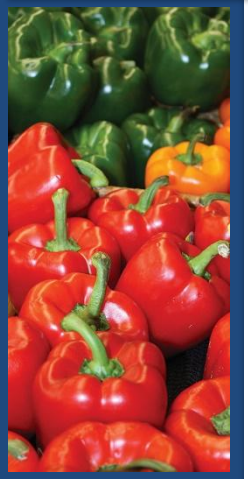

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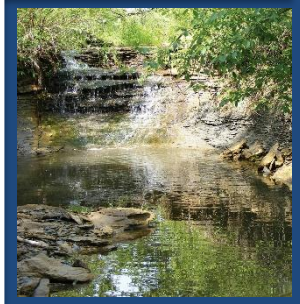

Management of Groundwater in Kansas

Earl Lewis, Chief Engineer
Kenneth Titus, Chief Counsel
Division of Water Resources
Kansas Department of Agriculture
April 5, 2022 – Washington, DC

Kansas Water Appropriation Act

- The Kansas Water Appropriation Act, K.S.A. 82a-701 *et seq*. was adopted in 1945 and established the prior appropriation doctrine in Kansas.

- **82a-702. Dedication of use of water.** *All water* within the state of Kansas is hereby dedicated to the use of the people of the state, subject to the control and regulation of the state in the manner herein prescribed.

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Surface Water and Groundwater

- **82a-705. Acquisition of a new appropriation right to use water other than domestic; approval.** No person shall have the power or authority to acquire a new appropriation *right to the use of water…without first obtaining the approval of the chief engineer*, and no water rights of any kind may be acquired hereafter solely by adverse use, adverse possession, or by estoppel.

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- **82a-707. Principles governing appropriations; priorities.**
  (a) *Surface or groundwaters* of the state may be appropriated as herein provided. Such appropriation shall not constitute ownership of such water, and appropriation rights shall remain subject to the principle of beneficial use.

  (b) 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….

  (c) As between persons with appropriation rights, the first in time is the first in right.

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Conditions on Permits/Impairments

- Applications shall be reasonable and not impair:
  - With regard to whether a proposed use will impair a use under an existing water right, impairment shall include the unreasonable raising or lowering of the static water level or the unreasonable increase or decrease of the streamflow…at the water user's point of diversion beyond a reasonable economic limit. **K.S.A. 82a-711.**

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- It shall be an express condition of each appropriation of *surface or ground water* that the right of the appropriator shall relate to a specific quantity of water and that such right *must allow for a reasonable raising or lowering of the static water level and for the reasonable increase or decrease of the streamflow at the appropriator's point of diversion*: Provided, That in determining such reasonable raising or lowering of the static water level in a particular area, the chief engineer shall consider the economics of diverting or pumping water for the water uses involved; *and nothing herein shall be construed to prevent the granting of permits to applicants later in time on the ground that the diversions under such proposed later appropriations may cause the water level to be raised or lowered at the point of diversion of a prior appropriator, so long as the rights of holders of existing water rights can be satisfied under such express conditions*. **K.S.A. 82-711a.**

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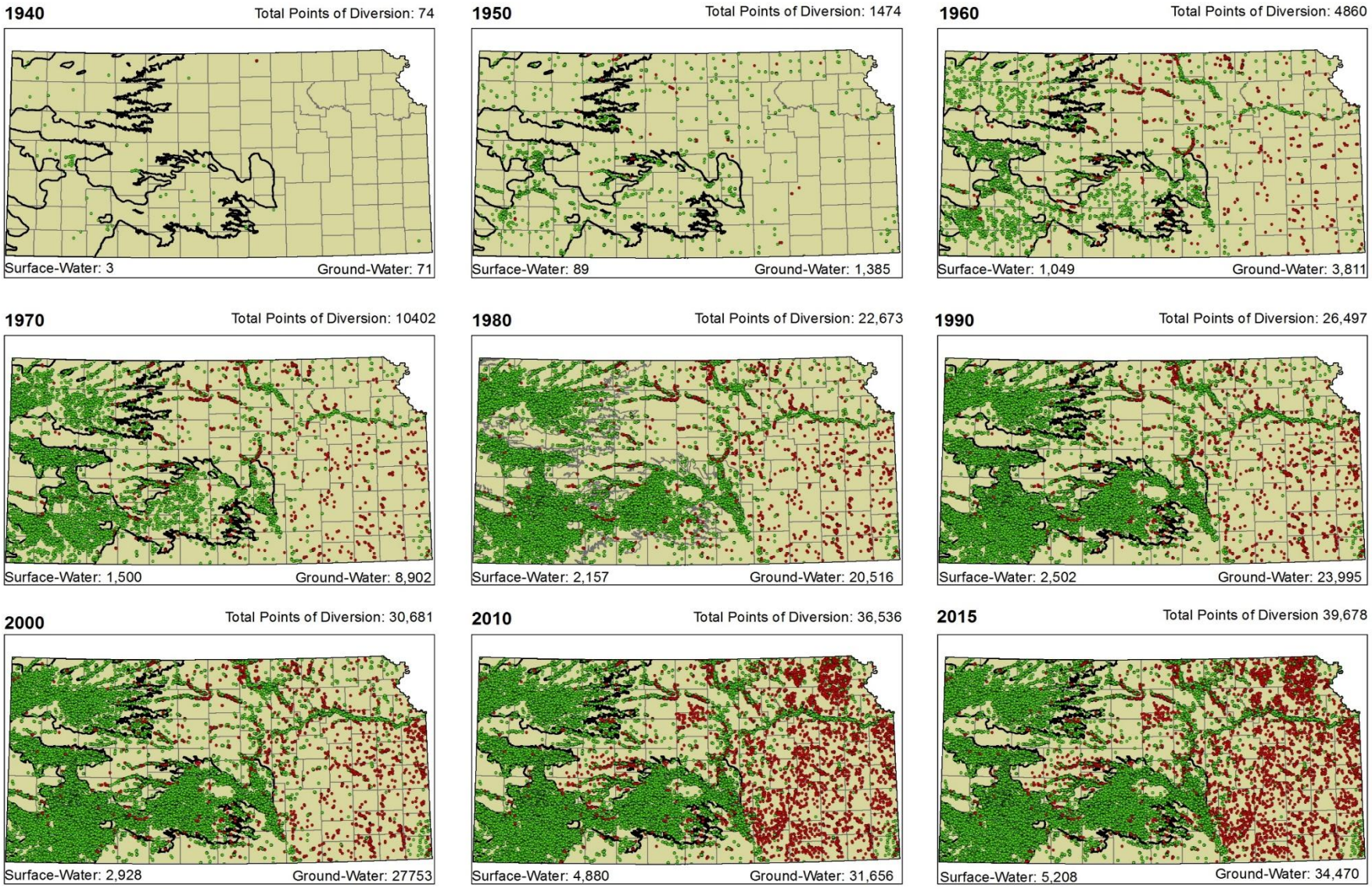
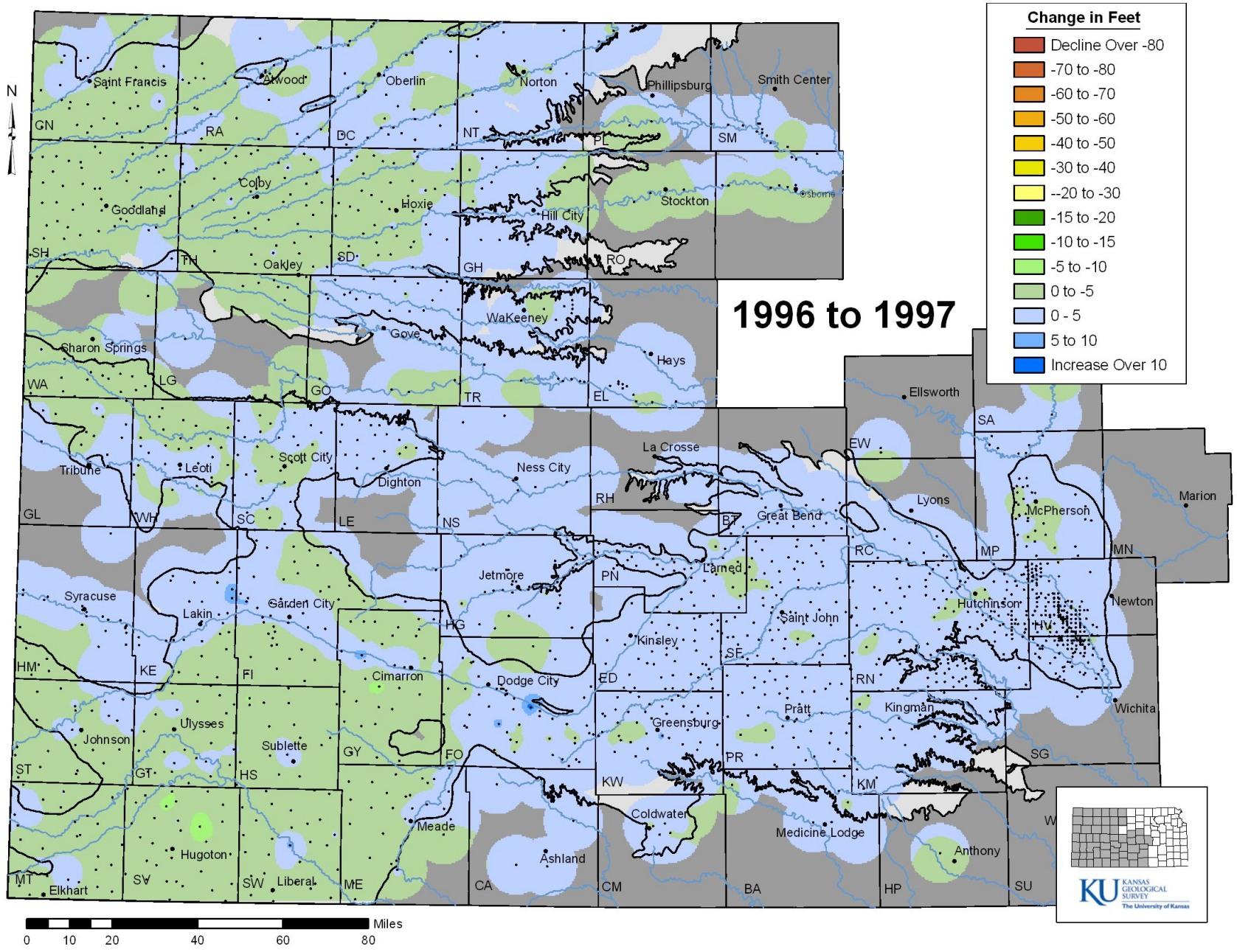
General Management Tools

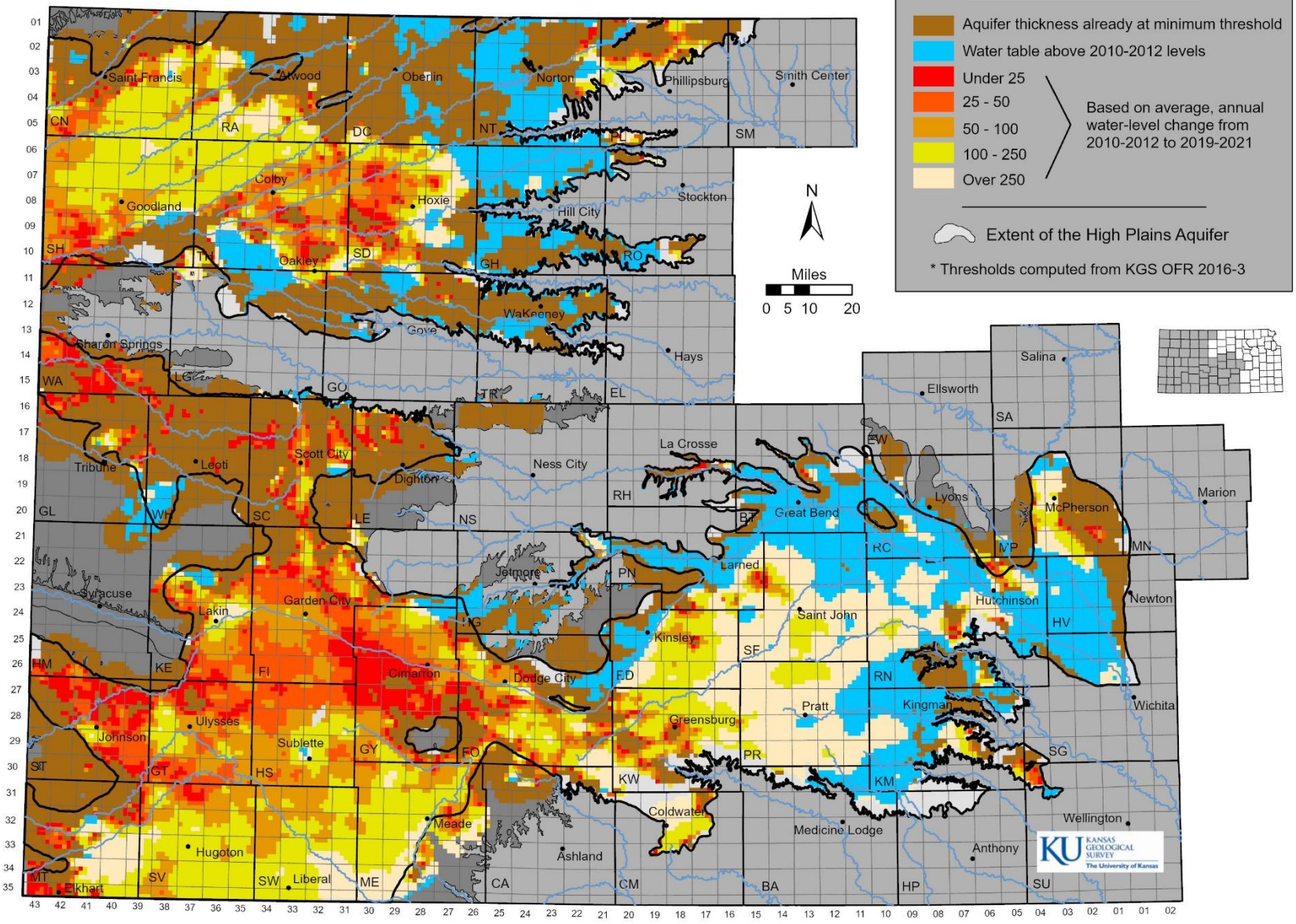
- Meters (K.S.A. 82a-706c)
- Mandatory Annual Water Use Reports (K.S.A. 82a-732)
- Civil Enforcement by suspension and fine for meters, water use reports, overpumping authorized quantity, etc. (K.S.A. 82a-737)
- Areas closed by order and regulations to new applications and safe yield requirements.

Points of Diversion - Development Over Time




1996 to 1997
Change in Feet
Decline Over -80
-70 to -80
-60 to -70
-50 to -60
-40 to -50
-30 to -40
--20 to -30
-15 to -20
-10 to -15
-5 to -10
0 to -5
0 - 5
5 to 10
Increase Over 10
N
Saint Francis
Atwood
Oberlin
Norton
Phillipsburg
Smith Center
Colby
Goodland
Hoxie
Hill City
Stockton
Osborne
Oakley
WaKeeney
Gove
Hays
Sharon Springs
Ellsworth
La Crosse
Tribune
Leoti
Scott City
Dighton
Ness City
Lyons
Great Bend
McPherson
Marion
Jetmore
Larned
Syracuse
Lakin
Garden City
Hutchinson
Newton
Saint John
Kinsley
Cimarron
Dodge City
Pratt
Kingman
Wichita
Greensburg
Johnson
Ulysses
Sublette
Coldwater
Medicine Lodge
Anthony
Meade
Hugoton
Ashland
Elkhart
Liberal
Miles
0
10
20
40
60
80
KU KANSAS GEOLOGICAL SURVEY The University of Kansas

Estimated Usable Lifetime for the Kansas High Plains Aquifer (based on groundwater trends from 2010-2012 to 2019-2021 and the minimum saturated thickness required to support well yields at 200 gpm under 90 day of pumping scenario with 200 gpm wells on 1/4 sections)



Groundwater Management Plans

- Intensive Groundwater Use Control Area (IGUCA)
  K.S.A. 82a-1036, *et seq*. (1978)

- Local Enhanced Management Area (LEMA)
  K.S.A. 82a-1041 (2012)

- Water Conservation Area (WCA)
  K.S.A 82a-745 (2015)

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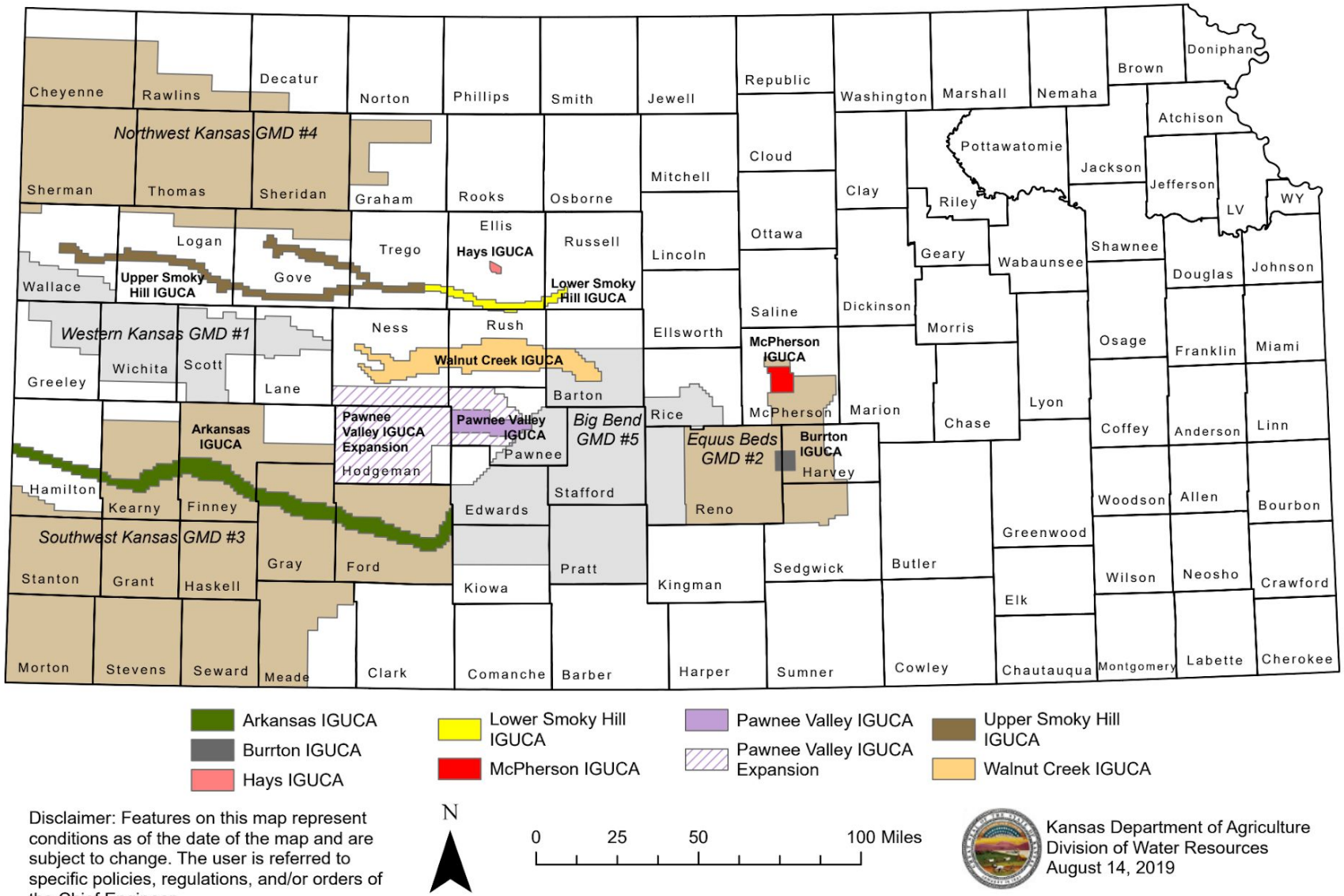
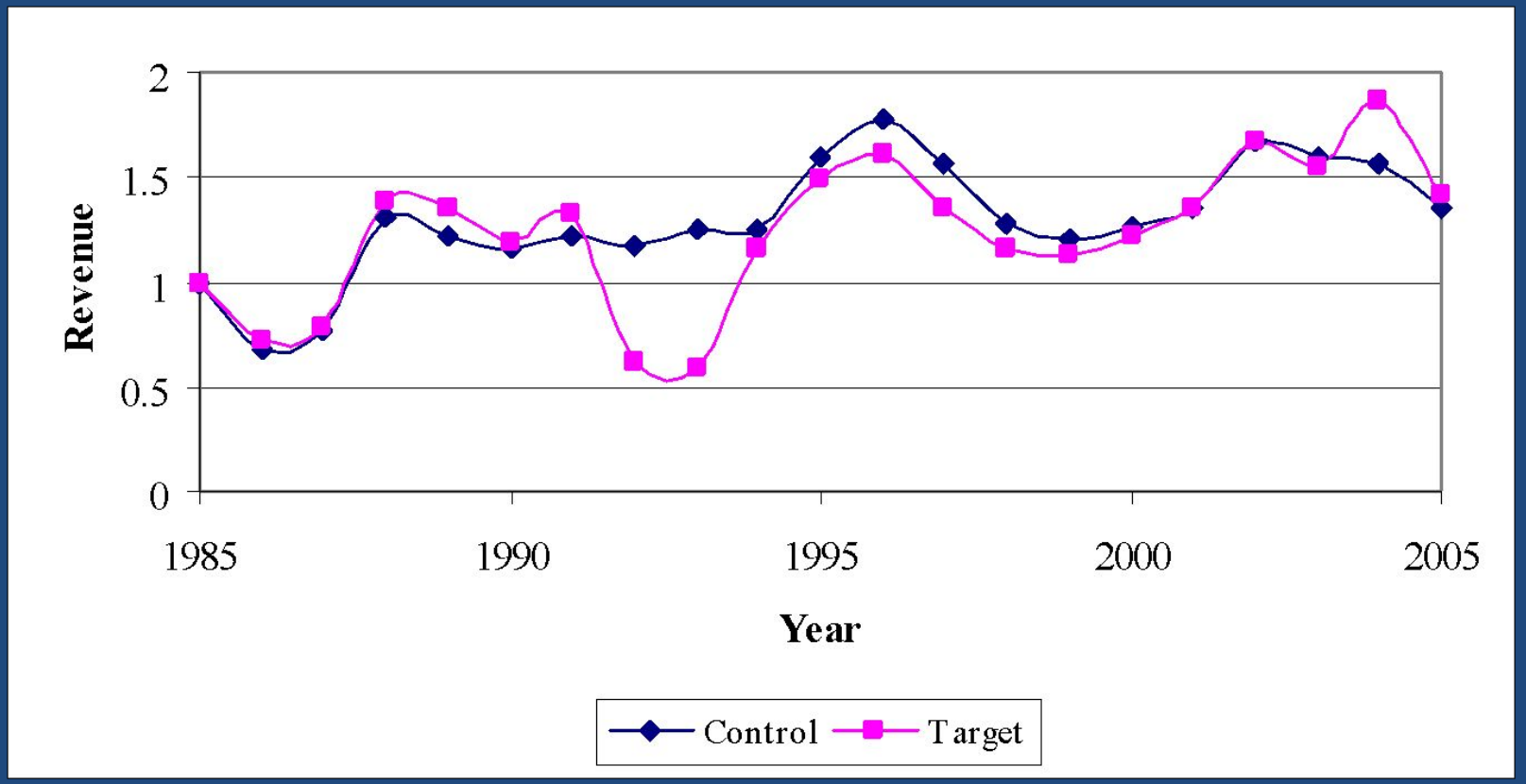


Disclaimer: Features on this map represent conditions as of the date of the map and are subject to change. The user is referred to specific policies, regulations, and/or orders of the Chief Engineer.

Wet Walnut Creek IGUCA Producer Revenue



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Sheridan 6 LEMA
Producer Revenue 2013 - 2017

Item	Observations	Water Use (in/ac)	Yield (bu/ac)	Cash Flow ($/ac)	Cash Flow ($/in)
Corn Weighted Average - Inside LEMA	20	10.3	218.0	$375	$36
Corn Weighted Average - Outside LEMA	11	13.4	220.6	$360	$27

- Cash Flow = Revenue less variable expenses less land rent

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Keys to Success

- Solid statutory foundation
- Accurate data
  - Water use
  - Water levels
  - Economic
- Local community leaders that understand problem and buy in to solution

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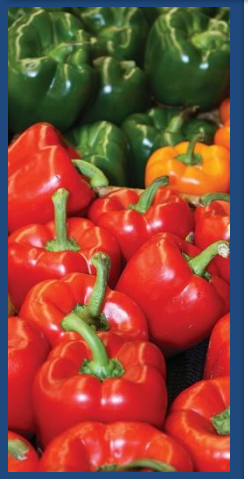

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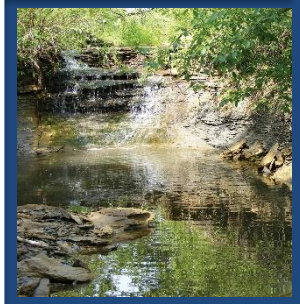

Questions?

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Kenneth.Titus@ks.gov