

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