Throughout the Vision stakeholder outreach process the Vision Team identified many Kansas municipalities, industries and individuals who have previously or are currently taking actions such as implementing water conservation practices and policies or adopting water efficient technologies to ensure their future water supply reliability. These Kansans are living the strategies included in this Vision today. Below are just a few examples of "Be the Vision" Kansas communities, companies and individuals.

OWENS CORNING

Owens Corning, the Fiberglas manufacturing processor in Kansas City, is one example of an industry that has successfully implemented water conservation practices. Owens Corning has been a water intensive process over the recent decades. In addition to significant city water consumption, well water was readily and inexpensively available and was used for many things including non-contact cooling of chemical storage tanks. Since well water was considered cheap and effective it was utilized for a multitude of uses around the facility for cooling, washing and for "insurance" in a few applications.

The Kansas City plant water reduction journey began about a decade ago when some very rough data was used for a study. Owens Corning then began setting some targets for water reduction across the company as it focused on reducing its "footprint."

The first large water reduction project focused on eliminating the non-contact cooling of chemical tanks. A chiller system was installed as a tank cooling function and as a result well water usage was reduced by nearly one million gallons per day. In 2011 they also incorporated two additional water focused projects which dropped the well water consumption fairly dramatically. As a result of these three steps, the plant water usage significantly declined from approximately one million gallons per day to an approximate 225,000 gallon per day usage rate.

Following the changes, the plant also decided to establish a small unofficial "water team" to focus on a very detailed mapping of water consumption for both city and well water usage. The first task was to understand where water loss was occurring to address each specified area. The largest usage was in the area of well water and they installed additional meters for more daily data collection from existing meters to create a detailed water map of the plant. It was quickly determined that closed loop water systems could easily be a hidden culprit of some of the large water usage issues. After addressing the closed loop systems, more significant water reductions were made in 2011. Owens Corning ended the year with a daily usage of approximately 60,000 gallons of well water per day.

In 2012, through more focused efforts, they again cut this number in half. Their data collection showed they were doing well overall except for some upset conditions that could occur on a weekend or over a period of time when it would go unnoticed.

In 2013, in addition to spot projects that reduced water consumption, they also installed a system of water meters on the well pumps, city water meters, sewer outfall meters and at a number of "key" users throughout the plant. All of these meters have been connected through a central computer along with alarm limits. When a series of alarms hit, it will direct the appropriate people to the area to address the item. This system is now being tested. Any alarms will trigger a system of email alerts to a team as well as to the appropriate people on duty in the plant at that time. This alert system will close the loop on

these upset conditions and help eliminate instances that have occurred and resulted in large scale water waste in the past.

All of these dedicated conservation efforts have led to Owens Corning being recognized within the local, state and national communities for water reduction, as well as other environmentally focused projects. An additional bonus to the conservation efforts has led to large reductions in both the water and sewer costs to the facility.

FORT RILEY

In April of 2011, Fort Riley received the honor of being selected by the Army as one of eight Net Zero Water Pilot installations. The Net Zero Pilot installations are serving as test beds for the Army to identify lessons learned and best practices to reduce water consumption that can be implemented across all Army installations. Net Zero installations have ambitious goals including reducing water use intensity by 50 percent by 2020.

Fort Riley, in partnership with faculty and research students from Kansas State University (K- State), has been developing innovative projects with the Environmental Protection Agency's Office of Research and Development (ORD) to reduce water consumption. One project will use a Membrane Bio-Reactor to "mine" sewer water and treat it for reuse at the Installation Vehicle Wash Facility. While the reuse project may not represent a significant quantity of water compared to the total amount of water consumed at Fort Riley, the project may open other opportunities for reuse at the Fort and may serve as a template for portable facilities for treated reuse in deployment zones such as Afghanistan.

In another project, the Fort is implementing a community based social marketing campaign to encourage water conservation by targeting specific water-using behaviors. A component of the campaign will include a post-wide survey developed by students in the K-State Sociology Department to assess knowledge and attitudes on water conservation.

Additional Net Zero activities employed at Fort Riley include installation of low-flow showerheads, toilets and water faucets as well as conversion from traditional turf grasses to drought resistant Zoysia varieties on the Fort's golf course fairways.

In 2013, Kansas Governor Sam Brownback issued a call to action to his administration to develop a 50-Year Vision for the Future of Water in Kansas. Recognizing that water and the Kansas economy are directly linked, the Vision will identify strategies needed to ensure a reliable future water supply to support a growing Kansas population and economy. The Department of Defense (DoD) is one of the largest employers in Kansas. A solid state and federal partnership is essential to ensure Fort Riley and the other Kansas' DoD installations have the long-term water supply necessary to be successful in Kansas.

CITY OF HAYS

Many communities in Kansas have successfully reduced water consumption through systems upgrades and investment in water conservation programs. The City of Hays is one example of a Kansas municipality that is successfully implementing a variety of water conservation practices and policies.

In 1991, during a moderate drought, the City of Hays ran out of water. Existing sources could not keep up with daily demand. Short-term measures such as higher rates and watering restrictions were put in place. At this time, a desperate search for additional supply had begun. After a few years of searching, it became clear to the city additional water sources were a great distance from Hays and very expensive to develop.

After discovering that additional supply would not be easy, the City of Hays began examining its water usage and chose to invest in conservation programs. More than $275,000 was spent incentivizing the purchase of low-flow toilets and over 7,000 shower heads were given away to water customers. The city also spent in excess of $140,000 to incentivize the purchase of high- efficiency washing machines. Regulations were put in place prohibiting outdoor watering during the heat of the day, when a good portion is lost to evaporation, as well as prohibiting water runoff from a property due to improper irrigation. Significant investments were made in effluent water reuse as well. Currently, Hays irrigates several baseball, softball and soccer fields with effluent water as well as the Fort Hays Municipal Golf Course and Bickle-Schmidt Sports Complex. The city decided because of economic development, large water users would not be sought out.

The results of these efforts and investments were striking. Hays now uses less water than they did in the 1970s. In 2013, Hays used 2,200 acre feet of water, down from a peak of 3,600 acre feet in 1993. However, city commissioners and staff were not content to ride the wave of past successes. In 2010, city staff was tasked with taking Hays' water conservation efforts to the next level. To do this, Hays had to look west to cities in the desert southwest and arid mountain west for examples

The successful showerhead replacement program was overhauled and reintroduced. Comprehensive toilet and urinal replacement programs were rolled out and incentive programs were implemented to encourage property owners to replace cool-season turf with drought- tolerant landscaping. The city created several demonstration gardens to show residents drought-tolerant landscaping not only saves water but can also be aesthetically pleasing.

In early 2014, the Hays City Commission adopted the Green Building Code which mandates the use of water-efficient fixtures and best practices for all new construction as well as significant remodels. The Green Building Code also requires smart irrigation controllers and efficiently- designed landscape systems upon installation. The city commission also adopted a comprehensive overhaul of its landscaping regulations. Limits were put in place on the amount of turf and overall area that can be irrigated and mandatory xeriscaping is required.

Hays/Ellis County is the only significant population center in Kansas that has inadequate local water supply. They know they must keep an eye to the future to ensure adequate water is available.

MCCARTY FAMILY FARMS, LLC

Kansas is home to 29 large-scale dairies. McCarty Family Farms, LLC is one example of a Kansas dairy focusing on the role of water conservation in their operations. Almost 15 years ago McCarty Family Farms moved from Pennsylvania to Rexford, KS, to allow their family to fulfill their dairy farming dream. Today, they have three dairy farms in western Kansas. While much of their philosophies regarding their commitment to their cows, people and the land have stayed the same since their family began milking in 1914, they have made many changes to take better care of their cows and natural resources.

Transitioning from a farm milking 150 cows in a water abundant area to a herd of over 7,000 head in a water scarce area required the McCarty Family to adapt their management style to accommodate the

climate of western Kansas. Maximizing cow comfort and productivity while minimizing water use was a challenge the McCarty Family was not accustomed to facing but realized it was one that could be overcome with the right mindset, practices and partnerships.

Water supply issues in Kansas have impacted the thought process of the McCarty family in many ways. First and foremost, conservation of water as well as the maximization of productivity of each gallon pumped is a paramount thought on all of the McCarty family's operations. This has led to utilizing less water intensive crops (i.e. sorghum) to feed their herds, reexamining how they do business (i.e. condensing milk) to even where they focus their growth.

In 2010 they began their partnership with the Dannon Company and the McCarty family began construction of a condensed milk processing plant at the Rexford Dairy site. While it took eight months to build and a significant financial investment, the McCarty Family found it has been the right decision.

The decision to build the state-of-the-art milk processing plant was based on a multitude of benefits not only for them but also the Dannon Company, consumer and other stakeholders. First, the McCarty-Dannon relationship, with the processing plant as its keystone, served as a means of creating stable prices for both parties in an otherwise volatile market. This coupled with additional benefits such as reduced environmental impact, increased traceability, single source product streams and increased consumer connection for the McCarty Family led to a very unique and innovative business relationship.

The plant has allowed the extraction of more than 14 million gallons of water from the milk each year and more than 39,000 gallons every day. This has led the McCarty Family to not only operate the milk processing plant but increase the herd size on site by 500 head and use less water than before. The extracted water is reused for animal and crop care, including cow cleaning and irrigation, helping move the dairy closer to becoming a water-neutral operation. Water is even removed from the milk before it is shipped to Dannon, ensuring all water stays in western Kansas and at the dairy. Because the milk is condensed, there has also been a 75 percent reduction in the number of trucks and amount of fuel required to haul milk from the farm.

McCarty Family Farms have made it their motto to live to improve their environment, the communities they live in as well as be as progressive as possible when it comes to conserving their water resources. As a result of the management practices, their farms earned an environmental review certification by Validus and were named the 2013 Innovative Dairy Farmer of the Year. They know their business survival is dependent on the communities they live in and often say when their communities grow and prosper, they do as well. Most recently they were one of three dairies in the United States to win the U.S. Dairy Sustainability Award by the Innovation Center for U.S. Dairy.

NATIONAL COOPERATIVE REFINERY ASSOCIATION (NCRA) AND CITY OF MCPHERSON

Cooperative water supply and conservation planning among a municipality and their local businesses can result in mutual long term benefits to an area's economy and the natural resources. The benefits of this type of cooperative planning are illustrated through the National Cooperative Refinery Association (NCRA) and the City of McPherson.

For the past several years, NCRA and the city of McPherson have been studying their local water challenges. The challenges the refinery has been encountering center on the quality and quantity of water

available to them. The city of McPherson and NCRA use ground water from the Equus Beds aquifer which is the principal source of fresh and usable water in south central Kansas. The aquifer underlies portions of a four-county area. Both entities have noticed the aquifer located within the boundaries of the McPherson Intensive Groundwater Use Control Area (IGUCA) has been declining on average approximately one foot annually for the last 10 years. The quality of water has declined due to a plume, contributing elevated levels of calcium and chloride, in the immediate area. NCRA utilizes its water to provide steam and cooling water for its process units so the contaminants must be removed prior to use in their systems.

In order to provide a sustainable water source for its refinery, NCRA first reviewed alternate sources of water. Due to its location, the only sources of water available are those from the aquifer. Any surface water available is at least 30 miles away which was determined unfeasible to transport. Another source that was investigated was secondary effluent water from the McPherson wastewater treatment facility. This source was found to be a viable and acceptable source. An agreement was reached with the city of McPherson to provide approximately 700 gallon per minute of reclaimed wastewater to NCRA. Infrastructure for the collection and transport of the water to the refinery had to be constructed. This installation is nearing completion and is expected to be functional by September 2014.

Another water source that was investigated was the east chloride water. This option is water from the aquifer that is currently part of a remediation project to "clean up" a chloride plume in the aquifer. Studies have shown the primary source of waters high in chloride from the contamination plume is oil brine from an oil field discovered in the 1930s. Elevated levels of chlorides and calcium from the contamination plume are not compatible with the refinery's current treatment technology. A new water treatment facility is now being built and it has been estimated that 700 gallon per minute of this water will be utilized in the future once constructed.

The final piece that needed to be addressed for NCRA was the water quality of the current water sources and the new alternate sources. To address the quality demands of the produced water, NCRA designed a treatment process to meet these stringent requirements. The process has been engineered and is currently being constructed. The estimated completion and startup of the facility is spring 2015. The water treatment facility will consist of microfiltration, nanofiltration and reverse osmosis technology. The process was designed to be efficient and will include a "backwash" reuse system that will reuse some water within the newly designed water treatment facility.

Once completed, NCRA is expecting to reduce water usage from the aquifer by about 1400 gallons per minute or about two million gallons per day. One of the new water sources will be the east chloride "plume" water, so remediation of the aquifer water will still be taking place but now as a result of implementing technology, the water will be used instead of wasted.

The city of McPherson also has similar sentiments regarding a sustainable water source for its customers. In addition to selling reclaimed wastewater to the refinery, McPherson has also worked to reduce the local aquifer demand. In the early 1990s the Board of Public Utilities purchased four irrigated farm quarters in the immediate vicinity of the city's well field and placed the water rights in the Division of Water Resources Water Right Conservation Plan. In 1994 an additional quarter was purchased. Recently the board decided to remove the irrigation equipment because of unsustainable pumping rates. McPherson has found these steps have reduced the local aquifer demand by approximately 500 acre feet per year.

McPherson and NCRA believe the new plant and water sources will provide a long term source of reliable water while being a good steward to the environment. The construction of the new water treatment plant and facilities will cost NCRA over $60 million, but it has been deemed necessary and appropriate in order to provide the McPherson community, refinery and surrounding area with a sustainable water source.

SHERIDAN-6 LOCAL ENHANCED MANAGEMENT AREA (LEMA)

A guiding principle of the Vision for the Future of Water Supply in Kansas is locally driven solutions have the highest opportunity for long term success. The Sheridan-6 Local Enhanced Management Area (LEMA) is on example of a success locally driven water conservation plan.

In 2001 the *Kansas Water Plan* called for water management practices that would extend and conserve the life of the Ogallala Aquifer which encompasses areas of 10 northwest counties, Farmers and area residents of Groundwater Management District No. 4 knew something must be done to address the declines in the ground water sources if they wanted to continue to have viable communities and industry. The GMD#4 board chose to implement recommendations determined by two state-appointed committees to update their Revised Management Plan which led to establishing the district's High Priority Areas (HPAs).

Sheridan-6 (SD-6), 99 square miles in Sheridan and Thomas counties, was one of the determined HPAs. Initial conversations and community meetings in SD-6 began in November of 2008. It was determined there was an overwhelming desire from attendees to preserve the natural resource of water for economic sustainability in the SD-6 HPA and provide an opportunity for continued sustainability.

Changing a mindset can seem almost impossible sometimes, but the GMD#4 Board of Directors and staff worked extensively with community members explaining the severity of the water declines in their area. The community was urged to be a part of their own solution, for their own benefit and that of the future generations. Through numerous meetings and discussions over the next four years, the SD-6 LEMA proposal was created by the locals.

The SD-6 LEMA requires that all water rights therein (non-domestic) entered into a five-year plan to use nearly 20 percent less water to slow Ogallala Aquifer declines. It allows an annual average of 11 inches/ acre or 55 inches over a five year period giving producers the flexibility on when to use their crop water.

In April 2012, the LEMA Bill (SB 310) was passed into law and the SD-6 Enhanced Management Proposal was submitted in July 2012. The GMD #4 then received approval notice from Kansas Department of Agriculture-Division of Water Resources in August and was followed by two public hearings and an independent hearing officer's report to the Chief Engineer October 2012. The Final LEMA Order of Designation was signed on April 17, 2013.

Now after having a full year of data, GMD#4 and SD-6 is proud to share the first year of the LEMA was successful. The annual average irrigation water applied was 10.29 inches/acre or 20,775 acre feet for irrigation and other uses; below the use goal of 22,800 acre feet. Water level declines as measured in January of 2014 were at 0.47 feet, lower than the previous five years, when annual declines in the LEMA area ranged from 0.96 to 2.00 feet.

While some producers applied up to 18 inches/acre due to the drought, most worked to adjust to less irrigation with increased water management, shifts in crops, planting density or acres. Rains in June were timely, helping farmers to have reportedly near normal production levels. Insurance for limited irrigated crops was available through USDA Risk Management Agency, a first time for this option.

This is the first locally developed and legally binding conservation plan made in the Ogallala High Plains Aquifer with many hopes it will be replicated across the region and even in other states. This leading example has been featured in several publications across the nation as well. The LEMA has sparked a tremendous increase in dialogue for others, emphasizing the importance of local problem solving, involvement and education.

SUPREME FEEDERS

While stock water use represents less than one percent of the total statewide reported water use, water conservation at a feedyard plays a role in a region's water supply conditions and can result in efficiencies and cost savings at the operation. An example of Kansas feeder successfully implementing water conservation activities is Supreme Feeders.

A couple years ago Supreme Feeders, Kismet, KS, received a letter from the Kansas Department of Agriculture-Division of Water Resources saying they had over-used their annual water allocation and needed to be in compliance by the next year. Supreme Feeders immediately wanted to begin cutting back on water usage as much as possible throughout the entire yard.

After evaluating areas of usage, they looked to easier solutions they could address first. Their first step was to look at their washing system. They chose to wash the equipment and roll stock fewer times per month while still maintaining cleanliness. Second, while a safe and healthy environment is key to the feedlot, they determined they could wash the hospital and processing barns fewer times per month in order to conserve, while still maintaining a safe standard. Third, they began to wash their water tanks biweekly, whereas, they had been washing the tanks every week. Once the easier conservation options had been implemented, the feedlot began researching other alternatives for more efficient water management and conservation practices they could execute.

The research presented staff with examples from JBS Five Rivers Cattle Feeding, LLS, a Colorado feedyard. JBS uses a water filtration system that filters the over flow from their water tanks to conserve water. Supreme Feeders contacted JBS about the filtration system and was invited to come examine the system and learn how it could fit their specific needs.

Supreme Feeders chose to replicate the same system at their feedyard. They chose to run a six inch underground drain line for each section of pens to send all the over flow water to a collection point. After collected, the reclaimed water is pumped to the treatment building to a set of filters and a UV light which clears the water of any particles and pathogens it may contain. This filtered process results in clean water, free of harmful bacteria and safe for the cattle to drink and reuse throughout the feedyard.

The decision to implement the system meant Supreme Feeders didn't have to reduce the feedyard capacity approximately 68,000 head. They have found it to be a good experience and encourage other feedyards to consider implementing this system in their own operations. In November of 2013 they invited several feedlots, the Kansas Livestock Association and other entities to a field day to feature the

system and what they had learned regarding their water management practices. They shared with attendees the cost to treat the water was minimal in comparison to hauling water or decreasing the number of cattle to feed.

The reclamation system has been running for more than a year now and the recycled water accounts for approximately 20 percent of the feed yard's total usage. Supreme has found they are using less than their appropriated amount by about 200 acre-feet. Supreme Feeders has saved more than 90,000,000 gallons of water since implemented and has found they are now pumping 20 percent less water from their water wells. This has proved to be a great example of a future conservation measure that didn't mean an inventory reduction for the feedyard.

FIRSTWATER AG, INC

Water where you need it is a concept entrepreneurs in Kansas such as FirstWater Ag make a reality for producers in agricultural water use and crop production environments. With knowledge and experience in systems for water conservation and efficiency on irrigation machines, FirstWater Ag was formed in Atwood, KS in 2013.

The customized zone control irrigation systems at FirstWater Ag gives producers greater control and precision in the application of water by creating individually controlled watering zones and times along the length of an irrigation machine. This allows producers to treat variable parts of the field with different amounts of water. The FirstWater Ag zone control system dates back to commercialization in 2001 when it was first used on the market and has been a pioneering leader in this technology. The system can be retrofit onto virtually any brand or any age of center pivot or lateral irrigation machine. With past systems installed in many states more precise control of irrigation water can benefit many different geographies and production environments.

FirstWater Ag customized zone control irrigation system can address many factors for producers such as topographic variability, overlapping pivots, chemigation and fertigation applications, waste water or livestock effluent application through irrigation, different soil types and capacities, water runoff, bogging down or getting stuck in wheel tracks and simply avoiding water, chemicals or fertilizers in ponds, grass, roads, creeks or other non-crop areas.

The systems are built around a controller that is installed at the pivot or lateral. The controller can tie into the speed of the machine as well as the control of sprinkler zones that are grouped together. In settings where zones are desired, control valves are placed on each sprinkler point along the span with multiple valves/sprinklers controlled together in a zone. Up to 48 zones can be installed along the length of the space and with a GPS signal, the controller can change the action of those every 1 degree of change in the machine angle. This creates potential for more than 17,000 individually defined water areas in a full center pivot field.

University of Georgia research has shown water savings of 8-20 percent annually all while producing equal or better crop yields and reducing pumping costs. A FirstWater Ag system in a field during the winter of 2013 is projected to cut irrigation water use by 25% and save an estimated 40 million gallons per year in just one field.

Producers, crop consultants and other trusted agronomic advisors have the tools and freedom to define the watering prescriptions for their specific fields having the best knowledge of those circumstances. In addition to control of applied irrigation water, FirstWater Ag is bringing forward a multi-probe soil moisture sensing system that will create significant synergy in water management approaches allowing growers to not only see which parts of their field may be wet or dry, but then to verify the effect of the watering prescriptions they apply.

FirstWater Ag places a high value on relationships with customers and partners in finding ways to work together in managing water more efficiently. Tools and strategies will continue to be developed that meet the needs of irrigated producers as well as steward the Ogallala-High Plains aquifer and all other water resources.

WENSTROM FARMS

Wenstrom Farms is one of many examples in Kansas of how the adoption of irrigation technology combined with land management can results in significant water savings. Richard and Jane Wentsrom's farm sits on the Great Bend Prairie Aquifer near Kinsley, KS. Raising irrigated corn and soybeans with some alfalfa and small amount of wheat over the limited water resource, they know the extreme importance of irrigation scheduling.

As far back as the 1970s, Richard began gathering data and monitoring water use. He started implementing computer software programs starting in 1980, before many farmers even had computers. Richard was known as one of the first large-scale irrigators who used soil-based irrigation scheduling techniques but was also an early adopter of climatic- or Evapotranspiration (ET)- based irrigation scheduling.

He knew that irrigation scheduling is one of the keys to saving water and more than 20 years ago, began using a computerized irrigation scheduling system with 24 center pivots on his 4200 acre farm. Wenstrom soon realized significant savings as the system he used took into account temperature, humidity, wind, rainfall and other climate data to determine when and how much water should be applied at any given time. The system also enabled him to play out various scenarios for the center pivot to ensure highest efficiency.

He found built-in flexibility in the program which helped him to see the value in identifying the correct speed for the pivots to help be most efficient; a critical piece that continues to set his irrigation scheduling system apart from others, even contemporary systems.

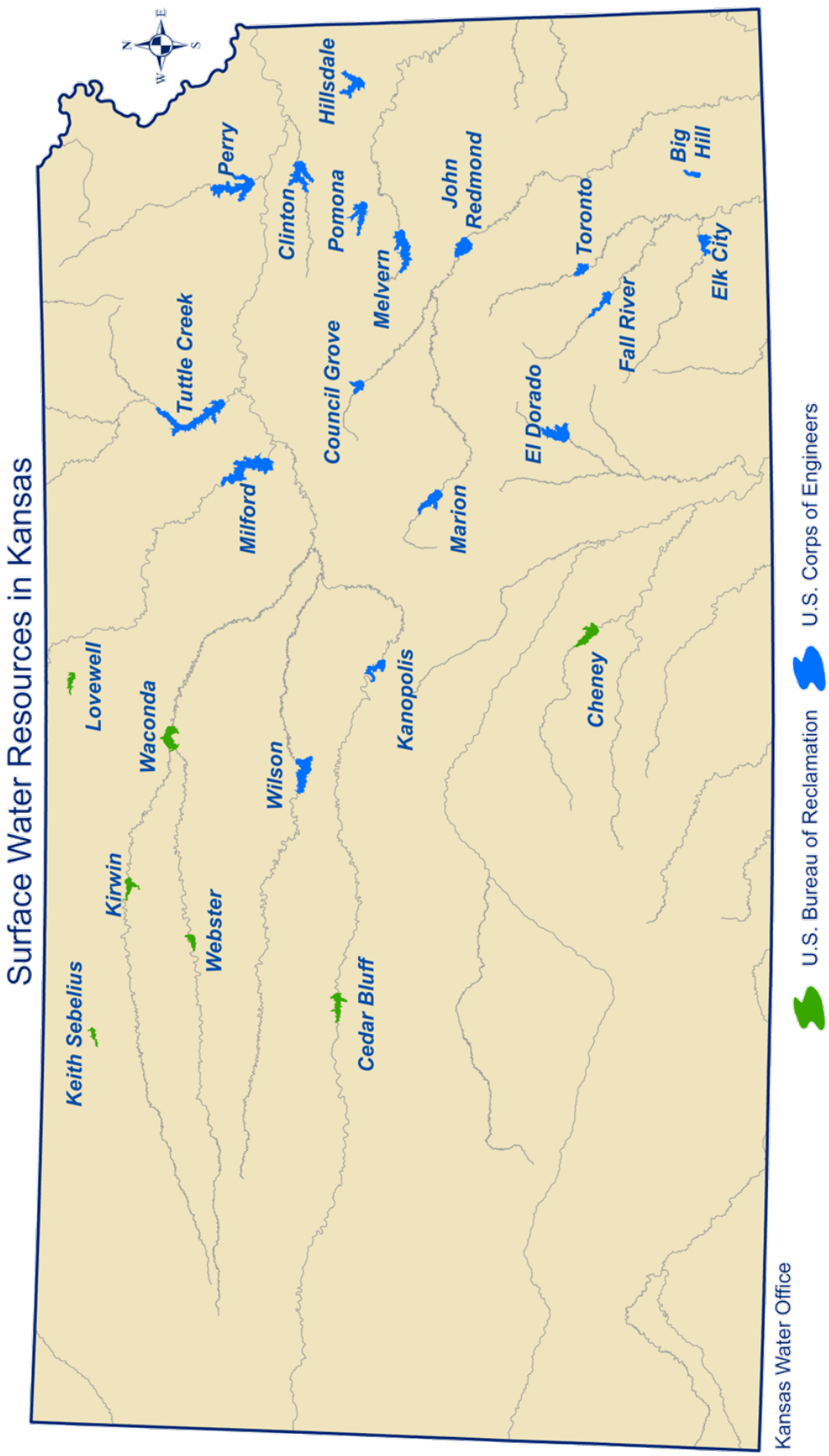
He promotes irrigation scheduling saves water, energy, and money with estimates of up to 35 percent savings in water and energy. Wenstrom estimated that his system saved between 20- 30 acre feet of water per pivot compared to irrigation regimes that didn't use scheduling in the 1980s. Fuel savings for the 24 center pivots were in the range of 500-600 million cubic feet of natural gas per year.

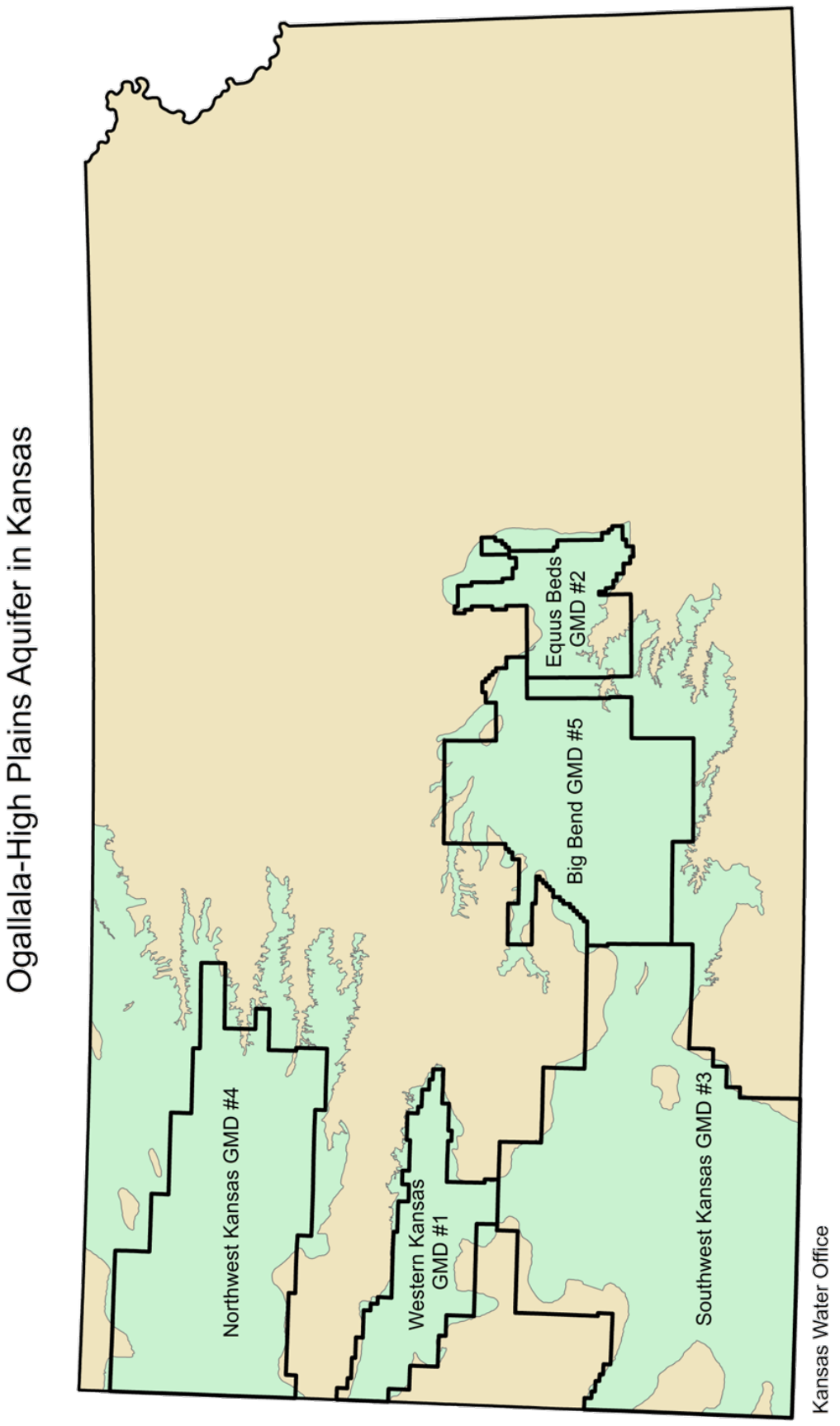
The examples set at Wenstrom Farms has led to him being board president of The Water Protection Association of Central Kansas (Water PACK), an organization with members consisting of ag producers and related businesses from six south-central counties who serve as a proactive voice for irrigated agriculture in the area. Richard is also one of the producers to participate and conserve water in the Central Kansas Water Bank. Recently Wenstrom Farms was named a model innovator for the Climate+Energy Project.

Richard has seen different techniques work for different people. For farmers who irrigate, they do so with the intention of producing high yields. He knows his irrigation scheduling impacted yields but also reflects the values of resource conservation and good stewardship which runs deep in Kansas.

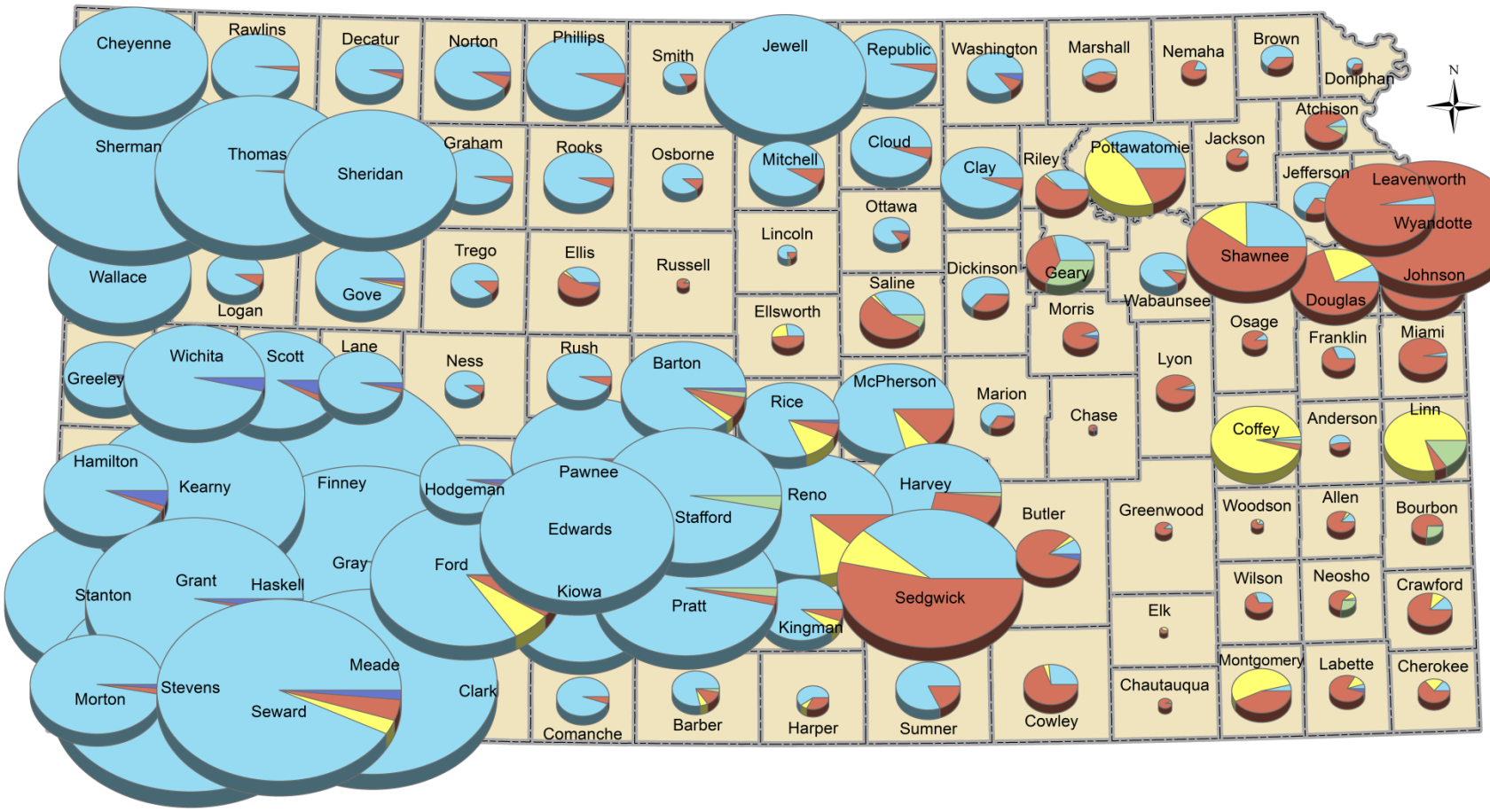
CONDITION ATLAS

Following are several maps and figures that reflect water use, sedimentation and storage capacity in the state's federal reservoirs and the estimated usable lifetime and storage in the Ogallala-High Plains Aquifer in Kansas. An additional on-line tool will be developed to allow Kansas citizens to review information specific to their region.


Surface Water Resources in Kansas
Perry
Hillsdale
Clinton
Pomona
John Redmond
Big Hill
Toronto
Elk City
Tuttle Creek
Council Grove
Melvern
Fall River
El Dorado
Milford
Marion
Lovewell
Waconda
Wilson
Kanopolis
Cheney
Kirwin
Webster
Keith Sebelius
Cedar Bluff
U.S. Bureau of Reclamation
U.S. Corps of Engineers
Kansas Water Office


Ogallala-High Plains Aquifer in Kansas
Northwest Kansas GMD #4
Western Kansas GMD #1
Big Bend GMD #5
Equus Beds GMD #2
Southwest Kansas GMD #3
Kansas Water Office

2012 Water Use By County



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

40 20 0 40 Miles

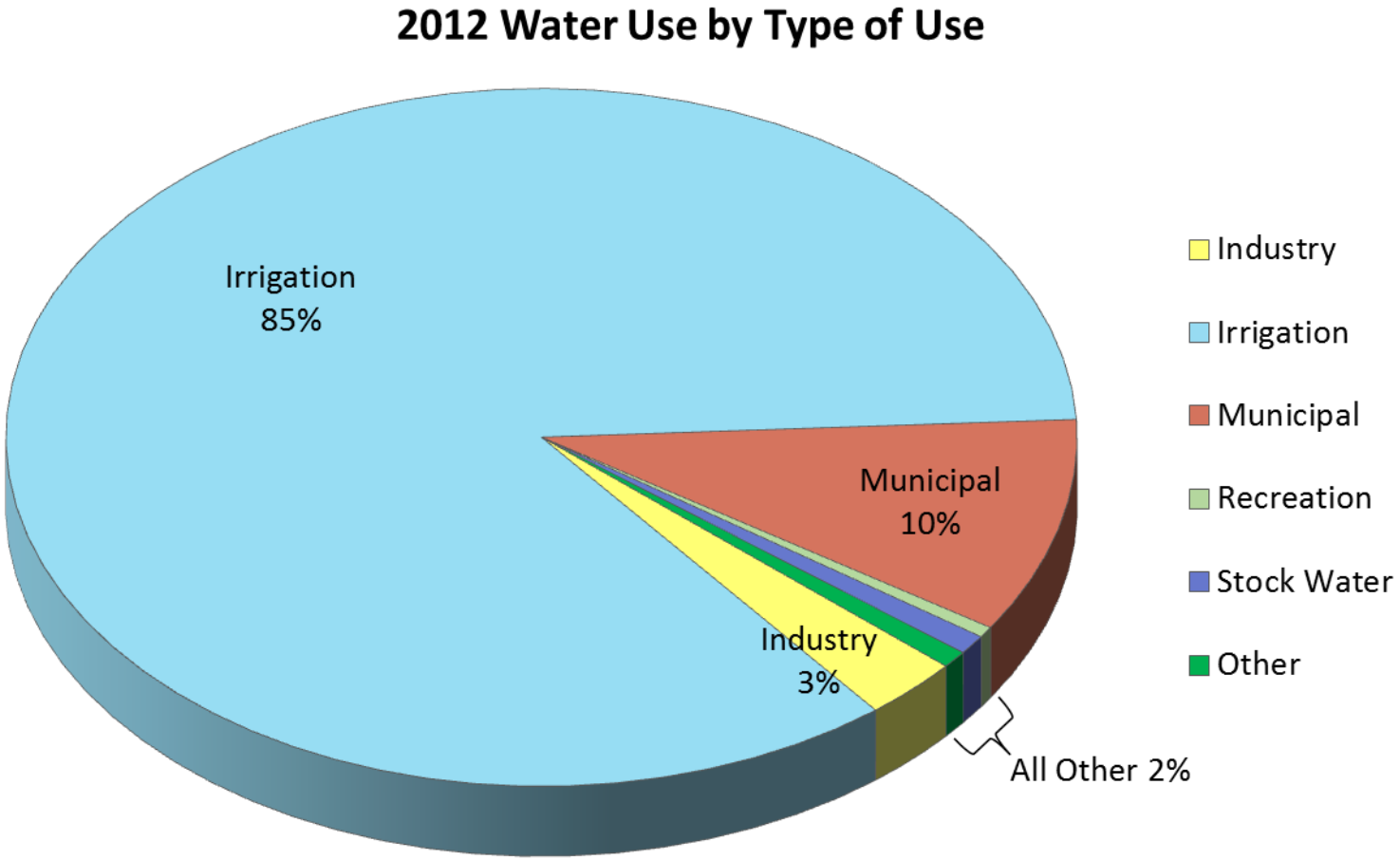
Kansas Water Office October 2014

Water Use by Type of Use

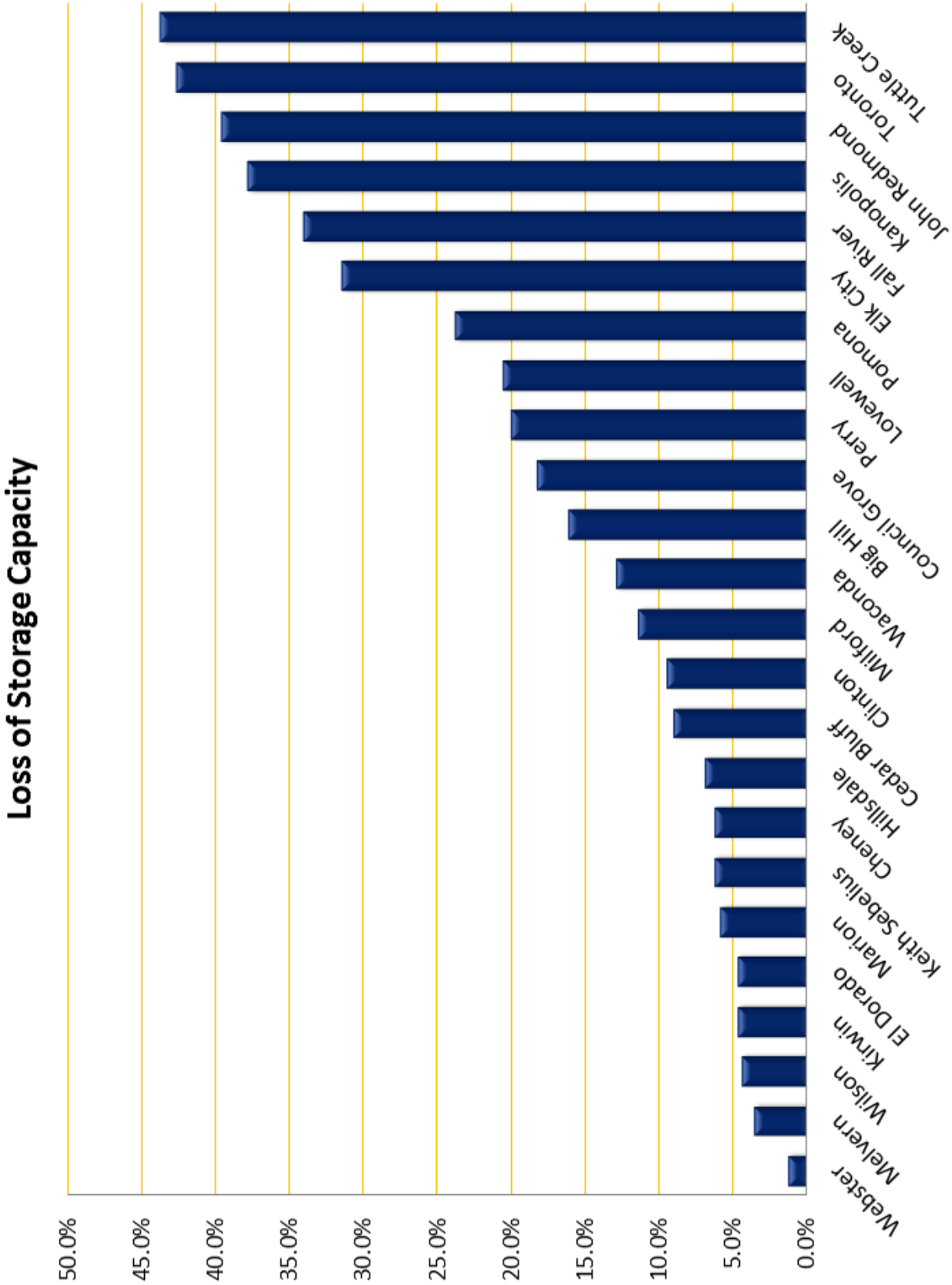
Acre Feet

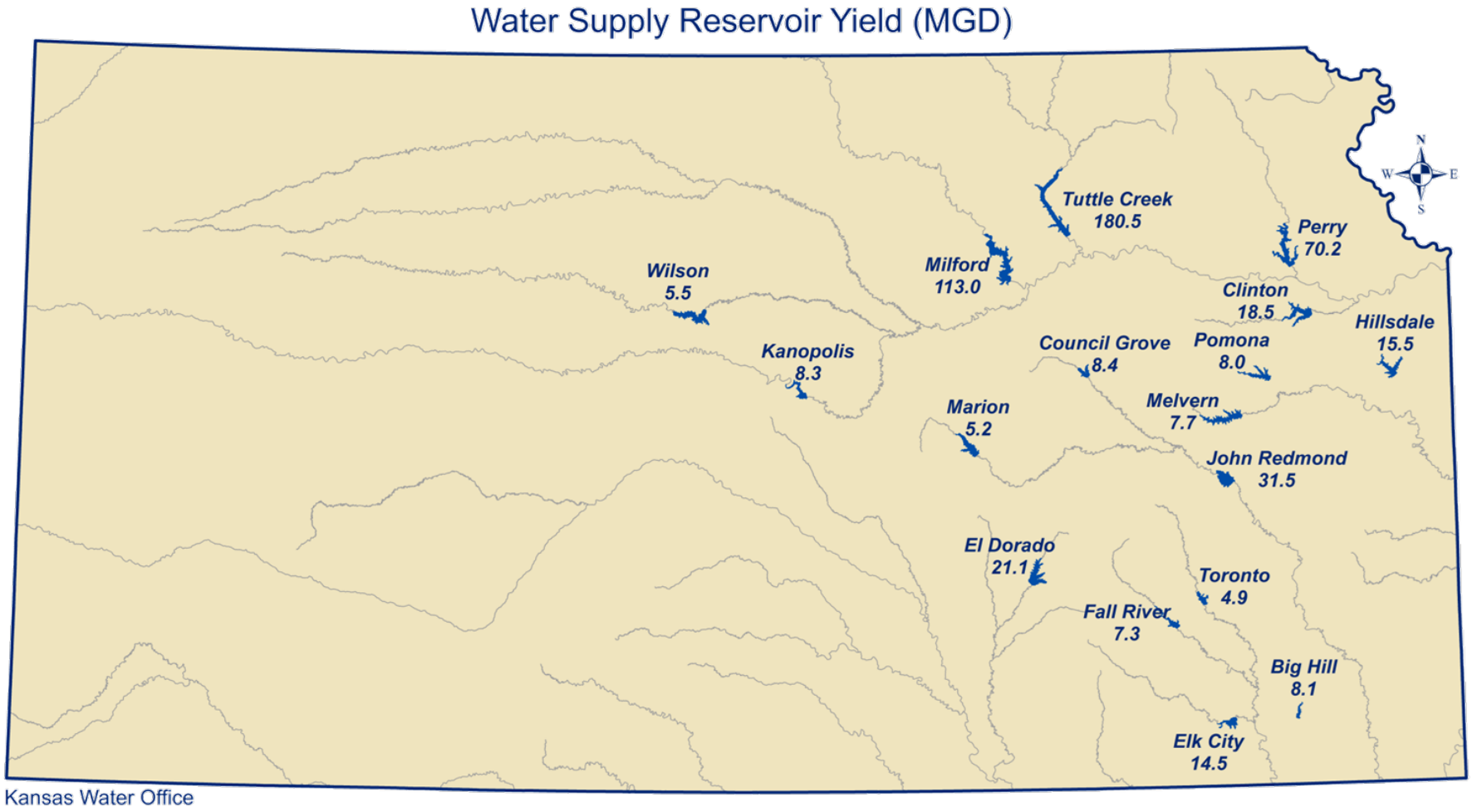
15,000

Irrigation
Industry
Municipal
Recreation
Stock Water



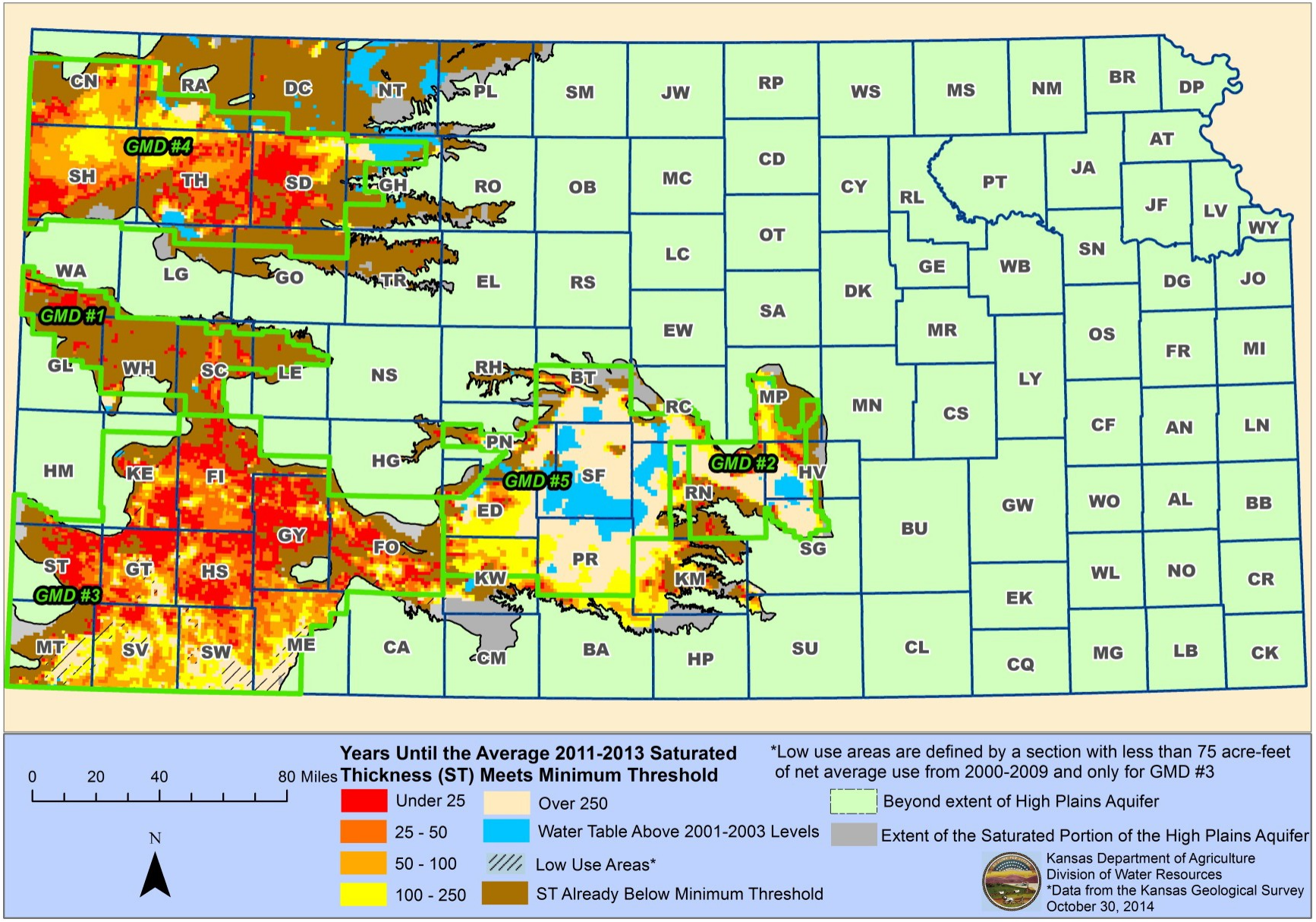
Sources:
Division of Water Resources, Water Use Program
Kansas Water Office, Water Marketing Program

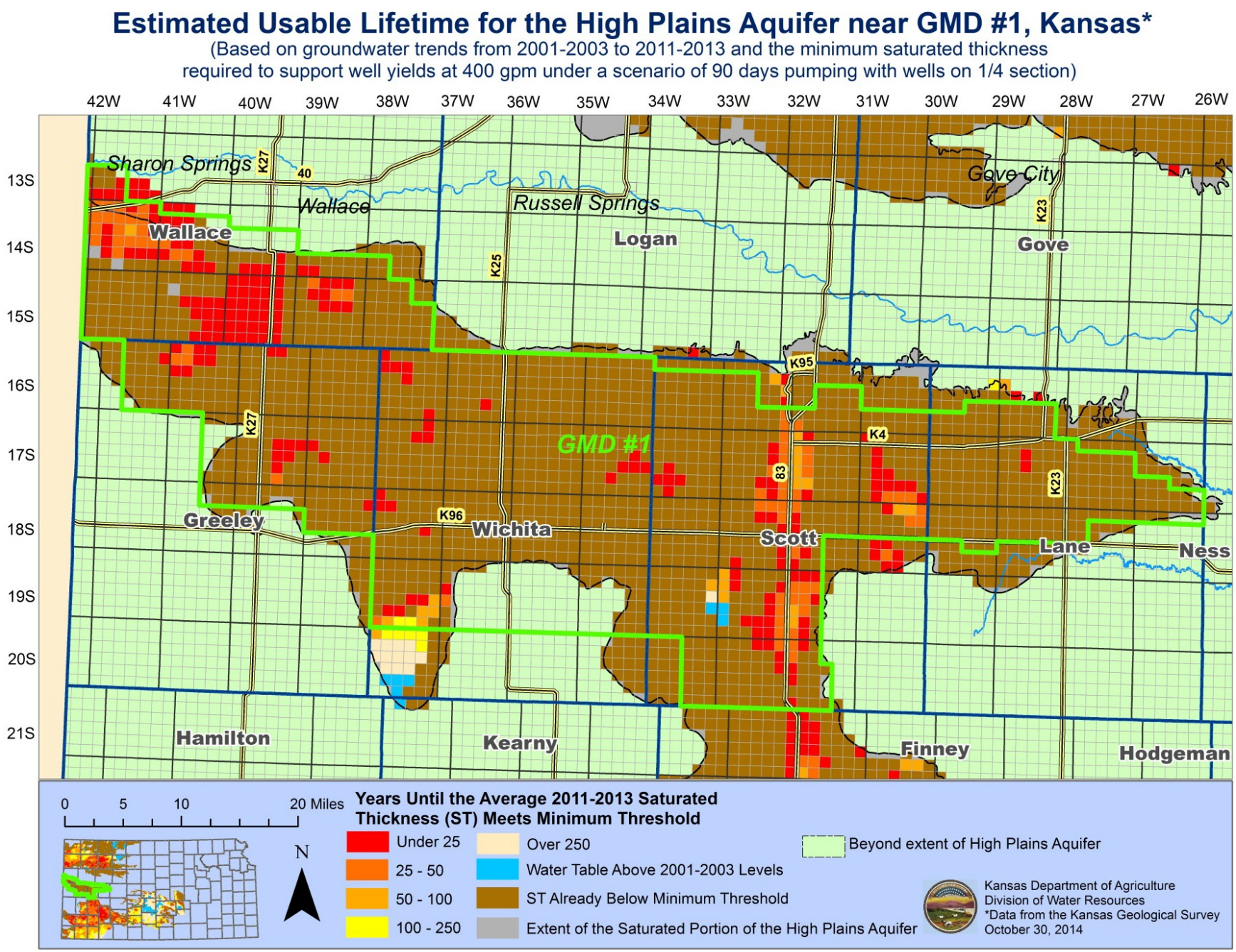

Loss of Storage Capacity
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Webster
Melvern
Wilson
Kirwin
El Dorado
Marion
Keith Sebelius
Cheney
Hillsdale
Cedar Bluff
Clinton
Milford
Waconda
Big Hill
Council Grove
Perry
Lovewell
Pomona
Elk City
Fall River
Kanopolis
John Redmond
Toronto
Tuttle Creek


Water Supply Reservoir Yield (MGD)
N
W
E
S
Tuttle Creek
180.5
Perry
70.2
Milford
113.0
Wilson
5.5
Clinton
18.5
Hillsdale
15.5
Council Grove
8.4
Pomona
8.0
Kanopolis
8.3
Melvern
7.7
Marion
5.2
John Redmond
31.5
El Dorado
21.1
Toronto
4.9
Fall River
7.3
Big Hill
8.1
Elk City
14.5
Kansas Water Office

Estimated Usable Lifetime for the High Plains Aquifer, Kansas*

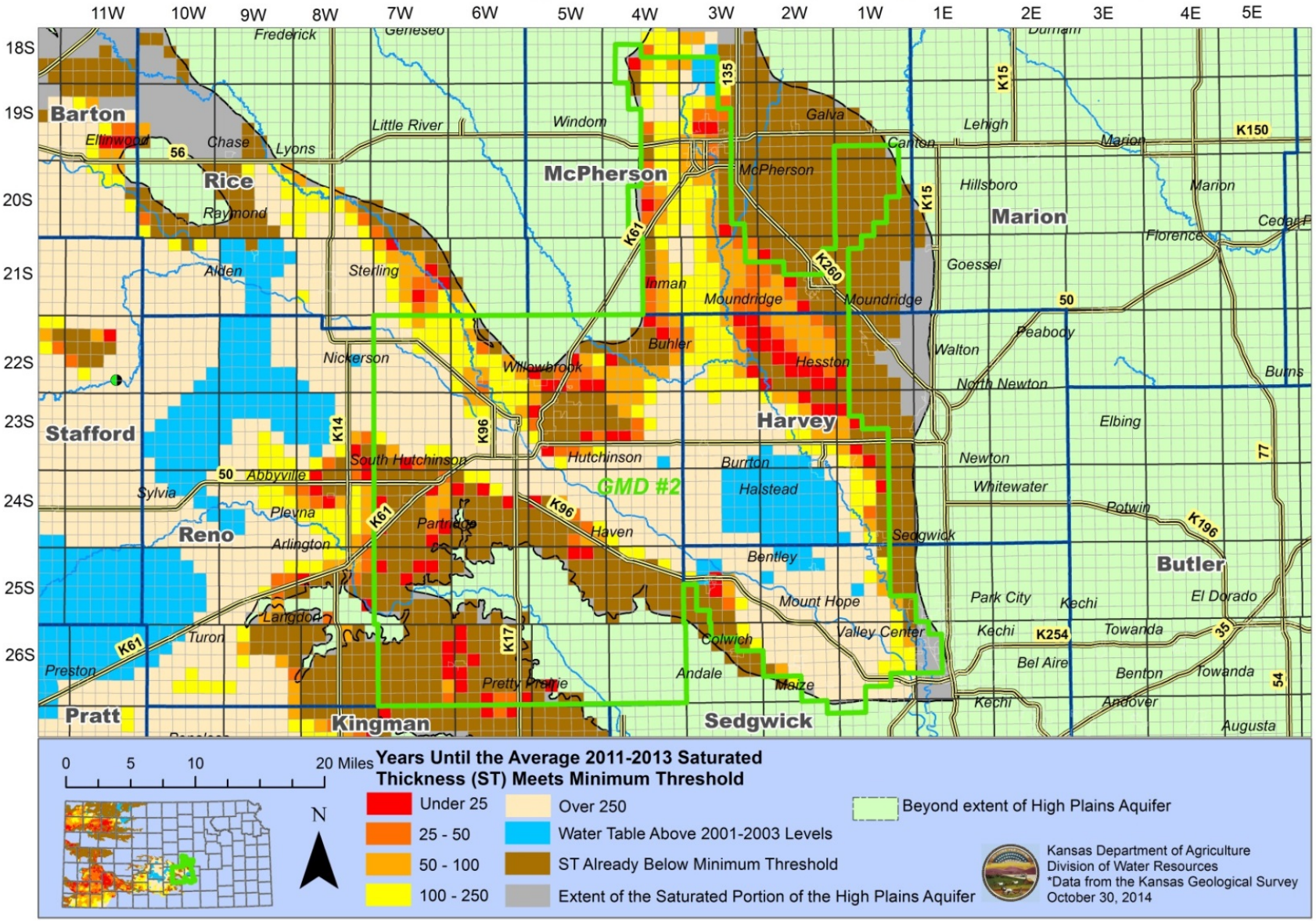
(Based on groundwater trends from 2001-2003 to 2011-2013 and the minimum saturated thickness required to support well yields at 400 gpm under a scenario of 90 days pumping with wells on 1/4 section)




Estimated Usable Lifetime for the High Plains Aquifer near GMD #1, Kansas*
(Based on groundwater trends from 2001-2003 to 2011-2013 and the minimum saturated thickness required to support well yields at 400 gpm under a scenario of 90 days pumping with wells on 1/4 section)
42W
41W
40W
39W
38W
37W
36W
35W
34W
33W
32W
31W
30W
29W
28W
27W
26W
13S
14S
15S
16S
17S
18S
19S
20S
21S
Sharon Springs
Wallace
Wallace
Russell Springs
Logan
Gove City
Gove
GMD #1
Greeley
Wichita
Scott
Lane
Ness
Hamilton
Kearny
Finney
Hodgeman
K27
40
K25
K23
K95
K4
83
K96
0
5
10
20 Miles
N
Years Until the Average 2011-2013 Saturated Thickness (ST) Meets Minimum Threshold
Under 25
25 - 50
50 - 100
100 - 250
Over 250
Water Table Above 2001-2003 Levels
ST Already Below Minimum Threshold
Extent of the Saturated Portion of the High Plains Aquifer
Beyond extent of High Plains Aquifer
Kansas Department of Agriculture
Division of Water Resources
*Data from the Kansas Geological Survey
October 30, 2014

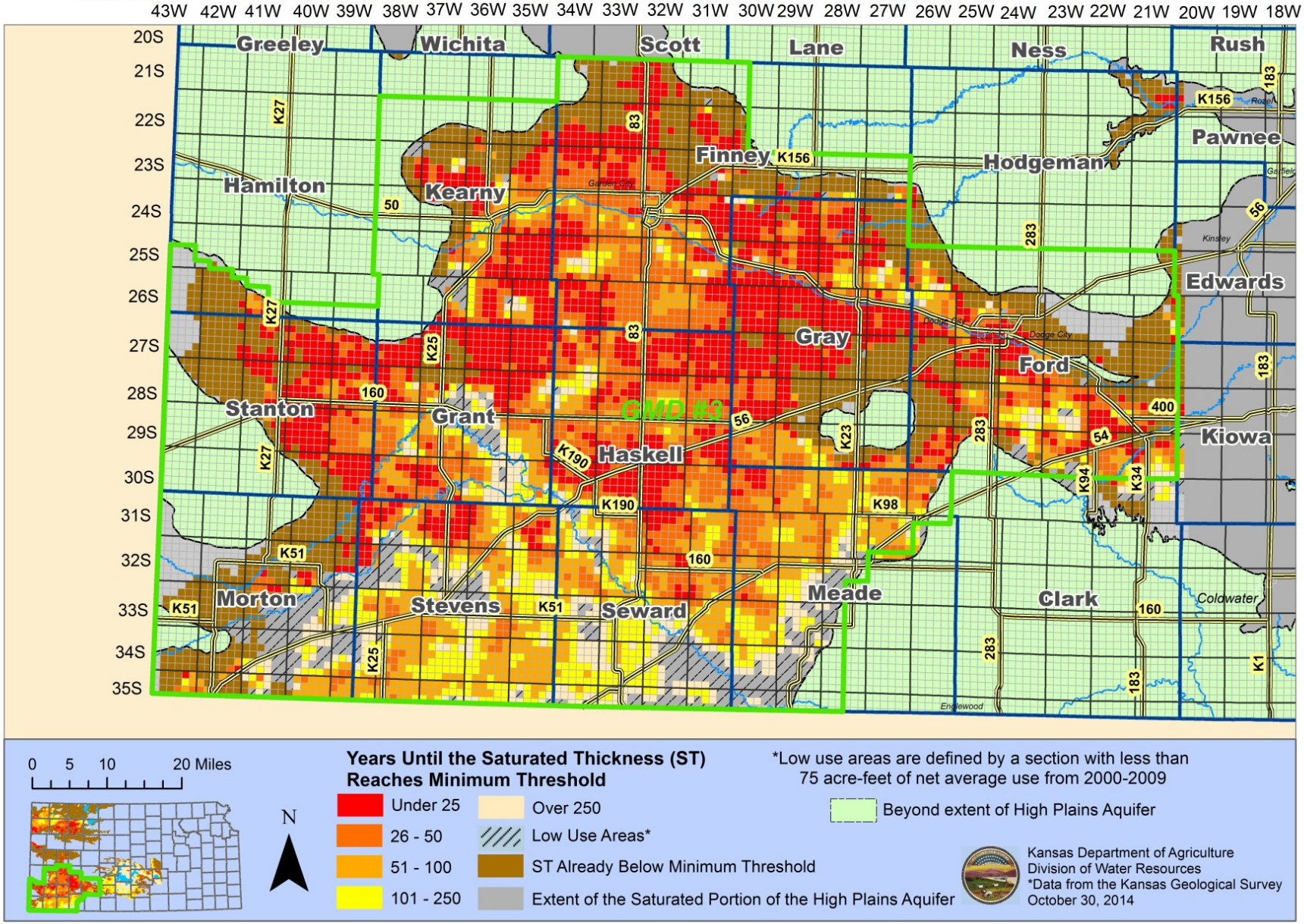
Estimated Usable Lifetime for the High Plains Aquifer near GMD #2, Kansas*

(Based on groundwater trends from 2001-2003 to 2011-2013 and the minimum saturated thickness required to support well yields at 400 gpm under a scenario of 90 days pumping with wells on 1/4 section)



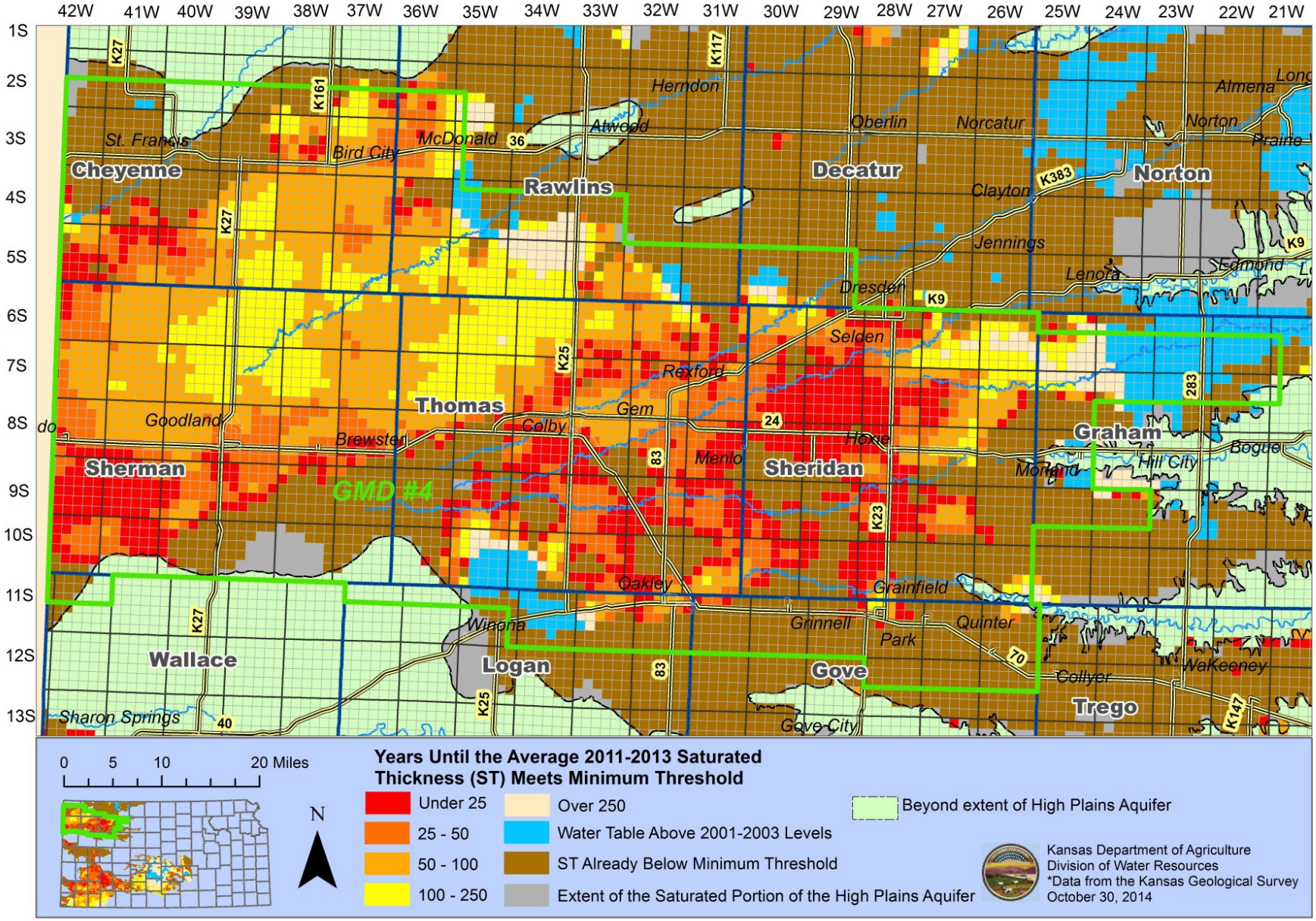
Estimated Usable Lifetime for the High Plains Aquifer near GMD #3, Kansas*

(Based on KGS Section Level Data for the saturated thickness (2010-2012), the revised minimum saturated thickness required to support 400 gpm under a 90 day pumping scenario with wells on 1/4 section based on GMD3 Model K, GMD3 Model average specific yield for water level elevation 2008 and 1947 to 2007 average recharge, and DWR Section Level Data for the 2-mile radius average groundwater use density 2000-2009)



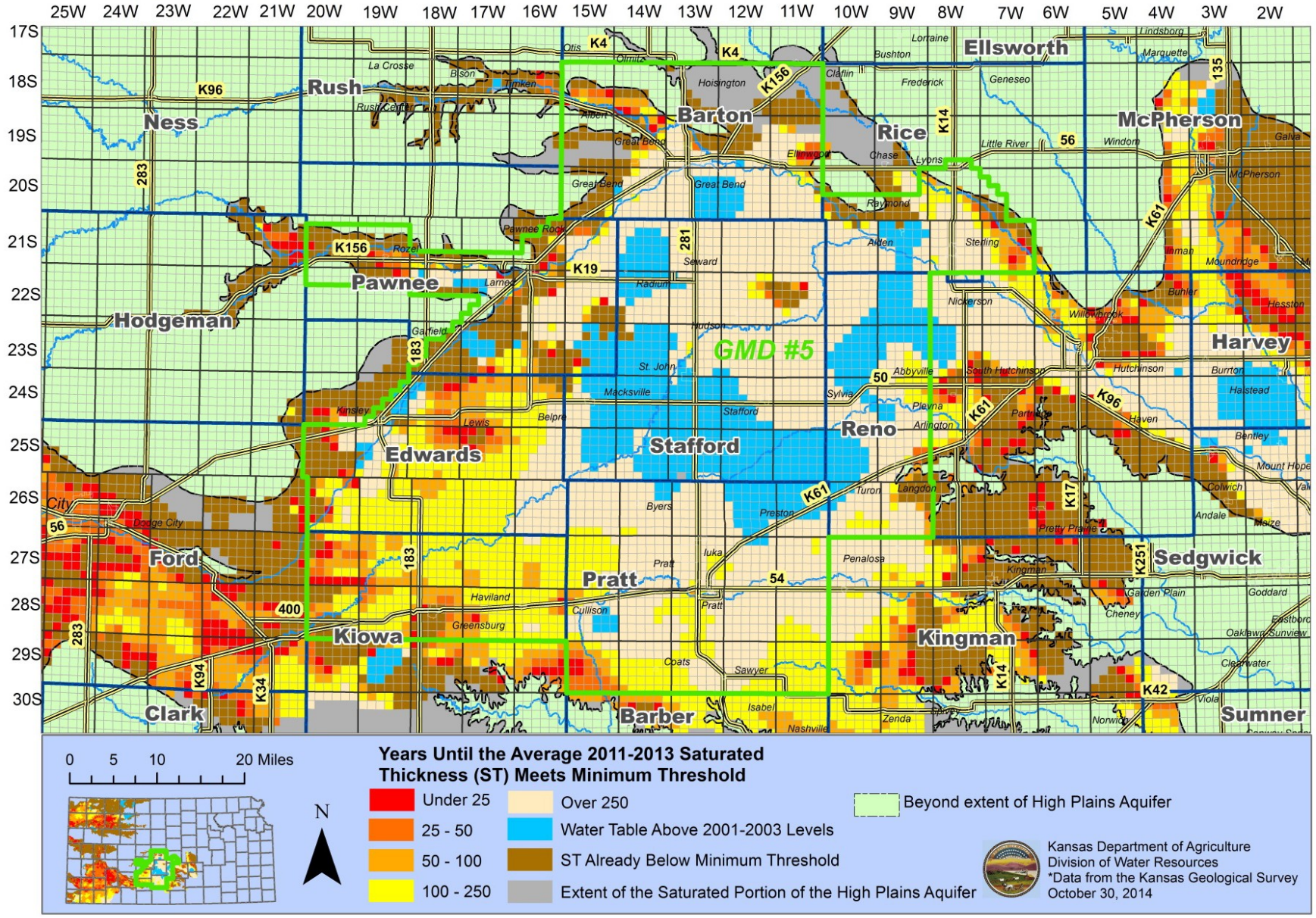
Estimated Usable Lifetime for the High Plains Aquifer near GMD #4, Kansas*

(Based on groundwater trends from 2001-2003 to 2011-2013 and the minimum saturated thickness required to support well yields at 400 gpm under a scenario of 90 days pumping with wells on 1/4 section)



Estimated Usable Lifetime for the High Plains Aquifer near GMD #5, Kansas*

(Based on groundwater trends from 2001-2003 to 2011-2013 and the minimum saturated thickness required to support well yields at 400 gpm under a scenario of 90 days pumping with wells on 1/4 section)



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RESOURCES

For more information about the Vision and to provide additional feedback, visit:

http://www.kwo.org/50_Year_Vision/50_Year_Vision.htm

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