

# Impairment in groundwater systems/Hays water transfer

GMD 3 annual meeting

March 8, 2017

David Barfield, Chief Engineer

Division of Water Resources  
Kansas Department of Agriculture



## Kansas Water Appropriations Act's fundamental charge to the Chief Engineer

K.S.A. 82a-706: The Chief Engineer 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 the water resources of the state for the benefits and beneficial uses of all its inhabitants in accordance with the rights of priority of appropriation.

K.S.A. 82a-706b – “It shall be 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...”

## Impairment process

- 1) Complaint
- 2) DWR Investigation
- 3) DWR Report of Findings
- 4) If impairment is found and action desired,  
complainant must file a request to secure water
- 5) Action by the Chief Engineer as long as required

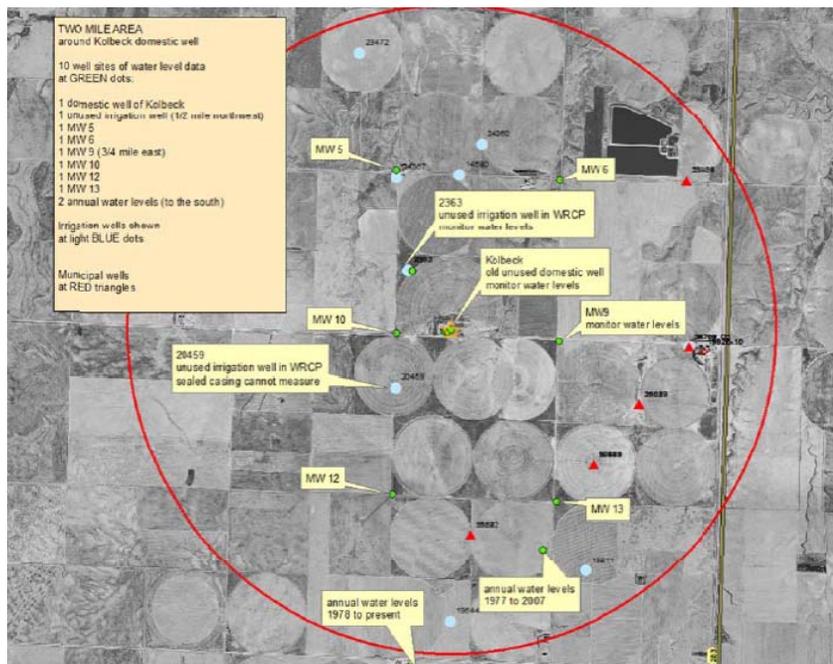
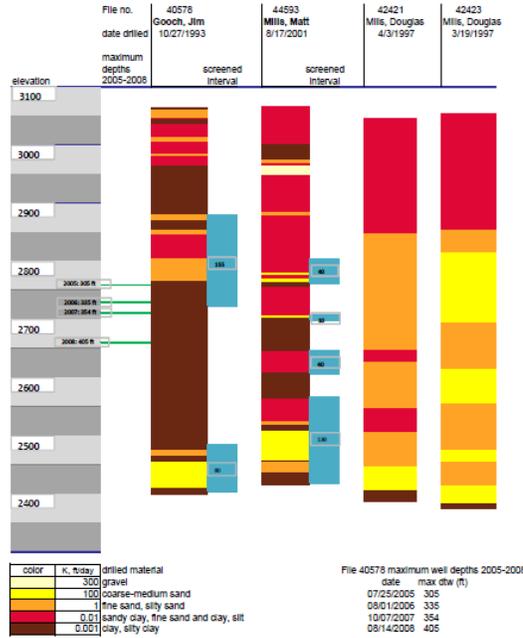


Figure 1. Lithologic profile of irrigation wells.



Kolbeck old unused domestic well  
Water quality monitoring well MW 9  
Unused irrigation well 2363 in WRCP  
(water level elevations September 7, 2011 to July 18, 2012)

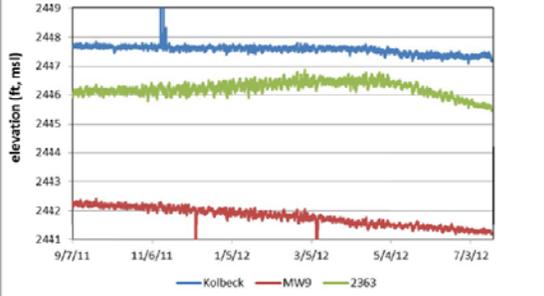
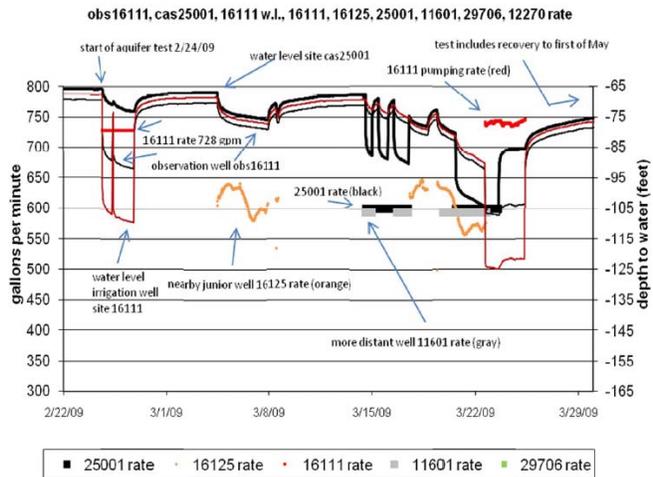


Figure 2 –Water levels at three sites near Mr. Kolbeck's domestic wells.



## Initial High Plains aquifer impairment action

- Stevens County (Gooch – Mills)
  - 2008 – first water administration in the Ogallala.
  - 2009, 2010 – DWR developed alternative water administration methods, eventually establishing trigger elevations in the aquifer to determine action
- DWR Developed revised rules on our impairment process, adding specifics on groundwater investigations

## Groundwater Impairment investigations process

- Determine if complainant has good well/pumping plant
- Review well logs; geologic information.
- Install monitoring equipment (pumping rate/quantity; well depths), conduct pump test to determine local aquifer properties; extent of direct well to well interference
- Prepare initial report, provide to GMD and neighbors for opportunity for comment
- Final report
- If impairment found, determine remedy



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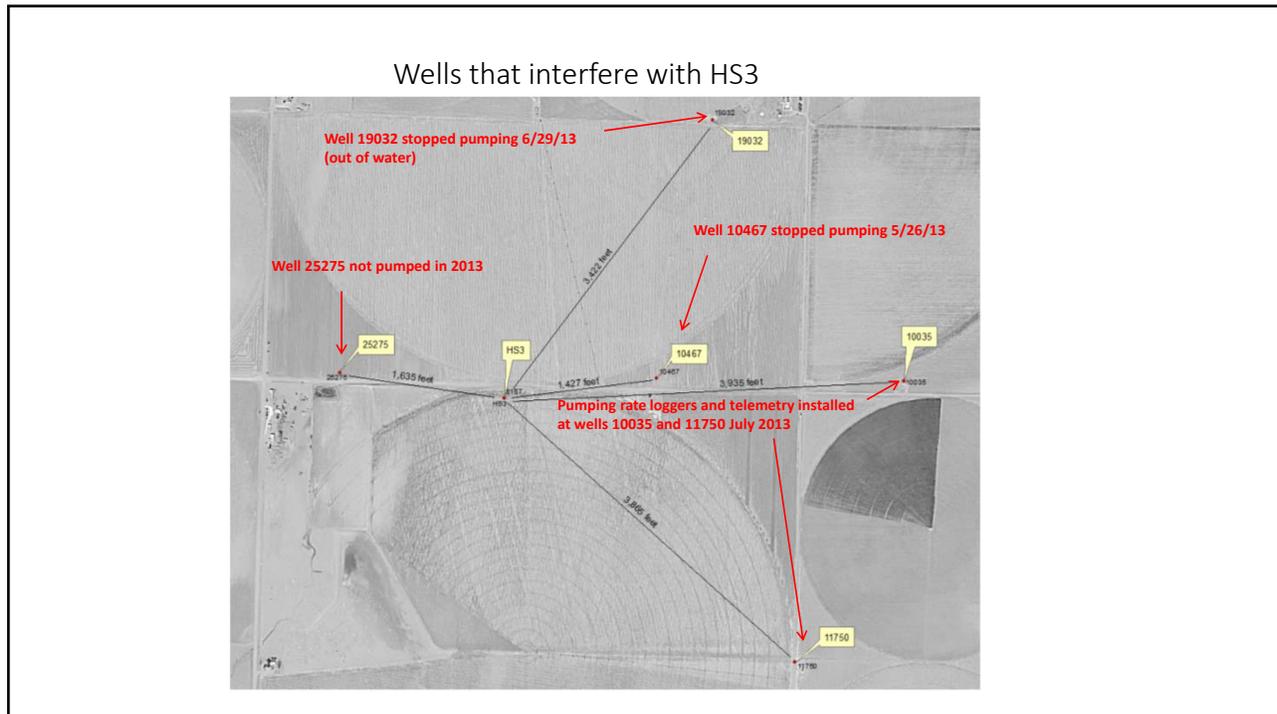
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## Vested Right Haskell 03

On or about June 7, 2016, Garetson Brothers filed a Request to Secure Water pursuant to K.A.R. 5-4-1(d). The request by Garetson Brothers extends their action in District Court, to protect their Vested Right, File No. HS 003 from impairment caused by junior water right diverters (Water Right, Files No. 10,035, 11,750, and 19,032) beginning September 1, 2016. As you might be aware, KDA-DWR has previously investigated the potential impairment on Vested Right, File No. HS 003 by neighboring junior water right wells per a request of the District Court, including those subject of the Garetson Brothers' request to secure water.

**SUPPORT FILES TABLE**

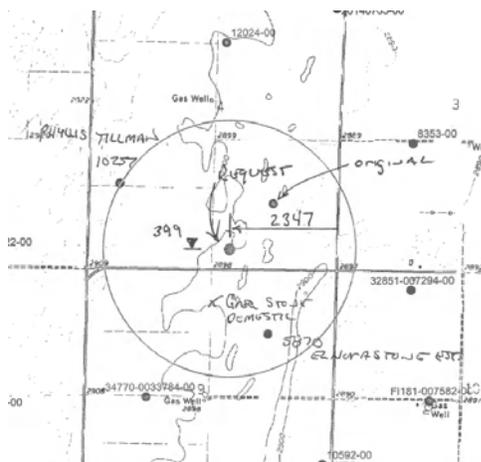
Description	Document File	File Size	Date Posted	Provided by
Initial Report of the Chief Engineer	Initial Report	11.8 MB	11/10/2016	DWR
Report of the Fact Finder Pertaining to Case No. 12-CV-9, District Court of Haskell County	Fact Finder Report	11.9 MB	10/30/2016	DWR
Letter to GMD No. 3 and attachments	GMD No. 3 Mailing	6.3 MB	11/10/2016	DWR



## Haskell County impairment (Garetson)

- 2005 – Garetson files impairment compliant with the Chief Engineer
  - Expressed interest in an IGUCA to address concerns
- 2007 - Compliant withdrawn
- 2012 - Garetson files an impairment compliant in District Court
  - K.S.A. 82a-716/717a – Allows water right holders to file directly to District Court to seek redress
  - K.S.A. 82a-725- Allows Court to appoint chief engineer as referee
- 2014 – District Court grants temporary injunction
- 2015 - KS Court of Appeals upholds
- 2017 – District Court grants permanent injunction

## Stone v. Hands litigation - dismissed



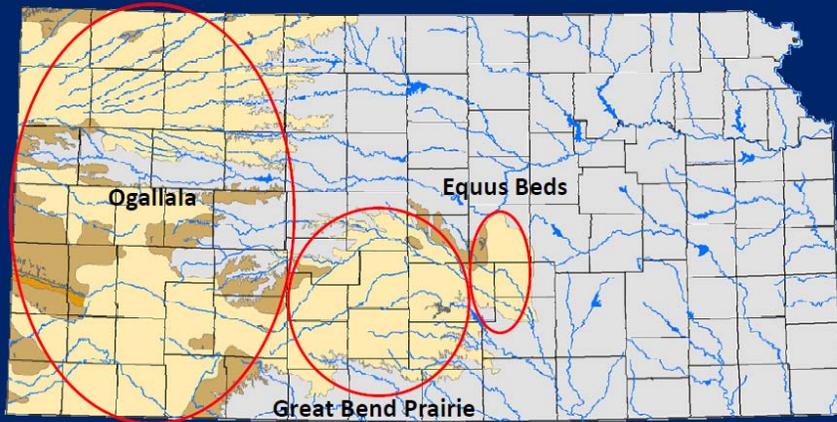
### Preliminary Report By the Division of Water Resources as the Court's Appointed Factfinder

*Greg Stone v. Gregory Hands, Sam Hands, Tyler Hands, Triangle H, and S F H Trust 89*

25th Judicial District Court, Finney County, Kansas  
Case No. 15 CV 89

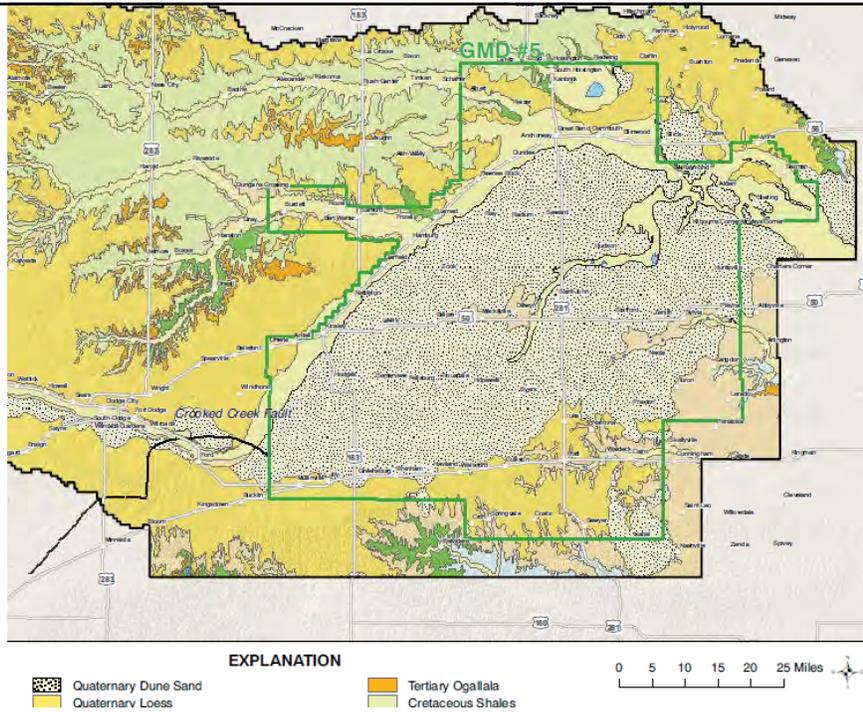
DWR Information and Analysis  
Water Right File Nos. 5,870 and 22,088  
Feb. 16, 2016

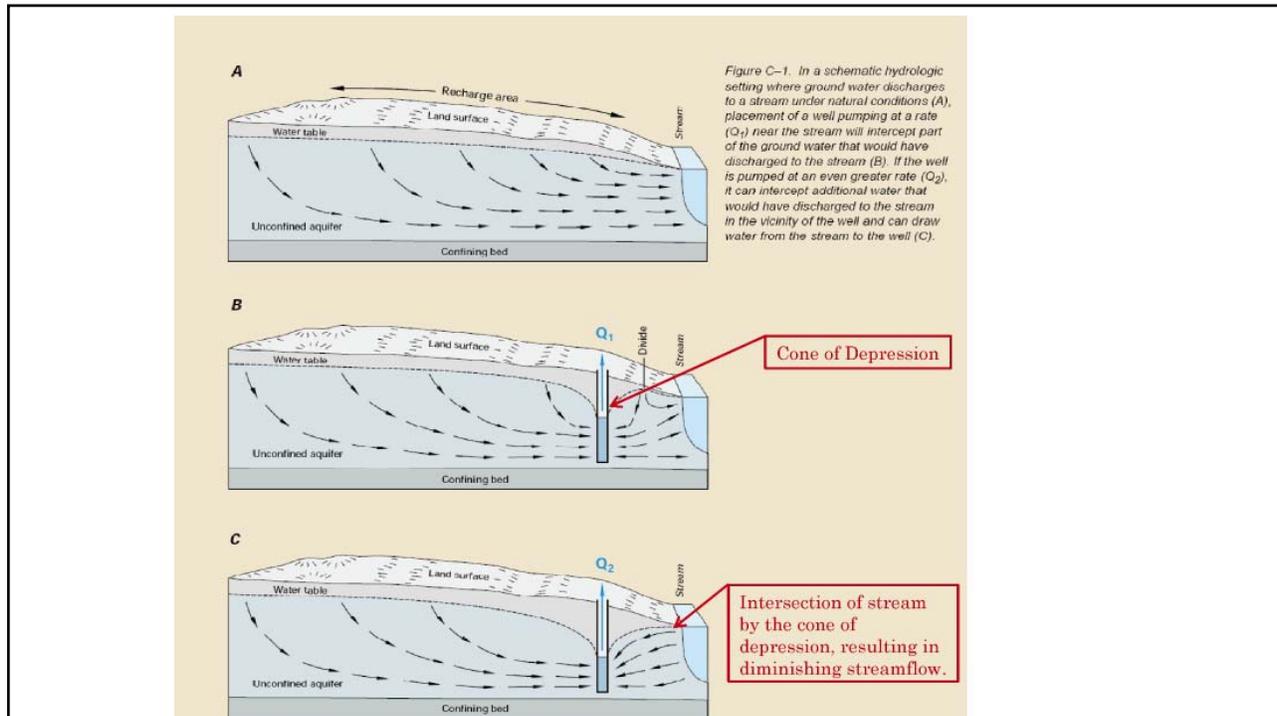
## The Kansas High Plains Aquifer



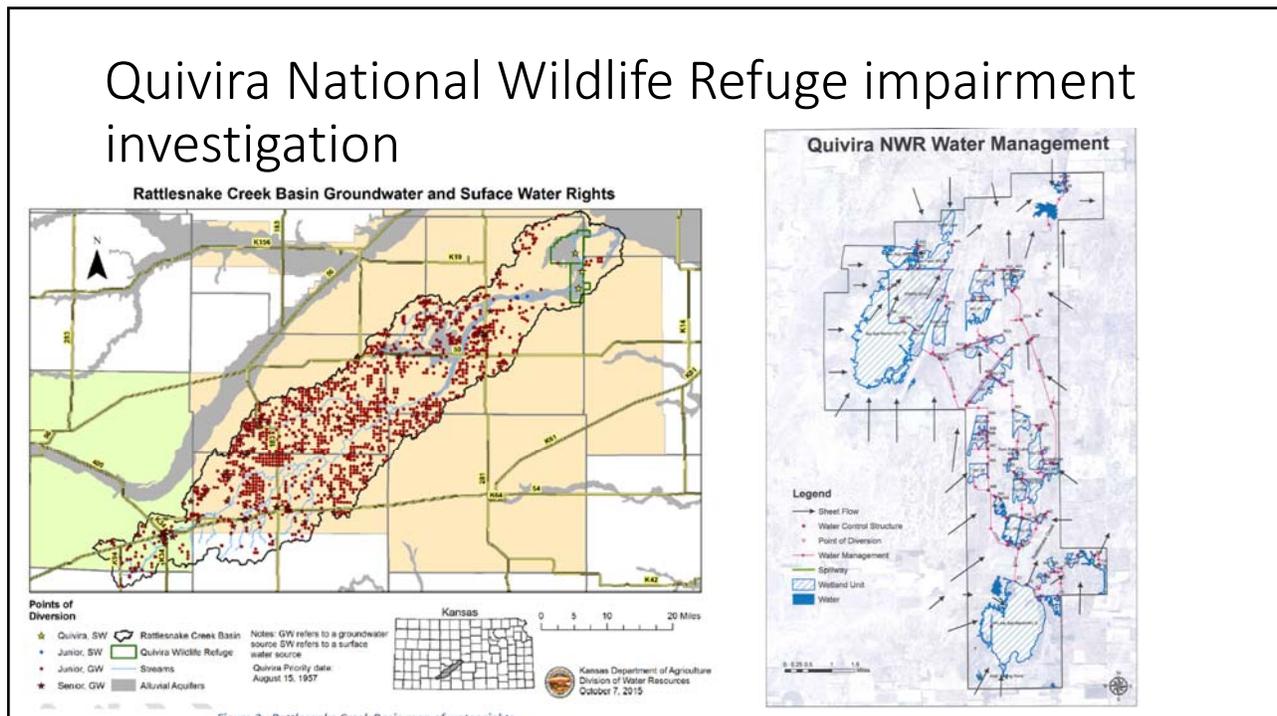
In Kansas, The High Plains Aquifer is made up of several smaller sub-regional aquifers - the Ogallala, Great Bend Prairie and Equus Beds. On a national scale, many people and publications will refer to the High Plains aquifer as the Ogallala. In Kansas, we make a distinction.

The Great Bend Prairie and Equus Beds aquifers are generally closer to the land surface (not as deep) and are more responsive to recharge. They are managed as sustainable systems. The Ogallala is generally deeper with less annual precipitation and has little natural recharge. Recharge estimates are in the 0.5 to 1 inch range annually.



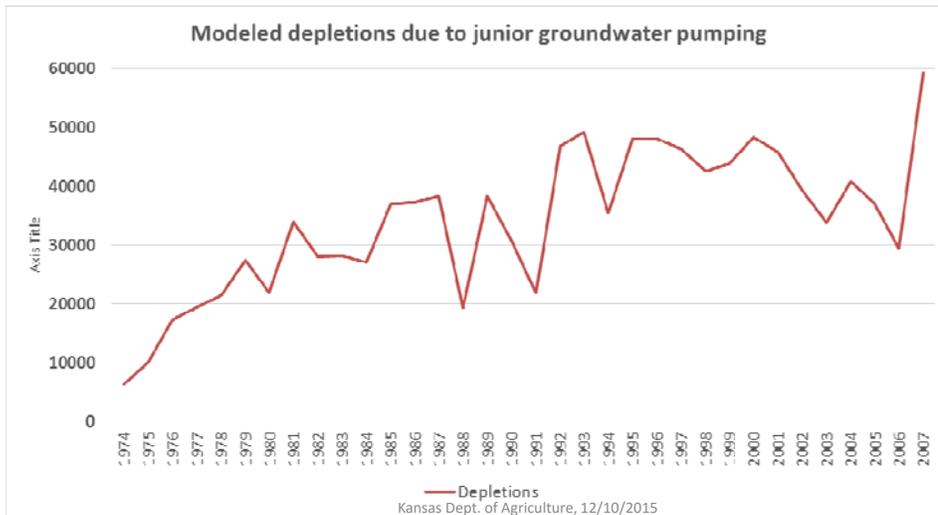


# Quivira National Wildlife Refuge impairment investigation



## Depletions to Rattlesnake streamflows (baseflows) at Zenith due to junior groundwater pumping

- Determined by use of the GMD 5 groundwater model



## Refuge needs within its water right

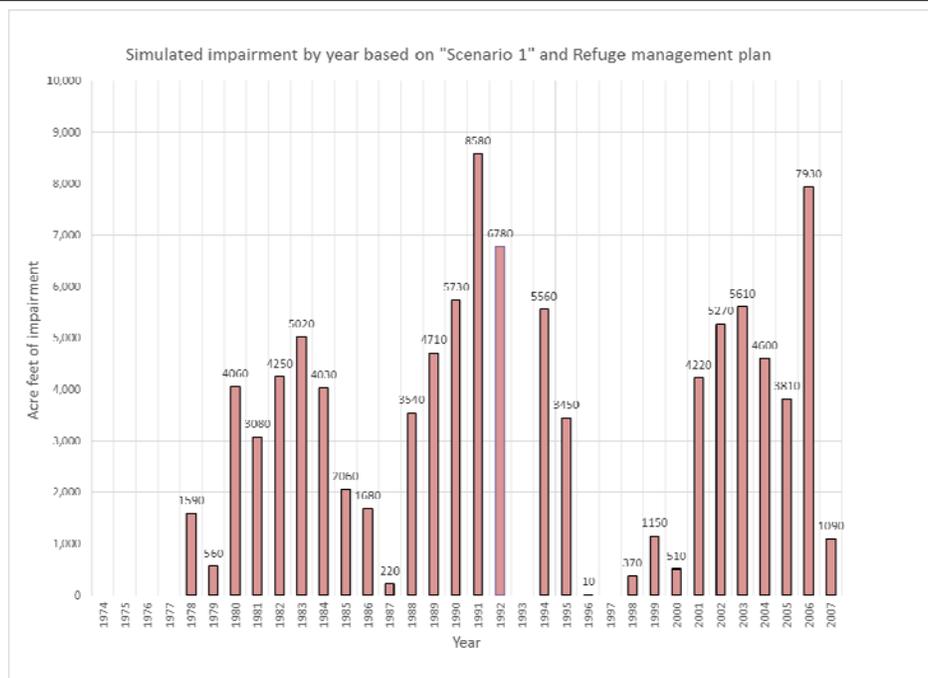
May, 2015 – Attachment 5 of Initial Report

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

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



## Quivira: current status

- Impairment investigation report finalized July 15, 2016 found junior, upstream groundwater pumping is regularly interfering with the U.S. Fish and Wildlife Service's senior use.
  - Regularly 3,000 – 5,000 acre-feet per year
- Working with water users to develop a workable solution
  - 2015 Legislative action states that augmentation can be considered as a remedy for impairment
  - Basin's Sept. 2016 offer: augmentation only, 1500 AF/year, 15 cfs, on the Refuge
  - Rejected by Service in December 1 as insufficient in quantity and noting that placing augmentation infrastructure on the refuge as described in the offer poses "significant legal obstacles"

## Quivira: current status

- Our Dec 8, 2016 letter to the basin
  - Requested basin stakeholders develop a revised settlement offer by February 15, 2017.
  - Should an agreement not be reached, we will be obligated to develop an administrative remedy for implementation in 2018 and beyond.
  - No administration again in 2017
- On 1/1/2017, the Service filed a “Request to Secure Water,” with a request to begin administration on 1/1/2018
- On 2/15/2017, GMD 5 made a second offer, up to 5,000 acre-feet/year of augmentation



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### City of Hays / R9 Ranch Water Right Changes and Water Transfer Application

The City of Hays purchased the approximately 7,000-acre R9 Ranch and its thirty water rights in southwestern Edwards County in 1995 with the intention of someday using the water as part of the City's water supply.

During June 2015, the City submitted applications to KDA-DWR to change the use made of water from irrigation to municipal use for the R9 Ranch water rights. As these proposed changes envision moving greater than 2,000 acre-feet more than 35 miles, during January 2016, the cities of Hays and Russell submitted an application to transfer water from Edwards County to the cities of Hays and Russell pursuant to the Water Transfer Act (K.S.A. 82a-1501, et seq.).

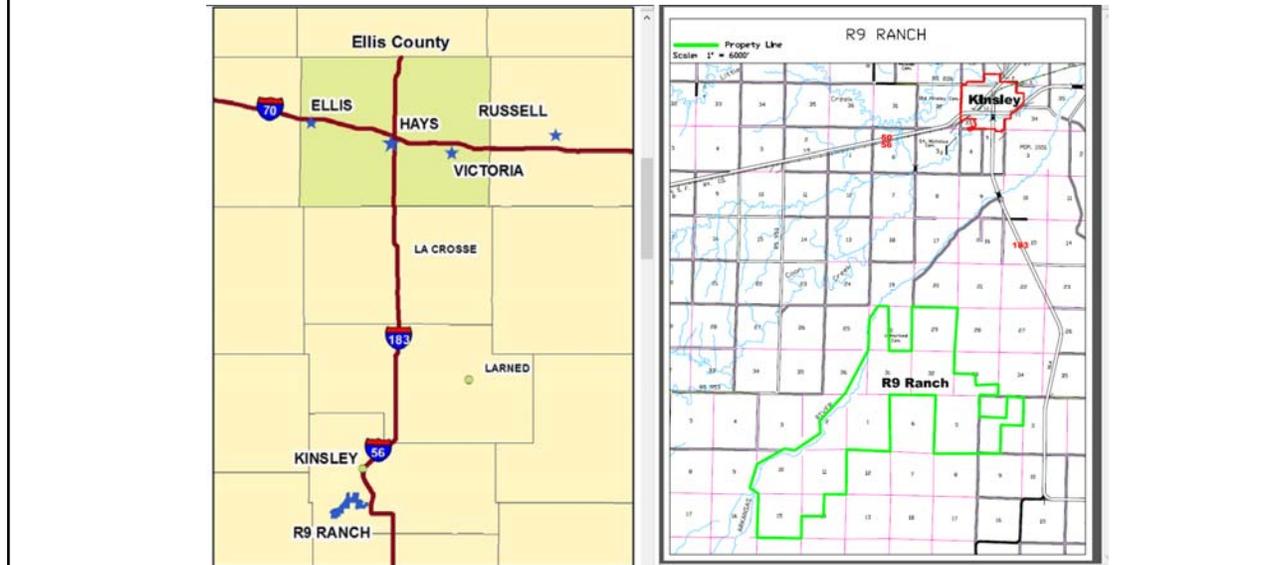
The water right change applications, the water transfer application, and other information are available in the table below. KDA-DWR will update this page as new information becomes available.

As of April 5, 2016, there is no set timeline to complete the processing of the water right change applications or to hold the water transfer hearing. As those dates are set, this page and the timeline below will be updated accordingly.

In response to a request by a basin stakeholder, the chief engineer has agreed to hold a meeting in the basin prior to his action to contingently approve the change applications. No date has been set for this meeting as KDA-DWR is still working with the City of Hays to clarify its applications (see the correspondence included in the table below).

The water transfer proceeding will not be initiated until the change applications are contingently approved.

Water transfer for Hays 7000 AF; 80 miles.



## Two Distinct Approval Processes required

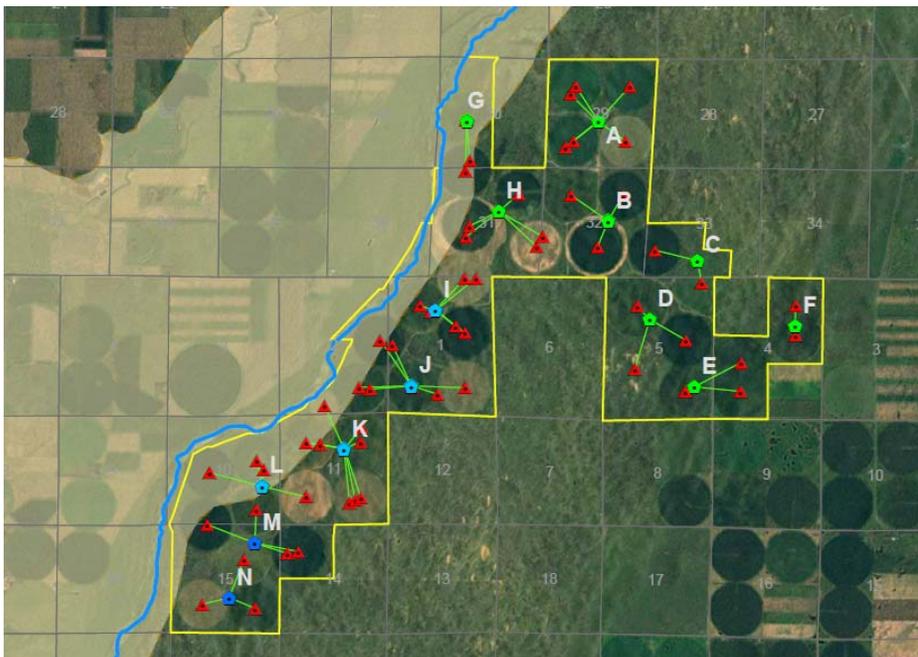
- Change application approval under the Kansas Water Appropriation Act....
  - This process is first as the changes applications must be contingently approved prior to the water transfer process
- Water Transfer Process

## Changes in water rights

K.S.A. 82a-708b. Application for change in place of use, point of diversion or use; fee; review of action on application.

(a) **Any owner of a water right may change** the place of use, the point of diversion or the use made of the water, without losing priority of right, **provided** such owner shall:

- (1) Apply in writing to the chief engineer for approval of any proposed change;
- (2) **demonstrate** to the chief engineer that any proposed **change is reasonable** and **will not impair** existing rights;
- (3) demonstrate to the chief engineer that any proposed change relates to the **same local source of supply** as that to which the water right relates; and
- (4) receive the approval of the chief engineer with respect to any proposed change...



## Process from here

- DWR to complete its review of change applications and negotiations with the Cities on terms and conditions, including drafting of a master order and the individual approval documents
- Send to GMD 5 and basin for review.
  - Public meeting to gather input
- Provisional approval of the change applications
- Water Transfer Hearing and review

## Questions & Discussion