildlife Service (FWS). The FWS has senior water right priority to approximately 95% of the water rights in the Rattlesnake Creek Basin. Our chapter is troubled by your report concerning the claim that water supply for QNWR “has been regularly and substantially impacted by junior groundwater pumping.”

Our concern is regarding the ability of the FWS to manage wetlands at QNWR that are vital to wetland-dependent wildlife in Kansas and continentally. Quivira National Wildlife Refuge has been recognized as a Wetland of International Importance by the 1988 Ramsar Convention on Wetlands. It is a major stopover site for migratory waterbirds (waterfowl, shorebirds, herons and egrets, rails, etc.). It has been estimated that most – if not all – of the individuals of some species of shorebirds stop over at the QNWR-Cheyenne Bottoms Wildlife Area wetland complex on their continental migrations. The site represents an expansive wetland, the type of which has become exceedingly rare in the modern world. Impairment of water flows to QNWR could contribute to a hemispherical degradation of migratory water birds, species which constitute major components of natural heritage for the people of Kansas and the United States of America.

Again, KSTWS strongly encourages the DWR to respect the senior water rights of FWS in the Rattlesnake Creek Basin by fully restoring water flow in Rattlesnake Creek through appropriate regulatory means.

Respectfully submitted,

William E. Jensen, Ph.D.
President
The Kansas Chapter of The Wildlife Society
Topeka, Kansas
jensenwi81@yahoo.com

Comment G

Darrell Wood - Edwards (Pres.)
Fred Grunder - Pratt (V Pres.)
John Janssen - Kiowa (Treas.)
Curtis Tobias - Rice (Sec.)
Justin Gatz - Reno
Kent Lamb - Stafford
Phil Martin - Barton
Bob Standish - Pawnee
Tom Taylor - At-Large



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May 12, 2016

David Barfield, Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, Kansas 66502

Re: Initial Report of the Chief Engineer
Water Right Impairment

Dear Mr. Barfield:

Thank you for the opportunity to provide comments on the Initial Report (the "Report") of the Chief Engineer for the impairment investigation filed by your office on December 2, 2015. The Board of Directors for Big Bend Groundwater Management District #5 (the "District") appreciates the complexity of this investigation and has invested great time and consideration in preparing the following responses to the Report.

The District has, for the past 40 years, worked to fulfill the mission statement outlined in its first management program approved June 6, 1976:

Big Bend Groundwater Management District No. 5 was organized through the efforts of concerned citizens to conserve, promote, and manage groundwater resources so that quality and quantity of that resource will be maintained for present and future needs. The Groundwater Management laws (K.S.A. 82a-1020-1035) establish the right of local landowners and water users to determine their own destiny with respect to the use of groundwater within the basic law of the State of Kansas.

Throughout the District's 40-year history, it has implemented numerous strategies to protect and conserve the Great Bend Prairie aquifer. These strategies have included strict monitoring of water use with water flow meters; well spacing requirements; waste of water enforcement; well movement limitations; and a restrictive safe yield policy. In October 1991, the District implemented a flow meter requirement for "diversion works of all vested rights, appropriation rights and approved applications for permit . . ." on or before January 1, 1993. In 1998, the District was formally closed to new appropriations through a revision to K.A.R. 5-25-4.

As a result of these management objectives, the Great Bend Prairie aquifer has not seen the dramatic water table declines that have occurred in other parts of the state. The District has noted declines in the water table during years in which precipitation was limited, but these declines have proven temporary. Due to the soil types that overlay the District and the relatively shallow depth to water, the aquifer recharges and recovers quickly.

On January 15, 2016, the Kansas Department of Agriculture – Division of Water Resources ("KDA-DWR") staff provided a copy of the entire file (the "Record") for Water Right File No. 7571 to give members of the general public an opportunity to review the process the United States Fish and Wildlife

Service (the "Service") and KDA-DWR followed to register and perfect this water right. The District's review of this process has brought to light several areas of concern that are the subject of the remainder of this letter.

Irregularities in the Certification of Water Right File No. 7571

According to the Record, the Service submitted an application for permit on August 15, 1957. On May 20, 1963, the Service received the permit to appropriate water for beneficial use (the "Permit") from KDA-DWR Chief Engineer R.V. Smrha. In this Permit, the KDA-DWR outlined the Service's deadline to complete construction of diversion works. The time frame in which an applicant must construct diversion works following the approval of an application to appropriate water is set out in K.A.R. 5-8-4.

The Permit further stated a deadline of December 31, 1968, for perfection of the appropriation, or within any authorized extension of time. The Service requested and received extensions of the completion deadline on two separate occasions, pursuant to K.A.R. 5-8-5(b)-(d). According to the Record, the Service received its final extension on March 20, 1974. Pursuant to this extension, the Service had until December 31, 1978, to complete the construction of the diversion works.

The Record includes a letter from KDA-DWR staff, dated December 26, 1978, acknowledging receipt of "Notice and Proof of Completion of Works for Diversion Works" for Water Right File No. 7571. K.A.R. 5-8-6 outlines the process an applicant must follow to perfect a water right. Subsection (a) states that the time period for perfection begins following the deadline for construction of the diversion works. There is no document in the Record indicating that the Service requested or received an extension of the deadline for the completion of diversion works beyond December 31, 1978. Therefore, the perfection period for Water Right File No. 7571 should have begun no later than that date.

Curiously, the Service submitted a letter to KDA-DWR on July 15, 1982, enclosing the Notice and Proof of Completion of Works for Diversion Works for Water Right File No. 7571. KDA-DWR then sent a letter in response noting that this document was unnecessary, as KDA-DWR had acknowledged receipt of this document already in March 1974, effective May 1972. This gap in the record leaves the District to question whether the Service received an extension of its deadline to complete construction of diversion works, and if so, whether any documentation of that extension has survived.

K.A.R. 5-8-6(a) states that a reasonable time to perfect a water right shall be no fewer than four full calendar years following the deadline for construction of the diversion works. Pursuant to K.A.R. 5-8-6(b), if the permit holder's time to construct the diversion works is extended, the perfection period shall also be extended to no fewer than four full calendar years beyond the final deadline to construct the diversion works. As noted earlier, KDA-DWR acknowledged receipt of the Notice and Proof of Completion of Works for Diversion Works document on December 26, 1978. There is no indication within the Record in regard to an extension beyond the minimum of four full calendar years. Therefore, the deadline to perfect Water Right File No. 7571 should be no later than December 31, 1982. Once again, if the Service received an extension on the deadline to perfect its water right through 1987, the record does not contain any documentation of that extension.

Based on the aforementioned irregularities, the District is concerned about the procedure followed to perfect the Service's water right.

The Service's Report of Annual Water Use is Incomplete

The Report repeatedly notes that the appropriated quantity of water for Water Right File No. 7571 is 14,632 acre-feet ("AF") per calendar year.

The Certification Memo (the "Memo") for Water Right File No. 7571 states its reliance on a table titled "Typical Annual Water Use at Quivira Wildlife Refuge." According to the Memo, this table was intended to demonstrate the maximum amount of water the Service might use if sufficient water was available to

fulfill all of the management options in its Annual Water Management Plan. Importantly, the Memo notes that the tabulation does not account for other items, such as several unmanaged areas often flooded to a depth of 2-3 inches; evaporation during winter months; or the drainage of management units. To account for this discrepancy, the Memo explains that the active diversions from the three points for the year of record, 1987, was added to the storage and evaporation from the Little Salt Marsh as shown below:

10,175 AF of active diversions + 1,862 AF storage + 2,595 AF evaporation

Each year, the Service includes water diversions in its water use report, but not the amount that evaporated from the Little Salt Marsh. Because the Service's water right was calculated using a method that factored in this evaporation, the District believes the water right certificate should be amended to note the two methods of accounting for water annually. If no amendment is made, the Service should be found in violation for failing to report the evaporation from the Little Salt Marsh annually.

The Holder of a Water Right Should Not Expect to Fully Exercise It Every Year

As stated previously, the Refuge water right was perfected in 1987. Not coincidentally, that year set the record for maximum daily discharge at the Zenith gage. In fact, it was the eighth wettest year out of 100 years of data. While the District understands the concept of the perfection period and its reliance on the year of maximum diversions, the District wonders whether these diversions are a reflection of stream base flow or simply runoff from storms. In any event, the Record contains multiple letters from the Service to KDA-DWR indicating concerns about water the Service claims would have been available if not for the groundwater pumping conducted by the holders of junior rights within the subbasin.

As a preliminary note, activities outside of the boundaries of Quivira National Wildlife Refuge (the "Refuge") are not within the jurisdiction of the Service. The Chief Engineer for KDA-DWR retains jurisdiction for the use of water throughout the State of Kansas and, in that capacity, granted the Service a permit to construct diversion works and perfected its water right. Then Guy Ellis, a hydrologist with KDA-DWR discussed the nature of that water right in an August 19, 1993, letter to the Service. He stated that "it is quite probable that the natural flows of water to the full extent of the water right will not be available in most years. Management plans for the Refuge area should be based on probable flows of Rattlesnake Creek." In May 1994, the Chief Engineer cautioned the Service again. He explained that:

Even under pristine conditions, most of the streams in Central and Western Kansas are not continuously dependable sources of supply. Particularly in the case of very large water rights, such as the Quivira Refuge right, the water holder should not expect to be able to fully exercise the right each and every year. I should also point out that a certificate states the maximum quantity of water that may be diverted in any year. Because certificates are based on the maximum year of record, no water right holder should expect to need or have available the maximum authorized quantity every year.

This statement suggests that it is appropriate to account for a shortage in supply to the Refuge water right. Nevertheless, the Chief Engineer's Report has allowed the Service to determine its monthly water needs based on the assumption that it will fully exercise its water right every single year. This allowance is in direct conflict with the KDA-DWR's prior statement that no water right holder should expect to need or have available the maximum quantity authorized by the certificate for appropriation on a yearly basis.

Even the Service's own Quivira Management Plan acknowledges that "[f]rom May until September, most units are managed so that they dry out gradually. It is impractical to attempt to maintain all the units during the hot summer months, except when precipitation is unusually high". (Page 285 of the Quivira document.)

Clarification Needed Regarding "Normal" Conditions of the Subbasin

In an April 10, 1996, letter to the Service, the Chief Engineer stated that 41,056 AF of water passed the

USGS streamflow gage near Zenith (Zenith gage) in 1987 at a rate below 300 cfs, but notes that the Service did not divert this water. In light of this statement, the District requests clarification as to Water Right File No. 7571. Does KDA–DWR consider the 41,056 AF of water that passed the Zenith gage in calendar year 1987 below 300 cfs to be normal conditions of the subbasin? More specifically, what component of that amount can be attributed to baseflow versus excess runoff? As the KDA-DWR is aware, land practices throughout the region have changed dramatically over the past 30 years. These changes have minimized—perhaps even eliminated—the vast majority of the runoff coming from fields. In many cases, these land practices were motivated by state or federal incentive programs.

Errors in the Calculation of the Service's Water Use History

In September 1996, the Chief Engineer issued to the Service a document titled "Findings and Order". It required the installation of water flow measurement structures and devices, as well as a monitoring system sufficient to provide continuous, daily data relative to the diversion of natural flows of the Rattlesnake Creek.

The difficulty in designing and implementing an accurate metering system at the Refuge's diversions is acknowledged several times in the Record. As a result, the Service twice requested (on June 8, 2001, and again on January 22, 2003) that the Zenith gage be used as a "means of measuring the volume of water entering the Refuge." The Service requested this method of measuring volume in order to ensure the collection of accurate data that is logged in real time on the USGS website. As noted by the Service, this measurement location would also account for the filling and maintenance of water level in the Little Salt Marsh, in addition to the water diverted by the Service to fill the other water units at the Refuge. In March 2002, KDA–DWR responded with a letter that did not answer the Service's request to use the Zenith gage for measuring total volume entering the Refuge.

The Service was given a deadline of December 31, 1997, to meet these requirements. This order came five years after the District required water flow meter on the "diversion works of all vested rights, appropriation rights and approved applications for permit . . ." Subsequent to this order, the Service filed numerous requests for extensions and waivers from this requirement until it finally installed the necessary equipment in early 2012.

According to the Record, the Service used the Clausen Rule for estimating water use from 1978 through 2012. The District would like to know whether the KDA–DWR has completed a review of the water flow diversion history for Water Right File No. 7571 to validate the water use history—specifically, the accuracy of the water use history in comparison to water availability through the Zenith gage. Furthermore, if the KDA-DWR has completed such a review, the District is interested to learn the nature and extent of that study, as well as its conclusions.

On a related point, Exhibit G within the Record, dated December 21, 1992, details the correct application of the Clausen Rule for measuring flow. This same document notes that there may have been errors in the water use records due to personnel errors. However, after calling into question the accuracy of the Service's record-keeping, the KDA–DWR did not issue any penalties against the Service for failure to maintain an accurate water measuring device. This is another point of concern for the District, whose constituents are also held to strict measuring requirements.

The Effect of the Service's Shifting Management Strategy for the Refuge

In the same September 1996 "Findings and Order", the Chief Engineer also ordered the development of a water conservation plan to avoid waste of water, to minimize unnecessary losses, and to optimize efficient use of water for the Service's authorized purpose. This plan was to encompass the development of an operational plan for the improved conservation and management of water at the Refuge, including a drought contingency plan. Following the grant of several extensions, the Refuge submitted a water conservation plan that the KDA–DWR approved in 2000.

Attachment 5 to the Report describes the seasonal water need estimates for the Refuge as of 2015. This need is estimated based on the Refuge's water use records for the previous 20 years and the Comprehensive Conservation Plan adopted by the Service in 2015. The Service's 2015 water conservation plan differed in several important aspects from the 2000 plan. For instance, the 2000 plan acknowledged that streamflow in the Rattlesnake Creek is variable throughout the year. The Refuge's strategy was to store up as much water as was available in February and then allow drawdown in management units for habitat in late spring (March – May). The majority of the remaining management units would then be allowed to dry out gradually throughout the summer months (May – September).

This strategy outlined in the water conservation plan adopted in 2000 is in conflict with the 2015 water need estimate for the Refuge, which contemplates approximately 60% of the annual appropriation being diverted from the creek into the management units between March and September. In other words, the management demands of the Refuge seem to have shifted away from a cyclical management strategy that works in concert with water availability annually.

The concerning result of the Service's shift in management strategies for the Refuge is apparent when comparing diversions before and after the Service's new operational plan was adopted in 2000. For example, in 1999, Refuge diversions between March 1 and November 1 totaled 2181.10 AF. In 2002, Refuge diversions between March 1 and November 1 totaled 6474.90 AF. The Refuge began both of these periods at 75% full and ended at 75% full. The District is bewildered as to why the Service required almost 300% more diversions in 2002 than was necessary only a few years before.

Casting a wider net and examining Refuge diversions between 1994 and 2013 paints a cloudier picture still. During this time period, the following diversions were reported:

- Nov. – Dec. 1994 and Jan. – Feb. 1995 – total diversions of 901.5
- Nov. – Dec. 2003 and Jan. – Feb. 2004 – total diversions of 1086.7
- Nov. – Dec. 2006 and Jan. – Feb. 2007 – total diversions of 1714.1
- Nov. – Dec. 2012 and Jan. – Feb. 2013 – total diversions of 0.00

Each of these four periods took the Refuge from 1/4 full on November 1 to full on March 1. The District's impression based on these numbers is that 75% of the Refuge's water needs can be met with less than 1714.1 AF of diversions—the highest amount of diversions needed to fill the Refuge in any one of the above years.

Technical Review and Comments by Balleau Groundwater, Inc.

When the Chief Engineer issued the Report on December 2, 2015, the District asked BGI to conduct a thorough technical review of the data collection and analysis presented in the Report. This technical review resulted in the following conclusions.

1. The Chief Engineer's approach to estimating flow in Rattlesnake Creek had junior pumping not occurred is technically sound. We see no apparent issues in the calculations comparing flow in Rattlesnake Creek with the water demand schedule provided by the Service.
2. Although the Chief Engineer's impairment analysis considers the water needed to fully supply the Service's demand schedule for the Refuge, it also recognizes that natural shortage is an occurrence during drought periods and that there are times when the Refuge will experience a water shortage. There are technical methods for assessing how that shortage could occur in administration of the Service's water right. Augmentation amounts would vary accordingly.

The recognition of the natural shortages associated with the diversion of water from the Rattlesnake creek is documented in the August 19, 1993, letter to the Service from the Chief Engineer. According to the September 25, 1996, Findings and Order, the Chief Engineer explained that a water conservation plan was required for the Refuge because "the Rattlesnake

Creek may be insufficient, during times of drought, to provide a supply of water sufficient to meet the needs of all water users dependent upon the creek."

3. The Chief Engineer should indicate whether hydrologic effects from out-of-basin pumping have an implication on his finding of impairment.

The Report as written is unclear on this point. Take, for example, the following statement on Page 37: "Some impacts of pumping from within Rattlesnake Creek basin by rights junior the Refuge Right eventually propagate outside the basin boundaries, so that baseflow impacts that pass through the Zenith gage are somewhat less than this total." The reverse impact of wells located outside the basin is expected to deplete flow from Rattlesnake Creek.

4. The Appendix of the Report details the modelling efforts conducted by KDA-DWR staff during this investigation. Several model scenarios were conducted using various versions of the hydrologic model. Scenario 11 compared the results from both the single-layer and the multi-layer model and indicates a difference in the change to Rattlesnake Creek flow of 2.4 percent. In comparing these two versions of the model for Scenario 1, as described in the Appendix, there is a difference of about 5 percent on the global stream budget. The difference in the magnitude of streamflow is generally 1-6 cfs. This indicates there are some differences between multi- and single-layer models that are sensitive to the magnitude of change in groundwater pumping. Perhaps the single-layer model could be used for scoping-level assessments and then the multi-layer model could be used for final calculations and conclusions.
5. The starting head condition used in the model scenarios is not steady. Beginning the simulations with an initial condition that is not in steady state should be corrected.
6. A comparison of flow at Zenith gage to the seasonal demand schedule developed by the Service for the Refuge indicates a number of times when river flow exceeds Refuge demand. Coordination with the Refuge on managing stored water in Little Salt Marsh may be an approach to facilitate the effectiveness of augmentation pumping. The degree of storage in the Refuge's operations is a question that may affect augmentation.

As noted in the certificate of appropriation for Water Right File No. 7571, dated April 9, 1996, the Refuge is entitled to "a quantity not to exceed 14,632 acre-feet of water per calendar year for recreational use. Such quantity can be subsequently stored and accumulated in marsh areas . . ." The Record shows several references to the need for storage of water in recognition of the fluctuation in natural flows of the Rattlesnake Creek within a calendar year.

7. When comparing the water use history for the Refuge to the historical flow at the Zenith gage, the storage and evaporation from Little Salt Marsh should be added to the reported diversions, as this is the methodology used in certifying Water Right File No. 7571. When conducting this analysis, over the period 1974 through 2013, flow at Zenith gage exceeds the Service's water right in 28 out of 40 years, or 70 percent of the time; however, the reported water diversions (with evaporation added) are generally less than the amount certified. This indicates a possible failure to exercise the full water right. The effectiveness of full exercise of the Refuge water right is a question that may affect augmentation.

Strategies for Augmentation

In 2006, the Kansas Water Office ("KWO") produced a report titled "Stream Flow Augmentation of Rattlesnake Creek." In that report, the KWO calculated average augmentation needs over a three-month demand schedule of 1,146 AF of water (6.3 cfs) from a site near U.S. Highway 281. The augmentation plan described would pump this water into the Rattlesnake Creek channel for delivery to Water Right File No. 7571.

Water Right File No. 7571 is located at the downstream end of an intermittent stream which traverses approximately 35 miles across the District. The majority of the subbasin area has been classified as dry subhumid and is comprised of low bluffs of dune sand. Reliance on this stream as a sole source of water can be difficult, especially in years of limited precipitation such as 2011 and 2012.

Recently, the District conducted preliminary model scenarios to evaluate the impact of augmentation of streamflow from groundwater pumping from locations closer to the Refuge. This model work is still ongoing and is subject to adjustment depending on the water management at the Refuge within a calendar year.

Additionally, utilization of a trigger mechanism similar to those noted in both the Water Conservation Plan for the Refuge and the Program will help to limit the need to augment water in years of significant drought. Utilization of the Palmer Drought Severity Index from the Climate Prediction Center of the National Weather Service is one method to help establish such a trigger mechanism. Finally, augmentation water should never go unused on the current day, thus an adjustment to the target need based on actual performance of Refuge water use is reasonable.

...

Moving forward, the District requests that the Chief Engineer clarify the issues and answer the questions raised in these comments to the Report. This information is critical to analyzing the Service's impairment claim and to formulate a workable solution.

As previously recognized by KDA-DWR, no surface water right holder is guaranteed full exercise of its calendar year allocation every year. The model indicates the Service will receive its annual allocation in the vast majority of calendar years; therefore, there is no impairment.

The District will continue to be an active advocate for the proper management of the local aquifer to ensure that the future generations of Kansans will have a viable water source to provide for their families.

Sincerely,



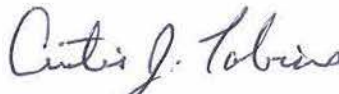
Darrell Wood, President



Fred Grunder, Vice-President



John Janssen, Treasurer



Curtis Tobias, Secretary



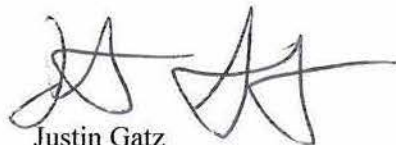
Kent Lamb



Phil Martin



Tom Taylor



Justin Gatz



Bob Standish

Comment H

Barfield, David

From: Benjamin Gray <benjamincgray@gmail.com>
Sent: Friday, May 13, 2016 2:46 PM
To: Barfield, David
Subject: Claim of Water Impairment re: Right File 7571

I'm writing to urge you to restore adequate water flow to Quivera National Wildlife Refuge.

Simply put, the refuge's water rights supercede the claims of other users.

The Division of Water Authority must act to preserve the National Wildlife .

Sincerely,

Benjamin Gray

Comment I

Barfield, David

From: Janet T <gavelgoddess@gmail.com>
Sent: Friday, May 13, 2016 2:46 PM
To: Barfield, David
Subject: Quivira National Wildlife Refuge desperately needs protection.

I visit Kansas every year in the fall specifically to see the wildlife of Quivira, and I am appalled that you have allowed junior water rights holders to take water that legally should be going to the refuge. Tens of thousands of birds rely on the refuge, and Kansas is enhanced by its existence. How can you choose to side with illegal water theft over the protection of this critically important wetland? I am extremely disappointed in your management.

Janet Thew

Comment J

Barfield, David

From: Beth Harshfield <Beth@exhibitarts.net>
Sent: Friday, May 13, 2016 3:14 PM
To: Barfield, David
Cc: Vernon Harshfield
Subject: Mange the water resources for Rattlesnake Creek !

Dear David -

Please see the attached article regarding our state's policy of not providing adequate water to Quivira's National Wildlife Refuge. This area is critical to migratory birds and our state's wildlife heritage. The information below was published by the Kansas Audubon Society. We do not want this National Wildlife Refuge compromised by politics!

Quivira's Water, Wetlands, and Wildlife in Jeopardy

Our inquiries regarding the situation have disclosed the following information which serves as an informed overview of this serious violation of water right protection that has resulted in severe damage to a nationally and internationally significant wildlife habitat resource critical to conservation of major migratory bird populations and to imperiled and endangered species. Needless to say, the Quivira National Wildlife Refuge is also critically important to what can be described as the state's wildlife heritage, and to the diverse recreational opportunities provided.

BACKGROUND/STATUS:

- In the mid-1980's, the Refuge Manager at Quivira National Wildlife Refuge (Quivira or Refuge) began submitting correspondence to the Regional Office of the U.S. Fish and Wildlife Service regarding what he believed was an issue with streamflow depletion. He felt that the vast number of irrigation wells that had been permitted and put into operation over the last decade was having an impact on the volume of water reaching Quivira. The Refuge has a senior surface water right with a priority date of 1957, perfected in 1996.
- From 1989 through 1991, a severe drought occurred. Refuge pools were virtually dry, greatly impacting the ability of the Refuge to supply habitat for migrating birds. During the same time period, several environmental groups raised concerns with the Kansas Division of Wildlife and Parks (KDWP) over their failure to assert and protect a water right on Walnut Creek that supplied the Cheyenne Bottoms State Wildlife Area located to the northeast of Quivira. The assertion made by these groups was that the junior irrigation wells were interfering with the volume of surface water reaching the Bottoms, impacting habitat for migratory birds.
- The Kansas State Engineer (Chief Engineer) heads the Kansas Division of Water Resources, and is responsible for administration of water rights throughout the state. The State is broken up into quasi-governmental Groundwater Management Districts that also have a certain degree of control over groundwater use in their district.
- In 1990, the Manager of Big Bend Ground Water District No. 5 (GMD#5) requested the Chief Engineer to initiate proceedings for the designation of an Intensive Groundwater Control Area (IGUCA) in the Walnut Creek Basin. These hearings consisted of testimony of a range of hydrologic and biologic experts, as well as individual water users that would be affected. The Chief Engineer concluded that the junior wells were interfering with the senior surface water right held by KDWP, and, in 1992, created an Intensive Groundwater Use Control Area. The IGUCA gave the Chief Engineer the authority to reduce the amount of junior water rights that he determined were impacting Walnut Creek.

- As a result of this case, a group of private irrigators formed a group called the Water Protection Association of Central Kansas (WaterPACK). WaterPACK and the Groundwater Management District #5 contacted the Service and several of the environmental groups who had been involved in the Walnut Creek process and formed a group called the Rattlesnake Creek Partnership in 1993. This group led to the development of an effort to lobby Congress for funding to study the water issue, and the formation of a group to try to develop a groundwater management plan. Concurrently, the Service began funding a series of contracts with the Kansas Geological Survey to determine the projected impact of existing groundwater pumping on the Refuge.
- The DWR recognized that there was significant over-appropriation of groundwater throughout the central and western portions of the State. The DWR began forming Subbasin Management Teams to work on addressing the issue from a State level. The Rattlesnake Creek Subbasin Management Team was eventually tasked with working with the other partners to develop a groundwater management plan for the Rattlesnake Creek Subbasin. The State identified two areas of high ground water decline, and these areas, as well as a portion of the stream corridor were targeted for the greatest reductions in groundwater use.
- The Service and the other partners met over a series of years to hammer out an incentive-based management plan. The goal of the plan was to reduce groundwater use to the extent that the Refuge water right was protected while ensuring that the agricultural economy was allowed to continue to function. The State committed funds to the development of an interactive surface water/groundwater model, which could be used to determine the amount of water use reduction that would be needed. At the end of 1999, WaterPACK and the GMD rejected the State's model, and the water use reduction targets that were agreed on were largely based on less robust methodology. A group of groundwater use programs were developed, and a plan was written and signed in 2000. The plan required the DWR to do a progress review at the end of each four-year period. There was never any intent by the Service to enter into any new agreement at the end of the 12-year period. The Program was supposed to address the problem of over-pumping, and ensure that the Service's senior water right was protected.
- To date, the only parts of the overall program that have been initiated are Water Banking and the End-Gun Removal Programs. There has been a lack of funding from the State. The water rights buy-back program has been largely unsuccessful because of a lack of funding, the tendencies of prospective sellers to ask very high prices, and the initial unwillingness of the Chief Engineer to permanently retire those rights.
- The State greatly reduced staffing for the Subbasin management teams, and the amount of turnover has been significant. The Subbasin Management Team for the Rattlesnake Creek Subbasin had its responsibility expanded to cover a much larger area. Although they have produced a report every four years on the "progress" of the Management Plan as required, they have spent a considerable amount of time and money developing a new groundwater model that covers the entire GMD#5. The report on this model greatly downplays the streamflow interference issue. However, the 4-year reports on the Management Plan consistently show that targets are not being met, both water use reduction targets, as well as aquifer and streamflow stabilization targets. Groundwater levels as well as streamflow have continued to decline despite many years of above-average precipitation.
- In 2015, there was a severe drought, the stream dried up. The State passed a bill allowing irrigators to pump more water than they hold water rights for, provided that they pump less in the future. The Refuge did not get any water, but junior pumpers got more water than they had a water right to take.

REPORTED POSITION OF GMD#5:

- The GMD#5 would like some certainty regarding water availability for the future, and believes some action needs to be taken. However, they would like the Service to accept the development of augmentation wells to provide water to the Refuge as the solution.

DEPARTMENT OF THE INTERIOR/FISH & WILDLIFE SERVICE PERSPECTIVE:

- There is currently no physical way to augment streamflow with pumping, and it would realistically take a decade to develop, as well as a huge investment of funds.
- The Service entered into the above-described agreement in good faith, has not asked for an administrative remedy during the agreed-upon 12-year term of the agreement, and expected the other Partners to meet their obligations under the agreement. This is not what has been happening, and the Service is being asked to continue to accept injury to the Refuge's senior water right while some new plan is developed.
- The Service is not asking to be treated any differently than any other water user in the State. The Service applied for, developed and perfected the Refuge water right in accordance with State law, and is asking that it receive the same consideration and protection as any other water user's right.
- The Service has asked that the current groundwater use reductions that were agreed to more than a decade ago be met.



Beth Harshfield, President

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Comment K

Barfield, David

From: cathy catt <cmbcatt@hotmail.com>
Sent: Friday, May 13, 2016 3:13 PM
To: Barfield, David
Subject: water rights for Quivera

Dear Mr. Barfield,

Please do whatever is necessary to protect the future viability of the Quivera wetlands, an essential stopover for North American bird migrations.

Thank you for your efforts.

Sincerely,

Catherine Catt

Comment L

Barfield, David

From: Gloria Holcroft <glorybks@gmail.com>
Sent: Friday, May 13, 2016 3:20 PM
To: Barfield, David
Subject: Quivira National Wildlife Refuge

Mr. Barfield -

I am very concerned about the Quivira National Wildlife Refuge wetlands, where thousands of migratory birds depend on that habitat. Junior water rights and their irrigation wells have severely depleted this precious area by pumping more water than they have rights to do, thus interfering with the senior surface water.

I would implore you to meet the requested U.S.Fish and Wildlife Service current groundwater use reductions, agreed to more than a decade ago, to help save this critical area in the central U.S. flyway.

Sincerely,

Mrs. Gloria Holcroft
11309 Grant St.
Overland Park, KS 66210

Comment M

Barfield, David

From: rwlucas@pld.com
Sent: Friday, May 13, 2016 3:28 PM
To: Barfield, David
Subject: Quivira National Wildlife Refuge - File No. 7,571

Dear Mr. Barfield,

The U.S. Fish and Wildlife Service has senior water rights at Quivira and I and my family urge the Division of Water Resources to protect it from junior rights. The Quivira was opened 61 years ago and it is an internationally known bird area. It draws tourists and promotes Kansas' image of environmental goodwill. I first visited Quivira on a trip with my grandmother in 1974. I remember seeing on our drive many birds and mammals. Visiting Quivira has continued to be a highlight for me through the years. Please protect one of the Eight Wonders of Kansas.

Thank you for all you do,
Cathy Lucas
Sublette, Kansas

Comment N

Barfield, David

From: Luke Harshfield <lukeharshfield@gmail.com>
Sent: Friday, May 13, 2016 4:04 PM
To: Barfield, David
Subject: Claim of water right impairment
Attachments: Restoring Quivira's water.pdf

Hello David,

I am contacting in you regards to restoring water flows into rattlesnake creek by tightening and enforcing regulations of irresponsible pump practices.

I have attached a letter from Ron Klataske. I fully support all that is being said with in the letter.

We need to make steps to cut the irresponsible pumping practices that need regulation. Restoring water to Quivira National wildlife refuge will not only benefit our current generation but it will protect a habitat for future generations to learn and grow from.

I am a 25 years old, and a native born Kansan. This is my home. If we do not begin to measures to protect our natural resources from debilitating human influences. I fear no one will until our impact is to vast. I write this for my children.

Please view this issue with an open heart and I hope this email reaches you in kindness.

Best,

Luke

Comment Nb

David W. Barfield. PE.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Par Drive
Manhattan, KS 66502

May 13, 2016

Dear Mr. Barfield:

The purpose of this letter is to comment on the "Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service."

Audubon of Kansas, Inc. urges the Kansas Department of Agriculture (KDA) Division of Water Resources (DWR) to implement all necessary measures, regulations and water rights to fully restore water flows in Rattlesnake Creek to provide the U.S. Fish and Wildlife Service (Service) with flows sufficient to provide for the senior water right for the Quivira National Wildlife Refuge (Refuge). As acknowledged in the Initial Report of the Chief Engineer, Prepared pursuant to K.A.R. 5-4-1 Concerning a Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service published December 2, 2015, the Service's water right is senior in priority to approximately 95 percent of the water rights in the Rattlesnake Creek Basin.

The report finds the Refuge's water supply "has been regularly and substantially impacted by junior groundwater pumping." According to the report, over the 34 years reviewed, shortages of greater than 3,000 acre-feet occurred in 18 years. Impairment of the Refuge's water right has become increasingly frequent and severe as hundreds of irrigation wells with junior water rights have been approved by the DWR, resulting in the cumulative lowering of groundwater levels and instream flows in the Rattlesnake Creek Basin.

Audubon of Kansas urges that the water right for the Quivira National Wildlife Refuge be fully protected and provided for prior to depleting consumption by junior water rights users.

Audubon of Kansas does not support the suggestion that the severe impairment of the Refuge water right (due to over-pumping of groundwater in the Rattlesnake Creek Basin) can be satisfactorily solved by pumping groundwater into the Refuge. In addition to the astronomical cost of installation and ongoing operations/maintenance, this approach would ignore the fact that depleting the groundwater and stream flows will further diminish ground water levels and adversely impact and/or destroy the stream, wetlands, wet meadows and other ecological values associated with the Refuge and other areas within the Rattlesnake Creek Basin.

The Quivira National Wildlife Refuge was established in 1955 to protect migratory waterfowl. Its 7,000 acres of wetlands attract hundreds of thousands of ducks and geese of thirty different species, shorebirds, wading birds (including tens of thousands of Sandhill Cranes, and Whooping Cranes) and water birds annually. Its location in the middle of the Central Flyway places it in the primary pathway for many species of migrating birds. Over 340 species of birds have been recorded at Quivira. It's 22,135 acres feature a unique combination of rare inland salt marsh and sand prairie.

In terms of protection of, and management for, species of concern, several official levels of Threatened and Endangered status are recognized within the United States and within the State of Kansas. An Endangered species is one that is in danger of becoming extinct; a Threatened species is one whose population levels are low enough where the species could become Endangered. A Federal Candidate species is one that is under review for listing as a Threatened or Endangered species. In several cases, Quivira has been designated as Critical Habitat for certain species, either at the national or state level (or both).

Whooping Cranes are an endangered species that consistently utilize Quivira as an important migratory habitat. The tallest North American bird, and one of the rarest, they once numbered as few as 16. Whooping Cranes occur regularly at Quivira each fall and spring. Fall migration use typically occurs from late October through late November, while spring migration occurs from late March through early April. Whooping Cranes utilize Quivira's shallow wetlands and lake borders for feeding and overnight roosting.

Inland populations of Least Terns are typically found along large river systems. Interior Least Terns have been declining and are classified as Endangered nationally and in the state of Kansas. Quivira hosts a nesting population of these birds, in both the Big and Little Salt Marsh areas. Least Terns occur at the Refuge during the spring, summer and early fall.

The Western Snowy Plover is classified as Threatened in Kansas. This small, whitish shorebird occurs at Quivira from spring through early fall, and nests regularly on sand flats, primarily in the Big Salt Marsh area. Their populations have suffered declines similar to those of the Interior Least Tern, with whom they share habitat.

Many other "Species of Greatest Conservation Concern" depend on habitat at Quivira. The Piping Plover, a small shorebird similar to the Snowy Plover, occurs at Quivira occasionally during migration. The State of Kansas recognizes Species in Need of Conservation (SINC) throughout the state. Species with that status that occur at Quivira include: Black Rail, Black Tern, Eastern Hognose Snake, Western Hognose Snake, Ferruginous Hawk, Golden Eagle, Long-billed Curlew, Short-eared Owl, and Southern Bog Lemming.

Tens of thousands of shorebirds—shorebirds of thirty different species --rely on the wetlands and water-associated habitats of the Quivira National Wildlife Refuge. Shorebirds are a large and diverse group of birds that typically feed on shorelines, mudflats, and in shallow water. The group includes, but is not limited to, plovers, sandpipers, phalaropes, yellowlegs, and snipe. Although located in the center of the Great Plains, Quivira is uniquely situated in the center of the Central Flyway, one of the busiest of North America's four migration pathways. An oasis in the prairie, Quivira attracts migrating shorebirds by the tens of thousands in aggregate both spring and fall.

Beginning as early as February, Greater and Lesser Yellowlegs, along with a few other sandpipers, begin appearing on their northward journey. Numbers of species and birds increase until a peak in mid-May, when shorebirds can be found just about anywhere there is water at Quivira. There is a short lull of just a few weeks during June, after which the "fall" southward migration begins for many species by early July. This period of shorebird occurrence typically peaks in late August and September.

Shorebirds do not just occur as migrants at Quivira. Several species use Quivira's wetlands to nest. These are extant breeding populations, where the next nearest breeding populations may be hundreds of miles from Quivira. Nesting species include Wilson's Phalarope, Snowy Plover, American Avocet, and Black-necked Stilt.

Inland Salt Marshes are rare in the United States. The presence of Inland Salt Marshes contributes to the uniqueness of Quivira. Quivira's wetlands are unique due to the high concentration of salt in many areas. Subterranean salt deposits are near enough to the surface in the Quivira area to affect the groundwater that percolates to the surface. Salinity (or salt) levels in the water varies depending on rainfall, runoff from rainfall, and the depth of the water.

Many areas have a high enough salinity to support salt-tolerant plant species such as inland salt grass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*), and seepweed (*Suaeda caecoliformis*).

Once dotted with active sand dunes, Quivira is also home to a unique prairie community called Sand Prairie. In the pre-settlement era of Kansas, prairie covered most of the state. During this time, much of the area south of the "great bend" of the Arkansas River consisted of plains with scattered active sand dunes. Once inactive, these dunes were covered with prairie grasses and forbs. This Sand Prairie is a unique and uncommon ecosystem in North America.

The Quivira National Wildlife Refuge is among thirty **"Wetlands of International Importance,"** as designated under an international treaty signed in 1971. The Ramsar convention on wetlands, signed by 160 countries, provides the framework

for national action and international cooperation for the conservation and wise use of wetlands and their resources.

Quivira was also designated in 1994 as part of the **Western Hemisphere Shorebird Reserve Network**. The designation is based on the fact that Quivira supports more than 500,000 shorebirds annually. Shorebirds are among nature's most ambitious, long-distance migrants. But their numbers are dropping quickly with some species projected to go extinct within our lifetime. Protecting these birds is an important international conservation priority that requires proactive and coordinated efforts within each of the countries these birds fly through during their vast, nearly pole-to-pole migrations.

Quivira was also designated as a **Globally Important Bird Area** by the American Bird Conservancy in 2001.

It is critical that the State of Kansas recognizes that the Quivira National Wildlife Refuge is critically important for migratory birds from a state, national, international and global perspective. Restoring the Service's water rights and making flows available to the Refuge is a legal and ecologically essential responsibility of the Kansas Department of Agriculture, Division of Water Resources.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Klataske". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

Ron Klataske
Executive Director
Audubon of Kansas

Comment O

Barfield, David

From: Stu Luttich <rangifer@windstream.net>
Sent: Friday, May 13, 2016 4:12 PM
To: Barfield, David
Subject: Quivira National Wildlife Refuge Impairment Complaint

Mr. Barfield:

While not a resident or landholder in the State of Kansas, I am a stakeholder with interests in the Quivira National Wildlife Refuge, and, am quite familiar with water management issues and agreements (and disagreements). I am an agriculture landowner with an irrigation well. The static water-levels within the Natural Resource District where the well is located are declining, with the static water-level in the well declining proportionately more than in the over-all District. The simple unhonored fact is that we are removing water from the system faster than it is being replaced. While we have been quite proficient in extracting water, we have been particularly deficient as well as derelict in replacing or replenishing what has been extracted – and this policy cannot, and, will not, continue in any sustainable manner. We are gradually killing the proverbial goose that lays the golden egg; and, it will probably be death by a thousand cuts. Unfortunately, repair, as per usual, will prove more costly than the gains made in the taking. Unfortunately, a large proportion of the landowners and people believe they have a special right to use the water until the last drop is taken. For them water is not a resource to be shared, but, it is their resource. Unfortunately, water has a habit of not respecting boundaries. When it flows in uncommon abundance, we act to hasten its departure into the oceans. Then when it fails to flow in a desired abundance we pump unsustainable amounts from subsurface reservoirs.

I fully support Audubon of Kansas's position on this issue, as outlined in a letter from Mr. Ron Klutaske. We either act to honour our agreements in a civilized and honourable manner, or, we fight like the uncivilized reprehensible barbarians that we loath. Life needs water to exist; but, while more water is not being created to support life, more life is being created to need water, and, life is also compounding more needs for the water that does exist. I find it particularly disconcerting that the oil fracking industry is being allowed to remove water from the system, pollute that water, and, then discharge that tainted water into virtually unrecoverable geological depths below the Earth's surface. This is ignorance being personified at level that mystifies rational comprehension.

In any case, would appreciate interests in protecting and honouring the senior water-rights for the Quivira NWR.

Thanking your for time and consideration, I remain...

Stu Luttich
824 "K" Street
Geneva NE-USA 68361

Tele: 402-759-3597

Comment P

Barfield, David

From: Ralph Hoover <r.hooov@gmail.com>
Sent: Friday, May 13, 2016 4:52 PM
To: Barfield, David
Subject: Quivira

I am watching to see if the water rights of Quivira National Wildlife Refuge are being protected as they should be. The wetlands are a treasure. Thank you.

Comment Q

Barfield, David

From: Karen Hall <showyouhome@gmail.com>
Sent: Friday, May 13, 2016 5:27 PM
To: Barfield, David
Subject: Quivera Water Rights

Dear Mr Barfield,

It is very important to improve the flow of water into Quivera. This is an incredible resource for Kansas.

Rattlesnake Creek should not be raided illegally. Water Rights should be enforced.

In the past Kansas sued Colorado when the flow of water was impeded.

Birds cannot sue. I am speaking out for them. And for future tourism dollars.

Thank you for your consideration.

Comment R

David W. Barfield. PE. Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Par Drive
Manhattan, KS 66502

May 13, 2016

RE: Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571,
Owned and operated by U.S. Fish and Wildlife Service.

Dear Mr. Barfield:

I urge you as the chief engineer for the Division of Water Resources for the Kansas Department of Agriculture to implement all necessary measures, regulations and water rights to fully restore water flows in Rattlesnake Creek to provide the U.S. Fish and Wildlife Service with flows sufficient to provide for the senior water right for the Quivira National Wildlife Refuge, which has been regularly and substantially impacted by junior groundwater pumping — which will not solve the problem.

In addition to the exorbitant cost of installation and ongoing operations and maintenance, pumping ignores the fact that depleting the groundwater and streamflows will further diminish groundwater levels and will adversely impact and/or destroy the stream, wetlands, wet meadows and other ecological values associated with the refuge and other areas within the Rattlesnake Creek Basin.

The Quivira National Wildlife Refuge was established to protect migratory waterfowl. Its 7,000 acres of wetlands attract hundreds of thousands of ducks and geese of thirty different species, shorebirds, wading birds (including tens of thousands of Sandhill Cranes, and Whooping Cranes) and water birds annually. Its location in the middle of the Central Flyway places it in the primary pathway for many species of migrating birds. Over 340 species of birds have been recorded at Quivira. It's 22,135 acres feature a unique combination of rare inland salt marsh and sand prairie.

Species of concern include several official levels of threatened and endangered status. Quivira has been designated as Critical Habitat for certain species, either at the national or state level or both for Whooping Cranes, Least Terns, Western Snowy Plover, Piping

Plover, Black Rail, Black Tern, Eastern Hognose Snake, Western Hognose Snake, Ferruginous Hawk, Golden Eagle, Long-billed Curlew, Short-eared Owl, and Southern Bog Lemming and many other “Species of Greatest Conservation Concern.”

The Quivira National Wildlife Refuge is among 30 Wetlands of International Importance. Quivira was also designated in 1994 as part of the Western Hemisphere Shorebird Reserve Network. Quivira was also designated as a Globally Important Bird Area by the American Bird Conservancy in 2001.

It is of paramount importance that the State of Kansas recognizes that the Quivira National Wildlife Refuge is critically important for migratory birds from a state, national, international and global perspective.

Restoring the Service's water rights and making flows available to the refuge is a legal and ecological responsibility of the Kansas Department of Agriculture, Division of Water Resources.

Sincerely,

Madeline McCullough
810 Shadyway
Wichita, KS 67203

Comment S

Barfield, David

From: Giessel/Voss <ecos@everestkc.net>
Sent: Friday, May 13, 2016 9:02 PM
To: Barfield, David
Cc: Yvonne Cather
Subject: Sierra Club Comments: In the Matter of Water Right File No. 7571, U.S. Fish and Wildlife Service

RE: Water Right Impairment In the Matter of Water Right File No. 7571, Owned and operated by U.S. Fish and Wildlife Service

Mr. Barfield:

Please accept the following comments from the Kansas Chapter of the Sierra Club regarding the above-referenced matter:

The Division of Water Resources of the Kansas Department of Agriculture (DWR) recognizes that there is significant over-appropriation of groundwater throughout the central and western portions of the State. DWR published an initial impairment investigation report on December 2, 2015, indicating that junior groundwater pumping has impaired the U.S. Fish and Wildlife Service (Service) from exercising its senior water right for the Quivira National Wildlife Refuge.

The Quivira NWR provides critical and unique wetland habitat in the Central Flyway. The refuge has been recognized globally for its importance for migratory birds, some species of which are listed under state and/or federal endangered species protection laws. Groundwater levels and streamflow have continued to decline in the area, impacting the quality of the wetlands.

The Service, in its formal complaint, stated that regular long-term augmentation of water without groundwater pumping reductions in GMD5 would increase concerns of water resource sustainability. The Service also expressed concern that water flow augmentation will lead to reduced water quality being delivered to the refuge during certain times of the year. The Service recommended increased focus on improving water use efficiencies and/or reduction of water use by junior appropriators that would benefit long-term sustainability of surface and ground water resources.

The Service applied for, developed and perfected the Refuge water right in accordance with State law. It should receive the same consideration and protection as any other water user's right. The Service has asked that the current groundwater use reductions that were agreed to more than a decade ago be met. K.S.A. 82a-706b of the Kansas Water Appropriation Act charges the chief engineer with the duty to regulate use to prevent such "impairment" of senior water rights by junior water rights.

The Kansas Chapter of the Sierra Club strongly supports protection of the Quivira NWR. The DWR must address the problem of over-pumping by junior water rights holders to ensure that the Service's senior water right is protected. The future of the Quivira NWR is at stake.

Please put me on your mailing list of interested parties for this matter. Thank you,

Elaine Giessel
Conservation Chair,
Kansas Chapter, Sierra Club

11705 W. 101st Terr.
Overland Park, KS 66214

--
C. Elaine Giessel
913-206-1180

Comment T

Barfield, David

From: Joyce Wolf <rjjawolf@sunflower.com>
Sent: Friday, May 13, 2016 10:48 PM
To: Barfield, David
Subject: Quivira National Wildlife Refuge Water Rights

To: David Barfield, Chief Engineer
Division of Water Resources
KS Department of Agriculture

Dear Mr. Barfield:

Having participated in the Cheyenne Bottoms litigation process many years ago, and being aware that a very similar situation now exists at Quivira National Wildlife Refuge (NWR), in my opinion the established of an Intensive Groundwater Use Control Area (IGUCA) is warranted and needed in order to uphold and recognize the senior water right of the US Fish and Wildlife Service. Just like Cheyenne Bottoms Wildlife Area, Quivira NWR provides important habitat for many migratory species of birds.

Without question, the Refuge has a senior surface water right dating to 1957 and perfected in 1996. And it appears that the area has been permitted to become over-appropriated regarding the numbers and volume of water rights approved by DWR. Furthermore, I believe the Chief Engineer has the authority to make a finding of an impairment of a senior water right and also the authority to intercede and establish an IGUCA. I'm certain that you are fully aware of the following: An entity which applies to the Division of Water Resources of the Kansas Department of Agriculture for a water right (for a beneficial use) and is approved, those rights have precedence over subsequent or "junior" water rights' holders.

Furthermore, this principle is applied regardless of the type of use. K.S.A. 82a-707 provides; "...the date of priority of an appropriation right, *and not the purpose of use*, (emphasis added) determines the right to divert and use water at any time when the supply is not sufficient to satisfy all water rights that attach to it."

But one of the most significant results of the Cheyenne Bottoms IGUCA was that agricultural junior water rights owners, were not fully cut off from their supply, but a formula was applied that decreased the number of acre/feet that could be pumped. Recent analyses by agricultural economists have pointed out that after an initial reduction in income, most producers were able to recover and equal what they had been earning prior to the adoption and implementation of the IGUCA in the Wet Walnut Basin.

The US Fish & Wildlife Service is not seeking more than what is established by state water law in appealing to DWR to recognize its senior water right and take the necessary steps to ensure that the water right is upheld.

Therefore I see no reason to not move forward with the establishment of an IGUCA.

Thank you for your careful consideration of these comments.

Sincerely,

Joyce A. Wolf
1605 East 318 Road
Lecompton, KS 66050-4034

Comment U

Barfield, David

From: Rolan & Kristen <schwavis@yahoo.com>
Sent: Friday, May 13, 2016 8:44 PM
To: Barfield, David
Subject: Claim of water right #7,571

Dear David Barfield,

Quivira National Wildlife Refuge is an important part of our state's natural beauty and heritage. Please preserve the water rights to protect it, for the sake of wildlife and future generations.

Sincerely,

Kristen Schweitzer

B.S. Biology, M.S. Curriculum Development Captured Moments Photography www.KSchweitzerphoto.com

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Comment V

KANSAS WILDLIFE FEDERATION



The voice of outdoor Kansas

13 May 2016

David W. Barfield, PE.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Par Drive
Manhattan, KS 66502

Dear Mr. Barfield:

This letter constitutes comment by the Kansas Wildlife Federation (KWF) — a 66-year old grassroots organization of hunters, anglers and concerned wildlife conservationists dedicated to the sustainable use, conservation, appreciation, and the restoration of our state’s wildlife and natural environment — on the “Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service.” The U. S. Fish and Wildlife Service (USFWS) owns the water right from the Rattlesnake Creek which flows through Quivira National Wildlife Refuge (QNWR), managed by the USFWS. Their water right, No. 7,571, is a senior water right priority, dated in 1957, to approximately 95% of the water rights in the Rattlesnake Creek basin. The KWF strongly urges the Kansas Department of Agriculture’s Division of Water Resources (DWR) to adhere to all relevant regulations to fully restore the water flow in Rattlesnake Creek to meet QNWR’s water rights.

KWF has been involved in the Quivira water rights issue for the last decade, yet we were not notified of the pending water right impairment issue. The recent report states that the water supply to QNWR “has been regularly and substantially impacted by junior groundwater pumping.”

Quivira provides critical habitat for numerous species of wildlife, some of which are listed as Threatened or Endangered. QNWR has been recognized as a Wetland of International Importance by the 1988 Ramsar Convention on Wetlands. Quivira was also designated in 1994 as part of the Western Hemisphere Shorebird Reserve Network. Quivira was designated as a Globally Important Bird Area by the American Bird Conservancy in 2001. Endangered species utilizing QNWR are Whooping Cranes and inland populations of Least Terns, which nest at QNWR. Threatened species using QNWR include the Western Snowy Plover. Water, and its timely reception of that water for wetland manipulation, is critical to meet the habitat needs of

these and other species that utilize QNWR. QNWR is a major stopover site for migratory waterbirds such as waterfowl, shorebirds, herons and egrets and rails. It is estimated that 90% of 5 different species of migratory shorebirds pass through and utilize the QNWR-Cheyenne Bottoms Wildlife Area wetland complex while on migration. The impairment of QNWR's water rights has had a significant impact on the Threatened, Endangered and other species which utilize QNWR.

KWF was involved in the water rights issue and subsequent lawsuit regarding the Cheyenne Bottoms water rights. At that time many newspapers boiled the issue down to "ducks vs. crops." This was unfortunate as it was merely a senior water right holder versus junior water right holders.

The same premise holds regarding QNWR: it is a senior water right holder asking DWR to adhere to all relevant regulations to restore water flow in the Rattlesnake Creek basin to meet QNWR's water rights, which may (and should) require reducing water use by junior water right holders. The Kansas Wildlife Federation strongly urges DWR to utilize any and all regulatory means to ensue that Quivira National Wildlife Refuge receives its legal senior water right.

We request to be kept apprised in writing of the process and outcome of the issue regarding Quivira's water right. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Angela Anderson".

Angela Anderson
President
Kansas Wildlife Federation

Comment W

Barfield, David

From: The Yorke Powells <yorke.powell@gmail.com>
Sent: Monday, May 16, 2016 8:04 AM
To: Barfield, David
Subject: Quivira Refuge

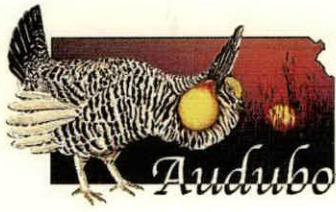
Dear Mr. Barfield,

Please make sure KDA protects the water rights of Quivira National Wildlife Refuge, an amazing and essential place for wildlife, regionally and globally. Take time to go visit this refuge and honor the protected water rights and restore the flow.

Sincerely,

Mary Powell, Topeka

Comment X



Audubon of Kansas

STATE OFFICE

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Lana Micheel, On-site Sanctuary Coordinator

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David W. Barfield, PE.
Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
1320 Research Par Drive
Manhattan, KS 66502

May 13, 2016

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Dear Mr. Barfield:

The purpose of this letter is to comment on the "Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service."

Audubon of Kansas, Inc. urges the Kansas Department of Agriculture (KDA) Division of Water Resources (DWR) to implement all necessary measures, regulations and water rights to fully restore water flows in Rattlesnake Creek to provide the U.S. Fish and Wildlife Service (Service) with flows sufficient to provide for the senior water right for the Quivira National Wildlife Refuge (Refuge). As acknowledged in the Initial Report of the Chief Engineer, Prepared pursuant to K.A.R. 5-4-1 Concerning a Claim of Water Right Impairment, In the Matter of Water Right File No. 7,571, Owned and operated by U.S. Fish and Wildlife Service published December 2, 2015, the Service's water right is senior in priority to approximately 95 percent of the water rights in the Rattlesnake Creek Basin.

The report finds the Refuge's water supply "has been regularly and substantially impacted by junior groundwater pumping." According to the report, over the 34 years reviewed, shortages of greater than 3,000 acre-feet occurred in 18 years. Impairment of the Refuge's water right has become increasingly frequent and severe as hundreds of irrigation wells with junior water rights have been approved by the DWR, resulting in the cumulative lowering of groundwater levels and instream flows in the Rattlesnake Creek Basin.

Audubon of Kansas urges that the water right for the Quivira National Wildlife Refuge be fully protected and provided for prior to depleting consumption by junior water rights users.

Audubon of Kansas does not support the suggestion that the severe impairment of the Refuge water right (due to over-pumping of groundwater in the

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Audubon of Kansas is a nonprofit membership organization devoted to wildlife and prairie conservation in Kansas and America's heartland. Audubon chapters in Kansas include: Burroughs A.S. - Kansas City; Jayhawk A. S. - Lawrence; Kaw A. S. - Emporia; Leavenworth A. S.; Northern Flint Hills A. S. - Manhattan; Smoky Hills A. S. - Salina; Sperry-Galligar A. S. - Pittsburg; Southeast Kansas A. S. - Parsons; Topeka A. S.; and Wichita A. S.

Rattlesnake Creek Basin) can be satisfactorily solved by pumping groundwater into the Refuge. In addition to the astronomical cost of installation and ongoing operations/maintenance, this approach would ignore the fact that depleting the groundwater and stream flows will further diminish ground water levels and adversely impact and/or destroy the stream, wetlands, wet meadows and other ecological values associated with the Refuge and other areas within the Rattlesnake Creek Basin.

The Quivira National Wildlife Refuge was established in 1955 to protect migratory waterfowl. Its 7,000 acres of wetlands attract hundreds of thousands of ducks and geese of thirty different species, shorebirds, wading birds (including tens of thousands of Sandhill Cranes, and Whooping Cranes) and water birds annually. Its location in the middle of the Central Flyway places it in the primary pathway for many species of migrating birds. Over 340 species of birds have been recorded at Quivira. It's 22,135 acres feature a unique combination of rare inland salt marsh and sand prairie.

In terms of protection of, and management for, species of concern, several official levels of Threatened and Endangered status are recognized within the United States and within the State of Kansas. An Endangered species is one that is in danger of becoming extinct; a Threatened species is one whose population levels are low enough where the species could become Endangered. A Federal Candidate species is one that is under review for listing as a Threatened or Endangered species. In several cases, Quivira has been designated as Critical Habitat for certain species, either at the national or state level (or both).

Whooping Cranes are an endangered species that consistently utilize Quivira as an important migratory habitat. The tallest North American bird, and one of the rarest, they once numbered as few as 16. Whooping Cranes occur regularly at Quivira each fall and spring. Fall migration use typically occurs from late October through late November, while spring migration occurs from late March through early April. Whooping Cranes utilize Quivira's shallow wetlands and lake borders for feeding and overnight roosting.

Inland populations of Least Terns are typically found along large river systems. Interior Least Terns have been declining and are classified as Endangered nationally and in the state of Kansas. Quivira hosts a nesting population of these birds, in both the Big and Little Salt Marsh areas. Least Terns occur at the Refuge during the spring, summer and early fall.

The Western Snowy Plover is classified as Threatened in Kansas. This small, whitish shorebird occurs at Quivira from spring through early fall, and nests regularly on sand flats, primarily in the Big Salt Marsh area. Their populations have suffered declines similar to those of the Interior Least Tern, with whom they share habitat.

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Many other "Species of Greatest Conservation Concern" depend on habitat at Quivira. The Piping Plover, a small shorebird similar to the Snowy Plover, occurs at Quivira occasionally during migration. The State of Kansas recognizes Species in Need of Conservation (SINC) throughout the state. Species with that status that occur at Quivira include: Black Rail, Black Tern, Eastern Hognose Snake, Western Hognose Snake, Ferruginous Hawk, Golden Eagle, Long-billed Curlew, Short-eared Owl, and Southern Bog Lemming.

Tens of thousands of shorebirds—shorebirds of thirty different species --rely on the wetlands and water-associated habitats of the Quivira National Wildlife Refuge. Shorebirds are a large and diverse group of birds that typically feed on shorelines, mudflats, and in shallow water. The group includes, but is not limited to, plovers, sandpipers, phalaropes, yellowlegs, and snipe. Although located in the center of the Great Plains, Quivira is uniquely situated in the center of the Central Flyway, one of the busiest of North America's four migration pathways. An oasis in the prairie, Quivira attracts migrating shorebirds by the tens of thousands in aggregate both spring and fall.

Beginning as early as February, Greater and Lesser Yellowlegs, along with a few other sandpipers, begin appearing on their northward journey. Numbers of species and birds increase until a peak in mid-May, when shorebirds can be found just about anywhere there is water at Quivira. There is a short lull of just a few weeks during June, after which the "fall" southward migration begins for many species by early July. This period of shorebird occurrence typically peaks in late August and September.

Shorebirds do not just occur as migrants at Quivira. Several species use Quivira's wetlands to nest. These are extant breeding populations, where the next nearest breeding populations may be hundreds of miles from Quivira. Nesting species include Wilson's Phalarope, Snowy Plover, American Avocet, and Black-necked Stilt.

Inland Salt Marshes are rare in the United States. The presence of Inland Salt Marshes contributes to the uniqueness of Quivira. Quivira's wetlands are unique due to the high concentration of salt in many areas. Subterranean salt deposits are near enough to the surface in the Quivira area to affect the groundwater that percolates to the surface. Salinity (or salt) levels in the water varies depending on rainfall, runoff from rainfall, and the depth of the water.

Many areas have a high enough salinity to support salt-tolerant plant species such as inland salt grass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*), and seepweed (*Suaeda caceoliformis*).

Once dotted with active sand dunes, Quivira is also home to a unique prairie community called Sand Prairie. In the pre-settlement era of Kansas, prairie covered most of the state. During this time, much of the area south of the "great bend" of the

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Arkansas River consisted of plains with scattered active sand dunes. Once inactive, these dunes were covered with prairie grasses and forbs. This Sand Prairie is a unique and uncommon ecosystem in North America.


The Quivira National Wildlife Refuge is among thirty "**Wetlands of International Importance,**" as designated under an international treaty signed in 1971. The Ramsar convention on wetlands, signed by 160 countries, provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

Quivira was also designated in 1994 as part of the **Western Hemisphere Shorebird Reserve Network.** The designation is based on the fact that Quivira supports more than 500,000 shorebirds annually. Shorebirds are among nature's most ambitious, long-distance migrants. But their numbers are dropping quickly with some species projected to go extinct within our lifetime. Protecting these birds is an important international conservation priority that requires proactive and coordinated efforts within each of the countries these birds fly through during their vast, nearly pole-to-pole migrations.

Quivira was also designated as a **Globally Important Bird Area** by the American Bird Conservancy in 2001.

It is critical that the State of Kansas recognizes that the Quivira National Wildlife Refuge is critically important for migratory birds from a state, national, international and global perspective. Restoring the Service's water rights and making flows available to the Refuge is a legal and ecologically essential responsibility of the Kansas Department of Agriculture, Division of Water Resources.

Sincerely,



Ron Klataske
Executive Director
Audubon of Kansas

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Comment Y

----- Forwarded message -----

From: **connie achterberg** <connieachterberg@yahoo.com>

Date: Fri, May 13, 2016 at 10:02 PM

Subject: Quivira

To: Ron Klataske <ron_klataske@audubonofkansas.org>

Attention: David W Barfield, Chief Engineer, Division of Water Resources:

I have no special position; but feel compelled to join the US Fish and Wildlife Service and Audubon of Kansas In their emergency appeal to restore sufficient water flows to provide for the senior water

Rights of Quivira. I do not have the scientific knowledge necessary to speak; but I do know that

the main creek (Bullfoot Creek) on my farm in Lincoln County, which I recently deeded to Audubon of Kansas (to create a "Wildlife Friendly Demonstration Farm" wildlife sanctuary, flowed continuously at a good rate when I was growing up. Now parts of it are dry in the summer so that the bullheads and sunfish can no longer survive. It appears that groups have met time after time over extended periods of time regarding the senior water Rights of Quivira to no avail. The Kansas Water Resources office must have the fortitude to enforce the Senior water rights of Quivira immediately. Otherwise we will lose this world famous wetland and

Flyway. We'll only have one chance. the current groundwater use reductions agreed to long ago must be enforced.

Thank you for considering the conservation concerns.

Connie Achterberg
132 Overhill Road
Salina, Kansas 67401

Sent from my iPad

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From: Ron Klataske [mailto:ron_klataske@audubonofkansas.org]

Sent: Monday, May 16, 2016 4:42 PM

To: Metzger, Susan

Subject: Fwd: Quivira

Susan, I received this email from Connie Achterberg on Friday night. As you will note, she wrote in a follow up email that she tried to send it to David Barfield so it would be received prior to midnight, but she couldn't get the emails to go through. --Ron

--

Ron Klataske
Executive Director
Audubon of Kansas

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Manhattan KS 66503
785-537-4385
ron_klataske@audubonofkansas.org

Comment Z

Barfield, David

From: Mike Higley <mike.higley@gmail.com>
Sent: Tuesday, May 17, 2016 9:41 AM
To: Barfield, David
Subject: Quivera National Wildlife Refuge Water Rights

Dear Mr. Barfield,

Regarding the claim of water right impairment by the U.S. Fish and Wildlife Service (File No. 7,571), I urge you to uphold the senior water rights of the Quivera National Wildlife Refuge over the junior water rights of irrigation wells in the Rattlesnake Creek Subbasin. Please do not allow for-profit users to continue to rob the refuge of its rightful share of water.

--

Mike Higley
1524 Vermont Street
Lawrence, KS