

---

**From:** Barfield, David  
**Sent:** Monday, May 8, 2017 4:08 PM  
**To:** Mark Rude; Kirk Heger (kirkheger@gmail.com); 'Kirk Heger (ag1stkh@pld.com)'  
**Cc:** Beightel, Chris; Metzger, Susan; Letourneau, Lane; 'Jason Norquest'; 'Chris Law'; ' Trevor Ahring'  
**Subject:** RE: GMD 3 management program update discussion  
**Attachments:** CimarronActionStepsGoals1\_2from\_Rpt\_RAC\_ActionPlans\_Jan2017.pdf;  
UpperArkActionStepsGoal1from\_Rpt\_RAC\_ActionPlans\_Jan2017.pdf

Mark,

I just became aware of and briefly reviewed the RACs Action Plans which KWO compiled earlier this year, including those from the Cimarron and Upper Ark RAC's (excerpts attached).

As I read the Cimarron RAC's "action steps" for its goals 1 & 2 below, it reinforced the idea that they are many non-regulatory that can address the problem of over-appropriation using the powers of K.S.A. 82a-1028 granted to GMDs. What entity will do these things if not the GMD? While they don't have the degree of specificity that we are suggesting, it seems a good list to review in developing your plan.

David

The Cimarron RAC **Action Steps** for their Goals #1 and 2

- Define and quantify the regional aquifer decline, establishing a baseline for comparison.
- Work with partners, including KDA and NRCS, to develop baseline of water saving technologies in use and voluntary incentive based conservation occurring and a method to track participation. Consider using the annual water reporting system, producer surveys and other means to identify water saving efforts if needed.
- Secure funding, including statutory SGF transfer to SWPF, to support water conservation programs and evaluation of technologies, crop varieties and water management to save water.
- Provide water users with information on available tools and programs, including but not limited to; LEMAS, WCAs, Multi-Year Flex Accounts, Water Banks, Irrigation Scheduling, RCPP-Soil Probe program through GMDs, K-State Extension tools, K-State Research/farms and additional tools and programs as made available.
- Change producer perception from a "use it or lose it" mentality.
- Use demonstration projects to educate producers to economically reduce water used. (Water technology farms, LEMAS, WCAs, K-State Research and Extension farm projects and other water management and water efficiency projects can provide valuable examples and information to producers to encourage their participation in water saving efforts.)
- GMD3 and DWR work with producers to establish LEMAs and WCAs.
- Build a network of agencies, organizations, researchers, industry and producers to disseminate credible, accurate information on water use, conservation and technology, programs and tools to reduce water use.
  - Utilize K-State and others to develop technologies and crop varieties to enhance water savings methodologies and deliver information.
  - Work with producer and farm groups to reach other producers.
  - Include municipal and industrial users in outreach.
- Evaluate the effectiveness of technologies and crop varieties to develop voluntary incentives and tools to economically reduce water usage.
  - Support water technology farms (WTF) in the region for evaluation of technologies and management methods to reduce the current level of water use with a goal of at least one WTF in a water stressed area and one in a non-stressed area.

- Develop mobile drip irrigation (MDI) statistics so funds could become available for technology upgrades through state and federal programs.
- Work with federal partners to make additional water saving technologies eligible for federal programs.
- Disseminate scientific and economic information on technology efficiencies and crop varieties as well as other relevant information from pilot studies, research and water technology farms.
- Use positive press releases to spread the word as WCAs are developed.
- Public water suppliers and industrial users should consider alternative uses of non-potable water and existing water supplies before developing any new water supplies.
- Public water suppliers should consider water rate structures to promote water conservation.

David

---

**From:** Barfield, David

**Sent:** Monday, May 1, 2017 10:09 AM

**To:** Mark Rude <mrude@gmd3.org>; Kirk Heger (kirkheger@gmail.com) <kirkheger@gmail.com>; Kirk Heger (ag1stkh@pld.com) <ag1stkh@pld.com>

**Cc:** Beightel, Chris <Chris.Beightel@ks.gov>; Metzger, Susan <Susan.Metzger@ks.gov>; Letourneau, Lane <Lane.Letourneau@ks.gov>

**Subject:** GMD 3 management program update discussion

Mark and Policy Board members,

We appreciate the opportunity to collaborate with you as you draft your management program update. KDA-DWR and the district have the same compelling reasons to ensure that GMD3 has a meaningful, achievable management plan and the support to implement it. We sent along some general advice on management program updates in our March 6, 2017 letter to you (attached). After reviewing your recent drafts, we've prepared some additional comments and guidance to keep us moving towards a successful update of your plan.

The GMD Act defines a management program as, *"a written report describing the characteristics of the district and the nature and methods of dealing with groundwater supply problems within the district..."* GMD3's plan needs to lay out the district's water supply problems and the board's plan of action, under the existing statutes, rules and regulations, in a specific, concise, understandable way; no more, no less.

The management program is not the appropriate venue to discuss policy positions or stake out opinions on "water governance", re-interpretation and commentary on statutes, and such.

It is both your mission and ours to fulfill the respective purposes and roles prescribed to us by the Legislature. While the chief engineer is singularly responsible for administration the state's water rights, GMDs are tasked with recommending rules and acting via the powers prescribed to them in K.S.A. 82a-1028 to advance groundwater management within the Districts. Your management plan update should give particular attention to recent years legislation granting additional tools to address your water resource challenges within the District (LEMAs, WCAs, legislation aimed to remove disincentives to reduce use).

Thus, the plan needs to be a simple, clear document, defining specific problems, laying out specific goals (how much of the problem is going to be solved, and when), and specific actions (what is going to be done, and when) to solve those problems within the GMD's role and powers granted by the Legislature.

For instance, in the most recent draft one of your commitments is to "promote water use efficiency through new technology implementation". This worthy goal should be followed with a commitment and plan to achieve it, such as, "by March 31, 2018, the district will implement a cost-sharing program and will commit up to 10% of the district's assessments to the program to help its constituents implement water saving technology." Another statement in the

recent draft says the district will, “reduce the rate of water level decline a minimum of 1% per year”. There needs to be a plan for how this will happen.

As we have interacted with the board and membership, particularly over the last three years, we sense a heightened awareness of the problem of over-appropriation and a desire to do something tangible about it. We believe this growing consensus and the new tools developed in recent years (LEMAs, WCAs, revised MYFA for example) provide an historic opportunity for GMD 3 to take the lead in promoting and achieving water conservation that can sustain the region’s economy into the future.

We look forward to continuing to work with you on your management plan update and will be happy to have further discussions with the board on how to best use this opportunity to serve our water users.

David

David W. Barfield, P.E.  
Chief Engineer  
Kansas Department of Agriculture, Division of Water Resources  
1320 Research Park Drive, Manhattan, KS 66502  
785-564-6670  
<http://agriculture.ks.gov/dwr>



## Cimarron Regional Advisory Committee Priority Goals #1 & #2 Action Plan

**Priority Goal #1: Reduce the rate of decline of the Ogallala Aquifer in the region through voluntary, incentive-based conservation as assessed every five years.**

**Priority Goal #2: Extend the usable lifetime of the Ogallala Aquifer in the region through technology adoption (irrigation, industrial, municipal, etc.), new crop varieties and conservation for all uses and for many generations.**

*Goals 1 and 2 seek to reduce water use in the region therefore the following actions apply to both Goals. Goals 3 and 4 are strategies to address Goals 1 and 2.*

### Action Steps

- ❖ Define and quantify the regional aquifer decline, establishing a baseline for comparison
- ❖ Work with partners, including KDA and NRCS, to develop baseline of water saving technologies in use and voluntary incentive based conservation occurring and a method to track participation. Consider using the annual water reporting system, producer surveys and other means to identify water saving efforts if needed.
- ❖ Secure funding, including statutory SGF transfer to SWPF, to support water conservation programs and evaluation of technologies, crop varieties and water management to save water.
- ❖ Provide water users with information on available tools and programs, including but not limited to; LEMAS, WCAs, Multi-Year Flex Accounts, Water Banks, Irrigation Scheduling, RCPP-Soil Probe program through GMDs, K-State Extension tools, K-State Research/farms and additional tools and programs as made available.
- ❖ Change producer perception from a “use it or lose it” mentality.
- ❖ Use demonstration projects to educate producers to economically reduce water used. (Water technology farms, LEMAS, WCAs, K-State Research and Extension farm projects and other water management and water efficiency projects can provide valuable examples and information to producers to encourage their participation in water saving efforts.)
- ❖ GMD3 and DWR work with producers to establish LEMAs and WCAs.
- ❖ Build a network of agencies, organizations, researchers, industry and producers to disseminate credible, accurate information on water use, conservation and technology, programs and tools to reduce water use.
  - ◇ Utilize K-State and others to develop technologies and crop varieties to enhance water savings methodologies and deliver information.
  - ◇ Work with producer and farm groups to reach other producers.
  - ◇ Include municipal and industrial users in outreach.
- ❖ Evaluate the effectiveness of technologies and crop varieties to develop voluntary incentives and tools to economically reduce water usage.
  - ◇ Support water technology farms (WTF) in the region for evaluation of technologies and management methods to reduce the current level of water use with a goal of at least one WTF in a water stressed area and one in a non-stressed area.
  - ◇ Develop mobile drip irrigation (MDI) statistics so funds could become available for technology upgrades through state and federal programs.
  - ◇ Work with federal partners to make additional water saving technologies eligible for federal programs.
  - ◇ Disseminate scientific and economic information on technology efficiencies and crop varieties as well as other relevant information from pilot studies, research and water technology farms.
- ❖ Use positive press releases to spread the word as WCAs are developed.
- ❖ Public water suppliers and industrial users should consider alternative uses of non-potable water and existing water supplies before developing any new water supplies.
- ❖ Public water suppliers should consider water rate structures to promote water conservation.



## Cimarron Regional Advisory Committee Priority Goal #3 & #4 Action Plan

**Priority Goal #3: If individuals elect to conserve then they would be afforded flexibility (e.g. - allowing quantities to be moved, water bank movement, water conservation areas, etc.) Individuals may choose to remain with current water use but not be afforded the flexibilities.**

- ❖ Increase adoption of water conservation through education by those who are currently using the technology.
- ❖ Identify existing conservation success stories and share with area producers, industry or municipalities as applicable.
- ❖ Initiate demonstration projects with willing producers in the region (technologies, crop varieties and management techniques) to reduce water use.

**Priority Goal #4: As measured through increase in adoption by 50% as assessed each five years, promote the adoption of irrigation efficient technology and invest in university research to evaluate the effectiveness of such technology and crop varieties to develop voluntary incentives and tools to economically reduce water usage. Recommended strategy to achieve Goal - Increase adoption through education by those who are currently using the technology.**

- ❖ Educate water users on new technologies through local papers, extension, meetings of producer groups, irrigation organizations, conservation districts, GMD3 and other means.
- ❖ Develop and disseminate results from the use of water saving tools by those who have adopted technology and management tools to economically reduce water usage.
- ❖ Use local demonstrations of technology/demo farms in region to share techniques.
- ❖ Provide Water Conservation Area (WCA) information, including dissemination with water use reports.
- ❖ Develop widespread awareness of EQIP, CRP, RCPP, CIG and other program availability and increase participation.
- ❖ Encourage improvement of municipal conservation plans, municipal rate structures and other means to encourage water use reductions.

**Priority Goal #1: Extend the usable lifetime of the Ogallala Aquifer for at least 25 years in the planning region through the promotion of multiple Local Enhanced Management Areas (LEMAs), Water Conservation Areas (WCAs) and other incentive-based programs. Slow the depletion of the Ogallala Aquifer by 25% in 10 years in the planning region maximizing the opportunity to make use of emerging technologies. Encourage conservation through added flexibility. Find additional sources of water and a place to store water for irrigation and recharge. Increase the opportunity to use wastewater for other beneficial uses. Increase education of aquifer conditions.**

- ❖ The depletion rate of the Ogallala Aquifer is based on the previous 15 years of data, 2000-2015. Usable life of the Aquifer is defined as 400 gpm well.
- ❖ Gather data to quantify the reduction in water use needed to reduce the depletion rate by at least 25% in 10 years and extend the life of the Ogallala in the region for at least 25 years. Use data to determine problem areas for focusing efforts.
- ❖ Gather data and disseminate information to water users in declining areas on soil/ water quality compatibility, water saving farming practices and Mobile Drip Irrigation (MDI) efficiencies.
- ❖ Focus on irrigation conservation (as largest user)
  - ◇ Encourage adoption of water conservation tools, Local Enhanced Management Areas (LEMAs), Water Conservation Areas (WCAs), technologies, crops and programs to reduce water use (new and improved programs).
  - ◇ Provide tools and assistance for WCA development and adoption.
  - ◇ Reduce inefficiencies in water use through proven technologies and best management practices, i.e., re-nozzle, technology advances and conservation programs.
  - ◇ Provide incentives to reduce pumping rates, reduce usage.
  - ◇ Support water technology farms as research and education tools for water use efficiency.
  - ◇ Define appropriate water needed to raise crop economically based on soil type and irrigation water compatibility.
  - ◇ Evaluate data on MDI for EQIP eligibility
  - ◇ Provide producers with information on water saving farming practices that add value to that farm.
  - ◇ Improve conservation programs such as CREP, and develop others to allow conversions to alternate crops or irrigation systems and remove county acreage caps.
- ❖ Maximize available water and promote conservation of municipal use through incentives, reduced water loss, and increased data availability to reduce gallons per capita per day usage. (Goal #3)
- ❖ Maximize available water and promote conservation of industrial use through incentives, benchmarking efforts, and increased data availability to reduce gallons per production unit usage. (Goal #4)
- ❖ Target conservation efforts along Arkansas River in Finney, Gray and Ford counties to aid in re-establishment of stream flow (Goal #2)
- ❖ Utilize 50-Year Water Vision Education Plan and other means to educate water users to adopt water saving technologies and management techniques, develop LEMAS, WCAs, understand water appropriation laws, and aquifer conditions. Provide decision makers with appropriate information.
- ❖ Develop alternative water supplies (capture runoff and high flows, reuse and recharge).
- ❖ Support research on water conservation and innovative, value-added concepts to offset economic loss.
- ❖ Support funding to provide water conservation actions and education.
- ❖ Support the exploration and investigation of surface water transportation for Kansas.
- ❖ Educate water users recognizing there are costs to individuals beyond program funds to reduce water use.