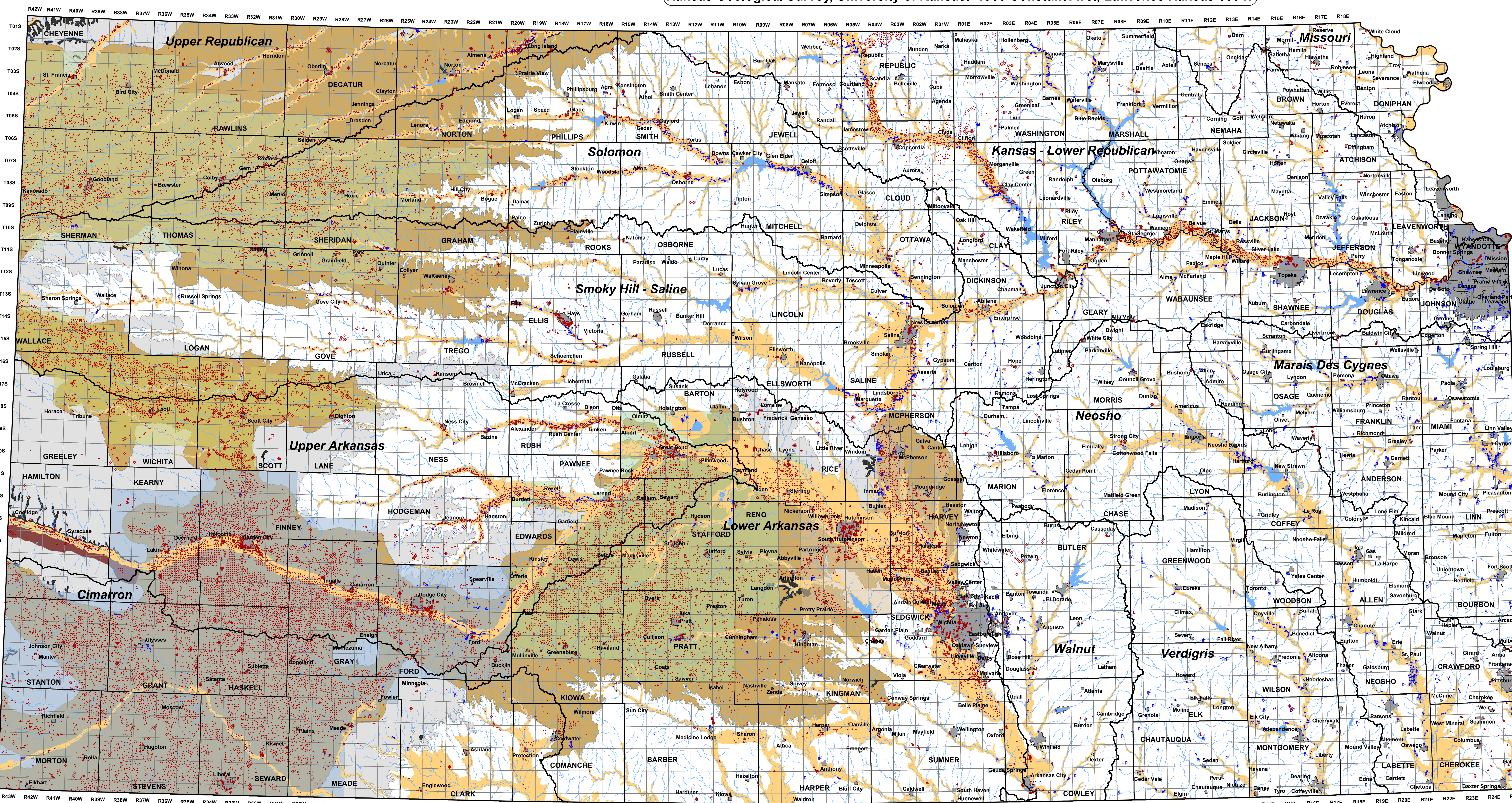


Water Right Development in Kansas

B.B. Wilson and D. Li

Kansas Geological Survey, University of Kansas, 1930 Constant Ave., Lawrence Kansas 66047



Water Rights

Use Made of Water

- ▼ Artificial Recharge
- + Contamination Remediation
- ⊘ Dewatering
- ⊕ Domestic
- ⊕ Fire Protection
- ⊕ Hydraulic Dredging
- ★ Industrial
- Irrigation
- ▲ Municipal
- ⊕ Recreation
- ⊕ Stockwater
- ⊕ Water Power
- ⊕ Thermal Exchange

Source of Water Supply

- Ground
- Surface

Hydrologic Features

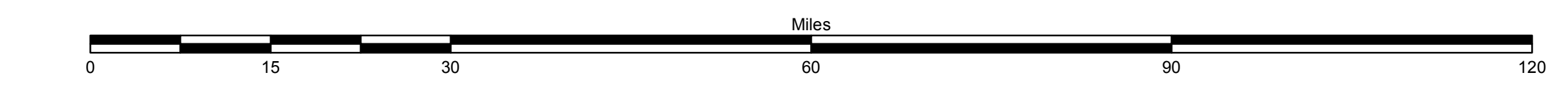
- High Plains Aquifer**
 - Some Saturated Thickness
 - Little Saturated Thickness
 - Arkansas River Alluvium
 - Outcrop
- Surface Water Systems**
 - River Basins
 - Rivers and Streams
 - Reservoirs and Lakes
 - Water Bearing Alluvial Deposits

Other Map Features

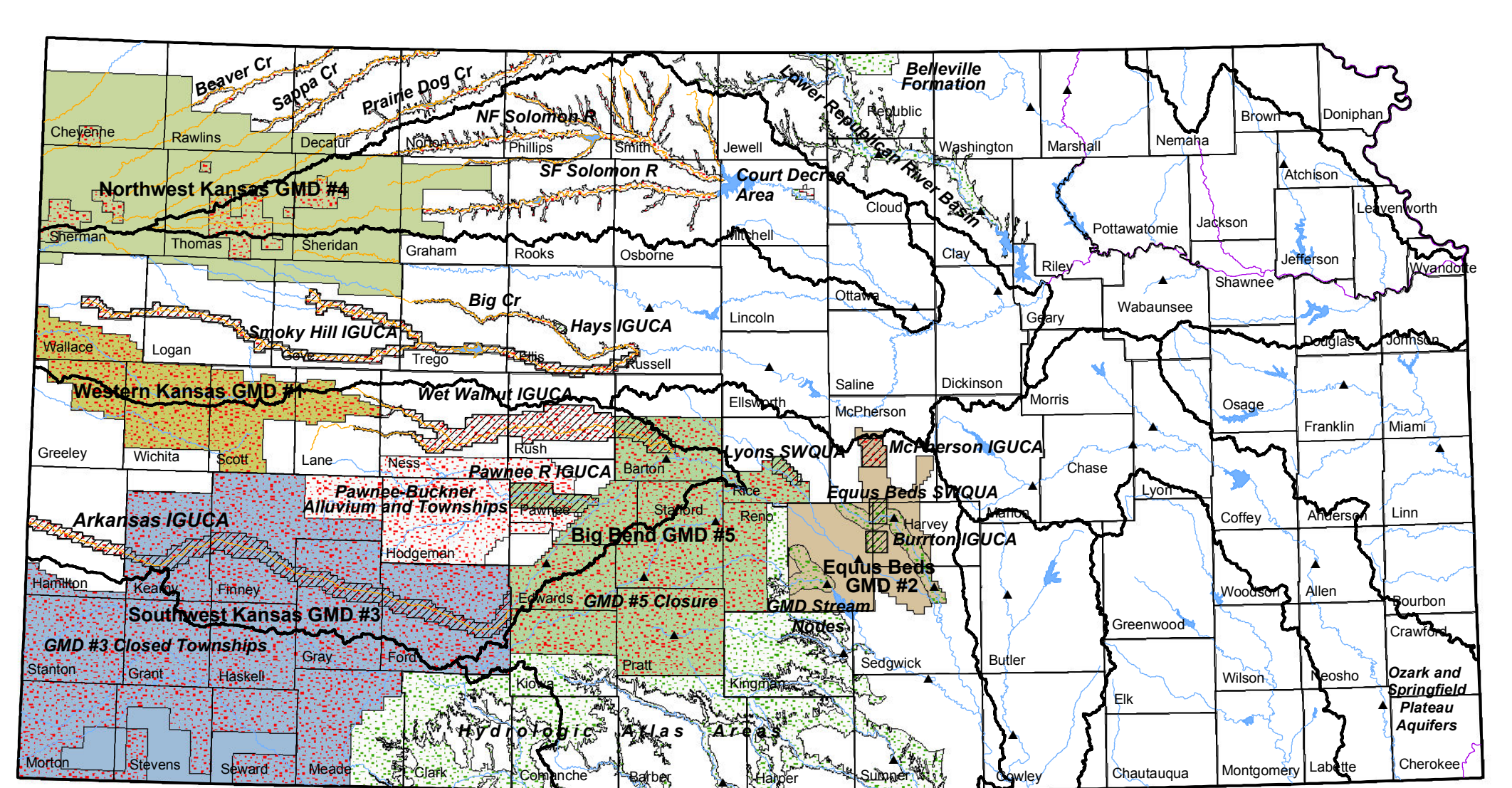
- Western Kansas GMD #1
- Equus Beds GMD #2
- Southwest Kansas GMD #3
- Northwest Kansas GMD #4
- Big Bend GMD #5
- PLSS Township Boundaries
- County Boundaries
- Cities and Towns

Kansas Geological Survey Open-File Report 2004-11
(modified to represent water right conditions as of 03/21/2012)

Water right information on this map represent conditions as of March 21, 2012 and was obtained from the Kansas Department of Agriculture, Division of Water Resources' Water Rights Information System database. The Kansas Geological Survey made a conscientious effort to ensure the accuracy of this map. However, the Kansas Geological Survey or the Kansas Department of Agriculture, Division of Water Resources do not guarantee this document to be completely free from errors or inaccuracies and disclaims any responsibility or liability for interpretations based on data used in the production of this document or decisions based thereon. This report is intended to make results of research available at the earliest possible date, but is not intended to constitute final or formal publication.

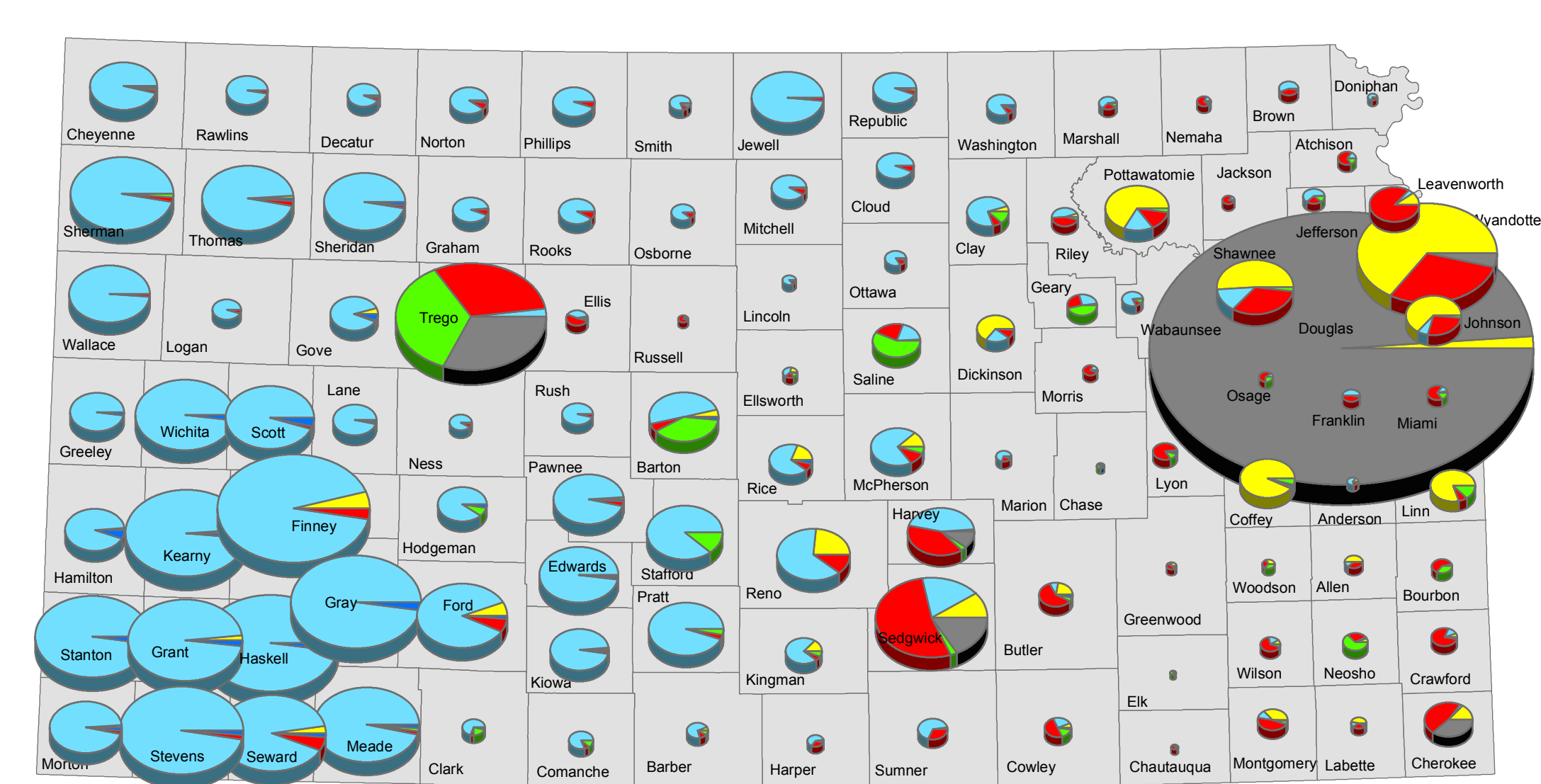


Special Water Appropriation Management Areas in Kansas



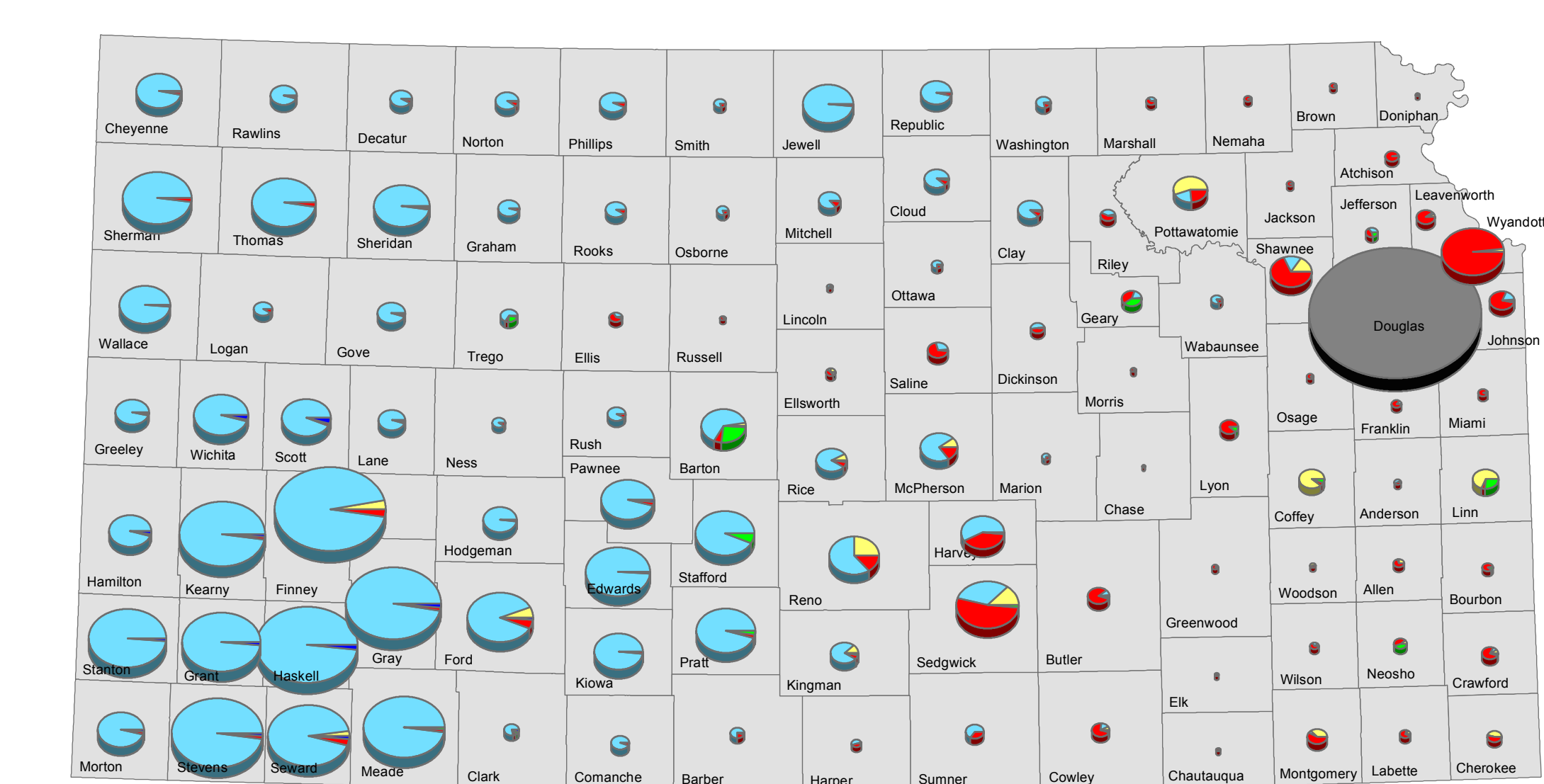
- Western Kansas GMD #1
- Equus Beds GMD #2
- Southwest Kansas GMD #3
- Northwest Kansas GMD #4
- Big Bend GMD #5
- ⊕ Closed Area, generally excluding temporary and other small uses.
- ⊕ Restricted Area, subject to special restrictions or regulation.
- ⊕ Intensive Groundwater Use Control Area and Special Water Quality Use Area
- ⊕ Closed Streams, generally excluding temporary and other small uses.
- ⊕ Restricted Streams, specific restrictions for streams and associated alluvium.
- ⊕ Streams open for appropriation
- ▲ Minimum Desirable Streamflow Gage

Total Appropriated Quantity, by County as of March 21, 2012



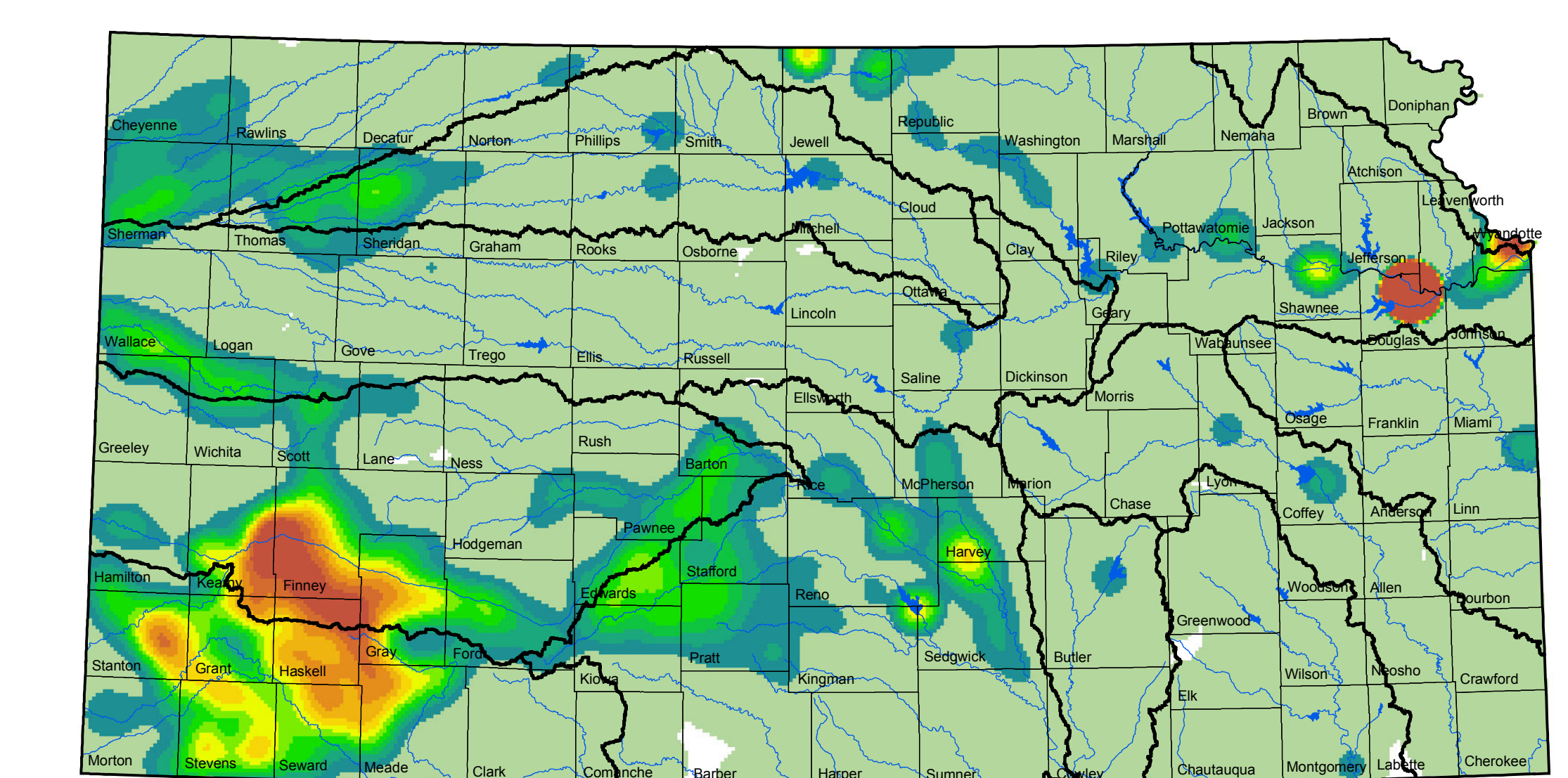
- Municipal
 - Industrial
 - Recreation
 - Stockwater
 - Other
- Finney 579,178 AF
- Cheyenne 112,272 AF
- Seward 288,068 AF

Average Reported Use, by County 1990 to 2010



- Municipal
 - Industrial
 - Recreation
 - Stockwater
 - Other
- Finney 325,469 AF
- Cheyenne 53,974 AF
- Seward 175,202 AF

Density Distribution of Reported Use 1990 to 2010



- Average Reported Acre-Feet per Square Mile Based on a 10 mile search radius
- Under 50
 - 100
 - 200
 - 300
 - 400
 - 500
 - Over 550