




# Upper Arkansas & Cimarron

Common Goals and Progress

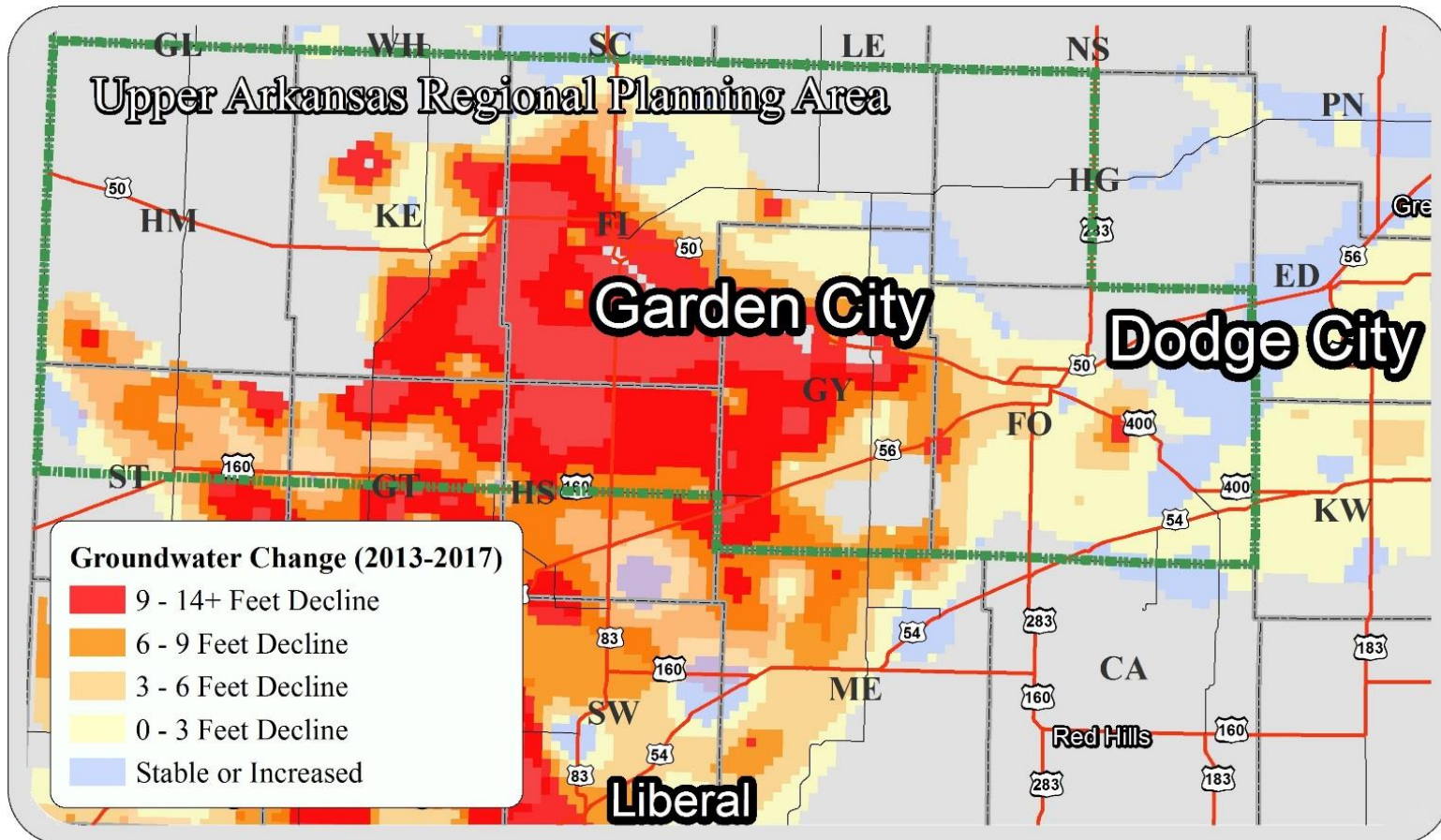
# Upper Arkansas

# Groundwater Declines

Region	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	10 Year Change	Average Annual Change (2007-16)
Cimarron	-2.37	-2.90	-1.65	-2.52	-3.93	-3.63	-1.72	-1.90	-0.91	-1.29	-22.81	-2.28
Equus-Walnut	1.87	1.56	0.00	-0.80	-2.96	-1.48	2.44	-1.21	1.38	1.94	2.74	0.27
Great Bend Prairie	3.11	0.59	0.70	-0.46	-2.88	-1.89	0.55	-0.68	-0.26	0.51	-0.69	-0.07
Upper Arkansas	-1.47	-2.29	-1.28	-2.97	-2.64	-2.82	-2.40	-1.85	-0.70	-0.45	-18.86	-1.89
Upper Republican	-0.69	-0.20	0.18	-0.39	-0.42	-1.40	-0.64	-0.39	-0.53	-0.29	-4.77	-0.48
Upper Smoky Hill	-0.87	-0.41	-0.22	-0.52	-1.01	-1.41	-0.63	-0.44	-0.13	-0.32	-5.96	-0.60
<b>ENTIRE HIGH PLAINS AQUIFER REGION</b>	-0.09	-0.60	-0.24	-1.08	-1.93	-1.98	-0.65	-0.93	-0.39	-0.12	-8.00	-0.80

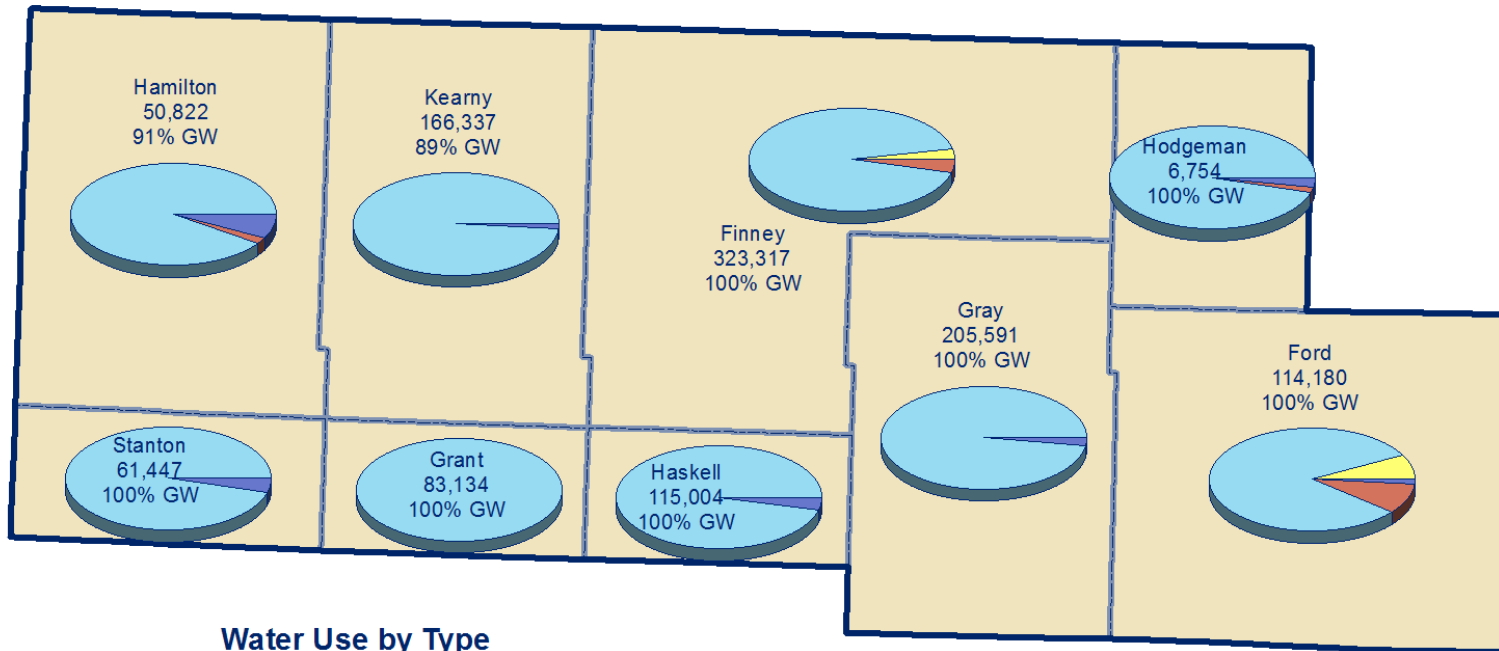
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# Upper Arkansas Declines

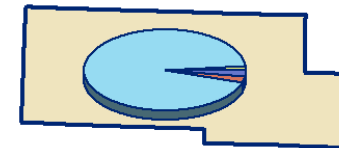
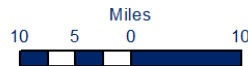


# Upper Arkansas Water Use

Upper Arkansas Regional Planning Area  
Average Water Use by Selected Uses and Percent Groundwater (GW)  
2011-2015 (Acre-Feet)



## Water Use by Type



Total: 1,126,586  
98% GW

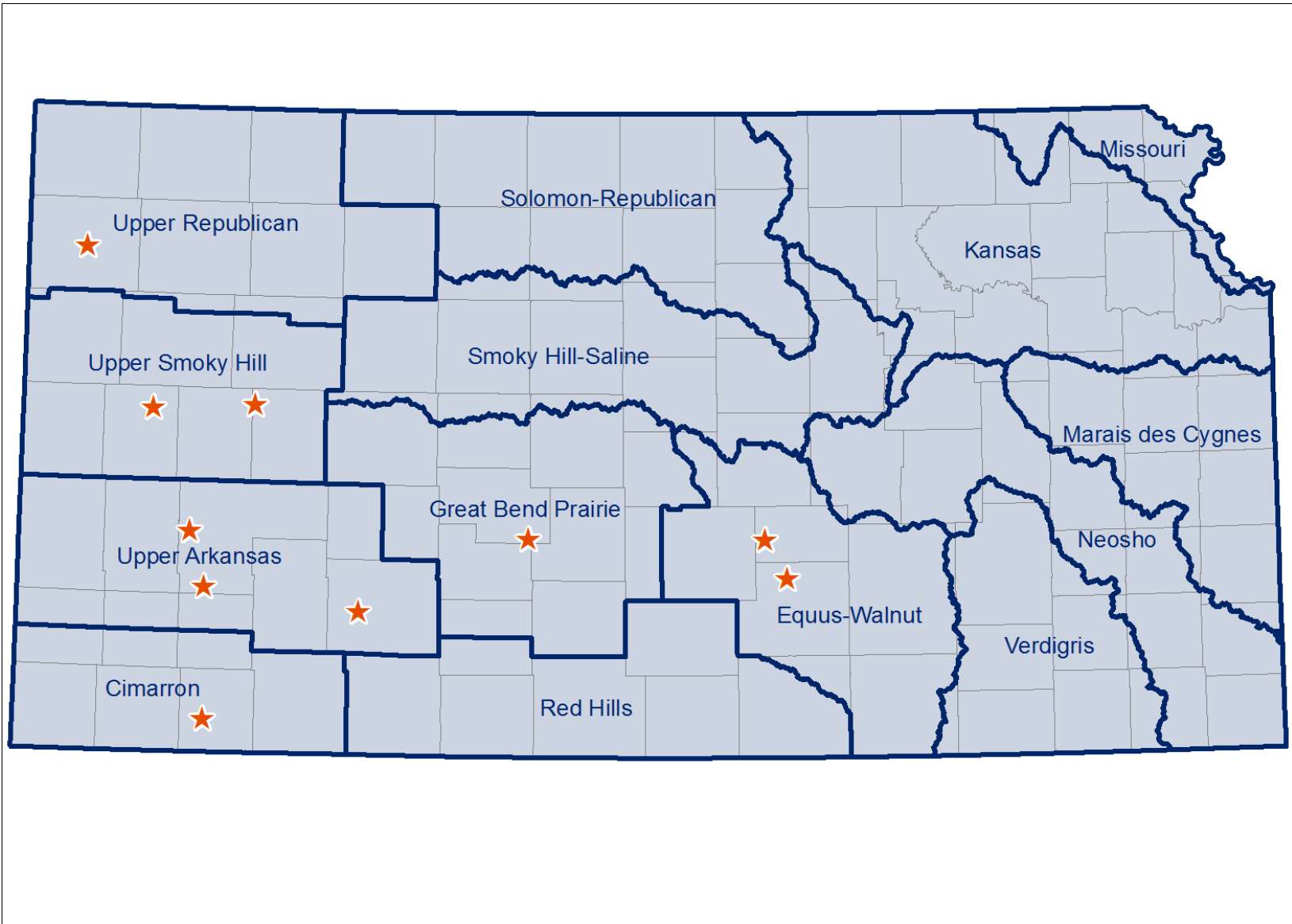
Sources:  
Division of Water Resources, Water Use Program  
Kansas Water Office, Water Marketing Program

Kansas Water Office August 2017

# WCAs

Thirteen WCAs cover over 25,000 acres of the 833,781 irrigated acres in the region, equating to 3% of the average total of irrigated acres.

# Water Technology Farms



# The Upper Arkansas CREP

Table 2: Enrollment in CREP in Upper Arkansas Region (FY2017 Annual Report-Upper Arkansas CREP)

County	2007 – 2008	2008 – 2009	2009 – 2010	2010 – 2011	2011 – 2012	2012 – 2013	2013 – 2014	2014 – 2015	2015 – 2016	2016 – 2017	Total Acres Approved
Hamilton									242.9		242.9
Kearny	4,203.8	605.0	251.9		1,520.0			162.9	610.2		7,353.8
Finney	129.4	574.2	76.5		1,338.6			412.7	475.9	150.5	3,157.8
Gray	2,677.8	723.5	1,318.6	247.1	1,087.4	673.9		613.8			7,296.9*
Ford											0
<b>TOTAL</b>	<b>7,011.0</b>	<b>1,902.7</b>	<b>1,647.0</b>	<b>247.1</b>	<b>3,946.0</b>	<b>673.9</b>	<b>0</b>	<b>1,189.4</b>	<b>1,329.0</b>	<b>150.5</b>	<b>18,051.4*</b>

\*These figures adjusted by -45.2 acres from 2016 to match & reflect FSA records

A total of 18,051.4 acres and 37,113 AF of authorized quantity have been retired in the region since enrollment began in 2007.



# Water Quality & Arkansas River

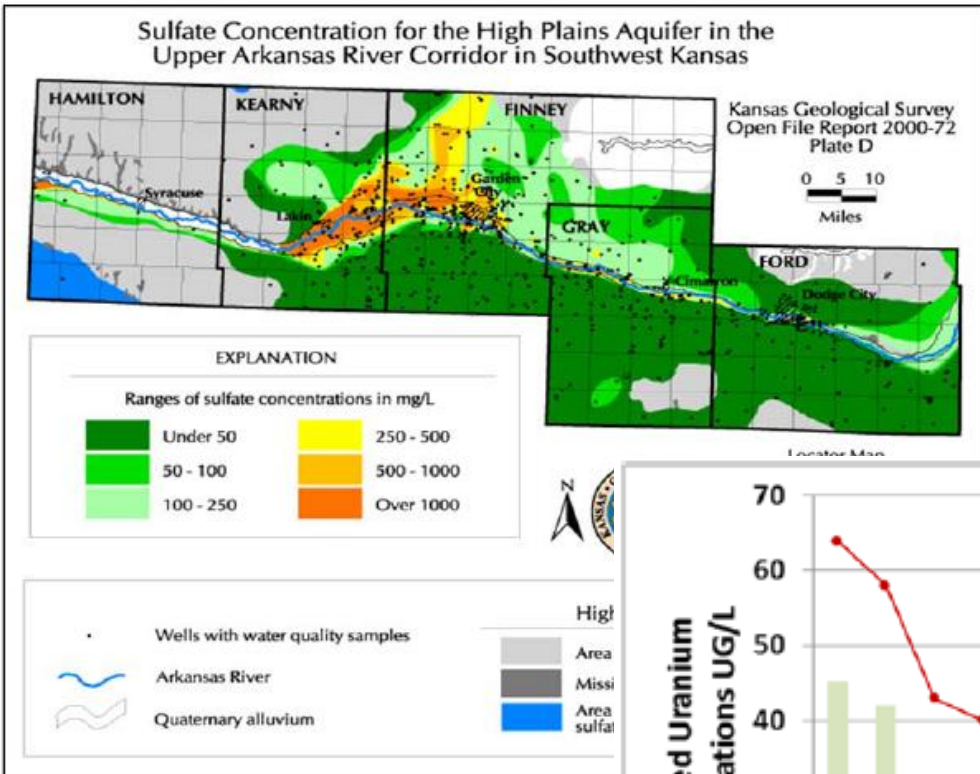


Figure 12: Spread of sulfate concentrations in High Plains Aquifer. Data from Kansas Geological Survey OFR 2000-72

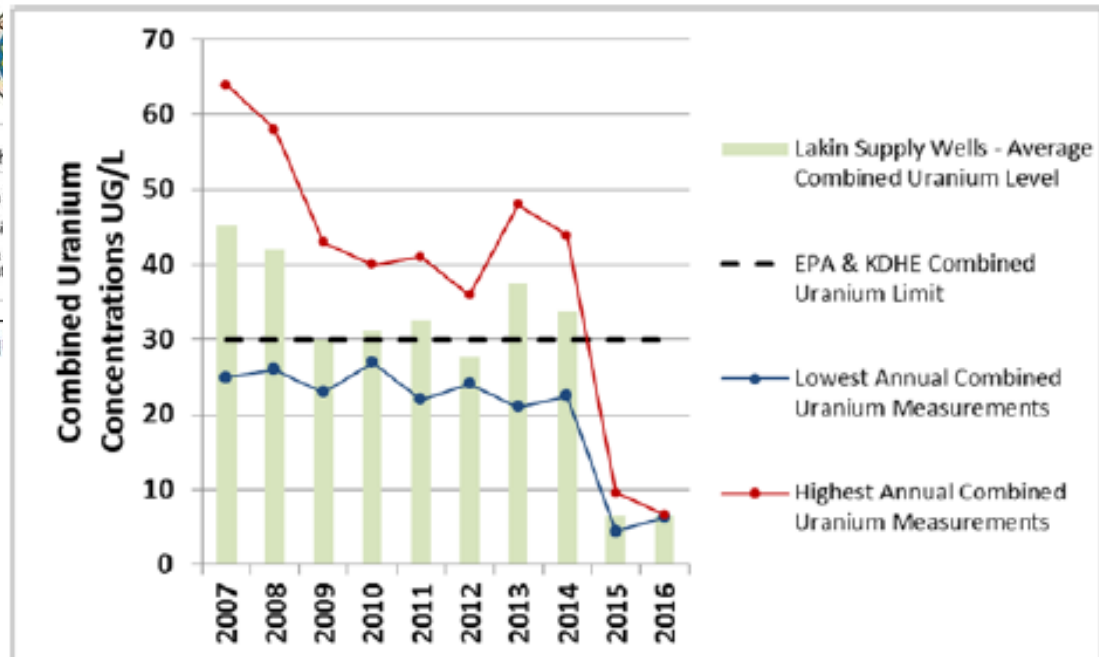


Figure 13: Uranium levels reported in City of Lakin public water supply wells. Data from KDHE Water Watch System

# Current RAC Focus & Efforts

**Additional Sources of  
Supply**

**Industry Outreach**




**Tamarisk Removal**

**Compact & Interstate  
Issues**

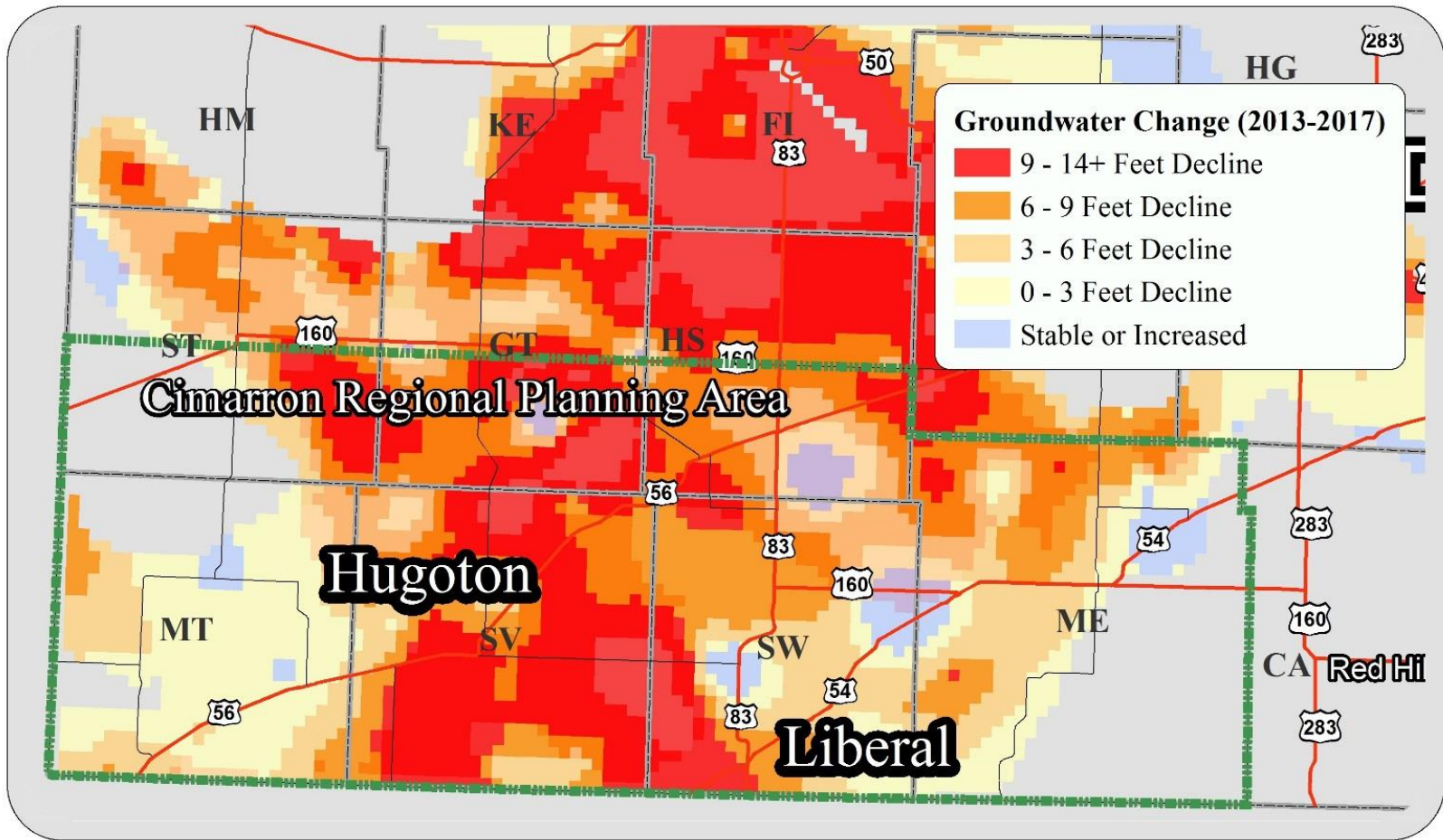
Cimarron

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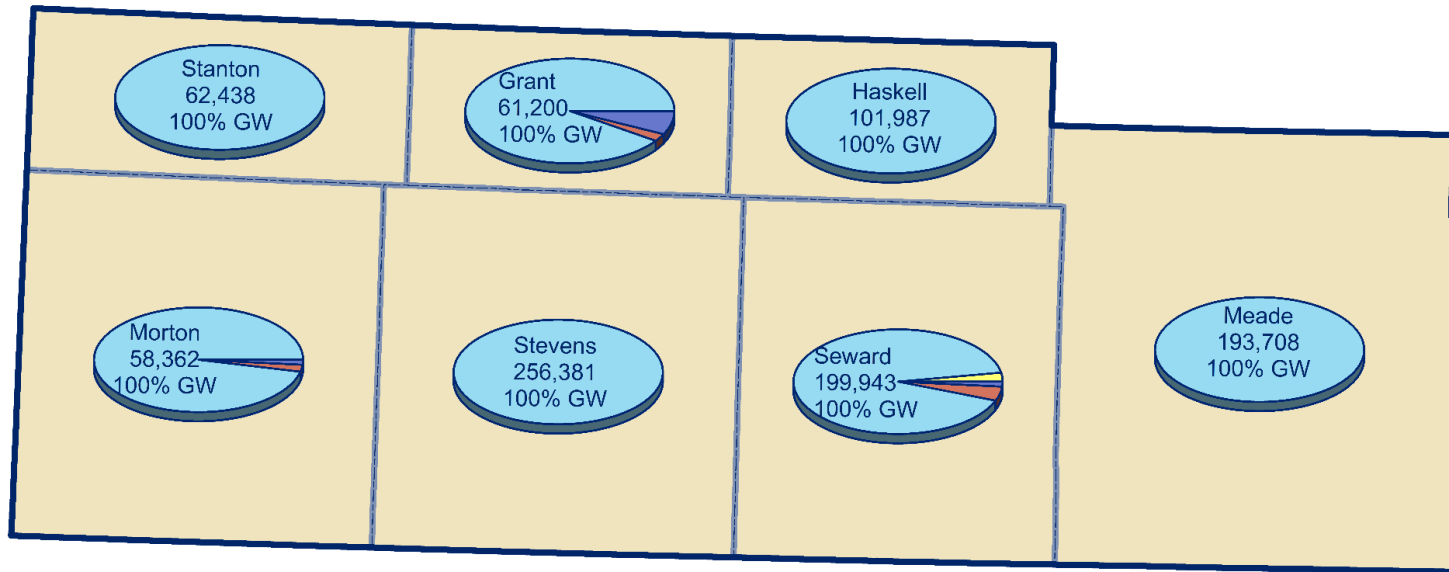
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# Cimarron Declines

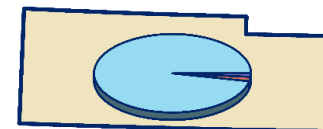


# Cimarron Water Use

**Cimarron Regional Planning Area**  
 Average Water Use by Selected Uses and Percent Groundwater (GW)  
 2011-2015 (Acre-Feet)



## Water Use by Type



Total: 934,019  
 100% GW

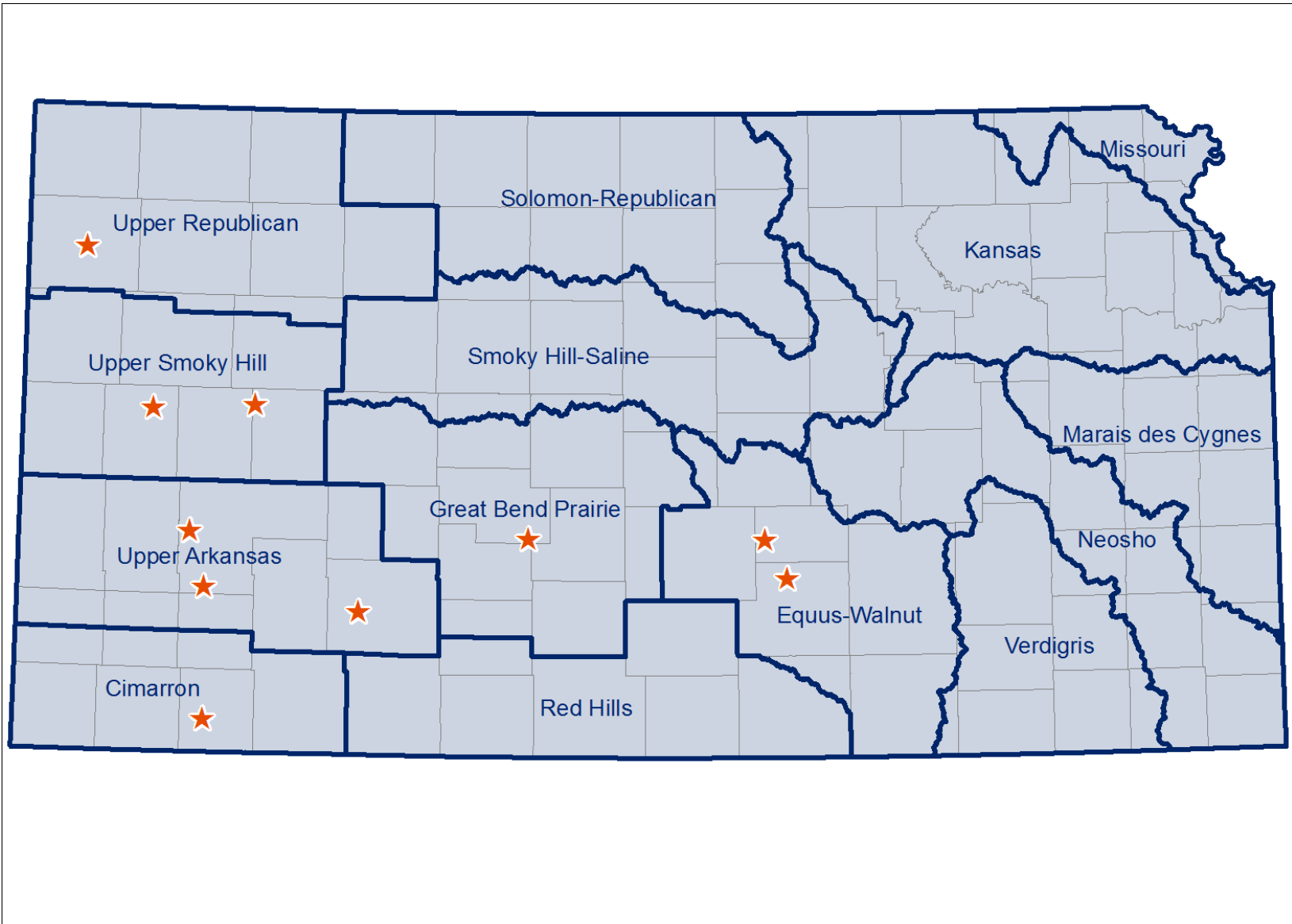
Sources:  
 Division of Water Resources, Water Use Program  
 Kansas Water Office, Water Marketing Program

Kansas Water Office September 2017

# WCAs

One WCAs covering 252 acres of the 651,895 irrigated acres in the region, equating to 0.4% of the average total of irrigated acres.

# Water Technology Farms





# Oklahoma Collaboration

- Led by Jim Sipes
- Producer focused
- Oklahoma producers meeting Kansas producers
- RAC Hosted – hopeful for 2019 date

# Survey & Education

**CIMARRON**

**Producer**  
Survey

Have the water levels in your wells been stable, decreased, or increased in the last 10 years?

- Decreased greatly
- Decreased
- Stable
- Increased
- Increased greatly
- Don't know

Have you implemented any of the following for water conservation (check all that apply)

- Plant planting population changes
- Soil moisture probes
- Irrigation Nozzles
- Alternative Crops
- No Till or reduced till
- Cover Crops or Soil Health Initiatives
- Variable Rate Irrigation
- Other \_\_\_\_\_

Which of the following irrigation methods do you use (check all that apply)

- High nozzle center pivot
- Low drop nozzle center pivot
- Flood
- Subsurface drip irrigation
- Mobile drip irrigation
- Other \_\_\_\_\_

Are you currently participating in any of the following programs (check all that apply)

- EQIP
- RRCP
- CSP
- WCA
- Multi-Year Flex Account for flexible water use

Which of the following would you be interested in (check all that apply)

- Irrigation Technology Expos and information sessions
- Irrigation Technology Demonstration projects
- Water Resource Information meetings
- Water Right Basics meetings
- Other \_\_\_\_\_

**Comments or Suggestions for improvement on any of the above topics or programs:**

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- Track adoption of technologies
- Track conservation trends and practices
- Asses where interest is

Looking at ways to engage public and provide more educational opportunities

# Interest in Master Irrigators

## Reasons for Interest

Tracking/recording of conservation (flexibilities)

Training/education opportunity

Increasing technology adoption

# Moving Forward

# Bringing It All Together

Sharing of Ideas & Potential for Collaboration

Extend the Usable  
life of the Ogallala

Irrigation Technology  
& Incentives

Other Ideas?