

IN THE THIRD JUDICIAL DISTRICT  
DISTRICT COURT, SHAWNEE COUNTY, KANSAS  
CIVIL DEPARTMENT

AUDUBON OF KANSAS, INC., )  
 )  
 Plaintiff, )  
 )  
 v. ) Case No. \_\_\_\_\_  
 )  
 EARL LEWIS, in his official capacity )  
 as Chief Engineer, Kansas Department )  
 of Agriculture, Division of Water Resources, )  
 )  
 Defendant. )  
 \_\_\_\_\_ )

*Pursuant to K.S.A. Chapter 60*

**PETITION FOR WRIT OF MANDAMUS AND DECLARATORY JUDGMENT**

COMES NOW Plaintiff, Audubon of Kansas, Inc. (“Plaintiff” or “AOK”), and brings this action in mandamus seeking an order requiring Defendant Earl Lewis, chief engineer of the Kansas Department of Agriculture, Division of Water Resources (“KDA-DWR”) to administer immediately all junior water rights in the Rattlesnake Creek Basin (“Basin”) that KDA-DWR has determined to have impaired and to be impairing the senior water right (“Refuge Water Right”) held by the United States Department of Interior, Fish & Wildlife Service (“Service”) for the benefit of the Quivira National Wildlife Refuge (“Refuge”), until the Refuge Water Right is no longer impaired. AOK also seeks three declarations of law, costs, and other relief as the court deems just and proper.

In support of this Petition, Plaintiff alleges and states as follows:

## I. JURISDICTION & PARTIES

1. This is an action for mandamus and declaratory relief authorized by K.S.A. 60-802 (mandamus) and 60-1701, 60-1703 (declaratory relief). The Court has general jurisdiction under K.S.A. 20-301.

2. Plaintiff AOK is a 501(c)(3) nonprofit organization incorporated in Kansas and serves approximately 5,000 members. AOK's purpose is to promote the enjoyment, understanding, protection, and restoration of natural ecosystems across Kansas, Nebraska, and the central Great Plains, and engages in conservation work to protect and advocate on behalf of migratory birds and their habitats. AOK owns and maintains nature sanctuaries across the Central Flyway, where its members enjoy birding and natural history activities, and further provides education and information to its members and the public through action alerts, press releases, facts sheets, and letters to lawmakers. AOK and its members regularly visit, use, and enjoy the Refuge for bird watching and other recreational, aesthetic, scientific, educational, and spiritual purposes, and AOK's members will continue to do so on a regular basis indefinitely. The chronic, serious, and ongoing impairment of the Refuge Water Right threatens to destroy the Refuge and take the many endangered and threatened species that depend upon it, thereby threatening the nature sanctuaries, conservation activities, and interests of AOK and its members.

3. Defendant Earl Lewis ("Lewis") is the chief engineer of KDA-DWR and is charged under the Kansas Water Appropriation Act, K.S.A. 82a-701 *et seq.* ("KWAA"), with jurisdiction over Kansas waters and the protection of Kansas water rights, which are real property rights protected under state and federal law. Although Kansas law requires his office to be located in Topeka, K.S.A. §§ 74-506b, 74-505, he may be served at 1320 Research Park Drive, 3rd Floor, Manhattan, KS 66502. *See* K.S.A. 60-205.

4. This Court has personal jurisdiction over the Defendant, who is sued in his official capacity only. Defendant has sufficient personal and business contacts within Shawnee County as chief engineer of KDA-DWR for this Court to have personal jurisdiction over him in his official capacity. K.S.A. §§ 74-506b, 74-505.

5. Venue is proper before this Court under K.S.A. 60-602(2), because this action seeks relief against a public officer “for neglect of his or her official duties” to be performed in Shawnee County, Kansas.

## II. STATEMENT OF FACTS

6. The Refuge was established by the federal government in May, 1955 as an inviolate sanctuary for migratory birds, and for the protection of fish and wildlife resources. The Refuge is recognized as one of only thirty “Wetlands of International Importance” under international treaty, and provides vital habitat for a wide array of endangered and threatened species that rely upon the natural flows of Rattlesnake Creek and the groundwater-dependent ecosystem of the Basin.

7. The Service holds the Refuge Water Right, File No. 7,571, an appropriation water right pursuant to the KWAA. *See Exhibit A.* The Refuge Water Right is a permanent, real property right with the following attributes according to its Certificate of Appropriation: a priority date of August 15, 1957, senior to approximately 95% of all water rights within the Basin; an authorized quantity of 14,632 acre-feet of annual diversion and beneficial use; a maximum diversion rate of 300 cubic feet per second; three points of diversion from the surface waters of Rattlesnake Creek, a surface water tributary of the Arkansas River; and places of beneficial use consisting of Refuge wetlands.

8. Despite these explicit attributes, which entitle the Refuge Water Right to comprehensive protection from impairment by junior rights, it has chronically suffered debilitating shortages since the 1980s as a result of junior groundwater pumping.

9. In 2013, the Service filed a request for an impairment investigation, pursuant to K.S.A. 82a-706b and K.A.R. 5-4-1, citing water shortages and declining streamflows which had crippled the Refuge Water Right, threatening the endangered species at the Refuge. **Exhibit B.**

10. In 2016, Lewis's predecessor as chief engineer, David Barfield, issued a final report finding that the Refuge Water Right was impaired, chronically and seriously, as a result of junior groundwater pumping, attached herein as **Exhibit C** ("Impairment Report"). Using the most complete pumping data and the most sophisticated groundwater modeling tools available within Kansas, KDA-DWR concluded that junior appropriators were pumping 30,000 to 60,000 acre-feet of water per year "that would have otherwise flowed through or past the Refuge." **Exhibit C, p. 12.** The Impairment Report further concluded that "reductions in groundwater pumping will restore streamflow at the Refuge." **Exhibit C, p. 3.**

11. Upon the chief engineer's finding that a senior water right is impaired by the diversion of water by junior water rights, the senior right is entitled to file a request with KDA-DWR to secure water. Upon the filing of such a request, the chief engineer must act to shut off, or "administer," junior water rights that he has determined are impairing the senior right. K.S.A. 82a-706b, K.A.R. 5-4-1. For a more detailed description of this procedure, see Part III below.

12. KDA-DWR has never fulfilled this ministerial, non-discretionary duty to protect the Refuge Water Right. After the Service, in late 2016, signaled its intent to file a request to secure water in 2017, *see* **Exhibit D**, former chief engineer Barfield issued a notice, attached herein as **Exhibit E**, announcing KDA-DWR would not administer junior water rights in the Basin in 2017,



even if the Service filed such a request: “Since it is late in the year and many producers have already made cropping decisions and purchases for the coming year, we will not administer the basin’s impairing water rights during the 2017 irrigation season.”

13. The Service submitted a request to secure water on January 17, 2017, but in light of the chief engineer’s prior statements that no administration of junior rights in the Basin would take place in 2017, the Service postdated its request to 2018. **Exhibit F.**

14. On September 6, 2017, AOK wrote former chief engineer Barfield, insisting upon the need to administer junior water rights in light of the legal protections to which the Refuge was entitled under state and federal law. **Exhibit G.** On September 29, 2017, Barfield responded that it was “premature” to administer junior rights in light of local efforts to develop substitute water supplies for the Refuge—despite his finding of impairment. **Exhibit H.**

15. As detailed in Part III below, the KWAA allows for such substitute, or “augmentation” water supplies, but under very narrow terms which have not been met in the Basin. K.S.A. 82a-706b(a)(2).

16. On December 13, 2017, Dr. Jackie McClaskey, former secretary of KDA, promised local irrigators holding junior rights in the Basin that KDA-DWR would “not impose strict administration of water rights on January 1, 2018,” and did not “have any intent to do so in the immediate future” while they developed an “augmentation” alternative. **Exhibit I.** McClaskey’s letter did state, however, that it would be critical that some “formal action to address the impairment begin in 2018” in light of KDA-DWR’s “statutory duty to secure water to senior water rights.” *Id.*

17. The Kansas secretary of agriculture has no jurisdiction over the administration of water rights, K.S.A. §§ 82a-706, 82a-706b, and lacks the power to administratively review such

priority administration, *id.*, 82a-1901, but former chief engineer Barfield did not contest her assumption of his exclusive duties under the KWAA.

18. On August 17, 2018, AOK again sent former chief engineer Barfield a letter describing how he was abdicating his legal duties under the KWAA to administer junior rights to protect the Refuge Water Right. **Exhibit J.** Ten days later, KDA-DWR’s chief legal counsel described local efforts to develop “augmentation,” but made clear that if those efforts failed, “much more significant pumping reductions will be required.” **Exhibit K.**

19. After no water rights were administered in the Basin in 2017 or 2018, and having rejected local “augmentation” efforts, the Service in late 2018 submitted yet another request to secure water for 2019. **Exhibit L.**

20. Chief engineer Barfield did not administer junior water rights in the Basin in 2019, even though his 2016 Impairment Report generally indicated which rights were impairing the Refuge Water Right, and concluded that priority administration would be effective in addressing the impairment. *See* **Exhibit C, p. 6.**

21. By August, 2019—over three years after the issuance of the Impairment Report—former chief engineer Barfield had finally prepared a plan to administer junior water rights to resolve the impairment of the Refuge Water Right. *See* **Exhibit M.** His announcement immediately provoked a political response. U.S. Senator Jerry Moran announced in October 2019 that he had secured a tentative deal with the Service to avoid the administration of junior rights in the Basin. **Exhibit N.**

22. In July, 2020, the Service entered into a Memorandum of Agreement (“2020 MOA”) with Big Bend Groundwater Management District No. 5 (“GMD5”), an entity that represents local groundwater irrigators. **Exhibit O.** The 2020 MOA consummated the bargain

announced by Senator Moran in 2019. The Service agreed not to submit requests to secure water with KDA-DWR in either 2020 or 2021. In exchange, GMD5 promised to develop an “augmentation” plan that, by providing substitute water supplies to the Refuge, could potentially avoid the administration of junior water rights whose use was impairing the Refuge Water Right.

23. In early 2021, AOK filed a federal lawsuit challenging the 2020 MOA, and pursued the matter through the appeal process with the Tenth Circuit Court of Appeals. *Audubon of Kansas, Inc. v. United States Dep’t of Interior*, 67 F.4th 1093 (10th Cir. 2023); *Audubon of Kansas, Inc. v. United States Dep’t of Interior*, 568 F.Supp.3d 1167 (D. Kan. 2021).

24. On January 5, 2022, the Service wrote to GMD5, characterizing the 2020 MOA as having “culminated,” but stating nonetheless that the Service would not file a request to secure water in 2022 so long as GMD5 continued to make adequate progress toward a workable plan for “augmentation” in the Basin. **Exhibit P.**

25. On February 10, 2023, the Service changed course. It filed a request to secure water with KDA-DWR, including correspondence expressing the agency’s disapproval over GMD5’s efforts to develop “augmentation.” **Exhibit Q.**

26. On March 6, 2023, GMD5 wrote the Service requesting it to withdraw its request to secure water. GMD5 claimed that any administration of water rights in the Basin would jeopardize local efforts to develop an “augmentation” plan. **Exhibit R.**

27. On April 10, 2023—the ten-year anniversary of the Service’s filing a request with KDA-DWR for an impairment investigation—Defendant Lewis issued a public statement in his official capacity as chief engineer that “no actions to administer junior water rights with respect to the [Service’s] Request to Secure Water are planned during 2023,” claiming that further technical review was still necessary. **Exhibit S; Exhibit B.**

28. Because of chief engineer Lewis’s refusal to protect the Refuge Water Right, groundwater pumping continues unabated in the Basin, unlawfully diverting water to which the Refuge Water Right is entitled and depleting the Basin by between 30,000 and 60,000 acre-feet annually. He is willfully condoning this unlawful conduct even as the Refuge is currently suffering from Condition D3, that of “Extreme Drought” according to the National Drought Monitor. *See* <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?KS> (last accessed July 3, 2023).

### III. GROUNDS FOR RELIEF

29. Pursuant to the authority delegated by the Kansas Legislature in the KWAA, the chief engineer of KDA-DWR “*shall* enforce and administer the laws of this state pertaining to the beneficial use of water and *shall* control, conserve, regulate, allot and aid in the distribution of water resources of the state for the benefit and beneficial uses of all of its inhabitants *in accordance with the rights of priority of appropriation.*” K.S.A. 82a-706 (emphases added).

30. K.S.A. 82a-706b(a) declares it unlawful “for any person to prevent, by diversion or otherwise, any waters of this state from moving to a person having a prior right to use the same.”

31. Where the holder of a senior water right believes that his right is suffering impairment due to the diversion of water by junior water right holders, the senior water right holder may protect the senior right by filing a complaint with the chief engineer, which triggers his duty to investigate the impairment. K.A.R. 5-4-1.

32. After investigating the impairment pursuant to K.A.R. 5-4-1, the chief engineer is required to issue a final report on the matter. If he concludes that the senior water right is impaired by junior rights, the holder of the impaired senior right may file a request to secure water. K.A.R. 5-4-1(d).

33. Upon receipt of the senior water right holder’s filing of a request to secure water, “the chief engineer . . . *shall*, as may be necessary to secure water to the person having the prior right to its use [. . .] :

- (1) direct that the headgates, valves, or other controlling works of any ditch, conduit, pipe, well or structure be opened, closed, adjusted or regulated; or
- (2) within the rattlesnake creek subbasin located in hydrologic unit code 11030009, allow augmentation for replacement in time, location and quantity of the unlawful diversion, *if such replacement is available and offered voluntarily.*”

K.S.A. 82a-706b(a)(1)-(2) (emphasis added).

34. This statutory duty is ministerial, non-discretionary, and immediate. A fundamental purpose of the prior appropriation doctrine, as codified in the KWAA, is to quickly and decisively protect water rights according to their respective temporal priorities during times of shortage: “the first in time is the first in right.” *Id.*, 82a-707(c). The chief engineer has no authority under the KWAA or any other law to choose inaction as a valid response to a properly submitted request to secure water.

35. The plain language of K.S.A. 82a-706b(a)(1) imposes the chief engineer’s duty to act immediately: the chief engineer shall “direct that the headgates, valves, or other controlling works of any ditch, conduit, pipe, well or structure be opened, closed, adjusted or regulated . . . .” This language is plainly predicated upon the assumption that the impairing junior rights are in operation during irrigation season: the “headgates, valves,” and wells that are in operation must be “closed, adjusted or regulated . . . .” There is no language allowing for delays or postponements in priority administration, because such delay would condone the illegal diversion of water by junior rights holders. This is clearly forbidden by the statute, which makes it unlawful for “for any person to prevent, by diversion or otherwise, any waters of this state from moving to a person having a

prior right to use the same.” *Id.*, 82a-706b(a). The prevention of unlawful, junior diversions thus requires immediate administration. This is consistent with Kansas water law dating back to 1886, intentionally retained with the enactment of the KWAA in 1945, and retained ever since. *Id.*, 42-329.

36. The prior appropriation doctrine does not meddle with equity. The KWAA permits neither speculation about the hardships that might flow from the administration of junior rights, nor comparisons of their relative economic value, to influence the chief engineer’s duties. “The date of priority of every water right of every kind, and not the purpose of use, determines the right to divert and use water at any time when the supply is not sufficient to satisfy all water rights.” *Id.*, 82a-707(b).

37. Instead, the chief engineer’s decision-making authority must always be carried out “in accordance with the rights of priority of appropriation.” K.S.A. 82a-706. Chief engineer Lewis’s express decision to take no action in response to the Service’s present request to secure water is a clear breach of this non-discretionary duty, a duty which he has acknowledged. *See Exhibit S.*

38. The seniority and the impairment of the Refuge Water Right are undisputed. Neither chief engineer Lewis, nor the Service, nor GMD5 disputes the analyses and findings contained in the Impairment Report, which details how the Refuge Water Right has been chronically impaired for decades. KDA-DWR has studied the problem extensively, using sophisticated and uncontested groundwater models initially developed by GMD5. It concluded in 2016 that “[l]ong term reductions in upstream, junior groundwater pumping and/or use of augmentation appear to be the only practical physical remedies to the impairment of the Refuge’s water right.” **Exhibit C, p. 4.** KDA-DWR has developed a plan for priority administration that former chief engineer Barfield

was prepared to deploy, after having ignored prior formal requests by the Service from 2017 to 2019. **Exhibit M.**

39. The KWAA does, however, contain one limited and potential exception to the rule and remedy of priority administration. In 2015, in response to the impairment of the Refuge Water Right, the Kansas Legislature amended K.S.A. 82a-706b to add subsection (a)(2). This subsection permits “augmentation” in lieu of priority administration—but only within the Basin. The term “augmentation” is neither defined nor explained, in either statute or regulation. It is a term of art in western water law, with dramatically different meanings from state to state. In Kansas, “augmentation” appears to be an alternative to priority administration, provided that three conditions are met. First, it can only take place in the Basin. K.S.A. 82a-706b(a)(2). Second, it must somehow satisfy the impaired water right by providing water supplies “for the replacement in time, location and quantity of the unlawful diversion [of water by junior rights]. . . .” *Id.* Finally, augmentation or “such replacement” must both be “available and offered voluntarily.” *Id.*

40. But this exception does not apply in this case, because there is no “augmentation” to serve as an alternative to priority administration. As a factual matter, neither KDA-DWR nor the Service has approved or accepted any “augmentation” in the Basin. KDA-DWR has yet to accept any “augmentation” put forth by GMD5 or holders of water rights in the Basin. The Service filed its request to secure water in 2023 after determining that “augmentation,” a principal goal of the 2020 MOA, was not a viable solution to the impairment of the Refuge. **Exhibit Q; Exhibit O.**

41. As a legal matter, subsection 2 of K.S.A. 82a-706b(a) must be read in harmony with its surrounding provisions. It requires the chief engineer to proceed with priority administration under subsection 1 if “augmentation” is not “available and offered voluntarily” at the time the chief

engineer makes “a determination of an unlawful diversion.” *Id.*, 82a-706b(a). The statute does not allow the chief engineer to avoid enforcing priority administration under subsection 1 in the hope that augmentation may become a feasible option later. Thus, there is neither a factual nor a legal basis for chief engineer Lewis to delay the performance of his non-discretionary duties under the KWAA.

42. The Defendant may claim the authority to delay priority administration according to K.A.R. 5-4-1(e)(3), which purportedly allows him to consider shutting down juniors “the next year and rotating water use among rights.” But this regulatory allowance is clearly inconsistent with the clear statutory commands for immediate priority administration under the KWAA, and it is thereby void.

43. All conditions precedent to trigger the Defendant’s statutory, non-discretionary duty to administer water rights in the Basin by priority of appropriation have occurred or have been performed.

#### **IV. PRAYER FOR RELIEF**

WHEREFORE, for the reasons stated herein, Plaintiff respectfully prays this Court enter judgment in its favor and against Defendant Lewis by issuing the following:

- a. A writ of mandamus ordering Defendant Lewis to administer immediately all junior water rights in the Basin that KDA-DWR has found to be impairing the Refuge Water Right until such time as the Refuge Water Right is no longer impaired.
- b. A declaration that the chief engineer violates his non-discretionary duties pursuant to K.S.A. §§ 82a-706 and 82a-706b when the holder of an impaired senior water right files a request to secure water and the chief engineer decides not administer



junior rights, thus knowingly allowing them to continue unlawfully diverting water by preventing water from moving to the senior right.

- c. A declaration that K.S.A. 82a-706b requires the chief engineer to administer immediately junior water rights in the Basin in the manner provided by subsection (a)(1) when “augmentation” under subsection (a)(2) is not “available and offered voluntarily” at the time the chief engineer determines that a senior water right has been impaired by junior rights.
- d. A declaration that K.A.R. 5-4-1(e)(3) is void because it contradicts and is inconsistent with the statutory duties of the chief engineer pursuant to K.S.A. §§ 42-329, 82a-706, and 82a-706b; and
- e. An award of Plaintiff’s costs, expenses, and reasonable attorneys’ fees; and
- f. Such other and further relief as this Court deems just and equitable.

Respectfully submitted.

*s/Dylan P. Wheeler*

Dylan P. Wheeler #28661

Randall K. Rathbun #09765

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*Attorneys for Plaintiff Audubon of Kansas, Inc.*

## **INDEX OF EXHIBITS**

<b>Exhibit A</b>	Water Right File No. 7,571
<b>Exhibit B</b>	2013 U.S. Fish and Wildlife Request for Impairment Investigation
<b>Exhibit C</b>	July 15, 2016 Final Impairment Report of the Chief Engineer
<b>Exhibit D</b>	December 1, 2016 Letter from U.S. Fish and Wildlife to GMD5
<b>Exhibit E</b>	December 8, 2016 Letter from Chief Engineer to GMD5
<b>Exhibit F</b>	January 17, 2017 Request to Secure Water
<b>Exhibit G</b>	September 6, 2017 Letter from AOK to Chief Engineer
<b>Exhibit H</b>	September 29, 2017 Response of Chief Engineer to AOK
<b>Exhibit I</b>	December 13, 2017 KDA-DWR Memorandum to GMD5
<b>Exhibit J</b>	August 17, 2018 Letter from AOK to Chief Engineer
<b>Exhibit K</b>	August 27, 2018 Letter from Chief Legal Counsel of KDA-DWR
<b>Exhibit L</b>	December 13, 2018 Request to Secure Water
<b>Exhibit M</b>	August 2019, Resolving the Quivira Impairment
<b>Exhibit N</b>	October 21, 2019 Press Release of U.S. Senator Jerry Moran
<b>Exhibit O</b>	2020 Memorandum of Agreement
<b>Exhibit P</b>	January 5, 2022 Letter from U.S. Fish & Wildlife to GMD5
<b>Exhibit Q</b>	February 10, 2023 Request to Secure Water
<b>Exhibit R</b>	March 6, 2023 Letter from GMD5 to U.S. Fish & Wildlife
<b>Exhibit S</b>	April 10, 2023 KDA-DWR Statement to Water Users re Quivira

## **Exhibit A**

THE STATE



OF KANSAS

DUPLICATE COPY

KANSAS DEPARTMENT OF AGRICULTURE  
Alice A. Devine, Secretary of Agriculture

DIVISION OF WATER RESOURCES  
David L. Pope, Chief Engineer

**CERTIFICATE OF APPROPRIATION  
FOR BENEFICIAL USE OF WATER**

Water Right, File No. 7,571  
Priority Date August 15, 1957

WHEREAS, It has been determined by the undersigned that construction of the appropriation diversion works has been completed, that water has been used for beneficial purposes and that the appropriation right has been perfected, all in conformity with the conditions of approval of the application pursuant to the water right referred to above and in conformity with the laws of the State of Kansas.

NOW, THEREFORE, Be It Known that DAVID L. POPE, the duly appointed qualified and acting Chief Engineer of the Division of Water Resources of the Kansas Department of Agriculture, by authority of the laws of the State of Kansas, and particularly K.S.A. 82a-714, does hereby certify that, subject to vested rights and prior appropriation rights, the appropriator is entitled to make use of natural flows of Rattlesnake Creek to be diverted at three (3) points:

One (1) point located in the Southwest Quarter of the Southeast Quarter of the Northeast Quarter (SW¼ SE¼ NE¼) of Section 35, more particularly described as being near a point 3,100 feet North and 1,150 feet West of the Southeast corner of said section, in Township 21 South, Range 11 West, Stafford County, Kansas, and

one (1) point located in the Southwest Quarter of the Northeast Quarter of the Northeast Quarter (SW¼ NE¼ NE¼) of Section 13, more particularly described as being near a point 4,450 feet North and 1,000 feet West of the Southeast corner of said section, in Township 22 South, Range 11 West, Stafford County, Kansas, and

one (1) point located near the center of the Southwest Quarter (SW¼) of Section 25, more particularly described as being near a point 1,250 feet North and 3,850 feet West of the Southeast corner of said section, in Township 22 South, Range 11 West, Stafford County, Kansas,

at a combined maximum diversion rate not in excess of 300 cubic feet per second and a quantity not to exceed 14,632 acre-feet of water per calendar year for recreational use. Such quantity can subsequently be stored and accumulated in marsh areas within the Quivira National Wildlife Refuge, to the extent perfected by December 31, 1987, located on the following described property:

The South 80 acres of the Southeast Quarter (SE¼) of Section 15; the South Half (S½) of Section 14; the Northeast Quarter (NE¼), Southwest Quarter (SW¼) and Southeast Quarter (SE¼) of Section 21 and 29; and all of Sections 13, 22 through 28, and 32 through 36 in Township 21 South, Range 11 West;

and all of Section 1 through 5, 11 through 14, 23 through 26, and Section 35 and 36 in Township 22 South, Range 11 West;

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DIVISION OF WATER RESOURCES  
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File No. 7,571

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and all of Sections 1 and 2 in Township 23 South, Range 11 West,

all in Stafford County, Kansas, and

Section 18 in Township 21 South, Range 10 West, in Rice County, Kansas;

and Section 30 in Township 22 South, Range 10 West, in Reno County, Kansas.

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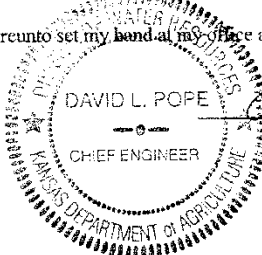
The appropriator shall maintain in an operating condition, satisfactory to the Chief Engineer, all check valves installed for preventing chemical or other foreign substance likely to cause pollution of the water supply.

The appropriator shall maintain records from which the quantity of water actually diverted during each calendar year may be readily determined. Such records shall be furnished to the Chief Engineer by March 1 following the end of the previous calendar year.

The appropriation right shall be deemed abandoned and shall terminate when without due and sufficient cause no lawful beneficial use is made of water under this appropriation for three (3) successive years.

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 the reasonable increase or decrease of the stream flow at the appropriator's point of diversion.

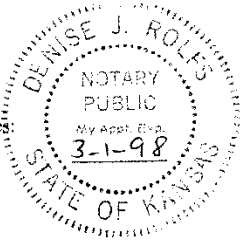
IN WITNESS WHEREOF, I have hereunto set my hand at my office at Topeka, Kansas, this 9<sup>th</sup> day of April, 1996.



*David L. Pope*  
David L. Pope, P.E.  
Chief Engineer  
Division of Water Resources  
Kansas Department of Agriculture

State of Kansas, Shawnee COUNTY, SS

The foregoing instrument was acknowledged before me this 9<sup>th</sup> day of April, 1996, by David L. Pope, P.E., Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.



*Denise J. Roles*  
Notary Public

My appointment expires:

(Record in the Office of Register of Deeds in the county or counties wherein the point of diversion is located)

**CERTIFICATE OF APPROPRIATION**  
FOR BENEFICIAL USE OF WATER

STATE OF KANSAS

Water Right, File No. 7,571

STATE OF KANSAS,

\_\_\_\_\_ COUNTY, ss.

Filed for record this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_

at \_\_\_\_\_ o'clock \_\_\_\_\_ m. and \_\_\_\_\_

\_\_\_\_\_

recorded in Book \_\_\_\_\_ Page \_\_\_\_\_

Fee \$ \_\_\_\_\_

Register of Deeds.

## **Exhibit B**



IN REPLY REFER TO:  
BA WTR  
WR KS  
Mail Stop 60189

United States Department of the Interior  
FISH AND WILDLIFE SERVICE  
Mountain-Prairie Region

MAILING ADDRESS:      STREET LOCATION:  
Post Office Box 25486      134 Union Blvd.  
Denver Federal Center      Lakewood, Colorado 80228-1807  
Denver, Colorado 80225-0486



APR 08 2013

David Barfield, Chief Engineer  
Kansas State Board of Agriculture  
Division of Water Resources  
109 SW 9th Street, 2<sup>nd</sup> Floor  
Topeka, Kansas 66612-1280

Dear Mr. Barfield:

The U.S. Fish and Wildlife Service (Service) owns and manages the Quivira National Wildlife Refuge (Refuge). The Refuge holds Water Right No. 7571, priority date August 15, 1957, at a combined diversion rate not to exceed 300 cubic feet per second and a quantity not to exceed 14,632 acre-feet per calendar year for recreational use. Based on available studies and the results of the Rattlesnake Creek Subbasin Management Plan, the Service believes that our water right is impaired by junior well use. We hereby request that your office commence an impairment investigation.

The Refuge is important to natural resource conservation not only regionally and nationally, but globally as well. The Refuge is designated as a Western Hemisphere Shorebird Network site, a Wetland of International Importance (RAMSAR site), an Important Bird Area (American Bird Conservancy), and is critical habitat for federally endangered whooping cranes. The federally endangered piping plover and interior least tern also use the refuge and the State has designated refuge lands (waters) as critical habitat for the western snowy plover and Arkansas darter, both of which are state listed as threatened species.

Surface water originating from Rattlesnake Creek and groundwater discharge from the shallow, saline Precambrian bedrock are critical to sustaining Refuge wetlands that attract and support the vast variety of associated migratory and resident bird species. Without both of these components, groundwater upwelling or sufficient streamflow, the ecology of the entire system will change. The Refuge and its values will not be sustained unless the aquifer system is brought into balance.

Like a farmer, the Refuge needs water during critical time periods. The values of wetlands on refuge lands for migratory birds can only be sustained by providing flooded conditions at proper times during the year, particularly during spring and fall migration. Simply because water resources

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is available on an annual basis in most years does not meet Refuge habitat management needs. Water is typically unavailable in the late summer and early fall when the Refuge is trying to flood migration habitat for birds. Irrigation pumping is usually greatest during this time as well. Water shortages typically occur during the months of July, August and September, when as little as a few hundred acre-feet may be available.

The Service has been patient as the 12-year Rattlesnake Creek Subbasin Management Plan was allowed to run its course. The Service was a supportive and sincere partner in the effort to utilize an incentive-based plan to reduce groundwater use. At the end of the 12 years, groundwater use has increased, groundwater levels have not improved, and streamflow goals have not been met. Streamflow continues to decline, and junior irrigators are allowed to continue to pump. We respectfully request that you conduct your investigation and take whatever administrative actions are necessary to protect the Service's senior water right and, we believe, the ability of the Rattlesnake Creek watershed to support all current land uses over the long term.

Please contact me at [meg\\_estep@fws.gov](mailto:meg_estep@fws.gov) or a call if you have any questions at (303) 236-4491.

Sincerely,



Megan A. Estep, Chief  
Division of Water Resources

cc: Refuge Manager, Quivira NWR  
Refuge Supervisor, CO/KS/NE  
Rocky Mountain Region Solicitor's Office  
Water Commissioner, Stafford Field Office  
Manager, Groundwater Management District #5  
Water Pack

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## **Exhibit C**

# **Final 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**



July 15, 2016

David W. Barfield, P.E.

Chief Engineer

Division of Water Resources

Kansas Department of Agriculture

This final report provides the results of DWR's impairment investigation requested by the U.S. Fish and Wildlife Service related to their water right for the Quivira Refuge, Water Right File No. 7,571.

The United States Fish & Wildlife Service (Service) holds Water Right File No. 7,571; a surface water right near the bottom of the Rattlesnake Creek for its Quivira National Wildlife Refuge. The Refuge's water right entitles it to take water from Rattlesnake Creek at three points of diversion at a combined maximum diversion rate not in excess of 300 cubic feet per second and a quantity not to exceed 14,632 acre-feet of water per calendar year for recreational use. The Refuge is located along the Central Flyway and consists of 7,000 acres of wetlands. The Refuge uses water primarily to provide habitat for several hundred species of birds and other animals, including several federally protected endangered species.

Over the last three decades, the Service has alleged that junior groundwater pumping above the Refuge has resulted in periods of significant water shortages at the Refuge. For more than 15 years, the Service worked with the Rattlesnake Partnership, seeking to bring about voluntary reductions in use to improve its supply. On April 8, 2013, the Service requested this impairment investigation.

DWR reviewed existing records and gathered additional information on the Refuge's infrastructure, historical use and shortages, and the pattern of water needs at the Refuge as part of this investigation. DWR used the GMD 5 groundwater model to determine the magnitude and timing of streamflow depletions due to upstream, junior groundwater pumping on water availability at the Refuge. Finally, DWR compared the streamflows that would have been available but for the effects of junior groundwater pumping with the seasonal needs of the Refuge to estimate the magnitude and frequency of impairment in the record reviewed.

A technical report on the investigation and data analyses is attached hereto.

Based on our impairment investigation, I make the following findings and conclusions.

## **Findings**

Upstream, junior groundwater pumping within the Basin is and has been significantly reducing water availability at the Refuge on the order of 30,000-60,000 acre-feet per year over the recent record (1995-2007). This does not mean that the Refuge is being impaired by 30,000-60,000 acre-feet per year, but rather that junior

groundwater pumpers are taking that much out of the stream; water that would have otherwise flowed through or past the Refuge.

In comparing the seasonal needs of the Refuge, within the scope of its water right, with water that would have been available at the Refuge but for the effect of junior pumping, I find that the Refuge's water supply has been regularly and substantially impacted by junior groundwater pumping (see Figures 5-8 and Figure 9 of the report). Over the 34 years reviewed, shortages — when junior groundwater pumping prevented the Refuge from exercising its water right — were greater than 3,000 acre-feet in 18 years, particularly during periods of limited water supply.

As evidenced by various scenarios reviewed in the modeling report, while it will take years, reductions in groundwater pumping will restore streamflow at the Refuge.

DWR's analysis of water right data, water use data, and groundwater modeling analysis indicates that, due to the relatively small amount of pumping adjacent to the stream and the multi-year lag between pumping reductions and streamflow enhancement, real-time administration of junior groundwater pumping (i.e. curtailment only during periods of shortage) is unlikely to restore streamflow quickly enough to prevent impairment at the Refuge. Long-term reductions in upstream, junior groundwater pumping and/or the use of augmentation appear to be the only practical physical remedies to the impairment of the Refuge's water right.

My finding of impairment is based on historical simulations using the GMD 5 groundwater model and a retrospective analysis of the Service's needs. While I find this sufficient to conclude that impairment has occurred in the past and will occur in the future, the actual magnitude and timing of future impairment will depend on the specific circumstances. For instance, the Service has acknowledged that significant drought periods, and the resulting water shortages, are part of the natural hydrologic cycle, and DWR's impairment analysis does not directly factor in the Service's use of storage in Little Salt Marsh, which, in practice, may help to reduce some shortages to a limited degree.

Based on the historical analysis, and assuming that the basin's hydrology will not significantly change, for better or worse, in the next several decades, it appears that, to relieve the impairment of the Service's water right, groundwater reductions and/or augmentation will be needed to increase available streamflow at the Refuge by 3,000-5,000 acre-feet on a regular basis.

## **Conclusion**

Based on the results of this investigation, I conclude that upstream, junior groundwater pumping regularly and significantly impairs the Service's ability to use its Water Right File No. 7,571.

Further, I find this impairment is not substantially due to regional overall lowering of the water table, but is principally due to ongoing impacts of junior groundwater pumping and the associated reduction in outflows from the groundwater system to the stream system.

Pursuant to K.A.R. 5-4-1, this report is posted on the agency's website as of July 15, 2016: [agriculture.ks.gov/quivira](http://agriculture.ks.gov/quivira).

# **Technical Report**

**Prepared pursuant to K.A.R. 5-4-1**

**on a Claim of Water Right Impairment  
In the Case of**

**Water Right File No. 7,571  
owned and operated by**

**United States Department of the Interior  
Fish & Wildlife Service  
Quivira National Wildlife Refuge**



July, 2016

Division of Water Resources  
Kansas Department of Agriculture

## i. **Executive Summary**

Quivira National Wildlife Refuge (“Refuge”) is located in south-central Kansas and primarily gets its water supply from Rattlesnake Creek which runs into and through the Refuge. The Refuge is located midway along the Central Flyway and consists of about 7,000 acres of wetlands. The Refuge uses water primarily to grow feed crops and maintain wetlands at certain depths to provide habitat for several hundred species of birds and other animals, including several federally protected endangered species. The Refuge is owned and operated by the United States Fish & Wildlife Service (Service), a part of the United States Department of the Interior.

After nearly three decades of expressing concerns that junior groundwater appropriators upstream of the Refuge are depleting the streamflow in Rattlesnake Creek, and working with local water users and the groundwater management district to try to find solutions to their concerns, the Service lodged an impairment complaint with the Kansas Department of Agriculture Division of Water Resources (KDA-DWR) in an April 8, 2013, letter.

The Service owns Water Right File No. 7,571; which is senior in priority to about 95% of the water rights in the basin, and which entitles the Refuge to divert up to 14,632 acre-feet of surface water each year from Rattlesnake Creek, when water is available.

Results from KDA-DWR’s simulations using a groundwater model commissioned by Big Bend Groundwater Management District #5 (“GMD5”) and built by groundwater modeling consultants, show that junior groundwater pumping upstream of the refuge has significantly reduced streamflow available to the Refuge over the years.

Using the modeling results and the Service’s operational guide, which lays out the Refuge’s seasonal water needs, KDA-DWR finds that junior groundwater pumping in Rattlesnake Creek impaired the Refuge’s water right, to varying degrees, in 26 of the 34 years 1974-2007. The results showed that the impairment was greater than 3,000 acre-feet in 18 of the 34 years. However, the results also showed that, because groundwater moves very slowly, shutting off junior groundwater pumping would take two or more years to significantly benefit streamflow.



Since there have been no substantial long-term changes to pumping levels or precipitation trends in the region of the basin closest to the Refuge, it is reasonable to conclude that the impacts to streamflow caused by pumping will continue into the foreseeable future.

## ii. **Procedure, Content and Nature of this Report**

This report was developed pursuant to the duties and responsibilities of the chief engineer and KDA-DWR set forth in the Kansas Water Appropriation Act, including but not limited to K.S.A. 82a-702, 82a-706, 82a-706b, 82a-707, and 82a-711a, and the procedures set forth in K.A.R. 5-4-1.

This technical report was developed to support the initial report of the chief engineer as described in 5-4-1(c)(2).

This report is intended to present the facts analyses performed to inform the chief engineer's finding on water right impairment. This report is not intended to evaluate or prescribe any particular remedy or resolution of any impairment observed.

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## 1. Introduction and Background

After several decades of expressing concerns that junior groundwater pumpers were interfering with and harming the management operations of the Quivira National Wildlife Refuge (Refuge) by depleting the streamflow in Rattlesnake Creek which supplies the Refuge, in an April 8, 2013, letter, the United States Fish & Wildlife Service (Service) lodged an impairment complaint with the Kansas Department of Agriculture Division of Water Resources (KDA-DWR). This report summarizes KDA-DWR's resulting investigation. See Attachments 1 and 2.

In the late 1980s, the Service began to express concerns to KDA-DWR and Big Bend Groundwater Management District #5 (GMD5), that junior appropriators were reducing the flows in Rattlesnake Creek such that the Refuge was prevented from exercising its water right and its operations were being negatively impacted. In 1994, the Service entered into the Rattlesnake Creek Partnership (Partnership) with GMD5, KDA-DWR, and a group of local water users called the Water Protection Association of Central Kansas (WaterPACK) to find a way to address the Service's concerns. In 2000, the Partnership finalized a 12-year plan (Management Plan) to address USF&W's concerns and submitted the plan to the KDA-DWR's chief engineer who approved it. The Management Plan called for KDA-DWR to prepare and submit a report every four years on the progress made towards the plan's goals. Three four-year reviews of the Rattlesnake Creek Partnership Management Plan were prepared and are available at [dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/](http://dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/)

Near the end of 2008, GMD5 began work on developing a hydrologic model of the district (GMD5 Model), including the Rattlesnake Creek Basin and the Refuge. KDA-DWR participated in the peer review of the model development. The GMD5 Model was completed in 2010.

In 2012, the last four-year review of the Management Plan was conducted by KDA-DWR and submitted to the Partnership for approval. KDA-DWR found that over the course of the Management Plan water savings from incentive-based programs and enhanced compliance and enforcement, yielded 2,804 acre-feet, just over 10% of the goal of 27,346 acre-feet of savings laid out by the Partnership. There was no significant reduction in irrigated acres and the amount of irrigation water applied per acre has remained generally constant when factoring in the effects of precipitation. GMD5 and WaterPACK did not accept KDA-DWR's 2012 review report.

After receiving the Service's 2013 impairment complaint, KDA-DWR began using the GMD5 Model to evaluate the historical impacts that junior appropriators have had on Rattlesnake Creek streamflow. Simulations using the GMD5 Model show that stream depletions (depletions to baseflow) caused by junior appropriators are on the order of approximately 30,000 acre-feet to 60,000 acre-feet per year for the period 1995-2007. This does not mean that the Refuge is being impaired by 30,000-60,000 acre-feet per year, but rather that junior groundwater pumpers are taking that much out of the stream; water that would have otherwise flowed through or past the Refuge.

A retrospective analysis added the streamflow depletions to the observed streamflow record gaged at Zenith to simulate how much streamflow would have been measured at the Zenith gage if there had been no pumping junior to the Service's right. Comparing the simulated "no junior pumping" record to the observed record and then evaluating how the seasonal needs of the Refuge within its water right would have been fulfilled in the simulated and observed cases shows that the Refuge's water right was impaired by upstream junior groundwater pumping in 26 of the 34 years of the simulation period 1974-2007. Further, the simulations also show that because of the relatively slow movement of groundwater, the time between when a pumping well is reduced or shut off and when the water that would have been streamflow but for the pumping is restored to the stream is on the order of two or more years, or even decades, depending on the well's distance from the stream.

## 2. Hydrogeologic Setting

The descriptions below are taken in large part from “A Computer Model for Water Management in the Rattlesnake Creek Basin, Kansas” (Kansas Geological Survey, The University of Kansas and Department of Civil Engineering, Kansas State University, 1997). Internal citations are omitted.

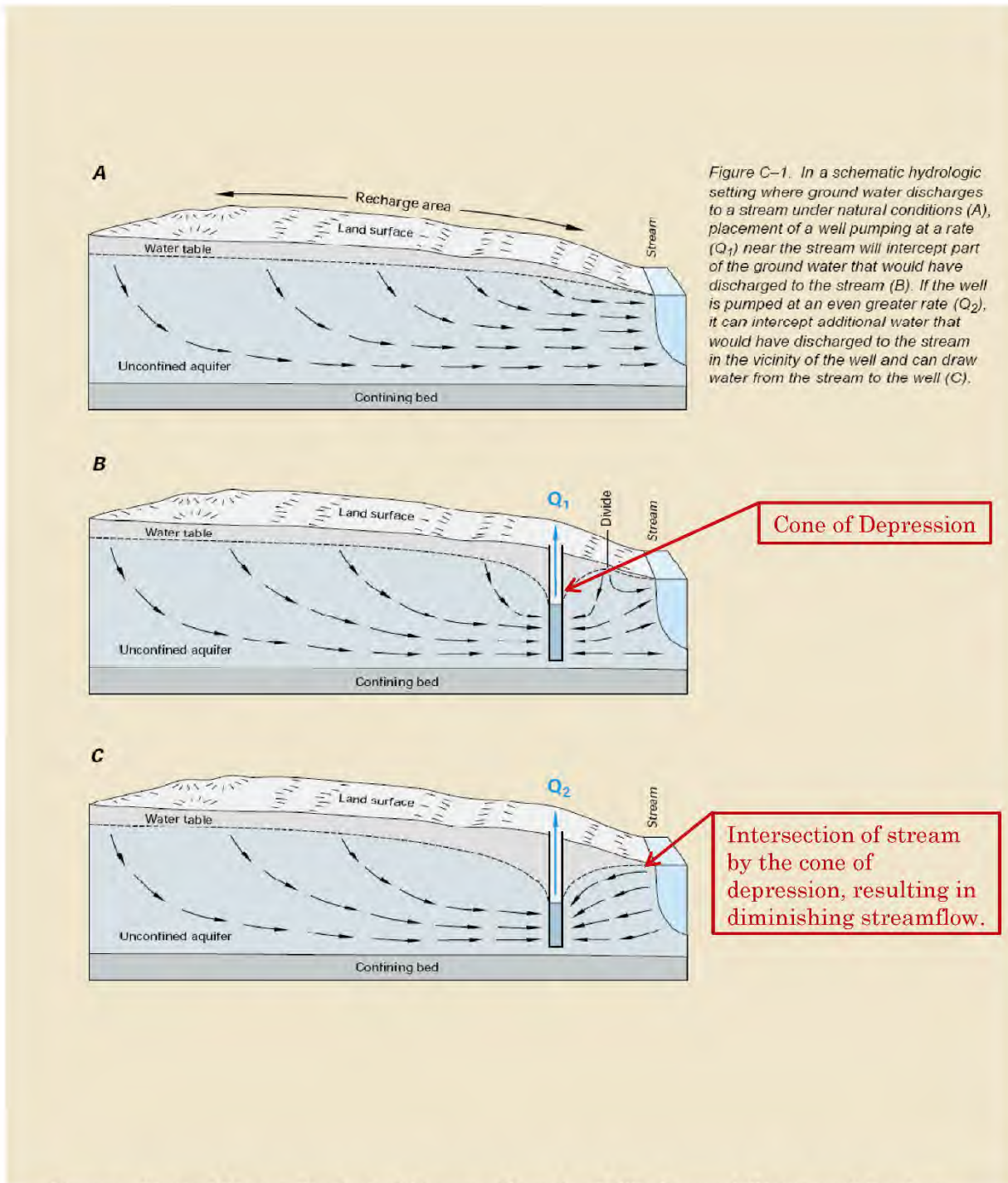
The Rattlesnake Creek basin is approximately 1,317 square miles in area and is located within the Great Bend Prairie of south-central Kansas. It is approximately 95 miles long and 18 miles wide with the long axis oriented in a southwest-to-northeast direction. Parts of Rice, Barton, Reno, Stafford, Pawnee, Edwards, Kiowa, Pratt, Ford, and Clark counties are included in the basin, with Stafford, Kiowa, and Edwards counties covering more than 82% of the watershed area.

The watershed is located in two physiographic regions. The upper 85% of the watershed is located in the Arkansas River lowlands (Great Bend Prairie region); it is a relatively flat alluvial plain characterized by sand-dune topography with moderate slopes and small hills separated by small basins. The upper 15% of the watershed belongs to the High Plains region, which is also a comparatively flat alluvial plain dissected by intermittent streams and exhibiting shallow depressions and gentle swells. Much of the sand-dune area of the watershed is covered by vegetation, and a large part of it is farmed; the watershed is primarily agricultural.

The watershed is drained by the Rattlesnake Creek, which is a meandering stream flowing from the High Plains region northeasterly into the Great Bend lowlands area where it empties into the Arkansas River. A number of smaller streams merge into the Rattlesnake Creek throughout its course from the highlands to the Arkansas River.

The primary source of recharge to the system is infiltration from precipitation, which varies spatially within the basin. Recharge varies with the soil type. The Rattlesnake Creek and its tributaries are a source of water to the ground-water system in the western parts of the watershed, where surface runoff into the stream eventually percolates into the subsurface. In the north-eastern parts of the watershed, the Rattlesnake Creek is essentially a gaining stream as recharge is discharged into the stream system from approximately Macksville downstream. The Quivira marsh in the lower reaches of the basin acts as a drainage outlet for the ground-water system.

Figure 1 illustrates the effect of groundwater pumping on streamflow.



Source: United States Geological Survey, Circular 1139, *Ground Water and Surface Water: A Single Resource* (1998), Figure C-1, p. 15 (Figure title and boxed annotations in red added).

Figure 1 - Effect of Groundwater Pumping on Surface Water



### 3. Water Use Summary

Year of record	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b># of Water Rights *</b>												
Groundwater	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680
Surface Water	10	10	10	10	10	10	10	10	10	10	10	10
Quivira (included in Surface	1	1	1	1	1	1	1	1	1	1	1	1
Junior to Quivira	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599	1,599
Senior to Quivira	90	90	90	90	90	90	90	90	90	90	90	90
<b># of Water Rights Reporting Use</b>												
Groundwater	1,374	1,371	1,367	1,368	1,379	1,378	1,376	1,375	1,376	1,377	1,381	1,381
Surface Water	5	5	5	5	5	5	5	5	5	5	5	5
Quivira (included in Surface	1	1	1	1	1	1	1	1	1	1	1	1
Junior to Quivira	1,304	1,301	1,297	1,298	1,309	1,308	1,306	1,305	1,306	1,307	1,311	1,311
Senior to Quivira	74	74	74	74	74	74	74	74	74	74	74	74
<b>Water Use (AF)</b>												
Groundwater	208,499	167,241	169,229	200,386	152,764	175,749	169,163	190,372	251,259	212,251	172,422	174,368
Surface Water	1,747	9,701	4,591	4,907	31	3,329	1,766	8,539	3,351	2,275	2,728	2,199
Quivira (included in Surface	1,727	9,679	4,559	4,875	0	3,323	1,760	8,526	3,320	2,249	2,712	2,178
Total water use (AF)	210,246	176,941	173,820	205,293	152,795	179,078	170,929	198,911	254,610	214,525	175,150	176,567
<b>Authorize Quantity (AF)*</b>												
Groundwater	252,258	252,258	252,258	252,258	252,258	252,258	252,258	252,258	252,258	252,258	252,258	252,258
Surface	14,902	14,902	14,902	14,902	14,902	14,902	14,902	14,902	14,902	14,902	14,902	14,902
Quivira (included in Surface	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632	14,632
Total	267,160	267,160	267,160	267,160	267,160	267,160	267,160	267,160	267,160	267,160	267,160	267,160
<b>% of Authorized Quantity Used*</b>												
Groundwater	83%	66%	67%	79%	61%	70%	67%	75%	100%	84%	68%	69%
Surface	12%	65%	31%	33%	0%	22%	12%	57%	22%	15%	18%	15%
Quivira (included in Surface	12%	66%	31%	33%	0%	23%	12%	58%	23%	15%	19%	15%
Total	79%	66%	65%	77%	57%	67%	64%	74%	95%	80%	66%	66%
<b># of Irrigated Acres</b>												
Groundwater	160,692	161,606	157,722	160,660	158,168	160,400	160,129	160,867	161,316	160,274	158,510	158,765
Surface	21	0	0	0	0	0	0	0	0	0	0	0

Table 1 - Summary of Rattlesnake Creek Basin Water Rights

Table 1 summarizes the basin’s water rights and water use information over 2003-2014. Over 98% of the water use in the basin is from groundwater. The Refuge’s surface water right accounts for 98% of all the surface water appropriated in the basin and is senior in priority to about 95% of all the water rights in the RSC Basin — groundwater and surface water.

The Water Right Information System database from which Table 1 was compiled does not contain records of the years in which water rights were dismissed. Water rights dismissed during 2003-2014, if any, are not represented in Table 1. The same is true for authorized quantity associated with dismissed rights.

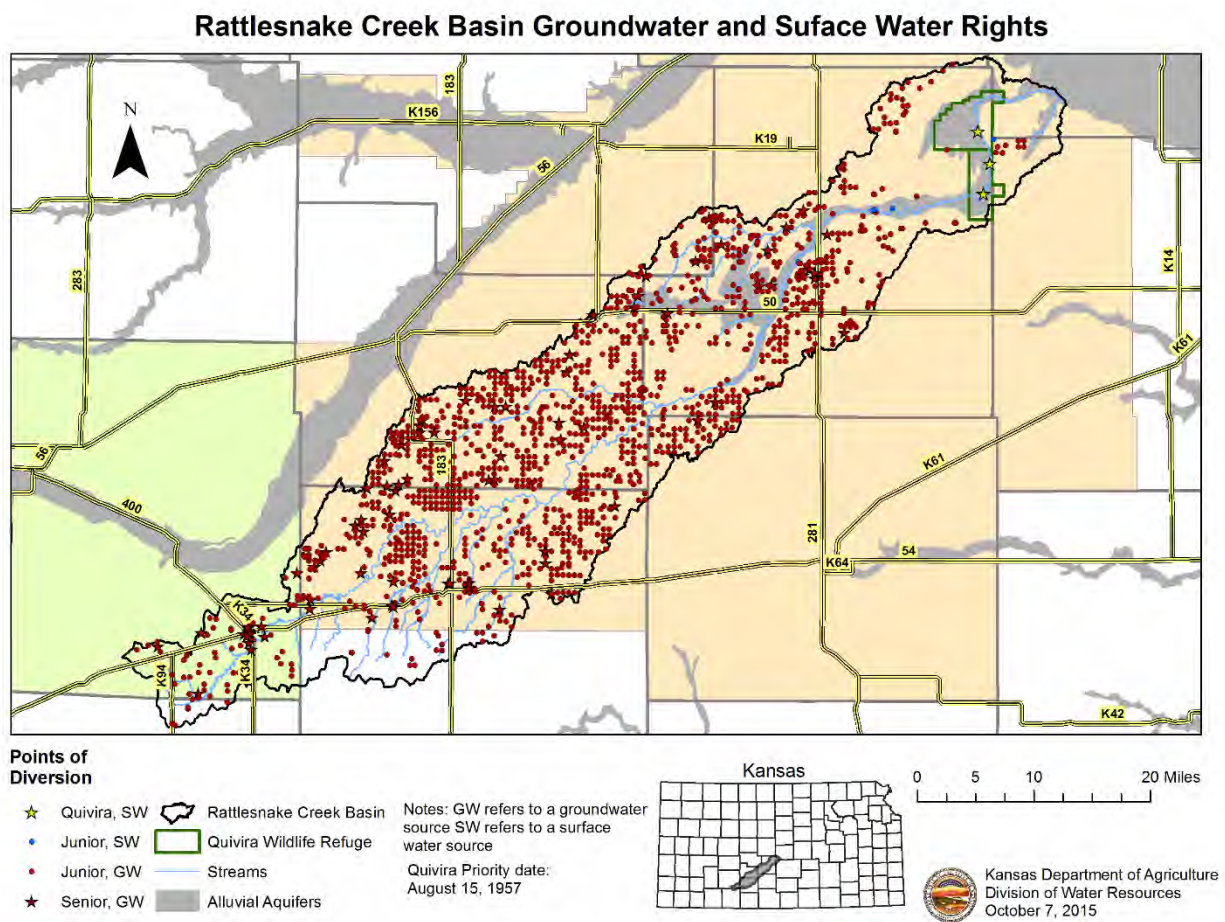


Figure 2 - Rattlesnake Creek Basin map of water rights

#### 4. The Refuge's Water Right

The Refuge's Water Right File No. 7,571 was filed Aug. 15, 1957. The application requested 22,200 acre-feet at a diversion rate of 300 cubic feet per second. The Refuge's water right application was approved May 9, 1963, and specified a perfection date of Dec. 31, 1968. Citing ongoing construction and funding delays, on Nov. 29, 1968, the Service requested that the perfection period be extended to Dec. 31, 1973. This and the remaining documents referenced in this section are included in the electronic water right file available online at [agriculture.ks.gov/quivira](http://agriculture.ks.gov/quivira).

In a May 2, 1973, memorandum to the State Board of Agriculture, DWR Stafford Water Commissioner J. Maurice Street reported on a meeting held in St. John where an attorney representing the Service asserted that the Service held vested rights to some Rattlesnake Creek streamflow based in its acquisition of property from a gun club that had used water for recreational purposes prior to 1945.

In its July 17, 1973, letter, the Service described progress made in developing the Refuge and noted that the Refuge construction was 80% complete. The letter requested that the perfection period be extended to Dec. 31, 1978. In a March 20, 1974, letter the chief engineer noted that the Refuge was complete.

DWR notified the Service by March 20, 1974 letter that it considered the Refuge construction complete, that it had determined that the Refuge's 1971 water use report, along with the other documentation already compiled in the water right file was sufficient to fulfill the Notice and Proof requirements of K.S.A. 82a-714, and that the perfection period was extended to Dec. 31, 1978. The 1971 water use report showed that 10,063 acre-feet were used on the refuge.

Citing funding delays, the Refuge in its Dec. 22, 1978, letter requested the perfection period of its water right be extended to Dec. 31, 1983. DWR's receipt and approval of that request was not located in the paper file, nor was any subsequent request or approval for extending the perfection period to include the year of record 1987.

However, in order to catch up on a backlog of files pending certification, in August 1989, DWR implemented Administrative Policy 89-9 which, among other things, allowed for extensions of the perfection period for good cause shown for applications with a priority date on or before May 1, 1978. The perfection period of

the Refuge's water right was extended to 1978 under the guidelines of this policy whose principles later became regulation K.A.R. 5-8-7 and are still in force today.

DWR's certification memorandum of Feb. 8, 1993, which is excerpted below, explains why 1987 was chosen as the year of record and notes that an extension would need to be granted by DWR. K.A.R. 5-8-7 allows the Chief Engineer to extend the perfection period of a water right if other records or information are available for a period after the original perfection period that would reasonably represent the application of water to beneficial use in accordance with the terms, conditions, and limitations of the permit. A USGS gage was installed at Zenith in 1973. The Refuge's diversion works were not fully functional until 1978. The 10-year perfection period after 1978 was extended until 1987. The USGS gage at Zenith established a good, verifiable water flow record which was used in part to help quantify the Refuge's water right.

On Oct. 31, 1986, the Service sent a letter to DWR claiming that Rattlesnake Creek streamflow was declining due to junior diverters, especially groundwater development. The Service was especially concerned about the increasing lack of streamflow in late summer and early fall when there is the greatest need for water on the refuge. In its letter, the Service also references K.S.A. 42-306 which says, "No person shall be permitted to take or appropriate the waters of any subterranean supply which naturally discharge into any superficial stream, to the prejudice of any prior appropriator of the water of such superficial channel."

DWR issued the draft certificate and its Feb. 8, 1993, Certification Memorandum, File 7571 laid out the chronology of events that led to finalizing the Refuge's water right and summarized the process:

*File 7571 was approved in 1963. During the time period 1963 to 1972 many of the water use reports were estimated and during that time the diversion works were reported to be only 80% complete. An actual water measurement program may not have been in place prior to 1973. In 1973, a year of torrential rainfall, the diversion works and control structures at Quivira were destroyed. It was not until 1978 that the damage was finally repaired. The year 1978 was, therefore, the first year that the diversion works were complete and ready to divert and store water according to management plans. Assuming that the water requirements of the refuge are best represented by years after 1978, the year 1987 has been selected as the year of record. Using 1987 will require that an extension of time to perfect be granted to that year.*

*During 1987 the U.S. Fish and Wildlife Service reported that 10129.7 acre feet of water was diverted from the Rattlesnake Creek and that the refuge was “full all year.” ... the measurements do not reflect the amount stored and the subsequent evaporation in the Little Salt Marsh. Using an area of 950 acres in the Little Salt Marsh, and a capacity of 2260 acre feet, one would assume 2850 acre feet of evaporation during a calendar year (36 inches of net evaporation). The proposed certified quantity for file 7571 would then be the sum of the acre feet reported in 1987, the amount stored in the Little Salt Marsh: 10129.7 acre feet + 2260 acre feet + 2850 acre feet = 15240 acre feet. It is also proposed that all of the 15240 acre feet be shown as direct use and that the “quantity to be accumulated in reservoirs” as stated in the approval be dropped from the certificate. (internal references omitted)*

The Service’s Nov. 12, 1993, letter raised several issues with DWR’s draft certificate. The Service noted that the original application was for 22,000 acre feet of water and that hydrologic modeling performed by the Kansas Geological Survey (KGS Open File Report 93-7) estimated that by 1987, junior groundwater pumping — modeled at 70% of authorized — had depleted the streamflow in Rattlesnake Creek by at least 8,456 acre feet, some or all of which could have been used by the Refuge. As noted below, DWR has used the groundwater model developed by GMD5 to evaluate pumping impacts on Rattlesnake Creek streamflow. Figure 11 shows that the GMD5 model estimates that by 1987, junior groundwater pumping had depleted Rattlesnake Creek streamflow by about 38,000 acre-feet.

In a May 27, 1994, letter, Chief Engineer David Pope acknowledged the streamflow at the Refuge may have been reduced by groundwater pumping and that the Refuge may have been able to divert and beneficially use more water but for those reductions. However, DWR’s position was that it was constrained by K.S.A. 82a-714 and K.A.R. 5-3-8 which, among other things, limits certification of a water right to no more than the amount actually diverted and used by the water user.

The Service and DWR exchanged several more letters over the next two years expressing their views on how the Refuge’s water right should be certified. On April 10, 1996, DWR issued the final Certificate of Appropriation for File No. 7,571.

In a subsequent memorandum, KDA-DWR noted and recommended correcting a 45 acre-foot transposition error in the original certification memorandum. The corrected quantity was ultimately certified. See Attachment 3.

The Refuge’s water right entitles it to take water from Rattlesnake Creek at three points of diversion at a combined maximum diversion rate not in excess of 300

cubic feet per second and a quantity not to exceed 14,632 acre-feet of water per calendar year for recreational use. This is the volume of water used in 1987 to operate the wetlands areas including filling Little Salt Marsh (1,865 acre-feet), evaporation from Little Salt Marsh (2,592 acre-feet), and filling the Refuge's management areas to meet wildlife feed crop demands (10,175 acre-feet). See Figure 3 below and Attachment 4.

Like all Kansas water rights, the Refuge's water right does not guarantee the availability of any certain amount of water, rather it entitles the Refuge to its authorized rate and quantity subject to prior and vested rights, and the natural availability of water. And, just like the water rights held by its irrigator neighbors, the Refuge's water right entitles it to divert the water at the times when it is most beneficial. Even though a quantity in excess of the Refuge's annual water right might pass by the Refuge's point of diversion in any given year, the test for whether the Refuge's water right has been diminished in value or utility — impaired — is whether the Refuge could have more fully exercised its water right if junior diverters had not taken the streamflow out of priority.

The owner of a water right can adjust the operation of his or her right once the right is perfected and certified, as long as the operation of the right stays within the terms, conditions, and limitations set forth in the certificate (use made of water, point of diversion, place of use, authorized quantity, etc.). The Refuge's water right was applied for, perfected, and has subsequently been exclusively used for recreational use, one of the authorized uses of water in Kansas. In the decades since it was established, the Refuge has adjusted the way it manages its habitat. Modifications to the operations of all water rights are to be expected as technology and best management practices change. For example, if someone perfected an irrigation water right on 160 acres of corn using a flood irrigation system in 1975, then modified their operation by installing a pivot, now watering 130 acres and growing wheat, that owner would not be required to reduce their property right as long as they stayed within the terms, conditions and limitations of the irrigation right. That water right owner would also have the right to go back to flood irrigating corn or another crop if they so choose to do. Likewise, a water right holder could perfect a stock watering right on 1500 head of cattle in a confined feeding operation. They could modify their operation by switching to 2000 head of hogs. No reduction would be required. They also could go back to 1500 head of cattle.

The Refuge water right was developed to manage approximately 7000 acres of wetlands within a refuge area of 22,135 acres (from 2014 CCP). In a letter dated November 12, 1993, the USFW stated that net evaporation based on DWR policy

84-1 using 36" of evaporation and a 6469.6 acres of marshes equates to 19,409 AF which does not include any water to fill the impoundments, which it estimated to be 13,246 AF. The Service recommended the certificate be issued for 20,021 AF year at 300 CFS. Based on managing approximately 7000 acres of wetlands, at 31 inches/year of net evaporation (average year, K.A.R 5-6-3), it would appear that the full authorized quantity could be used in most years, and substantially more than this in critical dry periods.

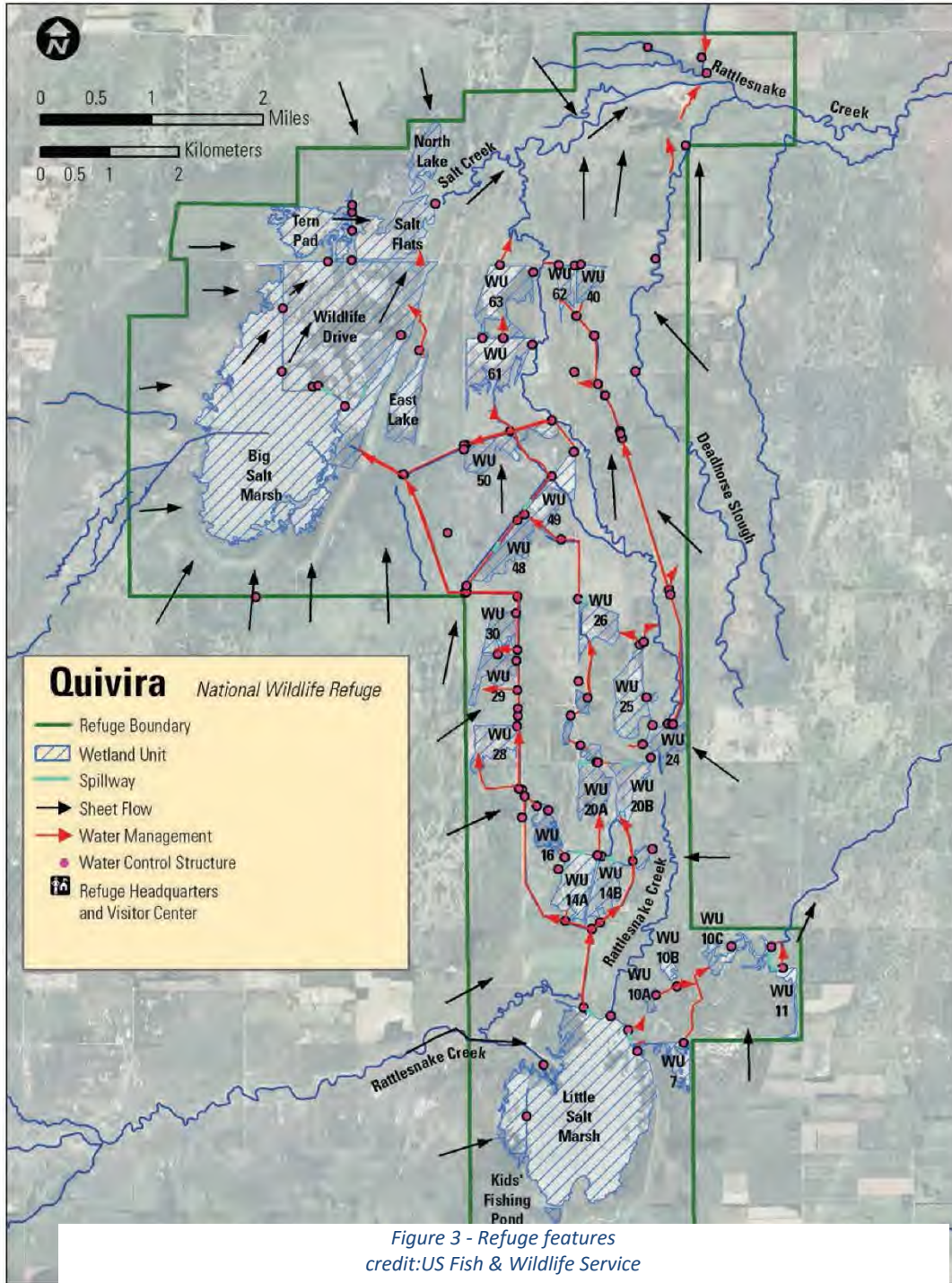
During both the perfection period and currently, the Refuge seeks to manage approximately 7000 acres in wetlands. As the use for the water and acres has remained the same, we see no evidence of expanded use.

## **5. The GMD5 Groundwater Model**

In 2008, GMD5 commissioned Balleau Groundwater, Inc. to develop a numerical groundwater model of the district. The model was peer reviewed throughout its development by KDA-DWR and KDA-DWR's consulting expert, Steven P. Larson of S.S. Papadopoulos and Associates. The model was completed in 2010. The Model report and peer review report are available at [dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/](http://dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/).

The GMD5 model was built with seven layers, each layer representing a geologic formation at a range of depths below the surface of the ground. One of the principal reasons for using multiple layers in this model was so that the movement of water contamination plumes could be simulated and management strategies to contain those plumes could be evaluated. The complexity of the seven-layer model requires significant computer resources and time to run simulations.





To evaluate the effects of pumping on groundwater levels and the discharge of groundwater into the stream system, a one-layer model, if properly designed and calibrated, is sufficient. S.S. Papadopoulos and Associates simplified the GMD5 model by “collapsing” the original seven-layer model into a one-layer model so that it could be used to run scenarios in minutes instead of hours. The conversion from seven-layer model to one-layer model did lose the vertical resolution needed to



simulate how contaminant plumes move up towards the surface of the earth and down away from it, but by effectively averaging the aquifer properties across the seven layers, the way that the horizontal movement of water beneath the ground is simulated was not significantly altered.

Beginning in 2014, KDA-DWR used the original seven-layer GMD5 model, and the simplified, one-layer modification of the model to simulate how the Rattlesnake Creek streamflow would respond to several alternative historical pumping scenarios. For instance, one scenario simulated the effect of no pumping anywhere in the basin junior to the Refuge's water right. Another scenario simulated no junior pumping in a corridor along the stream. The work was intended to increase familiarity with and understanding of the model, to show that the original seven-layer model and the simplified one-layer version of the model were functionally equivalent for these kinds of scenarios, and to show the Basin community how and when groundwater pumping affects RSC streamflow.

KDA-DWR presented results for nine alternative historical scenarios at a public meeting in St. John on November 4, 2014. The Appendix documents KDA-DWR's modeling work presented at the meeting. The following observations from this work were made at the meeting:

1. The seven-layer GMD 5 model and the one-layer simplified version of it are functionally equivalent for the purpose of evaluating groundwater pumping impacts to streamflow in Rattlesnake Creek.
2. The GMD5 model shows that junior groundwater pumpers have caused significant reductions to the amount of groundwater that discharges to Rattlesnake Creek. Basin-wide, the depletions are on the order of 30,000-60,000 acre-feet over the period 1995-2007.
3. Pumping reductions near the stream provide the most immediate benefit to Rattlesnake Creek stream flow. However, only about 8% of the junior pumping takes place within two miles of the stream, and only about 3% is within one mile of the stream. This nearby pumping accounts for about 16% (2 miles) and 6% (1 mile) of the impacts to streamflow, respectively [averaged over years 1998-2007 as fractions of impact of scenario 2, from Appendix, Table A3].
4. Depending on the distance from the stream, it takes two or more years for pumping reductions to manifest as increased streamflow in significant amounts and longer to fully recover.

In comments on the First Draft of the Initial Impairment Investigation Report, Balleau Groundwater, Inc. noted what they agreed was a minor issue with the way that DWR's model simulations started — from a “transient” instead of a more correct “steady state” condition. DWR has developed revised model runs accordingly and found discrepancy between the transient and steady-state runs diminished over the period from 1940 to 2008, and were negligible for the purposes of this impairment analysis. Therefore, DWR has not redone the rest of this analysis. Documentation of the resulting work is included as an addendum to the Modeling Appendix of this Second Draft of the report.

Further descriptions and results of these simulations are available at [dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/](http://dwr.kda.ks.gov/impairment/RSC.Quivira/TechReport.Attachments/).

## **6. Determination of Junior Groundwater Pumping Impacts at the Refuge**

One of the fundamental elements of an impairment investigation is the determination of the impacts that junior diversions have had, are having, and will likely have on senior water rights. The GMD5 Model was used to evaluate the historical effects of junior groundwater pumping on Rattlesnake Creek streamflow at the Refuge. The results of the modeling analysis were presented at a public meeting in St. John, Kan., on Nov. 4, 2014, and are documented in the Appendix. Below is a summary of the results that are most relevant to this investigation.

To evaluate the effects that junior pumpers upstream of the Refuge have had on the flows of Rattlesnake Creek at the Refuge, two simulations of the model were compared. In one simulation, pumping in the basin junior to the Refuge's water right was “turned off,” or omitted from the simulation, and the amount and timing of groundwater that discharged from the aquifer to the stream was observed. This simulation was called “no junior pumping.” The other simulation, called the “baseline,” simulates the effects on streamflow caused by the actual recorded historical pumping. The “baseline” results were subtracted from the “no junior pumping” results and the effects of junior pumping on Rattlesnake Creek simulated streamflow over time were observed. These simulations show that there would have been significantly more water in Rattlesnake Creek, often at times when the Refuge could have made use of the additional water, if there had been no pumping junior to the Refuge's water right. See Figures 5-9 and Figures A8 and A9 in the Appendix.

KDA-DWR performed other simulations with the GMD5 Model to evaluate how Rattlesnake Creek would respond to targeted pumping reductions close to the stream. The simulations showed that, because of the characteristics of the hydraulic connections between the stream system and the groundwater system, and because of the relatively low volume of pumping in the stream corridor, even targeted reductions close to the stream would take on the order of two to three years to produce significant increases in streamflow. Though such reductions would eventually restore streamflow, they would be ineffective in providing timely, same-year, much less same-season, relief from shortages caused by junior pumping. For example, if the Refuge needed water in August of 2016, restricting upstream pumping by junior water rights in the spring of 2016 would provide limited benefit to the Refuge until the summer of 2018. See Figures A6 and A7 in the appendix on page 43.

## **7. Observations From Comparing Model Simulations and the Refuge's Operational Water Needs**

The Service has documented its management strategies and quantified its goals for providing seasonal habitat in its Comprehensive Conservation Plan. At KDA-DWR's request, Service staff prepared a document explaining the water needs and management at the Refuge and specifying time periods and amounts of water needed within those time periods to accomplish the Refuge's mission within the scope of its water right. An excerpt of the Service's Comprehensive Conservation Plan describing the management goals for Refuge's wetlands and the subsequent documentation of the Refuge's water seasonal needs is in Attachment 5, Table 4. The historical averages from Table 1 of the Refuge's document were not used in this analysis as they represent the Service's use from the significantly depleted supply which has been the focus of the Service's complaints for decades and which led to this impairment investigation. As noted in the section of the report on the Service's water right, it is reasonable to expect that most of the Service's water right will be needed in each year, particularly during critical, dry periods. The Service's complete Comprehensive Conservation Plan is available here: [www.fws.gov/mountain-prairie/planning/ccp/ks/qvr/qvr.html](http://www.fws.gov/mountain-prairie/planning/ccp/ks/qvr/qvr.html).

KDA-DWR compared the modeled impacts of junior pumping with the seasonal water needs defined by the Service to determine if there have been times when the Refuge was prevented from exercising its water right because streamflow was taken by junior pumpers. Comments to the initial report were concerned about use of a schedule based on 14,632 acre-feet per year without making allowances for

evaporation and storage in Little Salt Marsh (LSM). The analysis compares the Service's schedule with flows at Zenith which is above LSM and thus could measure the water available to supply the storage and evaporation needs at LSM plus the diversion needs below it.

The analysis shows that junior groundwater pumping has prevented the Refuge from exercising its water right regularly in the past. Figures 6-7 show simulated seasonal streamflow that would have been in Rattlesnake Creek but for junior groundwater pumping and actual streamflow over time contrasted against the Refuge's seasonal water needs as defined by the Service in Attachment 5. The dark blue modeled pumping depletions are stacked on the light blue gaged streamflow to show how much streamflow would have been in Rattlesnake Creek but for junior pumping depletions. The green trace represents the Refuge's water needs, which is a repeating pattern over the time period illustrated. The red "impairment" trace shows where the dark blue modeled pumping depletions have intersected the green Refuge needs trace. The orange trace on the graphic shows the Refuge's reported historical diversions. The reported diversions are understated to varying degrees because they are measured after water from Rattlesnake Creek has been impounded and released from Little Salt Marsh, and therefore do not include evaporation from the Marsh, which would be counted as use. The surface area of the Little Salt Marsh is approximately 864 acres; 1,865 acre-feet of evaporation from the Marsh was assumed in the year of record for the certificate.

Note that the evaluation shows that the Refuge was impaired in 1987, the year of record for its water right certificate. The amount of simulated impairment is very small (220 acre feet); close to zero when compared to the amount of impairment simulated in other years, but it should be zero by definition. The small impairment simulated in 1987 is an artifact of imposing the Refuge's present operational plan on the historical record.

It is reasonable to assume that effects of the same magnitude seen in the year of record and caused by applying the Service's current operational plan to the historical record are present in all years in the simulation. No analysis was performed to compare differing management plans. Applying the Service's present operational plan on the historical record comes to within 1.5% of the seasonal and total water use in the year of record and indicates that the evolution of the Refuge's operations has not increased its water demand.

The historical impairment evaluation also does not explicitly take into account any mitigating effects that storage in Little Salt Marsh might have on the

Refuge's water needs. Figure 8, for instance, shows that in the two management periods May-June and July-September 1995, there is an abundance of water flowing at the Zenith gage. The expectation is that the Refuge would maximize their storage capabilities to the extent possible within the constraints of their primary mission to create and maintain habitat.

The historical impairment evaluation during dry periods such as 1990-1992 and 2001-2006 indicate that the pumping depletions to streamflow caused by junior groundwater pumping exceeded the actual measured streamflow, providing little to no opportunity to fill storage or fulfill the Refuge's water right. It is in these periods of pumping-induced shortages that the Refuge's water right was most severely impaired: 5730-8580 acre-feet in 1990-1992 and 4220-7930 acre-feet in 2001-2006. See Figure 10.

Unless groundwater pumping operations change significantly in the Rattlesnake Creek Basin, it is reasonable to assume that junior groundwater pumping will prevent the Refuge from exercising its water right regularly in the future.

Figure 4 below shows the method for determining the retrospective impairment illustrated in Figure 6-8.

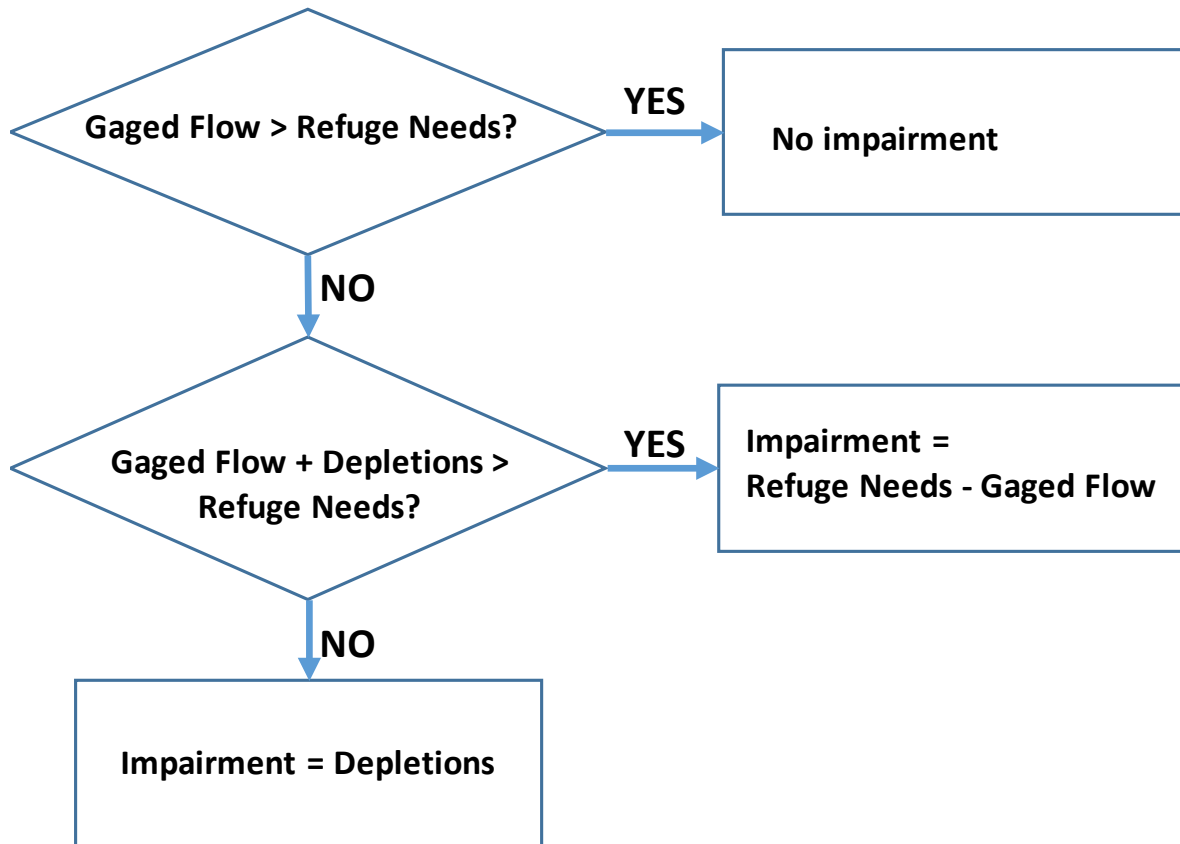


Figure 4 - Method for determining historical simulated impairment to the Refuge's water right based on the USGS gage at Zenith

<b>USFW Management Period</b>	<b>Year</b>	<b>Zenith Gaged Flow</b>	<b>Modeled Impacts to RSC</b>	<b>Refuge Reported Diversions</b>	<b>Refuge Needs</b>	<b>Amount short of needs</b>
Jan/Feb	2003	1860	7340	1180	1500	0
Mar/Apr	2003	4720	9640	320	3500	0
May/Jun	2003	2770	5690	0	2000	0
Jul/Aug/Sep	2003	650	4040	120	3500	2850
Oct/Nov	2003	840	4290	40	3600	2760
Dec	2003	540	2800	80	500	0
Jan/Feb	2004	1050	5140	970	1500	450
Mar/Apr	2004	2300	6270	2840	3500	1200
May/Jun	2004	1500	5430	370	2000	500
Jul/Aug/Sep	2004	2960	13070	4370	3500	540
Oct/Nov	2004	1690	7640	550	3600	1910
Dec	2004	1080	3220	580	500	0
Jan/Feb	2005	2490	7820	2130	1500	0
Mar/Apr	2005	2390	5630	130	3500	1110
May/Jun	2005	3000	7280	0	2000	0
Jul/Aug/Sep	2005	3620	8230	1660	3500	0
Oct/Nov	2005	900	5510	0	3600	2700
Dec	2005	740	2540	640	500	0
Jan/Feb	2006	1760	3710	1870	1500	0
Mar/Apr	2006	1940	4020	1240	3500	1560
May/Jun	2006	1060	4910	790	2000	940
Jul/Aug/Sep	2006	940	7970	750	3500	2560
Oct/Nov	2006	730	5150	220	3600	2870
Dec	2006	640	3650	0	500	0
Jan/Feb	2007	1670	7400	1690	1500	0
Mar/Apr	2007	10540	9530	1420	3500	0
May/Jun	2007	32510	14730	130	2000	0
Jul/Aug/Sep	2007	16420	14710	1720	3500	0
Oct/Nov	2007	2510	7580	1670	3600	1090
Dec	2007	3280	5240	830	500	0

*Table 2 - Gaged flow, Refuge needs, and calculated shortfall*

Table 2 above shows the recorded flow at the USGS gage at Zenith, the modeled groundwater pumping impacts to Rattlesnake Creek, the seasonal needs of the Refuge, and amounts, if any, that the pumping depletions impaired the Refuge's ability to execute its management plan. The table showing the entire simulation period from 1974-2007 is in Attachment 6.

The record shows that Rattlesnake Creek Basin experiences periodic dry cycles, when groundwater levels and streamflow decline, and wet periods when groundwater levels largely recover and streamflow is more plentiful. Figure 5 shows interpolated changes in water levels over the three review periods of the Rattlesnake Creek Management Plan. 2001-2004 was a dry period, but 2005-2008 saw widespread recovery to water levels. 2001-2012 shows declines in water levels on the order of 10 feet or more in the southwestern part of the basin, but in the northeastern part of the basin where the water table is shallower and more connected to the surface water system, declines are generally in the 0 ft. to -3 ft. range.

As demonstrated in the groundwater modeling work and the analysis above, water shortages to the Refuge are related to the impacts of junior groundwater pumping intercepting recharge which otherwise would show up as streamflow. These impacts are most pronounced during the dry periods.



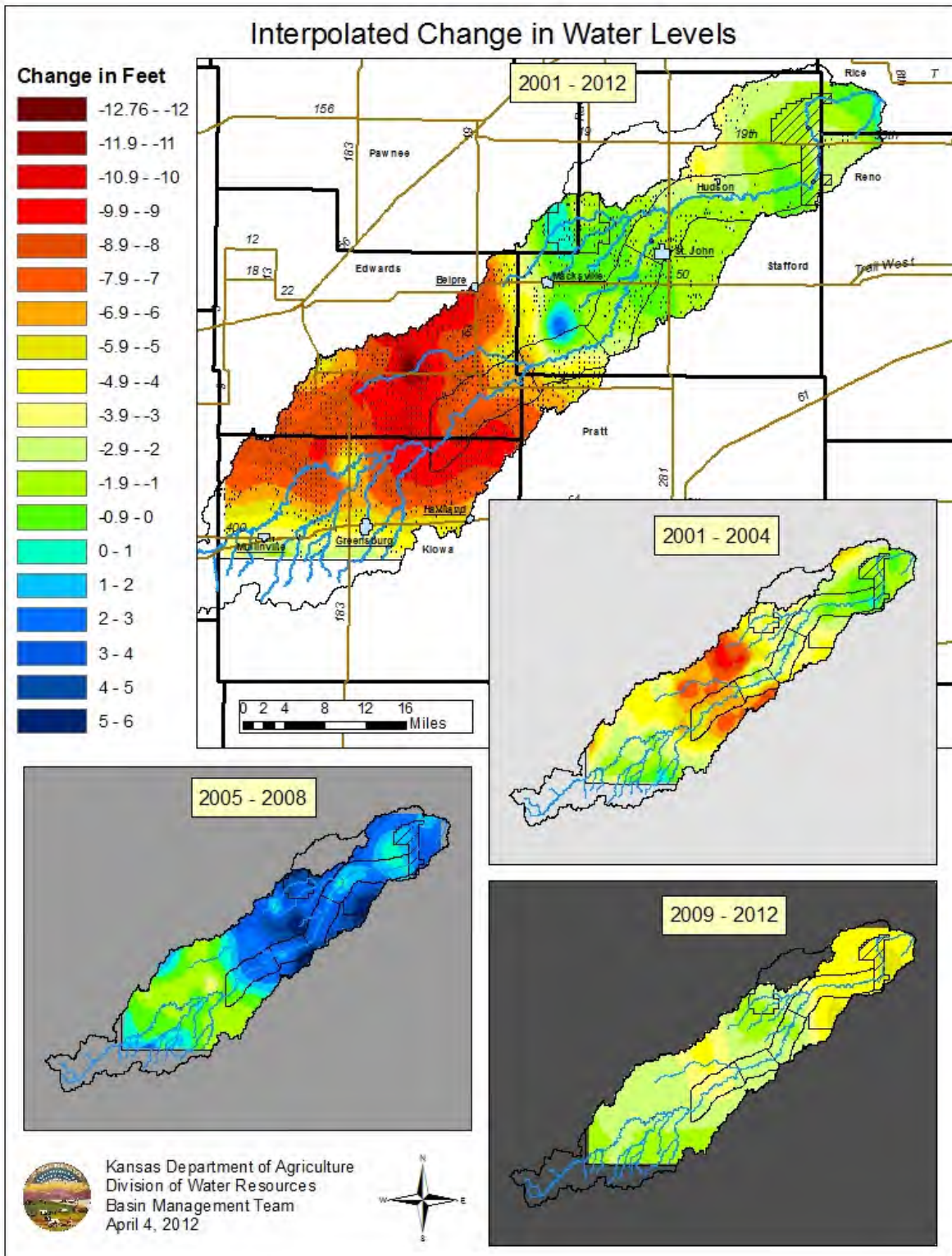


Figure 5 - Interpolated Change in Water Levels in Rattlesnake Creek Basin

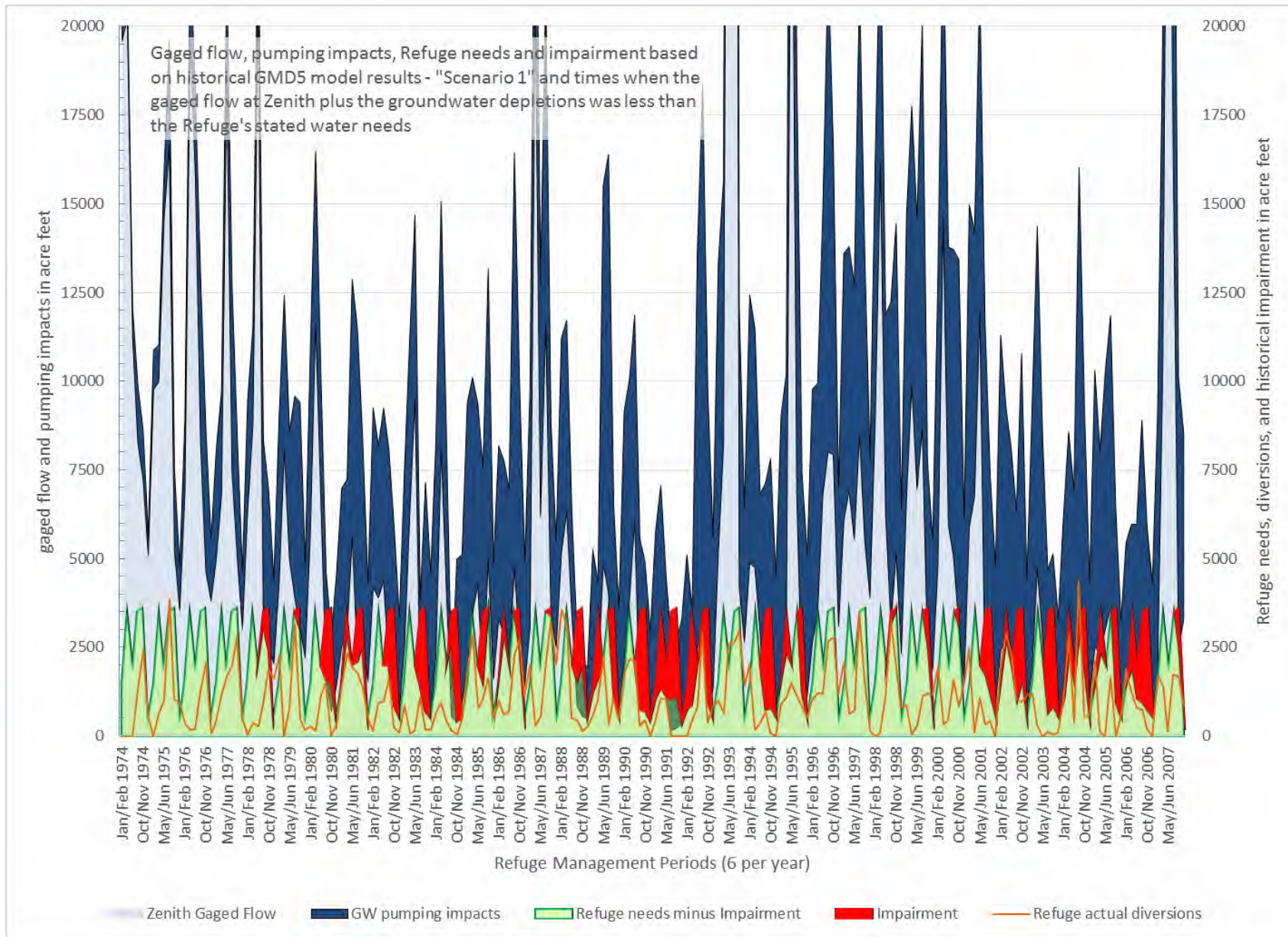


Figure 6 - Simulated evaluation of impairment to the Refuge's water right 1974 - 2007



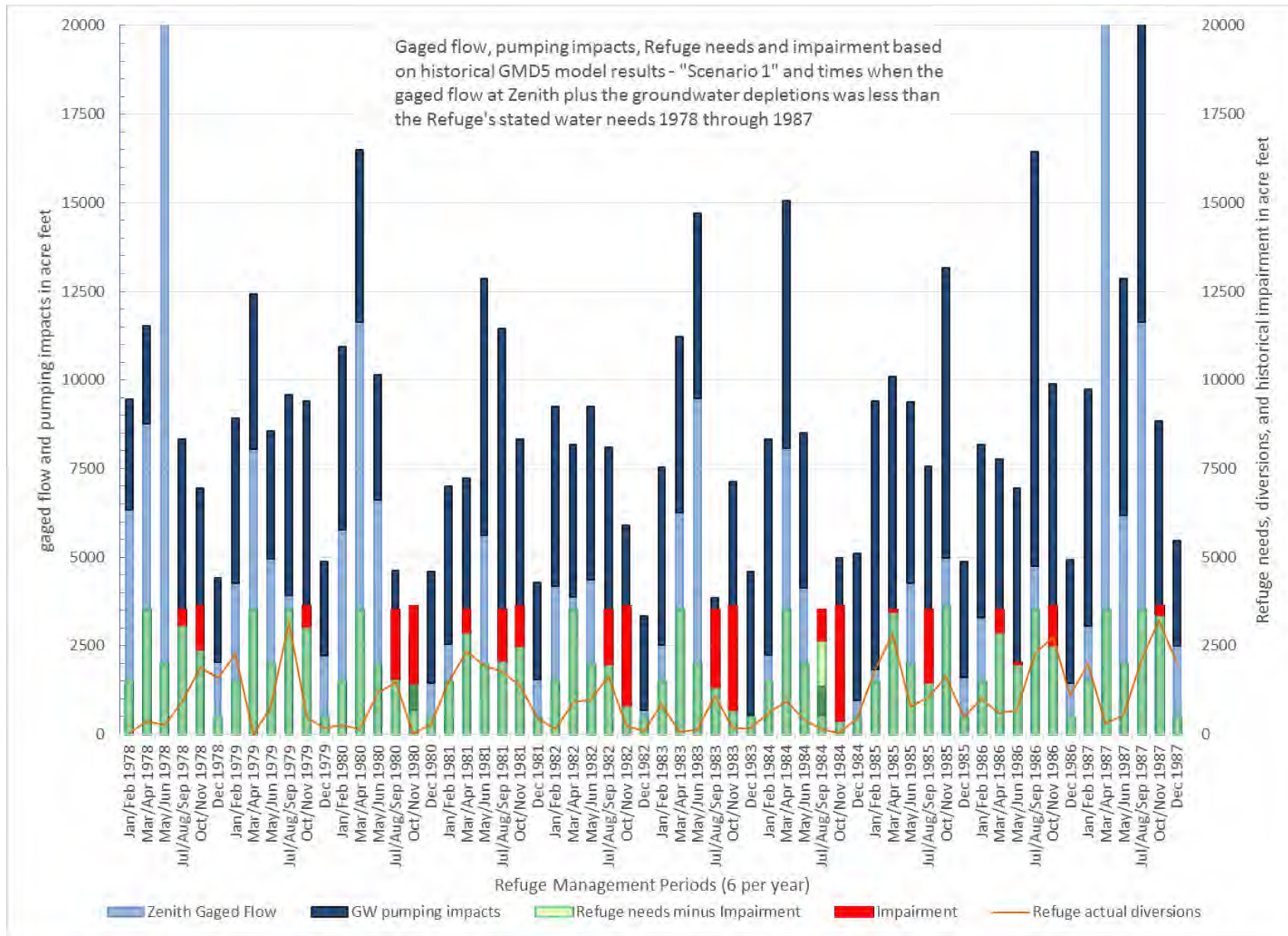


Figure 7 - Simulated evaluation of impairment to the Refuge's water right 1978 - 1987

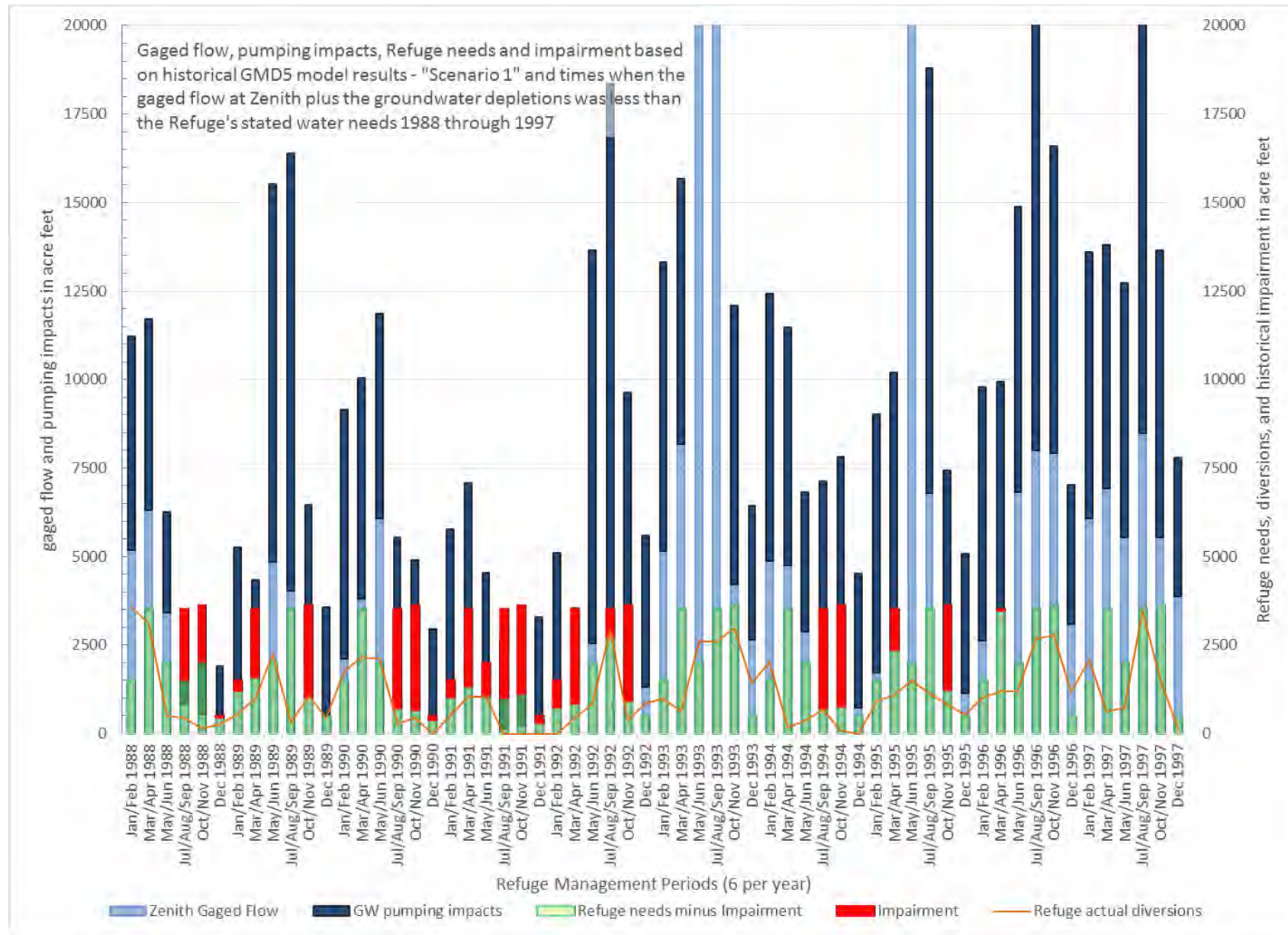


Figure 8 - Simulated evaluation of impairment to the Refuge's water right 1988 - 1997



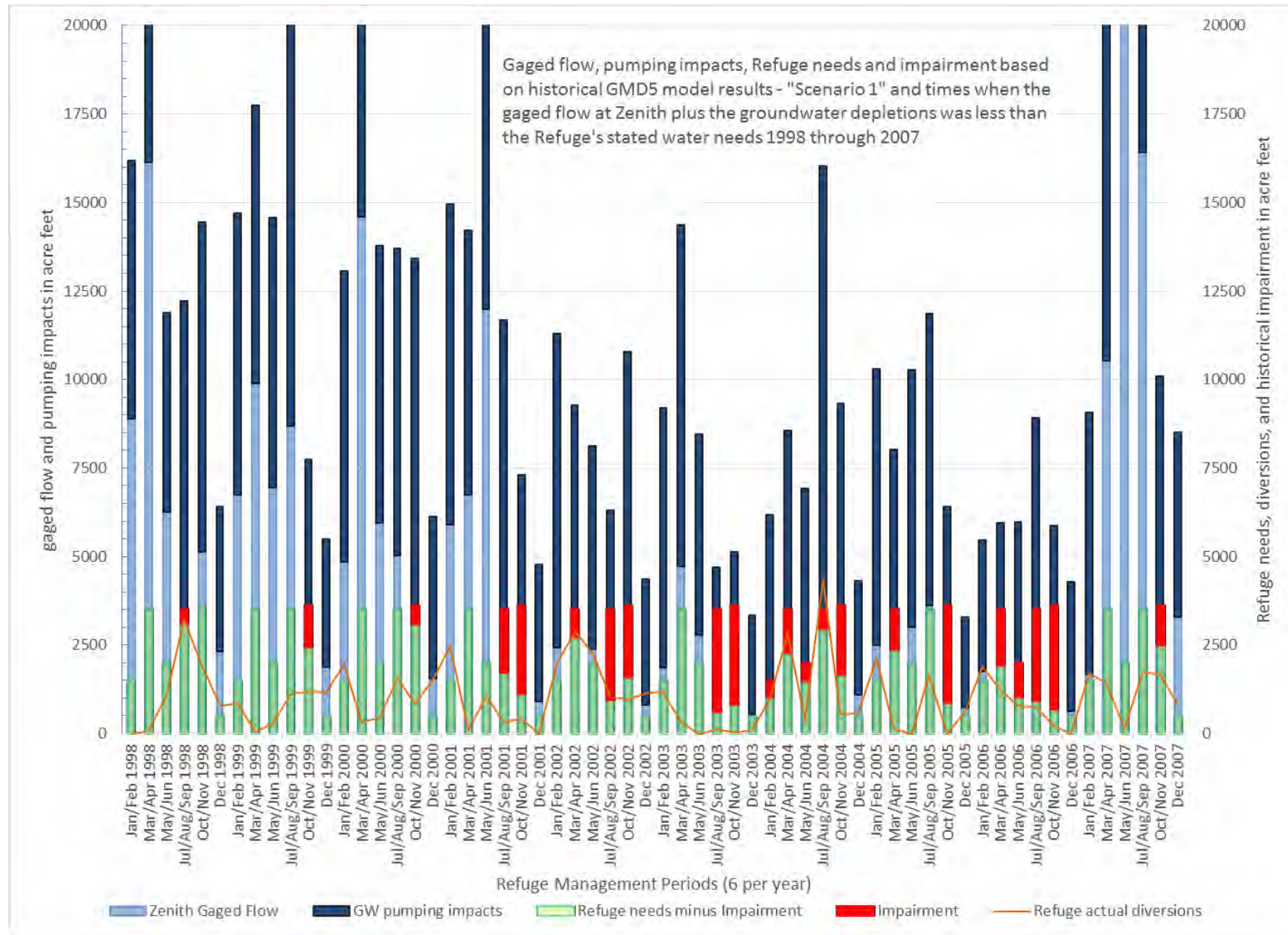


Figure 9 - Simulated evaluation of impairment to the Refuge's water right 1998 - 2007

### Simulated impairment by year based on "Scenario 1" and Refuge management plan

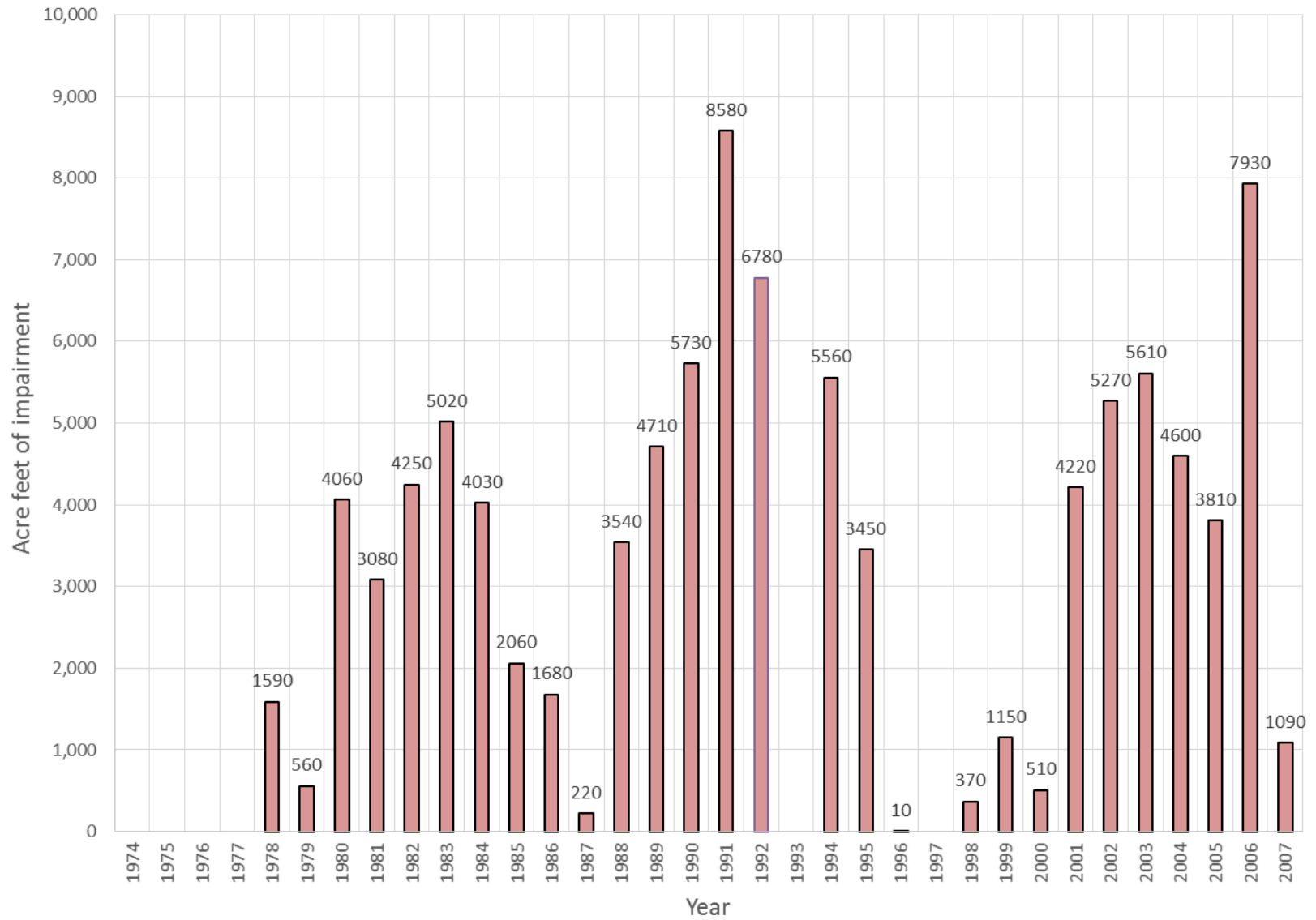


Figure 10 - Simulated amount of impairment to the Refuge's water right by year

### Modeled depletions to Rattlesnake Creek streamflow by year based on historical pumping records

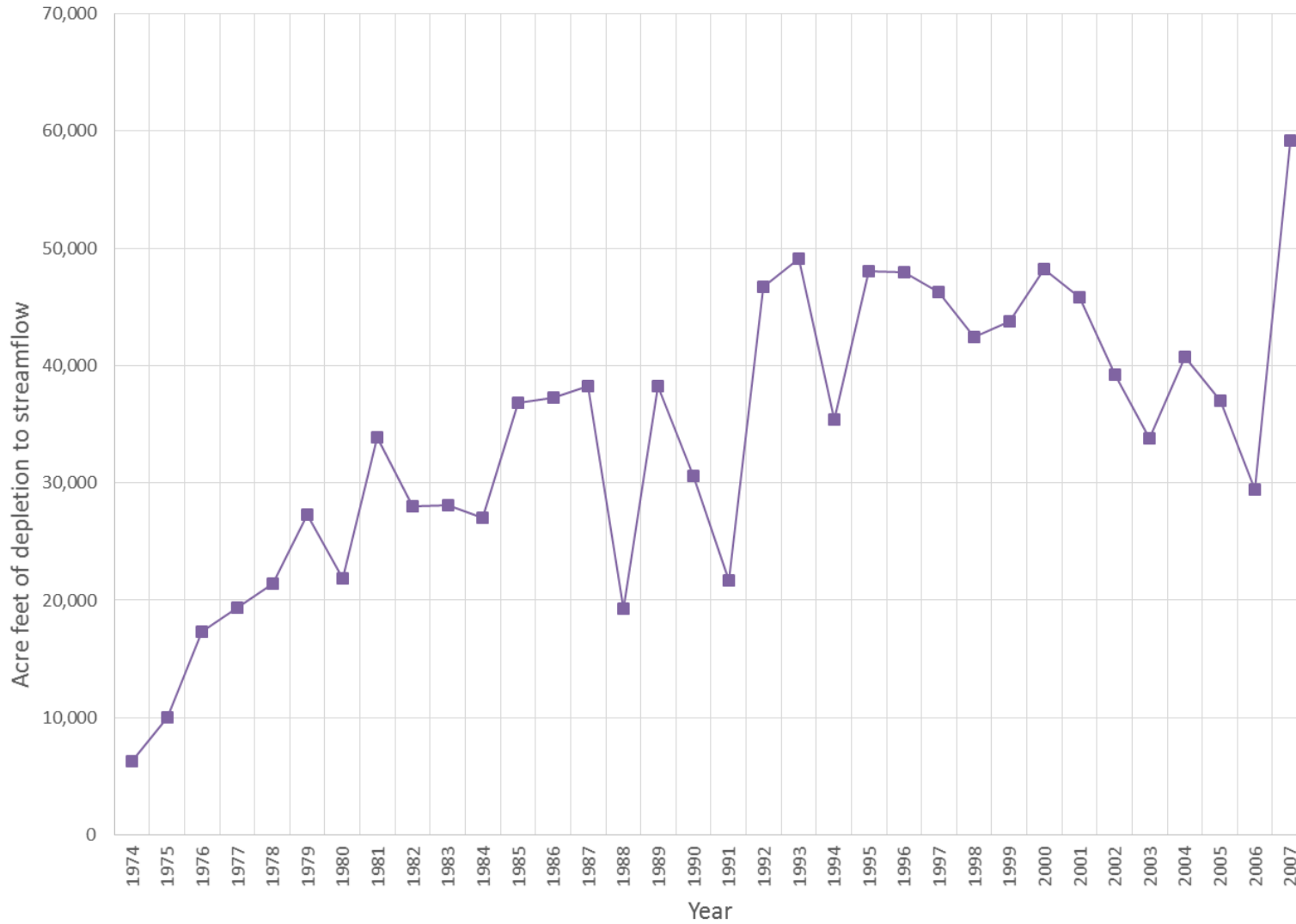


Figure 11 - Modeled depletions to Rattlesnake Creek 1974 - 2007

## 8. List of References

Kansas Statutes Annotated, Chapter 82a, Article 7  
[www.ksrevisor.org](http://www.ksrevisor.org)

Kansas Administrative Regulations, Chapter 5, Article 4  
[www.kssos.org](http://www.kssos.org)

*Kansas Department of Agriculture – Division of Water Resources, Rattlesnake Creek Third Four-Year Review of the Management Program 2009-2012, 2012*

*Kansas Department of Agriculture – Division of Water Resources, Rattlesnake Creek Second Four-Year Review of the Management Program 2005-2008, 2008*

*Kansas Department of Agriculture – Division of Water Resources, Addendum Rattlesnake Creek Four-Year Review of Management Plan, 2008*

Balleau, Peter W.; Romero, David M.; Silver, Steven E.; *Hydrologic Model of Big Bend Groundwater Management District No. 5 and Appendices, 2010*

Larson, S. P.; *Big Bend GMD5 Model Peer Review, 2011*

## 9. List of Attachments

Appendix: November 2015 GMD5 groundwater model scenarios developed by KDA-DWR

Attachment 1: March 5, 2013, letter from United States Fish & Wildlife Service to Kansas Department of Agriculture Division of Water Resources

Attachment 2: April 8, 2013, letter from United States Fish & Wildlife Service to Kansas Department of Agriculture Division of Water Resources

Attachment 3: Feb. 8, 1993, Certification Memorandum, File 7571; Kansas State Board of Agriculture

Attachment 4: April 9, 1996, Certificate of Appropriation for Beneficial Use of Water; Water Right File No. 7,571; Priority Date August 15, 1957; Kansas Department of Agriculture – Division of Water Resources



Attachment 5: Oct. 23, 2013, Excerpt from Comprehensive Conservation Plan, Quivira Nation Wildlife Refuge; Unites States Fish & Wildlife Service

Attachment 6: December 2015 GMD5 Model; KDA-DWR Scenario 1 analysis results table; KDA-DWR

## **Exhibit D**



United States Department of the Interior  
FISH AND WILDLIFE SERVICE  
Mountain-Prairie Region



IN REPLY REFER TO:  
BA WTR  
KS WR  
Mail Stop 60189

MAILING ADDRESS:  
P.O. Box 25486, DFC  
Denver, Colorado 80225-0486

STREET LOCATION:  
134 Union Boulevard  
Lakewood, Colorado 80228-1807

RECEIVED

Dec 01 2016

Big Bend GMD #5

Mr. Orrin Feril  
Big Bend GMD #5  
125 S. Main Street  
Stafford, Kansas 67578

Re: Water Right File No. 7571, GMD #5 Proposed Scope of Work for Augmentation for  
Quivira National Wildlife Refuge

Dear Mr. Feril:

The U.S. Fish and Wildlife Service (Service) would like to thank you and the Big Bend Groundwater Management District #5 (GMD #5) Board for engaging on this issue and for the significant amount of work that you have put into developing your "Stakeholder Proposal in Connection with USFWS Impairment Complaint" which was presented orally during the August 22, 2016, meeting held at Quivira National Wildlife Refuge (Refuge). We have reviewed the proposal and engaged Regional and Headquarter's leadership as well as the Department of the Interior's Office of the Solicitor, which is responsible for providing legal advice to the Service.

Based on these discussions, we have determined the Service cannot accept the GMD #5 proposal to remedy the impairment of Water Right No. 7,571. The Chief Engineer's final impairment report (Barfield 2016) outlines that "groundwater reductions and/or augmentation will be needed to increase available streamflow at the Refuge by 3,000-5,000 acre-feet on a regular basis." GMD #5's proposal offers a maximum amount of 1,500 acre-feet via augmentation during normal to wet years, and even less in times of drought when impairment is greatest. According to the proposal, if the Palmer-Drought Index is -3.0 or less (severe to extreme drought) the Service would receive less than 1,500 acre-feet of water while junior groundwater irrigators continue to irrigate uninhibited.

We also believe there are significant legal obstacles to your proposal. While we appreciate your recognition that the Refuge needs water to meet the objectives of various statutes, and that water is critical to preserve and maintain the Refuge as an internationally recognized location, we have significant concerns about your proposal as to the quantity, timing, quality, and the location of water delivery. The Refuge has been designated as critical habitat for the whooping crane, and it also provides habitat for the endangered interior least tern. The proposal would compromise our ability to maintain the physical and biological features that are essential to the conservation of those species pursuant to the Endangered Species Act.

Similarly, the National Wildlife Refuge System Improvement Act and the Migratory Bird Conservation Act require the Service ensure the protection of the biological integrity, diversity, and environmental health of the Refuge as well as the protection of its fish and wildlife resources. Finally, a water right is a valuable property right; and the proposal would result in an unacceptable diminishment of the value of that right.

At this point, given that GMD #5 proposal is half of the minimum amount of the 3,000 acre-feet the State Engineer concluded was needed to relieve the Service's impairment, we believe our most appropriate recourse is for the Service to file a Request to Secure Water with the State of Kansas. We look forward to continuing to work with GMD #5 as we seek a resolution of the matter that is fully protective of the interests of the United States.

Sincerely,

A handwritten signature in blue ink, appearing to read "W. Meeks", written in a cursive style.

Will Meeks  
Assistant Regional Director  
National Wildlife Refuge System

## References

Barfield, D.W. 2016. Final 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. Division of Water Resources, Kansas Department of Agriculture  
<http://agriculture.ks.gov/divisions-programs/dwr/water-appropriation/impairment-complaints/qui-vira-national-wildlife-refuge>

cc:

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

Jeff Lanterman, Water Commissioner  
Stafford Field Office  
Kansas Department of Agriculture  
Division of Water Resources  
300 S. Main Street (office location)  
Stafford, KS 67578

Lynn Preheim (GMD #5 Attorney)  
Partner, Stinson Leonard Street LLP  
1625 N. Waterfront Parkway, Suite 300  
Wichita, KS 67206-6620

## **Exhibit E**

1320 Research Park Drive  
Manhattan, Kansas 66502  
(785) 564-6700



900 SW Jackson, Room 456  
Topeka, Kansas 66612  
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

December 8, 2016

Dear GMD No. 5 Board Members,

On Thursday, December 1, we received the U.S. Fish & Wildlife Service's response to GMD #5's Stakeholder Proposal of September 8. As you know, the Service declined the Basin's offer principally on the grounds that it is insufficient in quantity and that placing augmentation infrastructure on the refuge as described in the offer poses "significant legal obstacles." It appears from its response that the Service intends to file a request to secure water, which we anticipate receiving soon. Nevertheless, the Service goes on to state that, "We look forward to continuing to work with GMD #5 as we seek a resolution to the matter that is fully protective of the interests of the United States."

Our final report does not specifically identify a remedy for the impairment. We intentionally did not do this work in favor of fostering constructive and effective dialogue in the basin and between the basin stakeholders and the Service. We continue to hold that locally developed solutions are best. For this reason, we request the basin stakeholders develop a revised settlement offer by February 15, 2017. We very much hope that the extra time, and the Service's stated willingness to continue to work with GMD #5, will allow the basin stakeholders to work with the Service to find a path forward to a negotiated settlement.

Should an agreement not be reached, we will be obligated to develop an administrative remedy for implementation in 2018 and beyond.

Since it is late in the year and many producers have already made cropping decisions and purchases for the coming year, we will not administer the basin's impairing water rights during the 2017 irrigation season.

Please let me know if we can be of any assistance to you in this matter. We look forward to discussing this further with the Board at your next meeting on Dec. 15.

Sincerely,

David W. Barfield, P.E.  
Chief Engineer  
Kansas Department of Agriculture,  
Division of Water Resources



Pc:

Sec. Jackie McClaskey, Kansas Department of Agriculture

Will Meeks, U.S. Fish and Wildlife Service, Mountain-Prairie Region

Mike Oldham, Quivira National Wildlife Refuge

Lynn Preheim, Stinson Leonard Street LLP

WaterPACK, Richard & Jane Wenstrom

Jeff Lanterman, Kansas Department of Agriculture, Stafford Field Office



## **Exhibit F**



United States Department of the Interior  
FISH AND WILDLIFE SERVICE  
Mountain-Prairie Region



IN REPLY REFER TO:  
BA WTR  
KS WR  
Mail Stop 60189

MAILING ADDRESS:  
P.O. Box 25486, DFC  
Denver, Colorado 80225-0486

STREET LOCATION:  
134 Union Boulevard  
Lakewood, Colorado 80228-1807

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

JAN 17 2017

Dear Mr. Barfield:

Enclosed is the U.S. Fish and Wildlife Service (Service) request to secure water regarding water right No. 7571 from injury due to junior groundwater wells. The Service appreciates the help received during our January 03, 2016 phone conversation ensuring the form was filled out accurately. Please let us know if any further changes need to be made.

As we indicated in our December 01, 2016 letter, submission of this form will not preclude us from working further with Big Bend Groundwater Management District No. 5 to obtain a mutual solution. We must, however, have the solution be enforceable from your office and feel that submitting this request will ensure that enforceability occurs in 2018.

Please contact me at 303-236-4491 if you any questions or would like to discuss further. Thank you for your assistance in this matter.

Sincerely,

Brian S. Caruso, Ph.D., P.E.  
Chief, Division of Water Resources

REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

January 01, 2018
(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established:

a. Vested Right
File No. County Source
Quantity Rate
b. Appropriation Right
File No. 7571 Priority Date August 15, 1957
Status Certified
Rattlesnake Creek Source 14,632 Quantity 300 cfs Rate

2. That the authorized place of use for the water right is: Quivira National Wildlife Refuge

3. A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:
U.S. Dept. of the Interior - U.S. Fish and Wildlife Service P.O. Box 25486, Denver Federal Center, Mailstop 60189, Denver, CO 80225
Name Address

Name Address

B. That the land described in paragraph 2 is owned by:
(If different than owner of water right)

same as above
Name Address

Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:
Agent (tenant, lessee, buyer, contract or other)

5. That during this calendar year 0 acre-feet of water has been used under this right.

6. That the undersigned has need for 14,632 acre-feet of water at a rate of g.p.m. for Recreational purposes at locations described as follows: see attached

Fish and Wildlife Habitat, Forage

No. of Acres: 22,135 Kind of Crop: N/A

7. That I am prepared to, and will, in the exercise of my water right described above, apply to beneficial use all water available to me at a rate of see attached g.p.m. or less, commencing at 12 o'clock A.M. on January 1, 2018.

8. That I have been informed that water is available from the source of supply in the amount of:

<u>Date</u>	<u>Estimated Flow</u>	<u>Location</u>
<u>1974 - 2013</u>	<u>Variable</u>	<u>Rattlesnake Creek, Zenith Gage</u>

9. That I have been informed that water is, or was, being diverted from the source of supply as follows:

<u>Date</u>	<u>Water Right</u>	<u>Name</u>	<u>Estimated Rate of Diversion</u>
<u>1995 - 2007</u>	<u>Multiple</u>	<u>Junior Appropriators</u>	<u>30,000 - 60,000 AF per year depletions to Rattlesnake Creek</u>

10. That I have advised the persons listed below of my need for water and my intention to exercise my water right:

<u>Name of Person</u>	<u>Date</u>	<u>Agreeable - Yes Or No</u>
<u>Big Bend GMD No. 5</u>	<u>12/01/2016</u>	<u>No</u>

I request in accordance with the provisions of K.S.A. 82a-706b, that the Chief Engineer or his or her authorized agent open, close, adjust or regulate the headgates, valves, or other controlling works of any ditch, canal, conduit, pipe, well, or structure as may be necessary to secure water to which I am entitled:

Brian S. Caruso, agent  
Signature

State of ~~Kansas~~ Colorado )  
County of Jefferson ) SS

Brian S. Caruso by me being duly sworn, declare that the information is true and correct to the best of his or her knowledge and belief.

Brian S. Caruso, agent  
Affiant's Signature

Subscribed and sworn to before me this 17<sup>th</sup> day of January, 2017

**CAROLINE M. CORDOVA**  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20044034704  
MY COMMISSION EXPIRES 09/28/2020

My Commission Expires September 28, 2020

Caroline M Cordova  
Notary Public  
135 Quitman Street  
Denver CO 80219

## Seasonal Rattlesnake Creek Water Need Estimates for Quivira National Wildlife Refuge, Prepared May 2015

### Background

At the request of Kansas Department of Agriculture, Division of Water Resources (DWR), the U.S. Fish and Wildlife Service (Service) has provided information to increase understanding of *seasonal* water needs to accomplish management objectives of the Quivira National Wildlife Refuge (Refuge). The Refuge's current annual Water Right 7571 on Rattlesnake Creek is 14,632 ac-ft. There is no single estimate that accurately predicts seasonal surface water needs of the Refuge because various factors influence water needs within and among years, such as short- and long-term weather patterns, the timing of wildlife events (e.g., migration), and changing habitat conditions.

### Approach

**Scenario 1** – There was interest by DWR to evaluate the potential of using past water use records to quantify estimates of seasonal water needs to accomplish refuge management objectives. To accomplish this task, Refuge staff compiled 48 years of monthly water-use records and grouped months into seasons based on the life cycle events of waterbirds (timing of migration, relative abundances) and the lag time required to transfer water to wetlands through the ditch infrastructure (Table 1). For example, flooding a wetland to the appropriate depth can require days to weeks depending on location from the diversion, volume of water available, and existing soil moisture conditions (e.g., dry, saturated).

Table 1. Significant annual events largely considered in determining seasonal water needs to accomplish management objectives of Quivira National Wildlife Refuge.

Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec
<b>MANAGEMENT TO SUPPORT WILDLIFE FOOD &amp; COVER REQUIREMENTS</b>					
Use water where needed to provide/maintain semipermanent wetland habitat.					
Shallowly flood select units to saturate dry soils that will be used to produce wildlife foods.					
Dewater select wetlands for suitable germination and growth of desired plants used for wildlife food and cover. Drawdown dates are based on scientific information.					
Irrigate select wetland units to support survival, growth, and seed production of germinated wildlife food plants.			After seeds mature, gradually increase water levels in wetlands to coincide with the food and cover needs of target species.		
<b>CHRONOLOGY OF SPECIES ANNUAL EVENTS OR WHEN LIFE REQUIREMENTS NEED TO BE AVAILABLE FOR SPECIES USE</b>					
Waterfowl and bald eagle wintering habitat is provided when open water is available (generally where flooded deep and/or where flow prevents ice formation).	Peak spring waterfowl migration (habitat flooded <15 inches).	Main spring shorebird migration (habitat flooded <6 inches and mudflat).		Main fall shorebird migration (habitat flooded <6 inches and mudflat).	Peak fall waterfowl migration (habitat flooded <15 inches).
	Endangered whooping crane spring migration (shoreline & habitat flooded <1 ft).	Breeding-related activities occur for several waterbirds that require flooded habitat for food and/or cover resources, such as for the state-threatened snowy plover, the endangered interior least tern, and for state species in need of conservation (e.g., black rail, black tern).			Endangered whooping crane fall migration (shoreline and habitat flooded <1 ft).

After reviewing the water use records, Refuge staff made the determination to exclude years (n=28) when total annual water use did not exceed 7,000 ac-ft to prevent extreme bias in estimating seasonal water use due to

limited water availability and/or inappropriate timing of available water. For example, during low water years Refuge staff often receive and use water at less than optimal times (e.g., winter) to help increase the odds that at least some wetland habitat is flooded at critical times (e.g., spring waterbird migration). In this case, the average amount of water used during the winter season would be biased high. Conversely, it is common during low water years to not have sufficient water to maintain wetland vegetation, which results in low food production and sparse cover required by wildlife. In this case, the use of water during summer would be biased extremely low. The use of 7,000 ac-ft as a cutoff point was based on approximating 50% of the Refuge water right and, as such, is somewhat arbitrary.

For the 20 years of when total annual water use exceeded 7,000 ac-ft, water use for each year was partitioned into the appropriate seasons and the median, minimum, and maximum seasonal values across all years were calculated (Table 2).

Table 2. Seasonal median, minimum, and maximum water use (ac-ft) values, calculated using 20 years of data where annual use exceeded 7,000 ac-ft. Totals of the median and maximum seasonal water use values are respectively lower and higher than the current annual water right (14,632 ac-ft).

	Jan -Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	Total
Median	986	1,115	1,062	2,117	1,781	684	7,746
Minimum	0	89	126	463	151	101	
Maximum	3,557	3,111	2,601	4,374	6,205	2,003	21,851

This Scenario 1 estimate is biased due to the following:

- Historic *use* does not accurately reflect water *needs* during any given year or season.
- Historic water use in a given season may not accurately reflect the volume of water that would have been used if water had been available during that season or, perhaps, previous to that season.
- The use of records that exceeded 7,000 ac-ft was arbitrary and only represents nearly half of the Refuge water right. As such, these estimates likely are biased low.

**Scenario 2 –**

Scenario 2 is based on achieving minimum requirements of CCP objectives following a drought year and water use was not constrained by the current water right (Table 3, Scenario 2). Unlike Scenario 1, seasons in Scenario 2 were defined by CCP habitat-based objectives, as approved in 2013. Data used to develop this scenario included area estimates and area-capacity curves developed by the Service for individual wetlands, published long-term precipitation and pan evaporation data (including the use of a coefficient to account for shallow wetlands), soil infiltration rates calculated based on information in NRCS soil survey data (SSURGO), LiDAR data to estimate volume of ditches, and aerial imagery to estimate surface area of water in the Big and Little Salt Marshes at the beginning of the scenario.

Table 3. Comparison of Rattlesnake Creek surface water use Scenarios 1 and 2 for Quivira NWR.

Scenario	Seasonal Water Use Estimates (Acre-Feet)												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	986		1,115		1,062		2,117			1,781		684	7,746
2	3,144	7,427			2,895		4,053				5,881		23,400

This Scenario 2 estimate is biased due to the following:

- Water loss due to plant transpiration was not included in water use estimates (which would increase water needs to meet objectives).
- Water loss due to soil infiltration in some wetlands was underestimated because values for the available water capacity of 2,300 acres of wetland soils were not available (which would increase water needs to meet objectives).

- Water loss due to horizontal seepage in ditches during initial flooding was not estimated (which would increase water needs to meet objectives).
- Estimate based on a “normal precipitation” year following a drought year (all units dry); thus, a large volume of water (3,144 acre-feet) is needed to initially flood the Little Salt Marsh before water can be diverted elsewhere on the Refuge. This volume would be lower in years not preceded by drought.
- Estimate based on initially flooding only units and infrastructure on the south end of the Refuge. If north portion of Refuge were flooded early in the year, water use estimates would increase.
- Seasons are based on habitat objectives and do not always reflect the water management activities/schedules (e.g., time required for water to travel from diversion to wetland of interest).

## Results

The seasonal estimates in Table 4 were developed after considering Scenarios 1 and 2 described in the approach above.

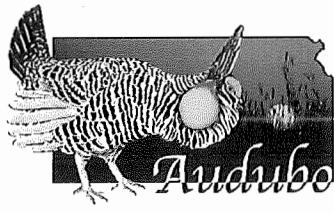
Table 4. Seasonal Rattlesnake Creek surface water need estimates for Quivira NWR, given the current water right.

Seasonal Water Use (Acre-Feet)						Total
Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	
1,500	3,500	2,000	3,500	3,632	500	14,632

Although Scenarios 1 and 2 were developed based on quantitative information; these estimates were constrained by limitations that precluded either scenario from being used to directly estimate seasonal water needs. In general, the estimate based on past water use is known to be flawed because the Refuge either did not receive its full annual right of 14,632 ac-ft and/or the seasonal availability of water was not available or lacking, which resulted in the use of water during suboptimal times that often limited or impeded the accomplishment of management objectives. In contrast, the Scenario 2 estimate, based on water needs following drought, exceeded the Refuge water right even though important factors (e.g., water infiltration in ditches, plant transpiration) that would have increased water needs were not included in the estimate. Therefore, the Service used information from both Scenario 1 and Scenario 2 to adjust water use so total annual use matches the current water right of 14,632 ac-ft (Table 4).

## **Exhibit G**





# Audubon of Kansas

STATE OFFICE

Ron Klataske, Executive Director

210 Southwind Place, Manhattan, KS 66503

TEL: (785) 537-4385 EMAIL: aok@audubonofkansas.org

Websites: www.audubonofkansas.org;

www.niobrarasanctuary.org

Lana Arrowsmith, On-site Niobrara Coordinator

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September 6, 2017

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Mr. David W. Barfield, P.E.  
Chief Engineer, Division of Water Resources  
Kansas Department of Agriculture  
1320 Research Park Drive  
Manhattan, Kansas 66502  
david.barfield@ks.gov

*Re: Quivira National Wildlife Refuge Impairment Negotiations*

Dear Mr. Barfield:

On May 13, 2016, Audubon of Kansas (AOK) submitted a comment letter to the Division of Water Resources (DWR) emphasizing the importance of the Quivira National Wildlife Refuge (Refuge). (For ease of reference, we have attached that letter to this one.) Writing on behalf of AOK and our members, we appreciate both your recognition of the Refuge's importance and the seriousness with which you are assessing the many challenges involved in protecting the Refuge's senior surface water right.

However, AOK has become concerned that DWR, Big Bend Groundwater Management District No. 5 (GMD5), and the U.S. Fish & Wildlife Service (Service) are not addressing multiple and fundamental legal issues that demand attention for the adequate protection of the Refuge's water right—a right that secures the lifeblood upon which the Refuge depends. Based upon the materials which DWR has posted on its Quivira website as of August 17, 2017, these negotiations appear to have remained limited to technical questions concerning the parties' preferred solutions, including augmentation. Unfortunately, these negotiations appear to be neglecting federal law: law that prohibits any reduction of the Refuge's water right, law that prohibits augmentation and other encumbrances upon Refuge property, and law that requires environmental and administrative review. Likewise, the correspondence among the interested parties appears to neglect both federal and state law requirements that impose non-discretionary duties of natural resources managers at both the federal and state levels to protect the Refuge and its water right.

Because AOK has become concerned by this apparent inattention to the binding law, we have prepared this letter. Part I of this letter summarizes the legal issues involved. Part II distills this binding law into a series of required elements for the successful resolution of the Refuge's impairment. Part III proposes several solutions to that impairment. The letter closes with a request: in light of the severity of the Refuge's impairment, but also in

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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; 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.

light of local irrigators' need to plan for the 2018 irrigation season, AOK hereby requests a full response from DWR by **October 1, 2017**, informing AOK and the public of DWR's positions on these relevant legal issues and its intended solutions. AOK understands that DWR, the Service, and the relevant irrigation interests may be avoiding discussion of the law that governs this situation, perhaps out of an abundance of caution if litigation is to commence; but AOK believes that the public interest requires such an open, forthright, and candid discussion.

**I. Legal protections to which the Refuge is entitled under federal and state law.**

As a federal wildlife refuge holding a senior surface water right under Kansas law, the Refuge is entitled to substantial protections under both federal and state law. This section summarizes the eleven most prominent of these protections.

At the outset, we want to stress that the Refuge is entitled to special protections under federal law: it cannot be treated in the same way as a state-law appropriation right holder that does not enjoy these federal protections.

*a. Protections under federal law.*

- i. The Refuge is entitled to full ecological and hydrological sustainability pursuant to the National Wildlife Refuge System Improvement Act.

Pursuant to the National Wildlife Refuge System Improvement Act (NWRISA) (1997), the Refuge is entitled to full ecological sustainability. NWRISA requires that the Secretary of the Interior, in managing wildlife refuges, "ensure that the biological integrity, diversity, and environmental health of the [National Wildlife Refuge] System are maintained for the benefit of present and future generations of Americans . . ." 16 U.S.C. § 668dd(a)(4)(B). In stark contrast to other federal public lands statutes such as those governing the national forests, this requirement is not subject to cost-benefit analysis or other multiple-use compromises. The biological integrity of the Refuge—a wetland of international importance for migratory birds—depends primarily on the long-term hydrological integrity of its water supply. Unfortunately, that hydrological integrity has become damaged by excessive groundwater pumping by junior irrigators in the Rattlesnake Creek Basin (Basin), which explains the Service's decision to bring its impairment complaint. But the mandate in NWRISA is clear: any resolution of this impairment situation that compromises the hydrological integrity of the Refuge's water right compromises and harms the biological integrity of the Refuge, and thus violates the act. Given this federal mandate, a resolution of the Refuge's impairment situation that includes augmentation plans would be unacceptable. From a water-quantity standpoint, such plans do little more than replace depleted surface flows with more groundwater pumping, which in turn depletes the groundwater baseflows upon which the alluvial system depends. From a water-quality standpoint, augmentation plans would not duplicate the mixture of salt and fresh water upon which the habitat of the Refuge depends.

- ii. The Migratory Bird Treaty Act prohibits the parties from reaching a settlement that harms the Refuge's bird life.

The Migratory Bird Treaty Act (MBTA) prohibits the “take” of any migratory bird—that is, any action that kills or harms such a bird—“by any means or in any manner . . .” 16 U.S.C. § 703. The Refuge harbors hundreds of migratory bird species listed at 50 C.F.R. § 10.13. There is no exemption in the MBTA for farmers, state officers, or federal agencies. Thus, a negotiated resolution of the Refuge’s impairment situation that results in the “take” of any migratory bird dependent upon the Refuge will make the Service, DWR and other parties to such an agreement potential violators of the MBTA. The taking of a migratory bird is not justifiable under the MBTA: there is no right to harm or to kill federally protected wildlife in defense of property. *Christy v. Hodel*, 857 F.2d 1324, 1329-1330 (9<sup>th</sup> Cir. 1988), *cert. denied*, 480 U.S. 114 (1989). Such violations would subject the parties to the criminal penalty provisions of the MBTA. 16 U.S.C. § 707(a).

- iii. The Endangered Species Act requires the full protection of Refuge habitat, including the protection of the Refuge’s water right at its full quantities.

The Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1543, is the most powerful federal statute governing any decisions made regarding the protection of the Refuge’s water right. It protects listed species, whether threatened or endangered, according to a series of procedural and substantive protections, most notably by prohibiting actions which place listed species “in jeopardy” or which result in the “take” of any endangered species. (As you are aware from AOK’s 2016 letter, the Refuge harbors numerous species listed as either threatened or endangered.) Under the “no jeopardy” provision in Section 7 of the ESA, state and federal agencies must not adversely modify critical habitat that is essential for the listed species’ recovery. Section 9 of the ESA, which prohibits the taking of any endangered species, applies to both public and private lands. “Take” is defined in the ESA to include “harm,” 16 U.S.C. § 1539, and “harm” includes significant habitat modification on both public and private lands. Thus, regulatory actions that threaten the Refuge’s water right—including the approval of existing or increased levels of groundwater pumping, or the distortion of the Refuge’s hydrological balance between surface and groundwater—would be construed by a federal court as a violation of the “take” prohibition under Section 9 of the ESA. Any such violation would likely result in a permanent injunction against the regulatory actions that caused jeopardy and the taking of endangered species, as well as the imposition of criminal and civil penalties.

- iv. Pursuant to the requirements of federal law, the Refuge may require more water supplies than those granted under its state law appropriation water right.

The sustainability mandate of NWRSA, together with the standards set forth under the MBTA and the ESA, raise the issue of whether the Refuge has sufficient water supplies to meet these federal requirements. Given the long history of impairment of the Refuge’s state-law appropriation water right, the priority and authorized quantities of that right may be insufficient to meet the Refuge’s purposes. Addressing this problem may well require the Refuge to obtain additional water rights, whether under federal law, state law, or both. Under the doctrine of federal reserved water rights, the Refuge may be entitled to federal water rights sufficient to meet the purposes of the Refuge—since reserved water rights can be implied from the purposes of NWRSA, the MBTA, and the ESA. *Winters v. United States*, 207 U.S. 564 (1908); *Potlatch*

*Corp. v. United States*, 12 P.3d 1256 (2000). Alternatively, the Service may need to acquire additional water rights under state law—rights of sufficient priority and quantity to protect the Refuge—to fulfill the sustainability requirements under NRWSIA and the standards of the MBTA and the ESA. Whether through the recognition of federal reserved rights or the purchase of senior state-law appropriation rights, the Refuge may need to obtain additional water rights. Failure to do so likely violates federal law.

- v. Federal law prohibits the disposition of any federal property, including the diminution of the Refuge’s water right or the burdening of Refuge land with easements.

The Service owns the Refuge’s state-law water rights, which are statutorily defined as real property rights under the Kansas Water Appropriation Act (KWAA). K.S.A. § 82a-701(g). Federal law clearly prohibits the disposition of federal property—the Refuge’s water right—and disposition includes the diminution of that water right. Thus, neither the Service nor DWR can dispose of or diminish the Refuge’s water right by negotiation; neither can they place a burden (such as an easement for augmentation purposes) on Refuge land that diminishes the value of the Refuge’s property. Only Congress, and not an executive branch agency such as Interior or the Service, can authorize the disposition of federal property. This rule dates back at least to *Gibson v. Chouteau*, 80 U.S. 92, 99 (1871), and is regularly cited in modern environmental litigation. The parties should keep this rule in mind: any such disposition or diminution would require Congressional approval, which would be unlikely in this case given the statutory authorities described above.

- vi. Changes in refuge operations trigger procedural protections for the Refuge under federal administrative law.

Both the National Environmental Policy Act (NEPA) and the Administrative Procedure Act (APA) require the Service to conduct administrative review of any proposed resolution of the Refuge’s impairment. A change in Refuge operations, including a change in the operational dynamics of the Refuge’s water right, constitutes “major federal action” that would trigger NEPA review. *Middle Rio Grande Conservancy District v. Norton*, 794 F.3d 1220 (10<sup>th</sup> Cir. 2002). Moreover, an agreement between the Service and DWR would qualify as an “agency action” subject to review under the APA. *Industrial Safety Equipment Association v. Environmental Protection Agency*, 656 F.Supp. 852, 855 (D.D.C. 1987), *aff’d*, 837 F.2d 1115 (D.C.Cir. 1988). Finally, such an agreement between federal and state entities cannot delegate federal regulatory authority over the Refuge to the State of Kansas—even though DWR has jurisdiction over its water right. *United States Telecom Association v. Federal Communications Commission*, 359 F.3d 554, 566 (D.C.Cir. 2004), *cert. denied*, 543 U.S. 925 (2004). The parties should keep these procedural requirements in mind as they conduct negotiations to protect the Refuge and its water rights.

*b. Protections under State Law.*

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- i. Because DWR's impairment investigations have determined that groundwater pumping is impairing the Refuge's water right, the Refuge and AOK are entitled to an injunction prohibiting that pumping.

As you are well aware, the KWAA provides multiple protections for senior water rights owners. The most powerful of these protections is that of injunctive relief prohibiting junior water rights holders from impairing the Refuge's water rights. K.S.A. §§ 82a-716a, 82a-717. Such a right was recently and comprehensively affirmed in *Garetson v. American Warrior*, 51 Kan.App.2d 370 (2015). (Notably, the court's clear defense of senior rights against compromise in *Garetson* aligns well with the federal statutory mandate for uncompromised sustainability in NWRSA.) While both K.S.A. §§ 82a-716a and 82a-717 were amended in 2017, these amendments would not apply to the Refuge's impairment situation for two reasons. First, the Refuge, unlike the plaintiffs in *Garetson*, have maintained their pursuit of the administrative remedy for impairment set forth in the KWAA, by engaging the provisions of K.A.R. § 5-4-1. Second, because this investigation began before the 2017 amendments to the KWAA, these statutory amendments, which are prospective in their application, do not apply to this situation.

If the Service decides to seek injunctive relief through the courts, it would likely obtain injunctive relief similar to that ordered in *Garetson*. Moreover, given the Kansas Supreme Court's subordination of the KWAA to the Kansas Judicial Review Act (KJRA) in *Cochran v. Dep't of Agriculture*, 291 Kan. 898 (2011), it is likely that AOK would have standing to bring an action for injunctive relief on behalf of the Refuge pursuant to state law.

- ii. The augmentation option provided for in K.S.A. § 82a-706b(a)(2) is not permissible because it must yield to contrary federal law.

The parties to the impairment negotiations have repeatedly discussed stream augmentation as a possible full or partial remedy for the depletion of the surface waters of the Basin, surface waters upon which the Refuge depends. (*See, e.g.*, E-mail from Mike Oldham, FWS, to Orrin Feril, manager of GMD5, December 13, 2016). The Kansas Legislature enacted K.S.A. § 82a-706b(a)(2) in 2015 to specifically allow for augmentation in the Basin, perhaps with a mind to resolving the impairment of the Refuge's water right. Regardless of its intent, the provision has no force in this situation: it must yield to the federal statutory mandates described above in Section I.a, pursuant to the Supremacy Clause in the U.S. Constitution. U.S. Const., art. VI, cl. 2. Because K.S.A. § 82a-706b(a)(2) cannot apply to this situation, the minimum desirable streamflows for the Basin set forth in K.S.A. § 82a-703c must be met from streamflow levels without the aid of augmentation.

- iii. The chief engineer cannot suspend his duty to protect senior water rights, and the Secretary of Agriculture cannot suspend it for him.

AOK is troubled by the express decision made by the Kansas Department of Agriculture (KDA) not to administer junior water rights in the Basin during 2017—even though KDA acknowledges that junior groundwater rights are impairing the Refuge's senior water right. (Letter from Secretary McClaskey to GMD5, December 8, 2016, at 1). While KDA may have made this decision in the hope of advancing negotiations, the decision violates the KWAA.

Under the KWAA, the chief engineer has the statutory and non-discretionary duty to administer junior water rights that are impairing a senior right. K.S.A. § 82a-706. Nothing in the KWAA abridges the property rights of senior water rights holders. *Id.*, § 82a-721a. Thus, were the Refuge to request administration of junior groundwater rights in 2017—a request which seems both reasonable and necessary, given DWR’s impairment reports—then the chief engineer would be required to administer those junior rights to remove the impairment of the Refuge’s water right. While the chief engineer is afforded considerable deference in determining how to resolve the impairment, he cannot avoid resolving it. And while the Secretary of Agriculture can review certain decisions made by the chief engineer, she cannot foreclose the clear statutory protections afforded to senior water rights holders. Pursuant to both the federal law of standing and Kansas law, the Service, AOK, or any other similarly situated third party could bring a mandamus action to ensure that DWR fulfills its duties in 2017 and 2018.

- iv. DWR’s impairment findings may place a duty upon the chief engineer to initiate proceedings for an Intensive Groundwater Use Control Area (IGUCA), pursuant to the Groundwater Management District Act, K.S.A. § 82a-1020 *et seq.* (GMD Act).

DWR’s investigation of the impairment of the Refuge’s senior surface water right has produced two impairment reports. Together, these reports found decisively that groundwater pumping in the Basin is impairing the Refuge’s water right. These findings have been made pursuant to the KWAA; but because they align with the findings necessary to initiate proceedings for the establishment of an IGUCA pursuant to the GMD Act, K.S.A. § 82a-1036, they may require the chief engineer to initiate IGUCA proceedings. As DWR’s impairment reports make clear, groundwater levels in the Basin are declining and have declined excessively, K.S.A. § 82a-1036(a); the rate of withdrawal of groundwater within the Basin equals or exceeds the rate of recharge, *id.*, § 82a-1036(b); and unreasonable deterioration of the quality of water is occurring in the Basin—deterioration in the form of distorting the balance of saline and fresh water upon which the Refuge depends, *id.*, § 82a-1036(d). The Refuge has not, apparently, requested the initiation of IGUCA proceedings; neither GMD5 nor irrigators within GMD5 have done so either, which is their right pursuant to K.S.A. § 82a-1036. Nor has GMD5 requested the initiation of proceedings for a Local Enhanced Management Area (LEMA) pursuant to K.S.A. § 82a-1041. Given the authoritative nature of DWR’s impairment findings, it is clear that the chief engineer must take action consistent with those findings. If he declines to initiate IGUCA proceedings, then he may risk neglecting his duties under both the KWAA and the GMD Act to follow the statutory dictates of the KWAA. K.S.A. §§ 82a-706, 82a-716, 82a-717, 82a-721a, 82a-1020, 82a-1039. Regulatory inaction constitutes action under state and federal administrative law.

- v. The chief engineer may be prohibited from reducing the original quantification of the Refuge’s state-law water right.

DWR should keep in mind that the Refuge may be entitled to a larger annual authorized quantity for its water right than the quantity that appears in its water rights certificate. In *Clawson v. DWR*, 49 Kan.App.2d 789 (2013), the Kansas Court of Appeals effectively negated the statutory and regulatory provisions by which the annual authorized quantities of an Approval

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of Application may be reduced during the perfection period. Pursuant to *Clawson*, a court could well find that the perfected quantification of the Refuge's 1957 water right (14,632 acre-feet per year, at a maximum rate of 300 cubic feet per second) must give way to the amounts described in the Refuge's approval of application—an original amount of 22,000 acre-feet annually, as GMD5 has noted. (Second Stakeholder Proposal in Connection with USFWS Impairment Complaint, February 15, 2017, at 2). DWR should take this matter under consideration as it evaluates the various proposals provided so far by the Service and GMD5.

## **II. The required elements for the adequate protection of the Refuge's impaired water right.**

Given the federal and state laws described in Section I, DWR must proceed according to their requirements. Because the Refuge is a federal wildlife refuge afforded specific protections under federal law, any negotiated resolution that violates that law will likely be enjoined and reversed. To comply with these statutory requirements, the adequate protection of the Refuge requires the protection of the sustainability of the hydrological system of the Basin upon which the Refuge depends. The KWAA similarly requires the full protections afforded to senior surface water rights holders. Together, that protection requires the following elements:

- a. The Refuge's state-law water right must be protected at its full authorized quantity and rate of diversion. There can be no compromises to this right, which is owned by the Service.
- b. To meet the sustainability mandate of NWRSA and the standards set forth in the MBTA and the ESA, the Refuge's state-law water right must be protected as a surface water right, drawing its full authorized quantity and rate of diversion from the Basin, without short-term hydrological compromises such as stream augmentation produced by further groundwater pumping. Such pumping only serves to accelerate the depletion of the Basin's water supplies as a hydrological whole, and to distort the saltwater/freshwater mixture that is critical to Refuge habitat.
- c. DWR's first duty is to protect the Refuge's senior water right. However, given the long history of impairment of that right, the Service and DWR must together consider whether the Refuge requires additional water rights—whether under the doctrine of federal reserved water rights, or through the purchase, lease, or other transfer of state-law appropriation rights. In either case, these additional rights must be of sufficient priority and quantity to meet the requirements of the Refuge. If the Refuge's water right is insufficient to protect the Refuge from chronic impairment, then the Service must obtain additional water rights.
- d. The failure to protect the Refuge's water supplies has caused considerable harm to the Refuge for decades. That harm continues and accumulates, as the water and habitat conditions at the Refuge deteriorate further. Thus, a successful resolution of the Refuge's impairment situation requires an adequate restoration plan to compensate the Refuge for the harms it has already suffered. As conditions

continue to deteriorate, more water supplies than those secured under the Refuge's water right will likely be needed to effect that restoration. Failure to restore will incur liability according to the statutes described in Section I.a.

- e. Pursuant to *Clawson*, DWR and the Service must evaluate whether the Refuge is entitled to an authorized quantity and rate of diversion that are greater than the quantity and rate described in its water rights certificate. The decision in *Clawson* likely requires protection of the Refuge's water right at its originally approved, unperfected quantity of 22,000 acre-feet per year.

### **III. Acceptable Resolutions of the Refuge's Impairment Complaint.**

AOK sees three potential pathways that would resolve the Refuge's impairment complaint in accordance with federal and state law. While the parties may have been discussing these (and potentially other) pathways, AOK wants to make clear that the Refuge, as a federal wildlife refuge governed by federal law, cannot be treated in the same way as a state-law appropriation right holder that does not enjoy the federal protections set forth in Section I.a. This point cannot be emphasized too strongly.

#### *a. Administration of Junior Water Rights pursuant to the KWAA.*

First, as set forth above in Section I.b., the chief engineer has the duty to protect senior surface rights pursuant to both the KWAA and the GMD Act. In the event that neither GMD5, nor a petition by its irrigators, nor the chief engineer initiates proceedings to form an IGUCA, or in the event that GMD5 does not initiate proceedings to form a LEMA, then the only remaining option is priority administration of water rights in the Basin. If priority administration is the only available resolution, then neither the chief engineer nor the Secretary of Agriculture has the legal ability to refuse to administer water rights. KDA should retract its illegal promise not to administer water rights in 2017, and should make so such promise hereafter.

#### *b. Initiation of Proceedings to form an IGUCA in the Basin.*

DWR has employed the IGUCA mechanism in groundwater-dependent surface water systems throughout Kansas—in particular, the Walnut Creek IGUCA, which has restored some degree of hydrological balance and sustainability to protect the groundwater-dependent ecosystem of the Cheyenne Bottoms. There is no reason why a similar resolution would not work in the Basin, provided it complies with federal law. The Refuge cannot have its senior surface water right diminished in any way as part of these proceedings. While the GMD Act contemplates the possibility of an IGUCA order that does not strictly follow priority administration, K.S.A. § 82a-1038, the Refuge cannot, for the reasons set forth above in Section I.a., suffer any qualitative or quantitative reduction in its senior surface water right.

#### *c. Initiation of Proceedings to form a LEMA in the Basin.*

Because neither of the above options may be amenable to DWR, GMD5, or irrigators within GMD5, DWR should encourage GMD5 to develop a local management plan pursuant to



K.S.A. § 82a-1041 and initiate proceedings for the formation of a LEMA within the Basin. Given the greater flexibility afforded to groundwater irrigators under the LEMA statute, this may be the preferred option. Again, however, such a local management plan must abide by the same federal law that protects the Refuge from any qualitative or quantitative diminution of its senior surface water right.

In light of the clear legal mandates set forth in Section I, AOK is very disappointed by the LEMA proposals that GMD5 has recently submitted to DWR. (GMD5 Proposal to remedy impairment to QNWR, August 11, 2017; Second Stakeholder Proposal in Connection with USFWS Impairment Complaint, February 15, 2017). These proposals are facially defective under both federal and state law. A temporary LEMA, by definition, fails to meet the statutory requirements for permanent sustainability under NWRSIA, the MBTA, and the ESA, as well as the state law requirements under both the KWAA and the GMD Act. As set forth above, augmentation is not a legal option in the Basin because it runs afoul of the Supremacy Clause and thus must defer to federal statutes mandating sustainability and hydrological and biological integrity. The removal of “end-guns” on irrigation systems will provide only a miniscule reduction in the pumping that is impairing the Refuge. However, AOK is heartened by GMD5’s willingness to transfer water rights from within GMD5 to the Refuge, whether through the transfer of water rights from the Central Kansas Water Bank Association or through the purchase of junior water rights. Finally, the Refuge likely requires additional water rights for the restoration of its habitat and the dependable sustainability of the Refuge as a whole over the long term.

Across these three pathways, DWR must keep in mind that it has both the duty to address both the immediate impairment of the Refuge and the duty to resolve the long-term causes of that impairment—excessive groundwater pumping by junior water rights holders over the past several decades at least. Regarding the pathway of water rights administration, injunctive relief for the overuse of water extends to retrospective relief. *Texas v. New Mexico*, 482 U.S. 124, 129 (1987). The IGUCA and LEMA pathways similarly require regulatory actions that resolve long-term impairment by restoring the sustainability of whatever water supplies are necessary for the permanent protection of the Refuge.

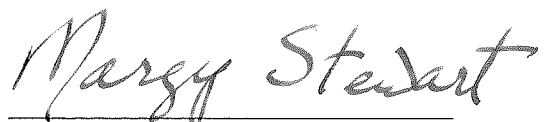
AOK requests from DWR a full written response to the legal issues set forth in this letter, and its position on what DWR sees as acceptable resolutions, no later than **October 1, 2017**.

In closing, AOK would like to extend its appreciation to DWR, the Service, and GMD5 for its attention to this important matter.

Sincerely,



Mr. Ron Klataske  
Executive Director  
Audubon of Kansas



Ms. Margy Stewart  
Chair, Board of Trustees  
Audubon of Kansas

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Attachment:  
Letter from AOK to DWR, May 13, 2016

cc:  
Mr. Will Meeks  
Assistant Regional Director  
United States Department of the Interior, Fish & Wildlife Service  
Region 6, Mountain-Prairie Region  
P.O. Box 25486  
Denver Federal Center  
Denver, CO 80225-0486

Mr. Brian Caruso  
Chief, Division of Water Resources  
Regional Hydrologist  
United States Department of the Interior, Fish & Wildlife Service  
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United States Department of the Interior  
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Rocky Mountain Region  
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Mr. Mike Oldham  
Project Leader and Refuge Manager  
Quivira National Wildlife Refuge  
U.S. Fish & Wildlife Service  
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Stafford, KS 67578

Mr. Orin Feril, Manager,  
Big Bend Groundwater Management District No. 5  
125 South Main St.  
Stafford, KS 67578

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.

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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. Its 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.

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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

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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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## **Exhibit H**

1320 Research Park Drive  
Manhattan, Kansas 66502  
(785) 564-6700



900 SW Jackson, Room 456  
Topeka, Kansas 66612  
(785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

September 29, 2017

BY E-MAIL (PDF) AND U.S. MAIL

Mr. Ron Klataske  
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Ms. Margy Stewart  
Chair, Board of Trustees  
Audubon of Kansas  
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aok@audubonofkansas.org

Dear Mr. Klataske and Ms. Stewart,

Thank you for your interest in the Quivira National Wildlife Refuge (Refuge) impairment investigation and remedy development as expressed in your letter dated September 6, 2017.

We are actively working with Groundwater Management District No. 5 (GMD 5) and basin stakeholders to develop a long-term solution to remedy the impairment.

GMD 5 is working on a project to augment flows into the refuge and is developing a local enhanced management plan (LEMA) to reduce groundwater pumping. The GMD is actively working to develop more details on both components and each will be carefully evaluated by KDA-DWR to ensure they address the existing impairment. The goal is to provide the Refuge with water of sufficient quantity and quality to satisfy their water right.

While we appreciate the concerns expressed in your letter, we believe it is premature to determine that either the process or the product of this process is insufficient.

As more details become available, we will make them available on our web site and via other public processes as appropriate. We encourage you to remain informed and engaged in these processes.

David W. Barfield, P.E.  
Chief Engineer  
Division of Water Resources  
Kansas Department of Agriculture



Cc:

Mr. Will Meeks  
Assistant Regional Director  
United States Department of the Interior, Fish & Wildlife Service  
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Jeff Lanterman  
Water Commissioner  
Kansas Department of Agriculture, Division of Water  
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## **Exhibit I**

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Jackie McClaskey, Secretary

Governor Sam Brownback

## MEMORANDUM

December 13, 2017

To: Orrin Feril, GMD 5 Manager  
GMD 5 Board of Directors

From: David Barfield and Jackie McClaskey, Kansas Department of Agriculture

Please consider this letter a follow-up to the short phone conversation between Orrin and members of our KDA team last week about the status of the GMD's efforts to develop a LEMA to address the impairment of Quivira National Wildlife Refuge, and about the need to have a public meeting soon to update and engage basin stakeholders. As we discussed, there is a high level of concern and misunderstanding in the basin regarding what is going to happen, and tensions seem especially heightened as we approach the end of the calendar year.

In addition, this letter will provide an update to our December 8, 2016, letter regarding steps needed to develop a remedy to the Quivira impairment. Since that time, significant progress has been made, but as we all know, work remains. Since December 2016, the following key events have occurred:

- In February 2017, GMD 5 provided a second offer to resolve the impairment.
- GMD 5 then asked KDA to define what elements it believed necessary to resolve the impairment beyond augmentation.
- KDA provided that information at our meeting on July 6, 2017.
- On August 11, 2017, GMD 5 provided a framework for a proposed LEMA to remedy the impairment.
- At that time and since, KDA has provided expectations for necessary LEMA plan elements as well as appropriate technical support to assist GMD 5 in developing specifics for the proposed LEMA.
- The GMD 5 Board and a subcommittee of GMD 5 have worked with staff and consultants to develop additional LEMA components.

We are pleased to hear that the work of the subcommittee is progressing and the development of a LEMA plan is near completion. We look forward to receiving the initial plan soon. In light of the progress made and our desire to provide every opportunity for a locally developed solution, **KDA will not impose strict administration of water rights on January 1, 2018, nor do we have any intent to do so in the immediate future.** KDA believes more time to develop and implement a locally-developed solution — a LEMA that comes from your board — remains the best path forward.

It is critical that formal action to address the impairment begin in 2018. Since the Chief Engineer has a statutory duty to secure water to senior water rights, it is imperative that any LEMA plan submitted include the essential

elements needed to resolve the impairment. The basis of this plan should include at least: 1) 2018-2022 as the initial period for evaluating its success in achieving the needed water use reductions; 2) actual steps toward reduction of water use beginning in 2018 (for example, implementation of the GMD Board's concept to require the removal of end guns); and 3) a detailed plan for augmentation implementation (if included in your proposal).

Further, as we have often stated, a proposal that includes augmentation is expected to also include water use reductions so that a sustainable solution can be achieved. While we believe you can develop a LEMA with a flexible management plan to accomplish the needed pumping reductions over the initial period, such a LEMA will be required to define the reduction goal, achieve real pumping reductions, provide a means of evaluating if the goal is achieved, and include a plan for defined corrective controls to be implemented in the subsequent period if the goal is not achieved in the initial period. We have provided a number of examples of acceptable options that may be included in a LEMA plan, but they are not the only options. The fundamentals of an acceptable plan — that depletions need to be significantly reduced to make augmentation viable — remain firm. How the basin wants to get there is for your board to decide. KDA does have a legal obligation to secure water to senior users and, therefore, remains committed to providing you and your board with technical, policy, and outreach assistance to help you make your LEMA work — not only to address the impairment, but also to have as little economic impact on district water users as possible. If a local solution to address impairment is not proposed early in 2018, other actions will need to be considered.

**It is time that GMD 5 and KDA jointly host a public meeting** to provide stakeholders an update on the work that has been done and engage them in the LEMA process by presenting and taking feedback on the initial LEMA plan. This public forum needs to be held no later than early February. Brittney Houck, KDA executive assistant, will be reaching out to you to get a date set on the calendar.

Thank you for your commitment to working with us to find a solution.

## **Exhibit J**

Dennis L. Gillen  
Jack Scott McInteer  
Randall K. Rathbun  
Charles C. Steincamp

DEPEW & GILLEN  
RATHBUN & MCINTEER, L.C.

Spencer L. Depew (1933-2005)  
Nicholas S. Daily (1949-2006)

Kimberly A. Vining  
Joseph A. Schremmer  
Benjamin K. Carmichael  
Paul F. Good, Of Counsel

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August 17, 2018

BY E-MAIL AND U.S. MAIL

Ms. Noreen Walsh  
Regional Director, Mountain-Prairie Region  
U. S. Fish and Wildlife Service  
134 Union Blvd.  
Lakewood, Colorado 80228  
Noreen\_Walsh@fws.gov

Mr. David W. Barfield, P.E.  
Chief Engineer, Division of Water Resources  
Kansas Department of Agriculture  
1320 Research Park Drive  
Manhattan, Kansas 66502  
[david.barfield@ks.gov](mailto:david.barfield@ks.gov)

*Re: Quivira National Wildlife Refuge, Water Right File No. 7,571*

Dear Ms. Walsh and Mr. Barfield:

The undersigned is counsel for Audubon of Kansas ("AOK"). On September 6, 2017, AOK wrote the Division of Water Resources ("DWR") a detailed letter setting forth the applicable law concerning the impairment of Water Right File No. 7,571, which is owned by the United States Fish and Wildlife Service ("Service") on behalf of Quivira National Wildlife Refuge ("Refuge"). The Service and the Department of Interior's Office of the Solicitor were copied on that letter. In that letter, AOK asked DWR to respond fully to that letter, and to provide a plan to protect the Refuge's water right in accordance with the law. The response of DWR was completely inadequate; the Service did not respond at all. The Service's inaction has violated federal law, while DWR's conduct has ignored the dictates of both federal and state law. Please allow me to summarize the abdication of your respective legal duties.

Starting in 1986, the Service made known to DWR that the Refuge's water right was suffering severe water shortages as a consequence of junior groundwater pumping in the Rattlesnake Creek Basin. Efforts by the Service and other stakeholders to effect voluntary reductions in junior groundwater rights failed.

DG&M

After three decades of such ineffectiveness, the Service finally filed an impairment complaint with DWR on April 8, 2013, pursuant to K.A.R. § 5-4-1.

In response to that complaint, Mr. Barfield issued a final report on July 15, 2016, finding the Refuge's water right to be impaired. "Final 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, July 15, 2016." ("Final Report of Impairment"). That was more than two years ago.

Since the issuance of the Final Report of Impairment, the Service has not filed a request to secure water pursuant to K.A.R. § 5-4-1, which is the expected response from a senior water right holder whose right the chief engineer has found to be impaired. The Service has allowed its water usage to be diminished for two years since then as a consequence—in violation of multiple provisions of federal law.

On December 8, 2016, Secretary McClaskey of the Kansas Department of Agriculture ("KDA") made the express decision not to administer junior water rights in the Rattlesnake Creek Basin during 2017. As detailed in AOK's earlier letter, there is no legal basis for this decision under the Kansas Water Appropriation Act ("KWAA"), K.S.A. § 82a-701 *et seq.*, or any other law. Mr. Barfield abdicated his duties as chief engineer and condoned the secretary's usurpation of the chief engineer's statutory duty to protect water rights according to priority of appropriation.

That abdication continued. On September 29, 2017, writing on KDA stationery, Mr. Barfield deferred much of the Refuge's impairment matter to Big Bend Groundwater Management District No. 5 (GMD5), a body composed of groundwater irrigation interests that has no regulatory authority over water rights. GMD5 has been preparing various iterations of a Local Enhanced Management Area ("LEMA") management plan pursuant to K.S.A. § 82a-1041, a management option that is voluntary and does not follow the doctrine of prior appropriation. The chief engineer's response to AOK's letter concluded that DWR "believe[s] it is premature to determine that either the process or the product of this [LEMA] process is insufficient."

Subsequent events belie Mr. Barfield's conclusion. On December 13, 2017, DWR and KDA repeated the Secretary's promise of December 8, 2016 not to administer water rights to protect the Refuge during 2018—a second flagrant violation of the KWAA, which confers upon the chief engineer the non-discretionary duty to protect water rights according to the doctrine of priority of appropriation. K.S.A. § 82a-706.

On February 15, 2018, GMD5 submitted a draft "Request for Rattlesnake LEMA" to DWR. Like GMD5's earlier proposal of September 8, 2016, this management plan contains no date certain, no fixed reductions, no firm commitments, and numerous technical and legal speculations.

Mr. Barfield responded to this plan with a power point presentation of February 16, 2018. In this presentation, he proposed a start date of 2020 for a GMD5 LEMA at the earliest. Further, DWR's goal for such a LEMA is little more than to reduce the rate of increase of groundwater depletions. Based on DWR's own evaluation of the situation, it appears that DWR will be satisfied with (a) waiting two more years to remedy the impairment of the Refuge, and only then (b) taking steps that do not reverse these depletions. If these are DWR's standards, then the chief engineer and KDA have committed DWR to condone the permanent impairment of a senior surface water right, in patent violation of federal and state law.

On March 13, 2018, Governor Colyer issued Executive Order 18-11, a Drought Declaration for all of Kansas. Stafford County, where most of the Refuge is located, is under a Drought Emergency according to that declaration. That declaration, which remains in effect, has had no apparent effect on the Service's or DWR's response to the Refuge's ongoing impairment.

Despite the clear mandates of federal and state law, despite the issuance of the Final Impairment Report, and despite the Governor's drought emergency declaration for Stafford County, both the Service and DWR have abdicated their clear legal duties to protect the Refuge and its lifeblood—its senior water right. These duties, as set forth in AOK's previous letter, are clearly mandated. Indeed, as DWR states on its own website, at <http://agriculture.ks.gov/divisions-programs/dwr/water-appropriation/impairment-complaints>:

A founding principle of Kansas water law is first in time, first in right. That means water rights are assigned a priority date to establish who has first right to water. This allows the Division of Water Resources to protect a sometimes scarce water resource for those who established their rights first from those who came along later.

In times of plenty, there may be enough water to satisfy all water rights. However, in times of water scarcity, those who have earlier, or more senior, water rights are entitled to satisfy those rights before those who have rights junior to them.

Based upon this recitation of the record, the following facts are undeniable.

1. Federal wildlife and environmental law require Interior and DWR to protect the Refuge and the species which depend upon it.
2. The KWAA requires the chief engineer to protect senior water rights according to the doctrine of priority of appropriation.
3. The Final Report of Impairment found that the Refuge's senior 1957 surface water right is being impaired by junior groundwater irrigators in the Rattlesnake Creek Basin.
4. The Final Report of Impairment concedes that "none of the pumping shutoff scenarios produce an effective baseflow response for two to three years." Final Report of Impairment, p. 47.



5. Over two years since the Final Report of Impairment was issued, the Service has failed to request the protection of its water right.
6. Junior groundwater pumping that the chief engineer has found to be impairing the Refuge's water right has continued, undiminished, since the issuance of the Final Report of Impairment.
7. KDA and DWR have repeatedly committed to avoid protecting the Refuge's senior water right by administering junior water rights, in patent violation of the KWAA.
8. In so committing to avoid the law, KDA and DWR have deferred to GMD5, an entity with no regulatory authority under the KWAA, in the politic hope that GMD5 will author a LEMA that resolves the impairment of the Refuge's water right, starting in 2020 at the earliest.
9. Despite his own findings quoted above in Paragraph 4, the chief engineer has defined that satisfactory resolution as one that waits until 2020 to begin, and does nothing more than reduce the rate of groundwater depletion beneath and surrounding the Refuge.

These facts support one equally undeniable conclusion: the Service and DWR have deliberately abdicated their respective duties under state and federal law to protect the Refuge and its senior water right.

It is well past time to protect that right by obeying the law. On behalf of AOK, I demand that Interior, the Service, and DWR perform the following duties:

1. That the Service file, within thirty days of receipt of this letter, a Request to Secure Water for years 2018 and 2019 in response to DWR's impairment finding, pursuant to K.A.R. § 5-4-1(d). The Service's request must require the protection of its water right at its full approved quantities, taking into account its 2018 water usage so far. The form required by this regulation is enclosed with this letter. In the event the Service decides not to file a Request, I demand that it provide a full explanation, with authority, for its decision.
2. That, in the event that the Service fails to file such a request, that DWR respond to AOK's Request to Secure Water, which is also enclosed with this letter. AOK has standing to file this request pursuant to the citizen standing provisions of federal wildlife and environmental law and pursuant to *Cochran v. Dep't of Agriculture*, 291 Kan. 898 (2011), which subordinates the standing requirements of the KWAA to the Kansas Judicial Review Act. (Because AOK lacks water usage information for the water right, some of these sections are blank.) In the event that DWR decides not to act upon this request, I demand that it provide a full explanation, with authority for its decision, within thirty days' receipt of this letter.

3. That, in light of Mr. Barfield's own findings in the Final Report of Impairment, that DWR issue an order by October 1, 2018, setting forth the priority administration for 2019 of all junior water rights in the Rattlesnake Creek Basin that are impairing the Refuge's senior water right, to protect that right at its full approved annual quantity of 22,200 acre-feet at a diversion rate of 300 cubic feet per second.

This time AOK expects a satisfactory response from the Service and DWR. If either agency fails to follow the law and protect the Refuge's water right—a right owned in trust for the American people—then I will pursue legal remedies on behalf of AOK to remedy that failure. Those remedies will include an injunction forbidding the diversion of water by any junior water rights in the Rattlesnake Creek Basin for 2019, in accordance with the rights of priority of appropriation. Finally, I am certain that you recall that the federal environmental statutes upon which we rely provide for an award of attorneys' fees to the prevailing party.

I look forward to your timely responses.

Very truly yours,



Randall K. Rathbun  
of Depew Gillet Rathbun & McInteer LC

RKR:kgm

enclosures:

Request to Secure Water Pursuant to K.A.R. § 5-4-1 (blank)

Request to Secure Water Pursuant to K.A.R. § 5-4-1, filed on behalf of the Refuge by AOK

cc:

Mr. Ron Klataske, Executive Director, Audubon of Kansas

Ms. Margy Stewart, Chair, Board of Trustees, Audubon of Kansas

Mr. Mike Oldham

Project Leader and Refuge Manager

Quivira National Wildlife Refuge

U.S. Fish & Wildlife Service

1434 NE 80<sup>th</sup> St.

Stafford, Kansas 67578

United States Department of the Interior

Office of the Solicitor

Rocky Mountain Region

755 Parfet St.

Lakewood, Colorado 80215

Attorney General Derek Schmidt  
Office of the Kansas Attorney General  
109 SW 10<sup>th</sup> Ave., Second Floor  
Topeka, Kansas 66612

Ms. Jackie McClaskey, Secretary  
Kansas Department of Agriculture  
1320 Research Park Drive  
Manhattan, Kansas 66502

Mr. Kenneth Titus, Chief Legal Counsel  
Kansas Department of Agriculture  
1320 Research Park Drive  
Manhattan, Kansas 66502

Mr. Orin Feril, Manager  
Big Bend Groundwater Management District No. 5  
125 South Main St.  
Stafford, Kansas 67578

REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established:

a. Vested Right

File No. County Source
Quantity Rate

b. Appropriation Right

File No. Priority Date
Status
Source Quantity Rate

2. That the authorized place of use for the water right is:

3. A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:

Name Address
Name Address

B. That the land described in paragraph 2 is owned by:
(If different than owner of water right)

Name Address
Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:

(tenant, lessee, buyer, contract or other)

5. That during this calendar year acre-feet of water has been used under this right.

6. That the undersigned has need for acre-feet of water at a rate of g.p.m. for purposes at locations described as follows:

No. of Acres: Kind of Crop:



REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

August 17, 2018
(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established:

a. Vested Right
File No. County Source
Quantity Rate
b. Appropriation Right
File No. 7,571 Priority Date August 15, 1957
Status Impaired
Rattlesnake Creek 22,000 acre-feet 300 cfs
Source Quantity Rate

2. That the authorized place of use for the water right is: Quivira National Wildlife Refuge

3. A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:
U.S. Fish & Wildlife Service 1434 BE 80th St., Stafford, KS 67578
Name Address

B. That the land described in paragraph 2 is owned by:
(Name different than owner of water right)
Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:
Audubon of Kansas, pursuant to 16 U.S.C. 1538(g).
(tenant, lessee, buyer, contract or other)

5. That during this calendar year \_\_\_ acre-feet of water has been used under this right.

6. That the undersigned has need for \_\_\_ acre-feet of water at a rate of \_\_\_ g.p.m. for \_\_\_ purposes at locations described as follows:

No. of Acres: \_\_\_ Kind of Crop: \_\_\_

7. That I am prepared to, and will, in the exercise of my water right described above, apply to beneficial use all water available to me at a rate of \_\_\_\_\_ g.p.m. or less, commencing at \_\_\_\_\_ o'clock A.M./P.M. on \_\_\_\_\_, 20\_\_\_\_.
8. That I have been informed that water is available from the source of supply in the amount of:

<u>Date</u>	<u>Estimated Flow</u>	<u>Location</u>
<u>See Final Report of Impairment, issued by DWR July 15, 2016</u>		
_____	_____	_____

9. That I have been informed that water is, or was, being diverted from the source of supply as follows:

<u>Date</u>	<u>Water Right</u>	<u>Name</u>	<u>Estimated Rate of Diversion</u>
_____	_____	_____	_____
_____	_____	_____	_____

10. That I have advised the persons listed below of my need for water and my intention to exercise my water right:

<u>Name of Person</u>	<u>Date</u>	<u>Agreeable – Yes Or No</u>
<u>David W. Barfield, P. E.</u>	<u>August 17, 2018</u>	_____
<u>Noreen Walsh</u>	<u>August 17, 2019</u>	_____
_____	_____	_____

I request in accordance with the provisions of K.S.A. 82a-706b, that the Chief Engineer or his or her authorized agent open, close, adjust or regulate the headgates, valves, or other controlling works of any ditch, canal, conduit, pipe, well, or structure as may be necessary to secure water to which I am entitled:

*[Handwritten Signature]*  
 \_\_\_\_\_  
 Signature

State of Kansas )  
 County of Sedgewick ) SS

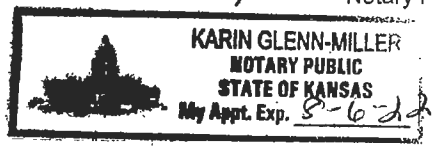
\_\_\_\_\_ by me being duly sworn, declare that the information is true and correct to the best of his or her knowledge and belief.

\_\_\_\_\_  
 Affiant's Signature

Subscribed and sworn to before me this 17th day of August, 2018

*[Handwritten Signature: Karin Glenn-Miller]*  
 \_\_\_\_\_  
 Notary Public

My Commission Expires 8-6-22



## **Exhibit K**



STATE OF KANSAS



DEPARTMENT OF AGRICULTURE  
1320 RESEARCH PARK DRIVE  
MANHATTAN, KS 66502  
PHONE: (785) 564-6700  
FAX: (785) 564-6777

900 SW JACKSON, ROOM 456  
TOPEKA, KS 66612  
PHONE: (785) 296-3556  
www.agriculture.ks.gov

GOVERNOR JEFF COLYER, M.D.  
JACKIE MCCLASKEY, SECRETARY OF AGRICULTURE

August 27, 2018

Also sent via email to [randy@depewgillen.com](mailto:randy@depewgillen.com)

Randall K. Rathbun  
Depew Gillen Rathbun & McInteer LC  
8301 E. 21<sup>st</sup> Street North, Suite 450  
Wichita, Kansas 67206

**Re: Quivira National Wildlife Refuge – Water Right File No. 7,571**

Mr. Rathbun:

In response to your letter dated August 17, 2018, attached is the Request to Secure Water filed with our office by the United States Fish and Wildlife Service, dated January 17, 2017. We have attempted to maintain a digital copy of all relevant documents regarding this issue on our website for public access, however, we initially failed to post the Request to Secure Water and have since remedied this oversight.

As noted in your letter, Big Bend Groundwater Management District No. 5 (“GMD5”) continues their work to develop a local enhanced management area (“LEMA”) to address the impairment within parameters that we have established. Those requirements are clear that if augmentation is not provided, much more significant pumping reductions will be required. Once ordered, a LEMA’s corrective controls are not voluntary and are enforceable under state law.

A Request to Secure Water is filed pursuant to K.A.R. 5-4-1, which in section (e)(2) states:

If the area of complaint is located within the boundaries of a GMD and if the final report determines that the impairment is substantially due to direct interference, the chief engineer shall allow the GMD board to recommend how to regulate the impairing water rights to satisfy the impaired right.

The GMD5 Board of Directors recommend that they move forward with a local enhanced management area, and they are working diligently towards the formation of such a district. Although GMD5 has not yet finalized a plan, we believe an appropriate and enforceable solution can be crafted and that our actions to date are within our regulatory authority.

Sincerely,

Kenneth B. Titus  
Chief Legal Counsel  
[kenneth.titus@ks.gov](mailto:kenneth.titus@ks.gov)

Encl: Request to Secure Water



United States Department of the Interior  
FISH AND WILDLIFE SERVICE  
Mountain-Prairie Region



IN REPLY REFER TO:  
BA WTR  
KS WR  
Mail Stop 60189

MAILING ADDRESS:  
P.O. Box 25486, DFC  
Denver, Colorado 80225-0486

STREET LOCATION:  
134 Union Boulevard  
Lakewood, Colorado 80228-1807

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

**JAN 17 2017**

Dear Mr. Barfield:

Enclosed is the U.S. Fish and Wildlife Service (Service) request to secure water regarding water right No. 7571 from injury due to junior groundwater wells. The Service appreciates the help received during our January 03, 2016 phone conversation ensuring the form was filled out accurately. Please let us know if any further changes need to be made.

As we indicated in our December 01, 2016 letter, submission of this form will not preclude us from working further with Big Bend Groundwater Management District No. 5 to obtain a mutual solution. We must, however, have the solution be enforceable from your office and feel that submitting this request will ensure that enforceability occurs in 2018.

Please contact me at 303-236-4491 if you any questions or would like to discuss further. Thank you for your assistance in this matter.

Sincerely,

Brian S. Caruso, Ph.D., P.E.  
Chief, Division of Water Resources

REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

January 01, 2018
(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established:

a. Vested Right
File No. County Source
Quantity Rate
b. Appropriation Right
File No. 7571 Priority Date August 15, 1957
Status Certified
Rattlesnake Creek 14,632 300 cfs
Source Quantity Rate

2. That the authorized place of use for the water right is: Quivira National Wildlife Refuge

3. A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:

U.S. Dept. of the Interior - U.S. Fish and Wildlife Service P.O. Box 25486, Denver Federal Center, Mailstop
60189, Denver, CO 80225
Name Address

Name Address

B. That the land described in paragraph 2 is owned by:
(If different than owner of water right)

same as above
Name Address

Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:

Agent (tenant, lessee, buyer, contract or other)

5. That during this calendar year 0 acre-feet of water has been used under this right.

6. That the undersigned has need for 14,632 acre-feet of water at a rate of see attached g.p.m. for Recreational purposes at locations described as follows:

Fish and Wildlife Habitat, Forage

No. of Acres: 22,135 Kind of Crop: N/A

7. That I am prepared to, and will, in the exercise of my water right described above, apply to beneficial use all water available to me at a rate of See attached g.p.m. or less, commencing at 12 o'clock A.M. on January 1, 2018.

8. That I have been informed that water is available from the source of supply in the amount of:

<u>Date</u>	<u>Estimated Flow</u>	<u>Location</u>
<u>1974 - 2013</u>	<u>Variable</u>	<u>Rattlesnake Creek, Zenith Gage</u>

9. That I have been informed that water is, or was, being diverted from the source of supply as follows:

<u>Date</u>	<u>Water Right</u>	<u>Name</u>	<u>Estimated Rate of Diversion</u> <u>30,000 - 60,000 AF per</u> <u>year depletions to</u> <u>Rattlesnake Creek</u>
<u>1995 - 2007</u>	<u>Multiple</u>	<u>Junior Appropriators</u>	

10. That I have advised the persons listed below of my need for water and my intention to exercise my water right:

<u>Name of Person</u>	<u>Date</u>	<u>Agreeable - Yes Or No</u>
<u>Big Bend GMD No. 5</u>	<u>12/01/2016</u>	<u>No</u>

I request in accordance with the provisions of K.S.A. 82a-706b, that the Chief Engineer or his or her authorized agent open, close, adjust or regulate the headgates, valves, or other controlling works of any ditch, canal, conduit, pipe, well, or structure as may be necessary to secure water to which I am entitled:

Brian S. Caruso, agent  
Signature

State of ~~Kansas~~ Colorado )  
County of Jefferson ) SS

Brian S. Caruso by me being duly sworn, declare that the information is true and correct to the best of his or her knowledge and belief.

Brian S. Caruso, agent  
Affiant's Signature

Subscribed and sworn to before me this 17<sup>th</sup> day of January, 2017

**CAROLINE M. CORDOVA**  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20044034704  
MY COMMISSION EXPIRES 09/28/2020

My Commission Expires September 28, 2020

Caroline M. Cordova  
Notary Public  
135 Quitman Street  
Denver CO 80219

## Seasonal Rattlesnake Creek Water Need Estimates for Quivira National Wildlife Refuge, Prepared May 2015

### Background

At the request of Kansas Department of Agriculture, Division of Water Resources (DWR), the U.S. Fish and Wildlife Service (Service) has provided information to increase understanding of *seasonal* water needs to accomplish management objectives of the Quivira National Wildlife Refuge (Refuge). The Refuge's current annual Water Right 7571 on Rattlesnake Creek is 14,632 ac-ft. There is no single estimate that accurately predicts seasonal surface water needs of the Refuge because various factors influence water needs within and among years, such as short- and long-term weather patterns, the timing of wildlife events (e.g., migration), and changing habitat conditions.

### Approach

**Scenario 1** – There was interest by DWR to evaluate the potential of using past water use records to quantify estimates of seasonal water needs to accomplish refuge management objectives. To accomplish this task, Refuge staff compiled 48 years of monthly water-use records and grouped months into seasons based on the life cycle events of waterbirds (timing of migration, relative abundances) and the lag time required to transfer water to wetlands through the ditch infrastructure (Table 1). For example, flooding a wetland to the appropriate depth can require days to weeks depending on location from the diversion, volume of water available, and existing soil moisture conditions (e.g., dry, saturated).

Table 1. Significant annual events largely considered in determining seasonal water needs to accomplish management objectives of Quivira National Wildlife Refuge.

Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec
<b>MANAGEMENT TO SUPPORT WILDLIFE FOOD &amp; COVER REQUIREMENTS</b>					
Use water where needed to provide/maintain semipermanent wetland habitat.					
Shallowly flood select units to saturate dry soils that will be used to produce wildlife foods.					
Dewater select wetlands for suitable germination and growth of desired plants used for wildlife food and cover. Drawdown dates are based on scientific information.					
Irrigate select wetland units to support survival, growth, and seed production of germinated wildlife food plants.			After seeds mature, gradually increase water levels in wetlands to coincide with the food and cover needs of target species.		
<b>CHRONOLOGY OF SPECIES ANNUAL EVENTS OR WHEN LIFE REQUIREMENTS NEED TO BE AVAILABLE FOR SPECIES USE</b>					
Waterfowl and bald eagle wintering habitat is provided when open water is available (generally where flooded deep and/or where flow prevents ice formation).	Peak spring waterfowl migration (habitat flooded <15 inches).	Main spring shorebird migration (habitat flooded <6 inches and mudflat).	Main fall shorebird migration (habitat flooded <6 inches and mudflat).		Peak fall waterfowl migration (habitat flooded <15 inches).
	Endangered whooping crane spring migration (shoreline & habitat flooded <1 ft).	Breeding-related activities occur for several waterbirds that require flooded habitat for food and/or cover resources, such as for the state-threatened snowy plover, the endangered interior least tern, and for state species in need of conservation (e.g., black rail, black tern).			Endangered whooping crane fall migration (shoreline and habitat flooded <1 ft).

After reviewing the water use records, Refuge staff made the determination to exclude years (n=28) when total annual water use did not exceed 7,000 ac-ft to prevent extreme bias in estimating seasonal water use due to

limited water availability and/or inappropriate timing of available water. For example, during low water years Refuge staff often receive and use water at less than optimal times (e.g., winter) to help increase the odds that at least some wetland habitat is flooded at critical times (e.g., spring waterbird migration). In this case, the average amount of water used during the winter season would be biased high. Conversely, it is common during low water years to not have sufficient water to maintain wetland vegetation, which results in low food production and sparse cover required by wildlife. In this case, the use of water during summer would be biased extremely low. The use of 7,000 ac-ft as a cutoff point was based on approximating 50% of the Refuge water right and, as such, is somewhat arbitrary.

For the 20 years of when total annual water use exceeded 7,000 ac-ft, water use for each year was partitioned into the appropriate seasons and the median, minimum, and maximum seasonal values across all years were calculated (Table 2).

Table 2. Seasonal median, minimum, and maximum water use (ac-ft) values, calculated using 20 years of data where annual use exceeded 7,000 ac-ft. Totals of the median and maximum seasonal water use values are respectively lower and higher than the current annual water right (14,632 ac-ft).

	Jan -Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	Total
Median	986	1,115	1,062	2,117	1,781	684	7,746
Minimum	0	89	126	463	151	101	
Maximum	3,557	3,111	2,601	4,374	6,205	2,003	21,851

This Scenario 1 estimate is biased due to the following:

- Historic *use* does not accurately reflect water *needs* during any given year or season.
- Historic water use in a given season may not accurately reflect the volume of water that would have been used if water had been available during that season or, perhaps, previous to that season.
- The use of records that exceeded 7,000 ac-ft was arbitrary and only represents nearly half of the Refuge water right. As such, these estimates likely are biased low.

**Scenario 2 –**

Scenario 2 is based on achieving minimum requirements of CCP objectives following a drought year and water use was not constrained by the current water right (Table 3, Scenario 2). Unlike Scenario 1, seasons in Scenario 2 were defined by CCP habitat-based objectives, as approved in 2013. Data used to develop this scenario included area estimates and area-capacity curves developed by the Service for individual wetlands, published long-term precipitation and pan evaporation data (including the use of a coefficient to account for shallow wetlands), soil infiltration rates calculated based on information in NRCS soil survey data (SSURGO), LiDAR data to estimate volume of ditches, and aerial imagery to estimate surface area of water in the Big and Little Salt Marshes at the beginning of the scenario.

Table 3. Comparison of Rattlesnake Creek surface water use Scenarios 1 and 2 for Quivira NWR.

Scenario	Seasonal Water Use Estimates (Acre-Feet)												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	986		1,115		1,062		2,117			1,781		684	7,746
2	3,144		7,427			2,895		4,053			5,881		23,400

This Scenario 2 estimate is biased due to the following:

- Water loss due to plant transpiration was not included in water use estimates (which would increase water needs to meet objectives).
- Water loss due to soil infiltration in some wetlands was underestimated because values for the available water capacity of 2,300 acres of wetland soils were not available (which would increase water needs to meet objectives).

- Water loss due to horizontal seepage in ditches during initial flooding was not estimated (which would increase water needs to meet objectives).
- Estimate based on a “normal precipitation” year following a drought year (all units dry); thus, a large volume of water (3,144 acre-feet) is needed to initially flood the Little Salt Marsh before water can be diverted elsewhere on the Refuge. This volume would be lower in years not preceded by drought.
- Estimate based on initially flooding only units and infrastructure on the south end of the Refuge. If north portion of Refuge were flooded early in the year, water use estimates would increase.
- Seasons are based on habitat objectives and do not always reflect the water management activities/schedules (e.g., time required for water to travel from diversion to wetland of interest).

## Results

The seasonal estimates in Table 4 were developed after considering Scenarios 1 and 2 described in the approach above.

Table 4. Seasonal Rattlesnake Creek surface water need estimates for Quivira NWR, given the current water right.

Seasonal Water Use (Acre-Feet)						Total
Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	
1,500	3,500	2,000	3,500	3,632	500	14,632

Although Scenarios 1 and 2 were developed based on quantitative information; these estimates were constrained by limitations that precluded either scenario from being used to directly estimate seasonal water needs. In general, the estimate based on past water use is known to be flawed because the Refuge either did not receive its full annual right of 14,632 ac-ft and/or the seasonal availability of water was not available or lacking, which resulted in the use of water during suboptimal times that often limited or impeded the accomplishment of management objectives. In contrast, the Scenario 2 estimate, based on water needs following drought, exceeded the Refuge water right even though important factors (e.g., water infiltration in ditches, plant transpiration) that would have increased water needs were not included in the estimate. Therefore, the Service used information from both Scenario 1 and Scenario 2 to adjust water use so total annual use matches the current water right of 14,632 ac-ft (Table 4).

## **Exhibit L**





United States Department of the Interior  
FISH AND WILDLIFE SERVICE  
Mountain-Prairie Region



IN REPLY REFER TO:  
NWRS WTR  
KS WR  
Mail Stop 69016

MAILING ADDRESS:  
P.O. Box 25486, DFC  
Denver, Colorado 80225-0486

STREET LOCATION:  
134 Union Boulevard  
Lakewood, Colorado 80228-1807

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

December 13, 2018  
*submitted via email to:*  
*David.Barfield@ks.gov*

Dear Mr. Barfield:

Enclosed is the U.S. Fish and Wildlife Service (Service) 2019 request to secure water regarding water right No. 7571 from injury due to junior groundwater wells. The Service appreciates being informed of any developments regarding the Local Enhanced Management Area (LEMA) that is being drafted to remedy impairment.

Please contact me at 303-236-4491 if you any questions or would like to discuss further. Thank you for your assistance in this matter.

Sincerely,

Brian S. Caruso, Ph.D., P.E.  
Chief, Division of Water Resources

REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

January 01, 2019
(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established:

a. Vested Right
File No. County Source
Quantity Rate
b. Appropriation Right
File No. 7571 Priority Date August 15, 1957
Status Certified
Rattlesnake Creek Source 14,632 Quantity 300 cfs Rate

2. That the authorized place of use for the water right is: Quivira National Wildlife Refuge

3. A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:

U.S. Dept. of the Interior - U.S. Fish and Wildlife Service Name
P.O. Box 25486, Denver Federal Center, Mailstop 60189, Denver, CO 80225 Address

B. That the land described in paragraph 2 is owned by:
(If different than owner of water right)

same as above Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:

Agent (tenant, lessee, buyer, contract or other)

5. That during this calendar year 0 acre-feet of water has been used under this right. see attached

6. That the undersigned has need for 14,632 acre-feet of water at a rate of ^ g.p.m. for Recreational purposes at locations described as follows:

Fish and Wildlife Habitat, Forage

No. of Acres: 22,135 Kind of Crop: N/A

7. That I am prepared to, and will, in the exercise of my water right described above, apply to beneficial use all water available to me at a rate of see attached g.p.m. or less, commencing at 12 o'clock A.M. on January 1, 2019.

8. That I have been informed that water is available from the source of supply in the amount of:

<u>Date</u>	<u>Estimated Flow</u>	<u>Location</u>
<u>1974 - 2013</u>	<u>Variable</u>	<u>Rattlesnake Creek, Zenith Gage</u>

9. That I have been informed that water is, or was, being diverted from the source of supply as follows:

<u>Date</u>	<u>Water Right</u>	<u>Name</u>	<u>Estimated Rate of Diversion</u>
<u>1995 - 2007</u>	<u>Multiple</u>	<u>Junior Appropriators</u>	<u>30,000 - 60,000 AF per year depletions to Rattlesnake Creek</u>

10. That I have advised the persons listed below of my need for water and my intention to exercise my water right:

<u>Name of Person</u>	<u>Date</u>	<u>Agreeable - Yes Or No</u>
<u>Big Bend GMD No. 5</u>	<u>12/01/2016</u>	<u>No</u>

I request in accordance with the provisions of K.S.A. 82a-706b, that the Chief Engineer or his or her authorized agent open, close, adjust or regulate the headgates, valves, or other controlling works of any ditch, canal, conduit, pipe, well, or structure as may be necessary to secure water to which I am entitled:

Brian S. Caruso  
Signature

State of Colorado  
~~Kansas~~  
County of Jefferson } SS

Brian S. Caruso by me being duly sworn, declare that the information is true and correct to the best of his or her knowledge and belief.

Brian S. Caruso  
Affiant's Signature

Subscribed and sworn to before me this December day of December, 2019

**CAROLINE M. CORDOVA**  
NOTARY PUBLIC  
STATE OF COLORADO  
NOTARY ID 20044034704  
MY COMMISSION EXPIRES 09/28/2020

My Commission Expires Sept. 28, 2020

Caroline M. Cordova  
Notary Public  
135 Quitman Street  
Denver CO 80219

## Seasonal Rattlesnake Creek Water Need Estimates for Quivira National Wildlife Refuge, Prepared May 2015

### Background

At the request of Kansas Department of Agriculture, Division of Water Resources (DWR), the U.S. Fish and Wildlife Service (Service) has provided information to increase understanding of *seasonal* water needs to accomplish management objectives of the Quivira National Wildlife Refuge (Refuge). The Refuge's current annual Water Right 7571 on Rattlesnake Creek is 14,632 ac-ft. There is no single estimate that accurately predicts seasonal surface water needs of the Refuge because various factors influence water needs within and among years, such as short- and long-term weather patterns, the timing of wildlife events (e.g., migration), and changing habitat conditions.

### Approach

**Scenario 1** – There was interest by DWR to evaluate the potential of using past water use records to quantify estimates of seasonal water needs to accomplish refuge management objectives. To accomplish this task, Refuge staff compiled 48 years of monthly water-use records and grouped months into seasons based on the life cycle events of waterbirds (timing of migration, relative abundances) and the lag time required to transfer water to wetlands through the ditch infrastructure (Table 1). For example, flooding a wetland to the appropriate depth can require days to weeks depending on location from the diversion, volume of water available, and existing soil moisture conditions (e.g., dry, saturated).

Table 1. Significant annual events largely considered in determining seasonal water needs to accomplish management objectives of Quivira National Wildlife Refuge.

Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec
<b>MANAGEMENT TO SUPPORT WILDLIFE FOOD &amp; COVER REQUIREMENTS</b>					
Use water where needed to provide/maintain semipermanent wetland habitat.					
Shallowly flood select units to saturate dry soils that will be used to produce wildlife foods.					
Dewater select wetlands for suitable germination and growth of desired plants used for wildlife food and cover. Drawdown dates are based on scientific information.					
Irrigate select wetland units to support survival, growth, and seed production of germinated wildlife food plants.			After seeds mature, gradually increase water levels in wetlands to coincide with the food and cover needs of target species.		
<b>CHRONOLOGY OF SPECIES ANNUAL EVENTS OR WHEN LIFE REQUIREMENTS NEED TO BE AVAILABLE FOR SPECIES USE</b>					
Waterfowl and bald eagle wintering habitat is provided when open water is available (generally where flooded deep and/or where flow prevents ice formation).	Peak spring waterfowl migration (habitat flooded <15 inches).	Main spring shorebird migration (habitat flooded <6 inches and mudflat).		Main fall shorebird migration (habitat flooded <6 inches and mudflat).	Peak fall waterfowl migration (habitat flooded <15 inches).
	Endangered whooping crane spring migration (shoreline & habitat flooded <1 ft).	Breeding-related activities occur for several waterbirds that require flooded habitat for food and/or cover resources, such as for the state-threatened snowy plover, the endangered interior least tern, and for state species in need of conservation (e.g., black rail, black tern).			Endangered whooping crane fall migration (shoreline and habitat flooded <1 ft).

After reviewing the water use records, Refuge staff made the determination to exclude years (n=28) when total annual water use did not exceed 7,000 ac-ft to prevent extreme bias in estimating seasonal water use due to

limited water availability and/or inappropriate timing of available water. For example, during low water years Refuge staff often receive and use water at less than optimal times (e.g., winter) to help increase the odds that at least some wetland habitat is flooded at critical times (e.g., spring waterbird migration). In this case, the average amount of water used during the winter season would be biased high. Conversely, it is common during low water years to not have sufficient water to maintain wetland vegetation, which results in low food production and sparse cover required by wildlife. In this case, the use of water during summer would be biased extremely low. The use of 7,000 ac-ft as a cutoff point was based on approximating 50% of the Refuge water right and, as such, is somewhat arbitrary.

For the 20 years of when total annual water use exceeded 7,000 ac-ft, water use for each year was partitioned into the appropriate seasons and the median, minimum, and maximum seasonal values across all years were calculated (Table 2).

Table 2. Seasonal median, minimum, and maximum water use (ac-ft) values, calculated using 20 years of data where annual use exceeded 7,000 ac-ft. Totals of the median and maximum seasonal water use values are respectively lower and higher than the current annual water right (14,632 ac-ft).

	Jan -Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	Total
Median	986	1,115	1,062	2,117	1,781	684	7,746
Minimum	0	89	126	463	151	101	
Maximum	3,557	3,111	2,601	4,374	6,205	2,003	21,851

This Scenario 1 estimate is biased due to the following:

- Historic *use* does not accurately reflect water *needs* during any given year or season.
- Historic water use in a given season may not accurately reflect the volume of water that would have been used if water had been available during that season or, perhaps, previous to that season.
- The use of records that exceeded 7,000 ac-ft was arbitrary and only represents nearly half of the Refuge water right. As such, these estimates likely are biased low.

**Scenario 2 –**

Scenario 2 is based on achieving minimum requirements of CCP objectives following a drought year and water use was not constrained by the current water right (Table 3, Scenario 2). Unlike Scenario 1, seasons in Scenario 2 were defined by CCP habitat-based objectives, as approved in 2013. Data used to develop this scenario included area estimates and area-capacity curves developed by the Service for individual wetlands, published long-term precipitation and pan evaporation data (including the use of a coefficient to account for shallow wetlands), soil infiltration rates calculated based on information in NRCS soil survey data (SSURGO), LiDAR data to estimate volume of ditches, and aerial imagery to estimate surface area of water in the Big and Little Salt Marshes at the beginning of the scenario.

Table 3. Comparison of Rattlesnake Creek surface water use Scenarios 1 and 2 for Quivira NWR.

Scenario	Seasonal Water Use Estimates (Acre-Feet)												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	986		1,115		1,062		2,117			1,781		684	7,746
2	3,144	7,427			2,895		4,053				5,881		23,400

This Scenario 2 estimate is biased due to the following:

- Water loss due to plant transpiration was not included in water use estimates (which would increase water needs to meet objectives).
- Water loss due to soil infiltration in some wetlands was underestimated because values for the available water capacity of 2,300 acres of wetland soils were not available (which would increase water needs to meet objectives).

- Water loss due to horizontal seepage in ditches during initial flooding was not estimated (which would increase water needs to meet objectives).
- Estimate based on a “normal precipitation” year following a drought year (all units dry); thus, a large volume of water (3,144 acre-feet) is needed to initially flood the Little Salt Marsh before water can be diverted elsewhere on the Refuge. This volume would be lower in years not preceded by drought.
- Estimate based on initially flooding only units and infrastructure on the south end of the Refuge. If north portion of Refuge were flooded early in the year, water use estimates would increase.
- Seasons are based on habitat objectives and do not always reflect the water management activities/schedules (e.g., time required for water to travel from diversion to wetland of interest).

## Results

The seasonal estimates in Table 4 were developed after considering Scenarios 1 and 2 described in the approach above.

Table 4. Seasonal Rattlesnake Creek surface water need estimates for Quivira NWR, given the current water right.

Seasonal Water Use (Acre-Feet)						Total
Jan-Feb	Mar-Apr	May-Jun	Jul-Sep	Oct-Nov	Dec	
1,500	3,500	2,000	3,500	3,632	500	14,632

Although Scenarios 1 and 2 were developed based on quantitative information; these estimates were constrained by limitations that precluded either scenario from being used to directly estimate seasonal water needs. In general, the estimate based on past water use is known to be flawed because the Refuge either did not receive its full annual right of 14,632 ac-ft and/or the seasonal availability of water was not available or lacking, which resulted in the use of water during suboptimal times that often limited or impeded the accomplishment of management objectives. In contrast, the Scenario 2 estimate, based on water needs following drought, exceeded the Refuge water right even though important factors (e.g., water infiltration in ditches, plant transpiration) that would have increased water needs were not included in the estimate. Therefore, the Service used information from both Scenario 1 and Scenario 2 to adjust water use so total annual use matches the current water right of 14,632 ac-ft (Table 4).

## **Exhibit M**

## Current Status of Quivira Impairment

- On July 30, 2019, Chief Engineer David Barfield provided a formal response to the GMD No. 5 Local Enhanced Management Area (LEMA) plan aimed to resolve the Quivira impairment, stating he was unable to move forward with their request to initiate proceedings to consider the plan as it failed to meet statutory requirements.
- Per their request, he also summarized a listing of necessary elements for a LEMA to resolve the impairment, should they desire to try again.
- Finally, and most significantly, Chief Engineer Barfield announced his intention to develop administrative orders by approx. September 1, 2019, to be effective January 1, 2020, to implement water use reductions in the basin to begin addressing the Quivira impairment, and in particular, the ongoing declines in streamflows into the Refuge with its reductions in water quantity and water quality.
  - These orders are the initial step of a three-pronged solution to the impairment. The other two components are:
    - A proposed augmentation project.
    - The retirement of 4400 acre-feet of use near the stream (Zone D).
  - To maximize flexibility in use, DWR will work with local water users to develop a Water Conservation Area (WCA) to create multi-year allocations and allow movement of allocations between water rights.
  - While required water use reductions will be from the authorized quantity, they will vary among water users based on the seniority of their water rights (with older rights getting larger allocations) and their historic use. The reductions will average under 15% from long-term use.
  - Attached is a map showing the affected area.
- A public meeting is anticipated during mid-September.
- More information related to this matter can be found at the following web pages:
  - Quivira impairment page: [agriculture.ks.gov/Quivira](http://agriculture.ks.gov/Quivira)

## Administrative orders can help avoid going to court

- With a nearly three-year-old final report from KDA–DWR finding impairment and a clear system of water right priority — “first in time is first in right” — the court system will likely have very little trouble deciding that a significant number of junior water rights should be shut off to ensure that the senior water right is satisfied. A court is not required to use the most flexible solution or the solution that is best for junior water rights.



- The courts do not have access to the LEMA, IGUCA, or WCA tools to help soften the effects of priority administration, and may not be inclined to trust that a future augmentation project would relieve some of the impairment until it is in place. KDA–DWR believes that all parties should work very hard to avoid the court system.
- The Chief Engineer’s action is needed to halt the ongoing declines in streamflow which diminish the amount of water available to the Refuge and its quality.
- See attached figures which show: a) the groundwater model’s estimates of historic and future reliable Rattlesnake streamflows (baseflows) at the current level of groundwater pumping, which will be 0 or near-0 in the future in most years, and b) a graph showing the degrading water quality at Zenith as the quantity of streamflow diminishes.

## **History of the Quivira Impairment**

- For decades, the U.S. Fish and Wildlife Service expressed concern that its senior water right on Rattlesnake Creek in the Quivira National Wildlife Refuge, a wetland of international significance and part of the central U.S. flyway, was being impaired by junior groundwater pumping.
- The Service’s water right for Quivira has a priority that dates back to 1957 and allows it to divert up to 14,632 acre-feet per year at a maximum rate of 300 cubic feet per second (cfs).
- After decades of voluntary efforts to resolve its concerns were unsatisfactory, the Service filed an impairment complaint with KDA-DWR in April of 2013. KDA-DWR then began its investigation of the alleged impairment.
- In 2016, KDA–DWR found that junior groundwater pumping has impaired the Service from exercising its senior water right for Quivira .
- Since then, KDA has worked with GMD5 to find a solution to the Quivira impairment that minimizes the adverse effect to the region’s economy. During that time, no water administration occurred.

## **What remedy has been determined to be sufficient?**

Modest reductions in groundwater use, averaging approximately 15 percent, along with an augmentation project and 4,400 acre-feet of targeted reductions will resolve the impairment and protect the region’s economy for at least a generation.

- Reductions in groundwater use will be achieved via the administrative orders which will be issued in September 2019. While required water use reductions will vary among water users based on the seniority of their water rights (with older rights getting smaller reductions) and their historic use, the reductions will average approx. 15% from long-term use.
- Augmentation: The statute dealing with the administering of water rights was amended in 2015 to allow augmentation specifically, and only in Rattlesnake Creek, to be considered in addressing impairment. At GMD5’s request, and to provide additional assurance to the basin, the chief engineer has signed a memorandum of understanding (MOU) with GMD5 reaffirming KDA’s commitment to give full credit for augmentation that addresses the impairment.
- The retirement of 4400 acre-feet of use in the high-impact area (Zone D).

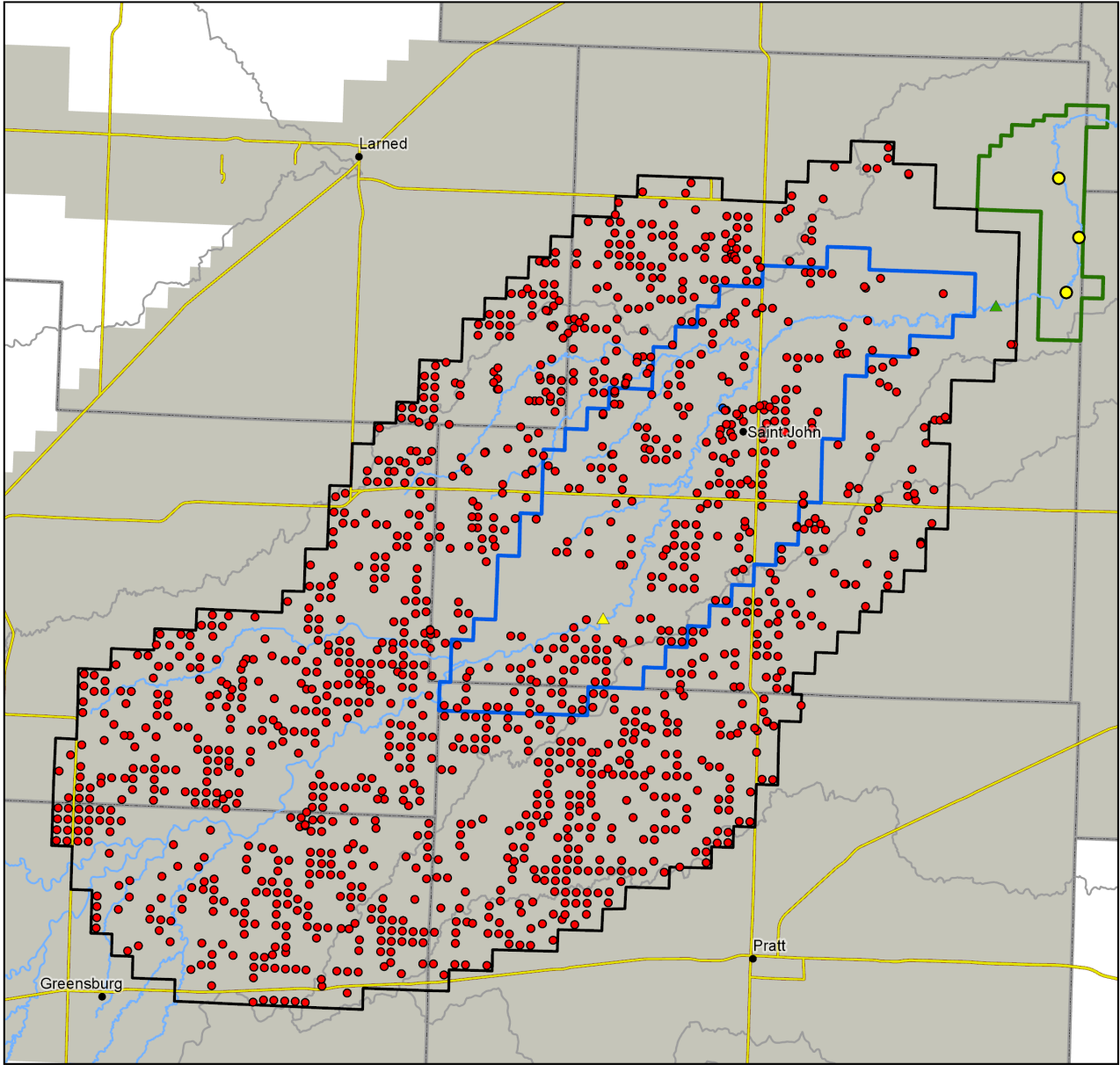
## **LEMA solution has not been successful**

- In August 2017, GMD5 expressed its desire to use a LEMA plan to remedy the Quivira impairment including the following: augmentation at a minimum of 15 cfs; pumping reductions via removal of end guns as well as additional voluntary measures; and 4,400 acre-feet of focused reductions in the high-impact area where 40% or more of the water pumped comes from Rattlesnake Creek streamflow.
- In September 2017, KDA–DWR informed GMD5 that its plan to address the impairment with a LEMA would require GMD5 to commit to an allowable level of pumping in the first five years of the LEMA, and then implement reduced water allocations in the second five years if the allowable pumping was exceeded.
- After nearly two years of work on the LEMA concept, KDA and GMD5 have been unable to agree on a LEMA plan that resolves the impairment.

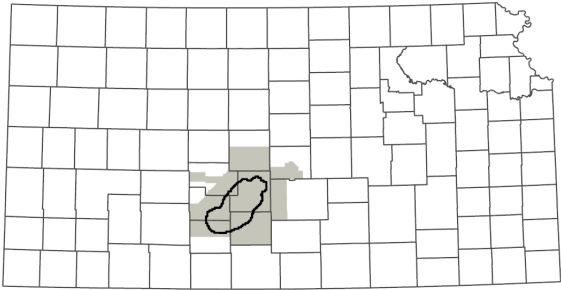
## **Basic Water Rights in Kansas**

- A founding principle of Kansas water law is “first in time, first in right.”
- Water rights are assigned a priority date to establish who has first right to water, which allows the Division of Water Resources to protect a water resource for those who established their rights first from those who came along later. In times of plenty, there may be enough water to satisfy all water rights.
- However, in times of water scarcity, those who have earlier, or more senior, water rights are entitled to satisfy those rights before those who have rights junior to them.
- The procedures for distributing water between users when a more senior right is being impaired are outlined in Kansas law (K.S.A. 82a-706b) and regulations (K.A.R. 5-4-1).

# Points of Diversion under Junior Water Rights Found to be Interfering with Quivira's Water Right



0 5 10 15 Miles



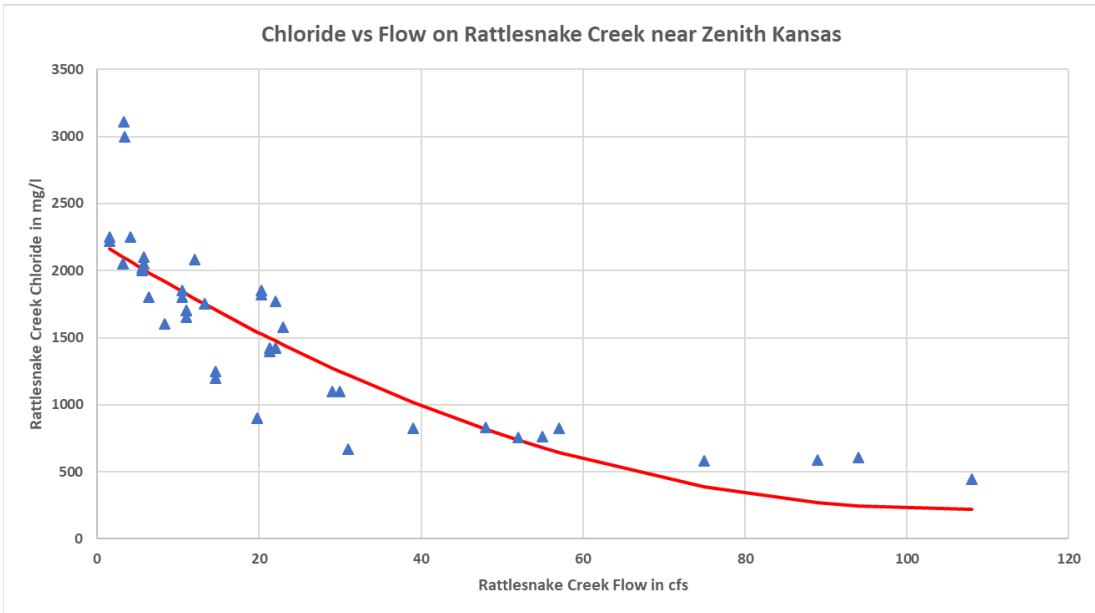
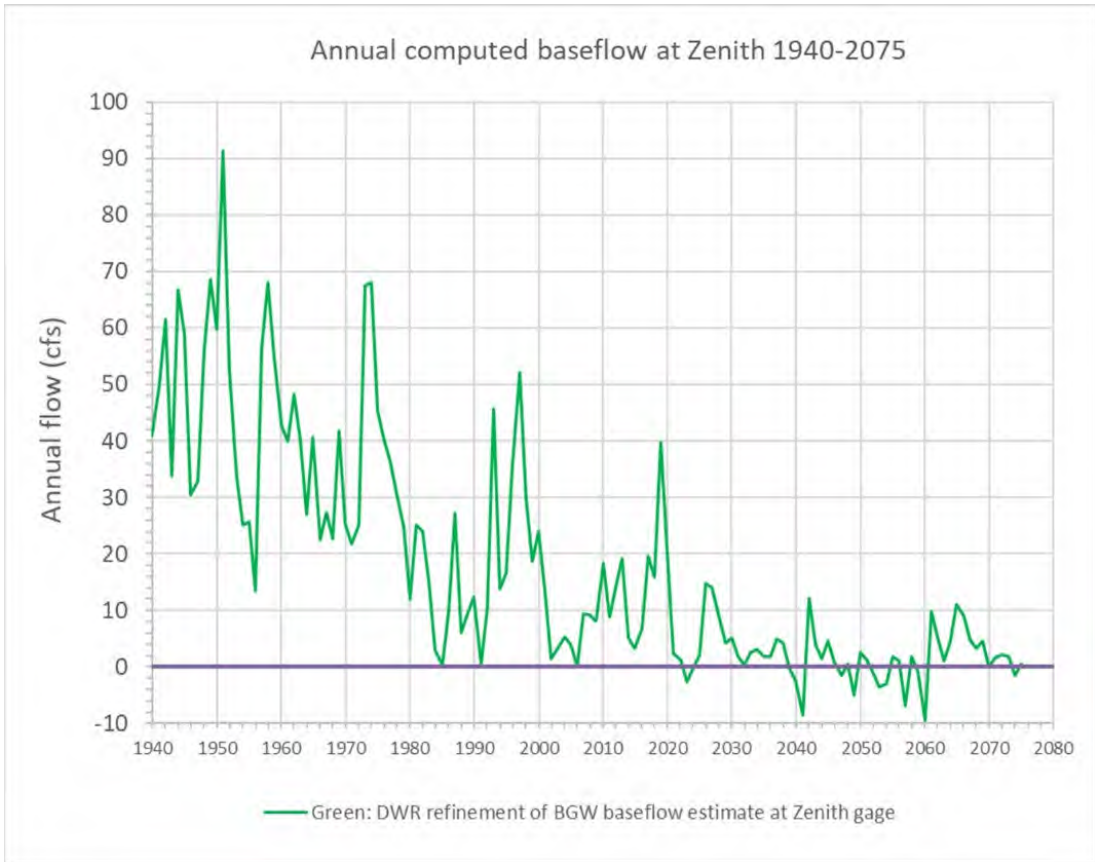
- WR 7,571
- Groundwater
- Surface water
- ▲ Zenith station
- ▲ Macksville station
- Zone A
- Zone D
- Quivira NWR
- ~ Rattlesnake Creek and tributaries
- Surface water basin
- Highway
- County
- GMD No. 5



Quivira NWR File No. 7,571  
Priority Date: August 15, 1957



Kansas Department of Agriculture  
Division of Water Resources  
August 7, 2019



## **Exhibit N**

## NEWS RELEASES

[Home \(/public/index.cfm/home\)](/public/index.cfm/home) / [Newsroom \(/public/index.cfm/newsroom\)](/public/index.cfm/newsroom) / [News Releases \(/public/index.cfm/news-releases\)](/public/index.cfm/news-releases)

### **Sen. Moran Discusses Quivira National Wildlife Refuge Water Rights with FWS Nominee Aurelia Skipwith (/public/index.cfm/news-releases?ID=A3009528-1D7F-488B-87C2-D9B02455E970)**

**“I am pleased that Ms. Skipwith committed to working with local stakeholders to find a voluntary solution to satisfy the Quivira water impairment. . .”**

Oct 21 2019

**WASHINGTON** – U.S. Senator Jerry Moran (R-Kan.) met with Aurelia Skipwith, the nominee to be the Director of the U.S. Fish and Wildlife Service (FWS) and the current Deputy Assistant Secretary for Fish, Wildlife and Parks at the Department of the Interior. During the meeting, Sen. Moran raised concerns regarding the water rights dispute surrounding the Quivira National Wildlife Refuge (NWR).

“In my meeting with Ms. Skipwith, I explained the need for farmers and ranchers to be able to utilize groundwater in the basin and the importance of agriculture to the regional economy,” **said Sen. Moran.** “I am pleased that Ms. Skipwith committed to working with local stakeholders to find a voluntary solution to satisfy the Quivira water impairment before requesting that the Kansas Department of Agriculture (KDA) move forward with an administrative order to regulate junior water rights. This solution should include augmentation of Rattlesnake Creek, voluntary water conservation efforts and maximizing use of the water the refuge currently receives. I look forward to continue working with Ms. Skipwith to pursue commonsense solutions to this issue that will impact Kansas producers and the regional economy.”

While water rights are generally handled at the state and local government level, the impairment claim directly involved a federal agency, the FWS. The FWS holds a senior surface water right near the bottom of Rattlesnake Creek for its Quivira NWR. After an investigation, KDA's Division of Water Resources (DWR) concluded in 2016 that Quivira NWR's water supply has been impacted by upstream junior groundwater pumping.

On July 30, 2019, KDA rejected the latest Local Enhanced Management Area proposal put forth by the Groundwater Management District #5 intended to resolve the impairment. Subsequently, KDA has communicated with junior water rights holders – primarily farmers and ranchers – in the Quivira NWR stating their intentions to move forward with regulations limiting irrigation and other water usage. These regulations will only be implemented if FWS – the senior water rights holder – makes a formal request for action to settle the impairment.

###

## **Exhibit O**



## **MEMORANDUM OF AGREEMENT**

### **I. Resolutions**

WHEREAS, the U.S. Fish and Wildlife Service ("the Service") and the Big Bend Groundwater Management District #5 ("the District") (collectively known as "the Parties") have met regularly to find a local, voluntary, collaborative solution to resolve the Service's water impairment complaint related to Water Right File No. 7,571 ("the Complaint") for the Quivira National Wildlife Refuge ("the Refuge").

WHEREAS, the Parties agree that after examining relevant data and hydrologic modeling, the development and implementation of an augmentation wellfield, as described herein, will be the primary mechanism in addressing the Service's Complaint. The Parties also agree that the development of the water rights purchase program, water rights movement program, and a program to incentivize the removal of end guns within the District as described herein, may be pursued by the District to adjust the amount of water augmented for the Refuge by the wellfield.

WHEREAS, it is the intent of the Parties to initiate evaluation of the proposal to develop an augmentation wellfield under the National Environmental Policy Act (NEPA), including a later agreement following this Agreement to include additional details of the projects described herein to address the Service's impairment complaint related to the Refuge ("Subsequent Agreement").

WHEREAS, the Parties agree that this Agreement serves as the basis for the Subsequent Agreement that will specify all terms and obligations related to the planning, design and implementation of an augmentation wellfield and the development of the water rights purchase and movement programs described herein. The Parties desire to put the proper assurances in place to allow the planning, design and implementation of an augmentation wellfield and the development of water rights purchase and movement programs until the Subsequent Agreement is executed.

WHEREAS, based on information received from the Service and Kansas Department of Health and Environment, the Parties believe that the groundwater in this area is within the water quality range acceptable to the Refuge. Pending further analysis through NEPA, the Parties preliminarily agree this area has a quantity of water that can be appropriated in a sustainable manner.

WHEREAS, the Parties have worked cooperatively in reaching the terms of this Agreement, with the District sharing with the Service all its available data, studies, reports and calculations collected to address the issues in the Service's Complaint.

WHEREAS, this Agreement is entered into pursuant to the Fish and Wildlife Act of 1956, 16 U.S.C. § 742a, et seq.; the Fish and Wildlife Coordination Act, 16 U.S.C. 661 et seq., the Migratory Bird Conservation Act, 16 U.S.C. § 715d et seq., and the National Wildlife Refuge System Administration Act, 16 U.S.C. 668dd et seq.

WHEREAS, the execution of this Agreement shall not constitute, nor is it in any way an admission by any Party of any liability, and shall not be used in any other action against any Party as proof of liability.

### **II. Definitions**

"Short-Term Projects" means projects developed that will be implemented and operated under contracts, or through other appropriate means within the first 5 years of this Agreement.

“Long-Term Projects” means projects developed that will be implemented and operated under contracts or through other appropriate means beyond 5 years of this Agreement.

“Management Committee” means the committee to provide input for the successful implementation of this Agreement and the Subsequent Agreement. The committee is anticipated to include lead representatives from the District, Service, as well as ad hoc representatives from the Kansas Department of Agriculture-Division of Water Resources, Kansas Department of Health and Environment, and Water Protection Association for Central Kansas (WaterPACK).

“Technical Committee” means the committee formed to advise and make recommendations to the Management Committee to implement the projects for purposes of this Agreement. This committee will be chosen by the Management Committee and will be composed of members with expertise in groundwater and surface water project development and management.

“Technical Operations Plan” means the plan to be developed by the Parties to outline processes and procedures to implement and operate projects under this Agreement and to be incorporated into the Subsequent Agreement.

### **III. Stipulations**

In consideration of the mutual covenants contained herein and other good and valuable consideration, the adequacy of which is acknowledged, the Parties hereby stipulate as follows:

#### **1. Short Term Projects**

##### **a. Rattlesnake Augmentation Wellfield**

The District shall design and construct an augmentation wellfield to supplement the streamflow in the Rattlesnake Creek with groundwater pumped from the regional aquifer. Water will be delivered directly to the Rattlesnake Creek channel immediately upstream of the Refuge. Streamflow augmentation will be implemented from the wellfield designed with a delivery capacity of 15 cubic feet per second (“cfs”) under normal conditions to the Rattlesnake Creek stream channel. The District agrees to provide an additional 3 cfs to the Rattlesnake Creek at critical, agreed upon, times each year. The Technical Committee will make recommendations to the Parties regarding whether the additional 3 cfs will be needed each year.

##### **b. Work Plan**

Within twelve (12) months of the Effective Date of this Agreement, the District shall submit a work plan for the augmentation wellfield to supplement the streamflow in the Rattlesnake Creek. Such work plan which will contain an implementation schedule, including dates for at least the following milestones:

- i. Project Design
- ii. Engineering Plans and Specifications

iii. Wellfield construction beginning and completion dates

c. Delivery Schedule

The District will work with the Refuge Manager, in coordination with the Technical Committee, to develop a delivery schedule that maximizes the efficiency of delivery to meet augmentation obligations at the Refuge. In months when streamflow in Rattlesnake Creek is sufficient to meet or exceed the requirements for water at the Refuge, as determined by the Technical Committee, the District will have no obligation to deliver streamflow during those months. Accounting for the water delivery will be conducted using newly established telemetry enabled water flowmeters at the delivery point of the stream channel. The Service will install the appropriate type of staff gauge at Little Salt Marsh ("LSM") to enhance delivery coordination and maintain transparency in monitoring water elevations.

Operational use and scheduling for the streamflow augmented water will be further described in more detail in a technical operations plan, which will be developed by the Parties and incorporated into the Subsequent Agreement.

d. Costs

The District agrees to pay for the cost to develop, construct, operate, and maintain the augmentation wellfield, all pipelines or canals, and points of discharge necessary to ensure water from the wellfield is delivered to the Rattlesnake Creek channel or any other point agreed upon with the Service south of the Refuge.

**2. Long-Term Projects**

The District will use reasonable efforts to develop a water right purchase program to promote the retirement of water rights from sensitive areas in the Rattlesnake Creek region. The goal of this program is to retire 2,500 acre-feet ("AF") from areas close to the stream based on the response map published by KDA-DWR on November February 14, 2018 (the "response map").

The District will also use reasonable efforts to promote the movement of water under K.A.R. 5-25-22 and other programs, such as the Central Kansas Water Bank Association, from sensitive areas in the Rattlesnake Creek region to less-sensitive areas of the District.

If the water right purchase program is unable to retire 2,500 acre-feet ("AF") from areas close to the stream based on the response map, the District will use reasonable efforts to incentivize end gun removal from center pivot systems within the region. As of January 2015, the District determined that there were 1,032 center pivots with operational end guns.

**3. Water Storage Measures**

Water management at the Refuge utilizes the LSM in a manner that provides water to all reaches of the Refuge while maintaining adequate water levels for habitat in and around LSM. Once the augmentation wellfield is operational, the Service agrees to store up to an additional 383 AF of water in LSM annually to provide quality water bird habitat following

monthly/seasonal species-habitat requirements as outlined in the Comprehensive Conservation Plan (“CCP”).

#### **4. Monitoring**

The Parties intend to develop a monitoring program to ensure the on-going operations of the augmentation wellfield as intended under this Agreement. Such monitoring program will detail the Parties’ monitoring roles and will be incorporated into the Subsequent Agreement. The program will address:

- a. Monitoring water quality and augmentation operations in accordance with water quality requirements of the Kansas Department of Health and Environment, and
- b. Monitoring water quantity and permitting requirements of the Kansas Department of Agriculture – Division of Water Resources.
- c. Monitoring of water storage and release operations at LSM.

#### **5. Request to Secure Water**

The Service agrees not to submit a request to secure water pursuant to K.S.A. 82a-706b and K.A.R. 5-4-1 to address its impairment in 2020 and 2021.

#### **6. Assistance in Developing an Augmentation Project**

The Parties agree to provide administrative and regulatory assistance and support within their authority to assist in the development and implementation of projects under this Agreement.

#### **7. Modification**

The Parties recognize that there are circumstances that are outside the direct control of the District (e.g. ability to obtain water rights, acquisition necessary easements, etc.) and that a modification of this Agreement may be necessary. The Parties also recognize that, after the augmentation wellfield is implemented and operational, additional assessment of hydrologic conditions may necessitate amendments to the long term projects identified in Paragraph 2. The terms of this Agreement, including any timeframe herein, may be modified by written consent of both Parties. No modification of this Agreement shall be valid unless the change is made in writing and is approved by authorized representatives of the Parties, evidenced by the signature of each respective representative.

#### **8. Timeline**

The District and Service will use reasonable efforts to meet the following milestones to implement the terms of this Agreement. Parties will notify each other as soon as practicable if any timeframe in this section will not be met and shall modify the timeframe(s) to include the new date(s) pursuant to Paragraph 7.

- i. District applies for Watershed Act grant August 2020

- |      |  |               |
|------|--|---------------|
| ii.  | Funding potentially awarded                              | November 2020 |
| iii. | Environmental Assessment and Feasibility Study completed | May 2021      |
| iv.  | Decision anticipated                                     | August 2021   |

## **9. Term and Termination**

This Agreement shall remain in effect until replaced by a subsequent agreement or terminated by either Party. Either Party may terminate this Agreement only upon 90 days' notice in writing. In addition to such notice, the Party wishing to terminate shall afford the non-terminating Party a reasonable opportunity to confer before such termination takes effect. Any pending notice to terminate this Agreement will be rescinded by the Party who served the notice once the issues have been resolved.

## **10. Limitation**

Nothing in this MOA shall be construed as obligating the United States, the District or any other public agency, their officers, agents or employees to expend any funds in excess of appropriations authorized by law.

## **11. Third-Party Challenges or Appeals**

Nothing in this MOA may be the basis of any third-party challenges or appeals. Nothing in this MOA creates any rights or causes of action in persons not parties to this MOA.

## **12. Notices**

All official notices shall be sent to the Parties' designated contacts as listed below:

U.S. Fish and Wildlife Service  
Quivira National Wildlife Refuge  
Refuge Manager  
1434 NE 80<sup>th</sup> Street  
Stafford, KS 67578

U.S. Fish and Wildlife Service  
Chief, Division of Water Resources  
134 Union Boulevard  
Lakewood, CO 80228-1807

Manager  
GMD5  
125 S. Main St.  
Stafford, KS 67578

Lynn Preheim  
Stinson LLP  
1625 N. Waterfront Pkwy  
Suite 300  
Wichita, KS 67206

### 13. No Third-Party Beneficiary

No Party to this Agreement intends for this Agreement to confer any benefit upon any person or entity not a signatory to this Agreement, whether as a third-party beneficiary or otherwise.

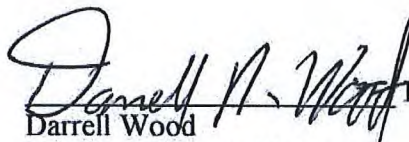
### 14. Headings

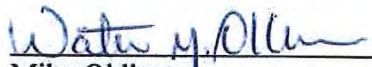
The headings of clauses contained herein are used for convenience and ease of reference. They shall not limit the scope or intent of the clause.

### 15. Effective Date

This Agreement shall become effective upon the execution by the Parties hereto.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day and year first written above.

 Date: 7-25-20  
Darrell Wood  
President, Board of Directors  
Big Bend Groundwater Management District 5

 Date: 7/25/20  
Mike Oldham  
Refuge Manager  
U.S. Fish and Wildlife Service

## **Exhibit P**





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
134 Union Blvd  
Lakewood, Colorado 80228



In Reply Refer to:  
FWS/IR05/IR07

Mr. Orrin Feril  
Big Bend Groundwater Management District #5  
Manager

January 5, 2022  
*Sent via email: oferil@gmd5.org*

Dear Mr. Feril:

Thank you for your continued support and coordination in water discussions and collaboration with the U.S. Fish and Wildlife Service (FWS). I applaud your efforts that support planning and development of a National Environmental Policy Act (NEPA) analysis that will determine the feasibility of augmentation along with other proposed alternatives to remedy the Quivira National Wildlife Refuge's (Refuge) impairment.

We recognize the Memorandum of Agreement (MOA) between FWS and the Groundwater Management District - signed in July 2020 - culminated this past December. In that MOA, we established a framework for a collaborative approach in addressing FWS's impairment which primarily focused on the development of an augmentation wellfield following environmental analysis under NEPA. We are pleased at the success of the MOA in guiding the beginning steps of the process of remedying the impairment and bringing us to a point where we can fully engage in the environmental analysis of the augmentation wellfield. As a cooperating agency, we will be fully engaged in the upcoming NEPA process. At this point, the FWS does not see the need for a renewed MOA which may distract resources from engaging in the NEPA process which is guiding the next steps.

As previously mentioned, the FWS continues to believe strongly that all parameters of the feasibility study developed by our technical working group need to be conducted prior to finalizing alternatives in a NEPA analysis and completing the watershed plan. Accordingly, the FWS does not intend on submitting a request to secure water in the coming year as long as progress is being made toward completing feasibility study parameters, and the NEPA process continues to meet major milestones with a target for NEPA completion of January 2023.

We look forward to continuing to work with the GMD and other cooperating and participating agencies on scoping efforts that will determine short and long-term actions that remedies the Refuge's impairment and promotes water conservation in the Rattlesnake Creek Basin.

Sincerely,

Stacy Armitage  
Assistant Regional Director  
National Wildlife Refuge System  
DOI Regions 5 and 7

INTERIOR REGION 5  
MISSOURI BASIN

KANSAS, MONTANA\*, NEBRASKA, NORTH DAKOTA,  
SOUTH DAKOTA

\*PARTIAL

INTERIOR REGION 7  
UPPER COLORADO RIVER BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING



## **Exhibit Q**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE



February 10, 2023

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

Dear Mr. Lewis:

The U.S. Fish and Wildlife Service (FWS) appreciates Governor Kelly's leadership in working to address water use and conservation in the state of Kansas. The FWS intends to cooperate with the Governor to address this critical issue. As part of this effort, I have communicated my interest to Governor Kelly in addressing our specific concerns at Quivira National Wildlife Refuge (Refuge).

The FWS holds a senior water right critical for the Refuge to meet its establishing purpose as a sanctuary for the protection of migratory waterfowl and other waterbirds. You are likely aware the FWS has cooperated with the Big Bend Groundwater Management District #5 (GMD) and local partners for over 25 years to formulate collaborative solutions to resolve the water right impairment. When voluntary efforts failed at the end of the Rattlesnake Creek Partnership Agreement (2000 – 2012), the FWS followed Kansas State law and administrative procedures to seek relief from injury to its water right by requesting an impairment investigation in 2013. In July 2016, it was determined the FWS's senior water right of 14,632 acre-feet has been, and continues to be, impaired by junior groundwater pumping, largely for agriculture.

In response, the FWS filed a request to secure water for the years 2018 and 2019. The Kansas Department of Agriculture, Division of Water Resources continued to work with the GMD to develop a locally-led solution to the impairment from 2016 through 2019 without resolution. While the previous Chief Engineer prepared to administer water orders effective January 1, 2020, the FWS instead chose to continue working with the GMD on a collaborative solution. More recently, the FWS and GMD coordinated next steps and options with the development of a Memorandum of Agreement signed on July 25, 2020, with substantive terms that expired on December 31, 2021.

In continuation of this collaborative effort, FWS supported the GMD's effort to secure funding through the U.S. Department of Agriculture – Natural Resource Conservation Service (NRCS) in 2022, to perform environmental planning and design of an augmentation well field. The FWS is a cooperating agency working with the GMD as it leads the development of the Rattlesnake Creek Watershed Plan and Environmental Assessment (EA). The FWS remains concerned about the NRCS-led process that began with a public scoping meeting on January 13, 2022 and is tentatively planned for completion in the summer of 2023. No alternative exists under the EA that will provide complete remedy for the impairment of FWS's senior water right. The FWS believes the alternatives contained in the most recent draft of the EA do not differ significantly from past proposals championed by GMD, all of which have failed to provide water to the Refuge due to reliance on unenforceable water management tools.

Enclosed is the FWS 2023 request to secure water regarding water right No. 7571 from injury due to junior groundwater wells. Progress has been made with the draft EA and field level feasibility analyses over the past year, and the FWS will continue to support the National Environmental Policy Act process. However, it has recently become clear that, while the EA is an essential tool for analyzing the feasibility of an augmentation wellfield that may assist in remedying our impaired senior water right, the EA alone cannot fully remedy our water right impairment. Therefore, this request is the only means left to the FWS to fully remedy our impairment.

The FWS understands that augmentation can be a part of your remedy so long as the EA demonstrates augmentation to be feasible without significant adverse impacts. As a cooperating agency, the FWS will remain engaged in the planning process to help assess the feasibility and impacts of the augmentation well field, which will determine the appropriate level of augmentation.

Please contact Matt Hogan, Regional Director, Mountain Prairie Region, at 303-726-6251 or [Matt\\_Hogan@fws.gov](mailto:Matt_Hogan@fws.gov) if you have any questions or would like to discuss further. Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Matthew White", with a long horizontal flourish extending to the right.

Director

Enclosure

CC: Will Lawrence, Chief of Staff to Governor Kelly

REQUEST TO SECURE WATER

To: Chief Engineer
Division of Water Resources
Kansas Department of Agriculture
(or his or her authorized agent)

February 6, 2023
(Date)

1. I am presenting the following information as the basis for action on my request to secure water:

That pursuant to K.S.A. 82a-701 et. seq., a water right, identified as follows, has been established

a) Vested Right
File No. County Source
Quantity Rate
b. Appropriation Right
File No. 7571 Priority Date August 15, 1957
Status Certified
Rattlesnake Creek Source 14.632 Quantity 300 cfs Rate

2 That the authorized place of use for the water right is: Quivira National Wildlife Refuge

3 A. That the appurtenant to the water right described in paragraphs 1 and 2 is owned by:

U.S. Dept of the Interior - U.S. Fish and Wildlife Service Name P.O. Box 25486, Denver Federal Center, Mailstop 60189, Denver, CO 80225 Address

Name Address

B. That the land described in paragraph 2 is owned by:
(If different than owner of water right)

same as above Name Address

Name Address

4. That the undersigned, (if not the owner) has an interest in the above-described land and water right as follows:

Agent (tenant, lessee, buyer, contract or other)

5. That during this calendar year 0 acre-feet of water has been used under this right.

6 That the undersigned has need for 14,632 acre-feet of water at a rate of See attached ^ g.p.m. for Recreational purposes at locations described as follows:

Fish and Wildlife Habitat, Forage

No. of Acres: 22,135 Kind of Crop N/A

- 7 That I am prepared to, and will, in the exercise of my water right described above, apply to beneficial use all water available to me at a rate of 14,632 ac-ft/year g.p.m or less, commencing at 12 o'clock A.M. on February 7, 2023
- 8 That I have been informed that water is available from the source of supply in the amount of:

<u>Date</u>	<u>Estimated Flow</u>	<u>Location</u>
<u>1974 - current</u>	<u>Variable</u>	<u>Rattlesnake Creek, Zenith Gage</u>

9. That I have been informed that water is, or was, being diverted from the source of supply as follows:

<u>Date</u>	<u>Water Right</u>	<u>Name</u>	<u>Estimated Rate of Diversion</u>
<u>1974 - current</u>	<u>Multiple</u>	<u>Junior Appropriators</u>	<u>30,000 - 60,000 AF per year depletions to Rattlesnake Creek</u>

10. That I have advised the persons listed below of my need for water and my intention to exercise my water right:

<u>Name of Person</u>	<u>Date</u>	<u>Agreeable - Yes Or No</u>
<u>Big Bend GMD No. 5</u>	<u>01/05/2022 and 10/12/2022</u>	<u>No</u>

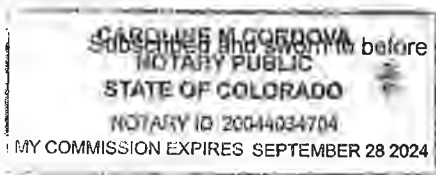
I request in accordance with the provisions of K.S.A. 82a-706b, that the Chief Engineer or his or her authorized agent open, close, adjust or regulate the headgates, valves, or other controlling works of any ditch, canal, conduit, pipe, well, or structure as may be necessary to secure water to which I am entitled:

Brian S. Caruso  
Signature

State of Colorado )  
County of Jefferson ) SS

Brian S. Caruso by me being duly sworn, declare that the information is true and correct to the best of his or her knowledge and belief

Brian S. Caruso  
Affiant's Signature



Subscribed and sworn to before me this 6<sup>th</sup> day of February, 2023

Caroline H. Gordova  
Notary Public

My Commission Expires September 28 2024

135 Quitman Street  
Denver CO 80219

## **Exhibit R**

Darrell Wood - Edwards (Pres.)  
Fred Grunder - Pratt (V Pres.)  
John Janssen - Kiowa (Treas.)  
Tom Taylor - At-Large (Sec.)  
Craig Zwick - Rice  
Marlyn Spare - Stafford  
Joe Schlessiger - Barton  
Kerry Froetschner - Pawnee  
Gary Hornbaker - Reno



RECEIVED WATER RESOURCES

APR 04 2023

Orrin Feril, Manager  
KS DEPT AGRICULTURE  
215 South Main Street  
Stafford, Kansas 67578  
ph: (620) 234-5352  
fx: (620) 234-5718  
gmd5@gmd5.org  
www.gmd5.org

U.S. Fish and Wildlife Service  
Mountain-Prairie Region  
134 Union Boulevard  
Lakewood, CO 80228

Attn: Matt Hogan, Regional Director

Director Hogan,

Big Bend Groundwater Management District No. 5 is troubled by the U.S. Fish and Wildlife Service's recent request for the Kansas Department of Agriculture, Division of Water Resources to administer water in the Rattlesnake Creek subbasin ("Request" or "Request to Secure"). The Service and GMD 5 have been working together diligently in good faith to address the claimed impairment, and the Service's sudden and unexpected request for water is not in line with those efforts. In reliance on our July 25, 2020 Memorandum of Agreement and the parties' mutual efforts and discussions, GMD 5 has invested thousands of hours and millions of dollars working toward a solution, including purchasing real estate and water rights, employing experts, and undertaking numerous other steps and expenditures in reliance on the Service's representations and good faith.

The Service now asks KDA-DWR to administer water rights, putting all of this progress and expense at risk. The farmers and water right holders who have operated in good faith are now left to question whether to continue with their efforts given the uncertainty created by the Service's request for water. GMD 5 respectfully requests that the Service continue its commitment to a long-term solution and withdraw its request for water.

#### GMD 5 Remains Committed to Working Together

Our partnership is critical to developing a lasting solution and will involve earnest cooperation of all parties. The Service's Request to Secure is inherently antagonistic to resolving water supply issues in the watershed and contradicts many years of cooperation between our organizations. The Service's action also reflects a lack of trust in GMD 5's commitment to the Refuge despite GMD 5's public commitment and pecuniary investments to bring additional water to the Refuge.

GMD 5 remains committed to working with the Service to resolve issues at the Refuge despite the Service's apparent change in position. GMD 5 understands that the Refuge needs reliable water supplies to maintain its success as a wildlife habitat and will continue to follow sound science and data to ensure that both the Refuge and surrounding agricultural users can prosper together in the subbasin. The success of our joint efforts will hinge on the Service's good faith actions in working with GMD 5 instead of unilaterally pursuing water through KDA-DWR's strict administration.



### The Service's Request to Administer is Too Soon

As you know, we are in the middle of a significant and complex National Environmental Policy Act evaluation in the subbasin. GMD 5 started this assessment in full reliance on the Service's representations and commitments in our MOA, which acknowledges that GMD 5 will analyze the environmental impacts of an augmentation wellfield, as well as evaluate and implement certain other conservation measures in the watershed. Based on this Agreement, GMD 5 procured funding to undertake these studies prior to the implementation of any measure.

Impacts from the COVID-19 pandemic, as well as the GMD 5's desire to complete a thorough environmental assessment, delayed the original timelines. But as the Service is well aware, the evaluations have since been pursued diligently for quite some time now and are providing the data our respective teams need to make sound decisions for the watershed. The Service's efforts to have KDA-DWR administer water ahead of this data is not logical.

### GMD 5 Has Spent Millions Towards a Solution

GMD 5's expenditures towards the resolution are mounting – estimated at around \$4 million to date. A large portion of these expenses include GMD 5 reducing water usage in the subbasin directly in response to the Service's requests to do so. GMD 5 has done this by purchasing and transferring water rights in the subbasin and by promoting voluntary reductions in water use by members. Specific categories of expenditures include:

- Securing over 1,500 acre-feet of water to reduce water usage to help the Refuge through water right transfers or offset agreements from GMD 5 members.
- Spending significant staff time studying and understanding the Refuge and the Service's needs;
- Coordinating with the Service and other agencies to develop the Memorandum of Agreement to serve as a roadmap for evaluation of alternatives;
- Contracting engineering and environmental specialists to perform the scoping, public meetings, agency coordination, biological assessments, modeling, and feasibility studies needed for the proposed augmentation wellfield;
- Contracting engineering consultants retained specifically to coordinate with the Natural Resource Conservation Service and the Service on NEPA requirements;
- Contracting outreach professionals and devoting staff time to public outreach and education;
- Completing hydrologic modeling for prospective water right transfers;



- Acquiring new water rights and surrounding real estate for the augmentation wellfield, and
- Acquiring additional water quality equipment that will be necessary when connecting an augmentation wellfield to the Refuge.<sup>1</sup>

These expenses do not begin to capture the thousands of additional hours spent by GMD 5 Board members, legislators and stakeholders at in-person meetings and public outreach sessions to support the development of an amicable solution. We've come too far to address issues at the Refuge for Service to change course now.

The Service's Request to Secure Water is Unnecessary and Threatens Continued Cooperation

The Service's Request to Secure Water now, prior to the completion of the environmental assessment, is premature, unnecessary and would be an unfortunate use of public funds. In its February 10, 2023 letter to KDA-DWR, the Service, states that "it has recently become clear that, while the [environmental assessment] is an essential tool for analyzing the feasibility of an augmentation wellfield that may assist in remedying our impaired senior water right, the [environmental assessment] alone cannot fully remedy our water right impairment." We do not understand the Service's conclusion that one of the several alternatives under assessment will not remedy the impairment before the assessment is even complete.

GMD 5 also does not understand why the Service filed its Request to Secure Water at this particular time. Through our close coordination with your team, the Service has indicated that it would employ a cooperative approach so long as the NEPA process is proceeding comprehensively and in good faith. We are in the middle of the NEPA process and several ongoing analyses. To rush an outcome prior to the completion of the process is contrary to what the Service has indicated. We see no reason for the apparent change this year from the prior years that compelled the Service to file its Request to Secure Water.

The Service's Request to Secure Water Jeopardizes Existing Agricultural Agreements

The timing of the Service's Request to Secure Water impacts the 2023 growing season. Producers made arrangements to manage and cultivate their fields many months prior to the actual growing season. Many supply agreements are now set and agricultural producers in the GMD 5 have since begun securing the grain and seed to sow this Spring. Water users in the subbasin now face much uncertainty and instability given the Service's pending Request to Secure Water.

GMD 5 Asks that the Service Withdraw its Request to Secure Water

For all of these reasons, GMD 5 implores the Service to withdraw its Request to Secure Water. Maintaining a Request to Secure Water this far into the cooperative process (and before the NEPA review is complete) reflects a complete lack of recognition of GMD 5's past and ongoing investments, violates the partnership we've worked tirelessly to maintain and erodes the trust that

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<sup>1</sup> These are estimates and do not include each and every aspect of GMD 5's expenditures.

any continued partnership will need. Withdrawing the Service's request will demonstrate a renewed commitment to our partnership and will not prevent the Service from making a subsequent filing if necessary after the environmental assessments are complete.

Leaving it in place will harm any and all cooperative efforts moving forward by diverting the focus on the adversarial proceedings to ensue from the Request to Secure. We ask that the Service support a cooperative approach to resolving issues at the Refuge rather than working against it. GMD 5 will continue to engage with the Service to the best of its capabilities while completing the NEPA analysis. Initial results from environmental assessments are promising and we look forward to discussing detailed results with your team in the near future. Please contact me if you would like to discuss this further. I look forward to continuing our productive relationship.

Sincerely,



Darrell N Wood (Mar 6, 2023 19:18 CST)

Darrell Wood  
Board President  
Big Bend Groundwater  
Management District No. 5  
125 S Main Street  
Stafford, KS 67578  
dnwfarm@gmail.com



Orrin Feril  
District Manager  
Big Bend Groundwater  
Management District No. 5  
125 S Main Street  
Stafford, KS 67578  
oferil@gmd5.org

cc:

The Honorable Laura Kelly, Governor of Kansas  
Will Lawrence, Chief of Staff to Governor Laura Kelly  
U.S. Senator Jerry Moran  
U.S. Senator Roger Marshall  
U.S. Representative Ron Estes  
Kansas State Senator Alicia Straub  
Kansas State Representative Brett Fairchild  
Mr. Earl Lewis, Chief Engineer, KDA-DWR







# 2023-03-06 Letter in Response to Request to Secure Water

Final Audit Report

2023-03-07

Created:	2023-03-06
By:	Orrin Feril (oferil@gmd5.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAzV6ENmiFqAsifKqkSXylAY2l6LIOujZj

## "2023-03-06 Letter in Response to Request to Secure Water" History

-  Document created by Orrin Feril (oferil@gmd5.org)  
2023-03-06 - 10:37:19 PM GMT
-  Document emailed to dnwfarm@gmail.com for signature  
2023-03-06 - 10:37:58 PM GMT
-  Email viewed by dnwfarm@gmail.com  
2023-03-06 - 10:50:12 PM GMT
-  Signer dnwfarm@gmail.com entered name at signing as Darrell N Wood  
2023-03-07 - 1:18:17 AM GMT
-  Document e-signed by Darrell N Wood (dnwfarm@gmail.com)  
Signature Date: 2023-03-07 - 1:18:19 AM GMT - Time Source: server
-  Agreement completed.  
2023-03-07 - 1:18:19 AM GMT

## **Exhibit S**

1320 Research Park Drive  
Manhattan, KS 66502  
785-564-6700  
www. agriculture.ks.gov



900 SW Jackson, Room 456  
Topeka, KS 66612  
785-296-3556

Mike Beam, Secretary

Laura Kelly, Governor

April 10, 2023

RE: Quivira National Wildlife Refuge Impairment and  
USFWS Request to Secure Water

Dear water user:

On February 10, 2023, I received a written Request to Secure Water from the United States Fish and Wildlife Service (USFWS) pertaining to its Water Right, File No. 7,571, for the Quivira National Wildlife Refuge, located in eastern Stafford County, Kansas. You are receiving this communication because you have been identified as a water right holder that will potentially be affected by the implementation of a future plan to remedy the impairment of the USFWS's senior water right.

I have informed the USFWS that in order to proceed with its request the Kansas Department of Agriculture Division of Water Resources (KDA-DWR) will need to review the impairment investigation that was completed in 2016 and consider the most up-to-date information and hydrologic modeling tools at its disposal. Therefore, at this time, no actions to administer junior water rights with respect to the USFWS's Request to Secure Water are planned during 2023. It is presently my intent, however, to develop and implement a durable remedy during early 2024 to address the ongoing impairment of the USFWS's senior water right, into the future, pursuant to the process and authority found in the Kansas Water Appropriation Act. I plan to engage potentially impacted water right holders within the Rattlesnake Creek basin regarding KDA-DWR's work throughout this process with additional communications.

Additional information, including the USFWS's Request to Secure Water and its cover letter, as well as historical background information regarding this issue, can be found on the KDA-DWR website at: <https://agriculture.ks.gov/quivira>. Please visit the above website for updates.

Sincerely,

Earl D. Lewis Jr., P.E.  
Chief Engineer

pc: KDA-DWR Stafford Field Office  
Big Bend GMD No. 5  
U.S. Fish and Wildlife Service