Great Bend Prairie Regional Advisory Committee
Priority Goal #1 Action Plan

Priority Goal #1: Achieve water use sustainability within the Great Bend Prairie Regional Planning Area by 2025 with a starting point being no new net depletions that includes a reasonable raising or lowering of the water table based on average weather conditions.

Background:
There are several challenges this region has to face when designing an Action plan to address long-term water use sustainability. Big Bend Groundwater Management District #5 overlaps approximately 2/3 of the RAC planning area. GMD#5 has developed, in coordination with state and federal agencies, a high-resolution hydrologic model ("BBGMDMOD"). The BBGMDMOD is designed with seven layers, each representing a geologic formation below the ground surface. This allows for the analysis of water movement between these layers. This is important for analysis of groundwater quality, which is a significant concern of GMD#5 and RAC. However, due to the complexity of BBGMDMOD, KDA–DWR has, in coordination with S.S. Papadopoulos and Associates, simplified BBGMDMOD by collapsing the seven layers into a single layer model (KDAMOD). While this simplification does lose the ability to analyze vertical water movement between layers, it maintains the ability to track water movement throughout the entire model area. The KDAMOD will be utilized to assist with identifying management units within the RAC. Further refinement of the units with BBGMDMOD is recommended prior to evaluating any water use reductions through this Action Plan. This region is generally data-rich in most areas. Further data from various stakeholder groups will add to the final plan.

The RAC has reviewed several maps and datasets regarding the current conditions of the aquifer and actions that result in the current state of the aquifer. The RAC has evaluated the appropriate methods for assessing current aquifer status and strategies for achieving future sustainability. Discussion revolves around the currently authorized quantities for the water rights vs the historical water use of the area. The long-term plan must review both measures to better understand the operations of the region's water users. In order to prioritize the areas in need, the historical use within the region will be compared against the rate of aquifer recharge. This approach provides hydrologic accounting of the aquifer. It also identifies areas that are over drafting the aquifer. Any solution needs to address this issue head-on.

The RAC thinks future remedies should utilize and incentivize voluntary programs to soften the economic impact of potential water reductions. Voluntary programs require time, financial resources, and education before actual water use reductions will occur. There are several programs available to water users in the RAC, offered by various organizations and agencies. The regional goal "water use sustainability by 2025", in terms of groundwater response, this is a very short timeframe. Thus, the RAC recommends utilizing voluntary, incentivized programs through 2022.

When evaluating long-term action plans, participation in voluntary conservation programs must be taken into account. The RAC recognizes the importance of priority in Kansas Water Law. The design and nature of management strategies will require more meetings with stakeholders to finalize the plan. Future management strategies will be based on the certified water right quantities not water use history. With the legislative amendment to K.S.A. 82a-718, the premise of using historic water use as a basis for administration has issues. This method, in effect, rewards water users that maximized historic usage and penalizes more conservative water users within the same area. Furthermore, utilizing certified water appropriations reinforces the value of existing water right property values.

Action Steps

- Short-term Actions
  - Identify existing voluntary conservation programs and determine if new incentivized conservation programs are needed to compliment current programs.
  - Work with the appropriate agencies to insure that cost-shares are current and economically competitive.
  - Hold stakeholder meetings in conjunction with the appropriate agencies to inform the public about the various programs available.

- Long-term Actions
  - Utilize the KDAMOD to determine rate of withdrawal from the aquifer from all uses (irrigation, industrial, evapotranspiration, municipal, etc.) versus the rate of recharge to the aquifer from all sources (precipitation, streambank, infiltration, etc.) for the GBP RAC area.
  - Compile the model data into presentation materials for area stakeholder groups/agencies to identify appropriate management units for further analysis with BBGMDMOD. This data will analyze the rate of depletion spatially across the area to assist with prioritization of projects and funding.
  - Coordinate with state agencies & GMD#5 to assess and implement appropriate management controls to bring areas of concern into balance.

Responsible and Assisting Agencies/Organizations:

- Kansas Department of Agriculture – Division of Water Resources (KDA–DWR)
- Kansas Department of Agriculture – Division of Conservation (KDA-DOC)
- Kansas Department of Wildlife, Parks and Tourism
- Kansas Water Office (KWO)
- Big Bend Groundwater Management District #5 (GMD#5)
- Local Watershed Districts
- Kansas Geological Survey (KGS)
- Water PACK
- Central Kansas Water Bank Association (CKWBA)
- Kansas Livestock Association (KLA)
- Kansas Farm Bureau (KFB)
- Kansas Forest Service
- United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS)
- United States Department of Agriculture – Farm Service Agency (USDA-FSA)
- United States Department of Interior – US Fish and Wildlife Service (USFWS)
- Farm Credit
- Local banks

Resources Needed:

- Model scenarios ($50,000 each)
- Annual model update and calibration ($10,000 annually)
- Incentive enhancement funds (amount TBD)

Timeframe of Action Plan:

- Identify existing programs and coordinate with agencies
- Model scenario completion (4-5 months)
- Stakeholder outreach meetings (ongoing)
- Coordination with agencies (ongoing)
- Draft management strategies for review by public (December 2017)
- Stakeholder meetings (2 months)
- Finalize management strategies for RAC (April 2018)

Geographic Scope:

- Great Bend Prairie aquifer extent of RAC

Regulation/Policy Changes:

- None at this time

Existing Programs/Management Tools:

- **USDA-NRCS**
  - CREP (Conservation Reserve Enhancement Program)
  - CSP (Conservation Stewardship Program)
  - EQIP (Environmental Quality Incentive Program)
  - RCPP (Regional Conservation Partnership Program)
- **KDA-DWR**
  - IGUCA (Intensive Groundwater Use Control Area)
  - WCA (Water Conservation Area)
  - MYFA (Multi-Year Flex Account)
- **KDA-DOC**
  - CREP (Conservation Reserve Enhancement Program)
- **Big Bend Groundwater Management District #5**
  - Groundwater Management Program
  - LEMA (Local Enhanced Management Program)
  - Water Right Purchase
  - RCPP (Regional Conservation Partnership Program)
- **Central Kansas Water Bank Association**
  - Deposit / Lease Program
  - Savings Account Program

Great Bend Prairie Regional Advisory Committee
Priority Goal #2 Action Plan

Priority Goal #2**:** Developed for Municipalities and Rural Water Districts.

Maintain annual training funds of 15% from Clean Water Drinking Fee and increase technical training support to Public Water Supply (PWS) systems to enhance new technology and increase water efficiently and effectively, thus reducing water loss. Utilize available municipal/residential/commercial "**LAWN"** irrigation training programs provided by the Irrigation Association.

Responsible Agencies/Organizations

- Cities/Rural Water Districts or Public Water Suppliers: The Clean Drinking Water Fee is paid by the city water departments, rural water districts and any other organization that is selling water at retail.
- Kansas Water Office (KWO): authorizing the Kansas water office, with approval of the Kansas water authority, to establish the clean drinking water fee by rules and regulations and imposing a cap on such fee
- Kansas Department of Health and Environment: Contracts out for Technical Assistance.
- Kansas Department of Agriculture – Division of Conservation: promulgate rules and regulations in coordination with the Kansas water office establishing the project application evaluation criteria for the use of such moneys under subsection (c)(2)(B) (Chapter KSA 82a: Waters and Watercourses; Article 21, Clean Drinking Water Fee)
- Kansas Department of Revenue (KDR): Collects and Distributes Clean Water Drinking Fee in accordance with state statues.
- Kansas Rural Water Association: provides technical assistance and funded as an expenditure of the Clean Drinking Water Fee.

Resources Needed:

- Continue to provide a minimum of 15% and increase more (up to 30%) of Clean Drinking Water Fee for technical assistance by the Kansas Rural Water Association for Public Water Suppliers.
- Contract for Services with Kansas Rural Water Association by KDHE.
- Obtain free training opportunities from the Irrigation Association for LAWN irrigators and landscapers.

Timeframe:

- Current – maintain existing statutes and policies.
- Implement Review of technical assistance through KDHE and water reports on annual water loss.
- KDHE implement technical assistance from the Irrigation Association by 2018.
- PWS attain goal of less than 20% water loss within region by 2025.
- PWS attain goal of less than 15% water loss within region by 2035.
- PWS attain goal of less than 10% water loss within region by 2045.

Geographic Scope:

- All public water users in Great Bend Prairie Water District
- All lawn irrigators in Great Bend Prairie Water District
- All lawn landscape operators in Great Bend Prairie Water District

Regulation/Policy Changes:

- None -- Retain KSA 82a: Waters and Watercourses; Article 21, Clean Drinking Water Fee

NOTE: "Guiding Principle Ensure regulations and programs put into place are reviewed to ensure various water use groups are not adversely affected by regulations and programs intended for an individual water use group"

NOTE: Clean Drinking Water Fee – Senate Bill 332 (2001 Legislative Session) Implementation.
The Clean Water Drinking Fee is paid by city water departments, rural water districts and any other organization selling water. Collectively all of these organizations are called 'public water supply systems.' The Clean Drinking Water Fee is three (.03) cents per 1,000 gallons of water sold. The law specifically forbids the public water supply systems from adding this fee to their customers' water bill.

The Clean Drinking Water Fee is reported quarterly on the same form as the Water Protection Fee. The return requires two entries - one for the Water Protection Fee and one for the Clean Drinking Water Fee.

KSA: July 1, 2007, 5/106 of such amount shall be credited to the state highway fund and the remaining amount shall be credited to the state water plan fund created by K.S.A. 82a-951, and amendments thereto, for use as follows: (A) Not less than 15% shall be used to provide on-site technical assistance for public water supply systems, as defined in K.S.A. 65-162a, and amendments thereto, to aid such systems in conforming to responsible management practices and complying with regulations of the United States environmental protection agency and rules and regulations of the department of health and environment; and (B) the remainder shall be used to renovate and protect lakes which are used directly as a source of water for such public water supply systems, so long as where appropriate, watershed restoration and protection practices are planned or in place.

Proposal for Increase to 13 cents. HB 2014 “Since municipal water fees and clean drinking water fees, which are largely paid by public water systems, are already responsible for about half the total revenue for the water plan fund, those fees should not be increased,” the league’s legal counsel, Michael Koss, said in a memo to legislators.

Great Bend Prairie Regional Advisory Committee
Priority Goal #3 Action Plan

Priority Goal #3: Enhance the monitoring of poor quality water in areas which have salt water disposal lines, disposal wells and areas with high salt sources to ensure that contamination of fresh water sources does not occur as well as to stop and reverse further contamination of fresh water sources. Establish a self-reporting program under penalty of law if a problem is observed to ensure the problem does not get worse. Start using mapping techniques and disposal line maintenance and replacement to ensure this goal is met. Set up a review program by 2020.

Action Steps

- Evaluate extent of KDHE surface water monitoring network in petroleum producing areas and areas with high salt sources within Great Bend Prairie Regional Planning Area.
    - Work with KDHE to modify surface water monitoring network if evaluation finds that necessary.
- Develop inventory of current active and legacy salt water disposal lines in Great Bend Prairie Regional Planning Area.
- Continue programs to evaluate current extent of salt water disposal well inventory.
- Evaluate effectiveness of current spill and escape notification requirements.
    - Work with KCC to modify current spill and escape notification requirements if evaluation finds that necessary.
- For all Sensitive Groundwater Areas in the Great Bend Prairie Regional Planning Area:
    - Check the integrity of active and known legacy disposal systems.
    - Investigate the integrity of plugged abandoned wells suspected of leaking.
    - Continued programs to conduct Mechanical Integrity Tests on all injection or disposal wells.
    - Develop a routine groundwater quality program to help determine extent and sources of contamination.
- Educate public in Great Bend Prairie Regional Planning Area about causes and trends of salinity issues.

Responsible and Assisting Agencies/Organizations:

- Kansas Corporation Commission, Environmental Protection Agency, Kansas Department of Health and Environment, Kansas One-Call, GMD5, Kansas Geological Survey, Kansas Water Office, Petroleum Industry, Local Landowners

Resources Needed:

- Financial resources for development of inventory of active and legacy saltwater disposal lines (cost TBD).
- Financial resources for development of continuous groundwater quality program (cost TBD).
- Technical/financial resources associated with evaluations, inventories, investigations, and tests (cost TBD).

Timeframe of Completion:

- All action steps should be completed or initiated by 2026.

Geographic Scope:

- Past and current oil production areas within Great Bend Prairie Planning Region and Sensitive Groundwater Areas.

Regulation/Policy Changes:

- Explore reporting requirement exemptions noted in K.A.R. 82-3-603(b)(3)
- Disposal lines should be GPSed and tracer lines installed.
- One-Call will contact the operator to identify lines.

Great Bend Prairie Regional Advisory Committee
Priority Goal #4 Action Plan

Priority Goal #4: Initiate research and development of feed wheat as an alternative feed source within the Great Bend Prairie Planning Region. Technology transfer from this research would have benefits in areas of Kansas where water is not available for production of water-intensive crops. Dual research program: plant breeding and livestock feeding. Achieve large scale feeding trials by 2025.

Action Steps

- Coordinate with the Kansas Department of Agriculture (KDA) to improved adoptability of feed wheat, along with other alternative crops, through marketing, commodity segregation, research and education as stated within the *Vision for the Future of Water Supply in Kansas*.
- Create a program to be able to roll out small and large scale feeding trials
  - Find several feedlots to help roll out program
  - Utilize membership of stakeholder groups to solicit interest
- Coordinate with KDA to implement demonstration plots for yield evaluation within the Great Bend Prairie Regional Planning Area.
- Coordinate with KDA develop markets for Great Bend Prairie-grown feed wheat and other alternative crops for use feed sources.

Responsible and Assisting Agencies/Organizations:

- Kansas Department of Agriculture
- Kansas State University
- Other regional research institutions
- Kansas Wheat Commission
- Kansas Association of Wheat Growers
- Kansas Farm Bureau
- Kansas Livestock Association
- Private wheat breeders
- Grain Industry
- Feedlot Industry
- Local Producers
- Kansas Water Office

Resources Needed:

- Funding for field trials in the Great Bend Prairie Regional Planning Area.

Timeframe of Completion:

- Achieve small scale feeding trials by 2018.
- Achieve large scale feeding trials by 2025.

Geographic Scope

- Anywhere within the Great Bend Prairie Regional Planning Area.

Regulation/Policy Changes:

- None

Great Bend Prairie Regional Advisory Committee
Priority Goal #5 Action Plan

Priority Goal #5: Work towards sustainability of watersheds so that flood control capacity is maintained while maintaining streamflow to meet downstream water needs. Progress towards sustainability would be to have 50% of the drainage area within watershed districts controlled by watershed structures by 2065. Best available information/data will be evaluated every 10 years to track progress towards meeting this goal.

Action Steps

- Determine percent controlled by watershed structures within watershed districts in Great Bend Prairie Regional Planning Area.
- Work with landowners to promote watershed dams and the important role they have in the community and environment.
- Work with watershed boards and community leaders.
- Determine groundwater recharge potential of watershed structures through modeling efforts.
- Work with watershed districts to determine costs (needs inventory) associated with building additional structures leading up to 50% of drainage area within districts controlled by structures.
- Evaluate the potential of a Multipurpose Small Lake through KDA-DOC in the Great Bend Prairie Regional Planning Area.

Responsible and Assisting Agencies/Organizations:

- Wet Walnut Watershed District
- Pawnee Watershed District
- State Association of Kansas Watersheds
- U.S. Army Corps of Engineers
- Kansas Department of Agriculture
    - Division of Water Resources
    - Division of Conservation
- KDWPT
- NRCS
- Ducks Unlimited
- The Nature Conservancy
- KWO

Resources Needed:

- TBD pending outcome of needs inventory.
- Financial resources for modeling

Timeframe of Completion:

- 50% of the drainage area within watershed districts controlled by watershed structures by 2065.

Geographic Scope:

- Watershed districts within the Great Bend Prairie Regional Planning Area.

Regulation/Policy Changes:

- Many federal regulations provide challenges:
    - Mitigation requirements
    - 3rd party easement requirements
    - Stream mitigation guidelines (getting credit for pool area as to how it relates to creation of habitat).