

What's a LEMA?

(AND THE ALPHABET SOUP OF KANSAS WATER LAW)

Last spring, the Chief Engineer of the Kansas Department of Agriculture's (KDA) Division of Water Resources (DWR) approved a Local Enhanced Management Area (LEMA) for most of Northwest Kansas Groundwater Management District (GMD) No. 4. As you can already see from this first sentence and the rest of this article, state government loves a good acronym and water regulators are no exception.

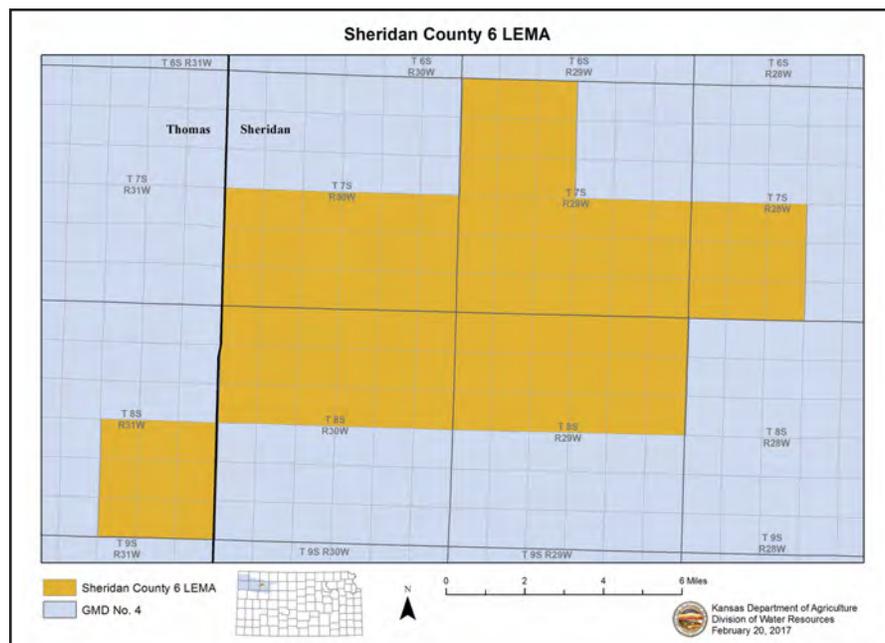
To understand the LEMA process, some history of groundwater development and water law – a roadmap to how we got here – might be helpful. While the Kansas Water Appropriation Act (KWAA) was enacted in 1945, it was not compulsory until the late 1970s. Anybody could use water for any purpose without prior approval or a permit from the state of Kansas prior to 1977. Such use was considered “common law.” No protection was afforded to common law water users and no water right could be developed without a permit from the Chief Engineer, but there was no prohibition from using water for any purpose, provided it wasn't wasteful or impairing an established permitted use or water right holder. For many of those very early years, it was also believed that groundwater, specifically the Ogallala Aquifer, was an inexhaustible supply of water. As technology improved, including the wide-spread use of center pivot irrigation, declines in the Ogallala aquifer started becoming more apparent. Significant regulatory changes were made to Kansas water law in the 1970s. In the mid-1970s, Kansas Republican Governor Robert Bennett, established a commission to

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study the Kansas water appropriation laws and based on that commission's recommendations, the Kansas Legislature made many of the commission's recommended changes to water appropriation laws in Kansas. Following those changes, the use of

water for essentially any use except domestic purposes (EG: household use, lawns and gardens) became illegal without prior approval and a permit from the Chief Engineer. This changed the core mission of DWR from that of an administrative agency to that of a regulatory agency.

Once the change in the law was enacted, there was also a gold rush to get permits and water rights established, which overwhelmed DWR with new permit applications, many of which were for long existing but previously un-permitted projects. Little was known during that time about how much water was actually being pumped or how much recharge was replenishing those groundwater

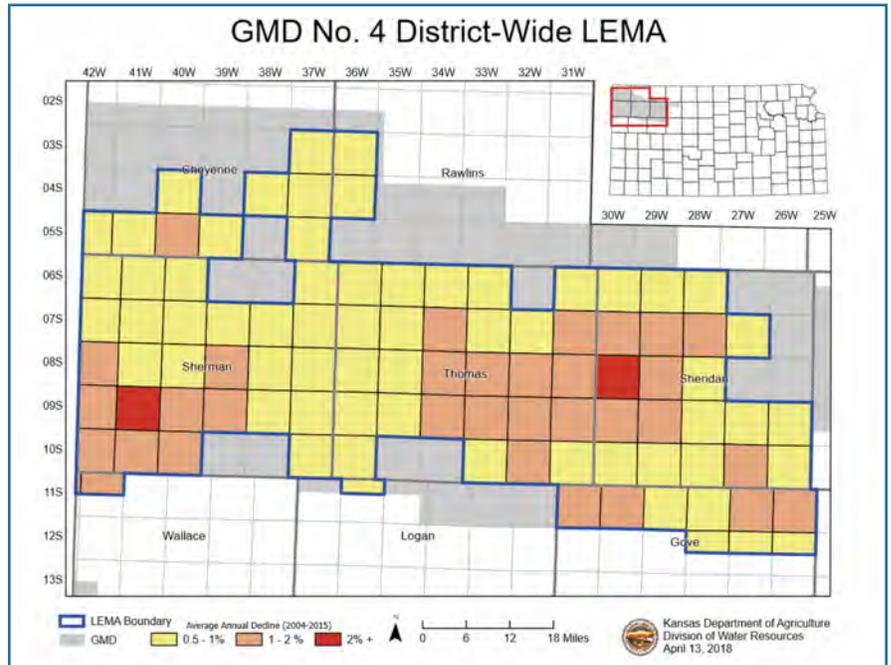


The SD-6 Local Enhanced Management (LEMA) covers a small portion of Sheridan and Thomas Counties in Northwest Kansas. Water users there proposed a LEMA in 2012 to reduce water use by 20 percent in order to reduce declines in the Ogallala aquifer. (Image via KDA/DWR.)

sources. Moreover, there was little in the way of research or guidance in terms of how to prevent water level declines or protect against direct water right impairment. Flowmeters weren't typically required prior to the mid-1980s. Safe yield regulations and well spacing requirements, wouldn't be implemented until the early 1990s. For all intents and purposes, the application and permitting processes of the late-1970s and early-1980s were merely a formality and areas quickly became over-appropriated without much realization of possible consequences. Approval of those applications then created a domino effect with a backlog of subsequent field inspections and a glut of newly developed water rights needing certified. The backlog of work effectively lasted through the 1990s, culminating in a March 1993 Legislative post-audit report, which determined that the Division was understaffed and that application filing fees should be increased.

The LEMA concept

The LEMA concept has its roots in the Intensive Groundwater Use Control Area (IGUCA) laws that were added to the Groundwater Management District Act in the late 1970s. Recognizing that over-development had occurred before regulatory controls had been implemented in state law, the IGUCA provisions were very revolutionary. They are controversial as they essentially allow the chief engineer to throw Kansas' prior appropriation doctrine (first in time – first in right) out the window in favor of some other regulatory approach, allowing flexibility to implement a different method for administering water rights (corrective controls) to primarily address over-appropriation and excessive water level declines as he or she deems to be in the public interest. The process was primarily designed to allow GMDs to initiate the process within their districts and that's why the provision is part of the GMD Act. However, the chief engineer can also initiate the process inside or outside of a GMD. An extensive public hearing



Following the success of the smaller SD-6 LEMA in Sheridan and Thomas Counties, GMD 4 proposed a much larger LEMA to cover nearly the entire district, with boundaries as shown above. The KDA/DWR chief engineer approved the LEMA proposal earlier this year. (Image via KDA/DWR)

process is required in order for the Chief Engineer to establish an IGUCA. The hearing process must demonstrate that groundwater levels are declining excessively, the rate of groundwater withdrawal exceeds the rate of groundwater recharge, unreasonable

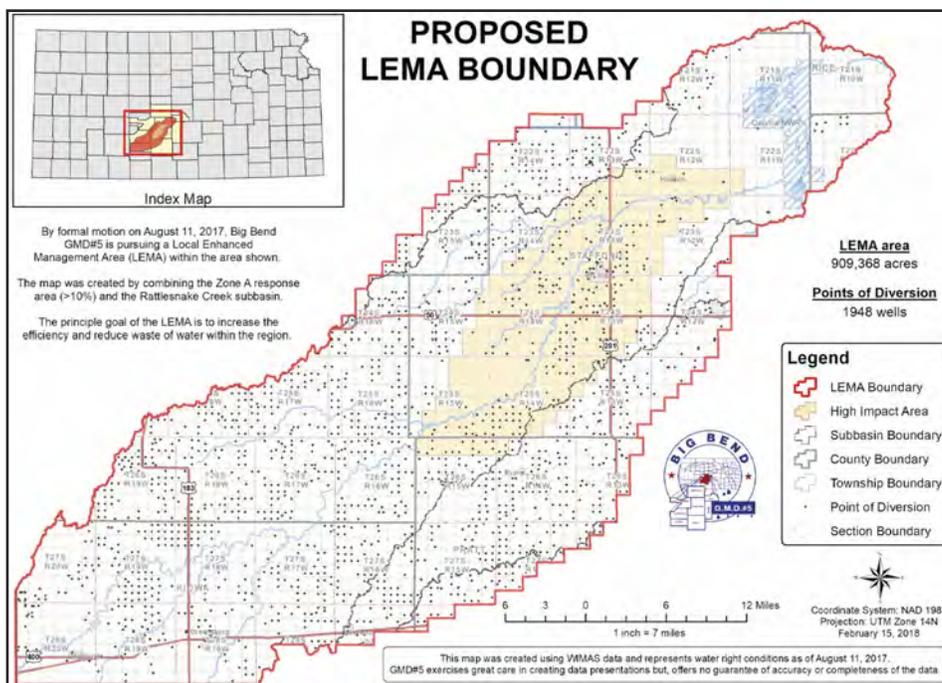
deterioration of groundwater quality has occurred or may occur, or that other conditions exist warranting additional regulation to protect public interest AND that corrective controls would help mitigate any of those issues.

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Big Bend GMD No. 5 in central Kansas has been working on a LEMA in response to concerns of water right impairment at Quivira National Wildlife Refuge, near Stafford, but their plan has not yet been finalized.

The first LEMA established in Kansas was in Sheridan and Thomas counties (referred to as SD-6) within the boundaries of Northwest Kansas GMD No. 4. The SD-6 area covers approximately nine sections in Thomas County and ninety sections in Sheridan County. SD-6 was one of several High Priority Areas (HPAs) established through the state water planning process in 2007, to help the GMD focus their efforts toward resource management. Specifically, areas with significant water level declines or areas that were over-appropriated were designated as HPAs and those areas were effectively closed to new appropriation.

While this alone was a major accomplishment, with groundwater levels declining at the rate of about two feet per year, the GMD and producers in that area were interested in

There are eight IGUCAs in Kansas, mostly outside the boundaries of GMDs, the last of which was implemented during the early 1990s in the Walnut Creek basin in Ness, Rush and Barton Counties. The catalyst for that IGUCA was a request by the (then) Kansas Department of Wildlife and Parks over declining water levels and reduced streamflow affecting their senior water right on Cheyenne Bottoms, pitting agricultural interests against those of recreation and wildlife. The process was initiated in March 1990, with an IGUCA Order issued in January 1992. Aside from closing the area to new appropriation and requiring all water right holders to install water flowmeters, the chief engineer implemented a 5-year reduced allocation on most water right holders in the basin, with penalties against future allocations if the reduced allocations were not obeyed.

One of the problems with the IGUCA process was that the GMDs were apparently unwilling to initiate an IGUCA for fear of unintended

consequences. The IGUCA process left the Chief Engineer and DWR staff in charge of developing and implementing corrective controls, while the GMD might not have any input or might not like those final decisions.

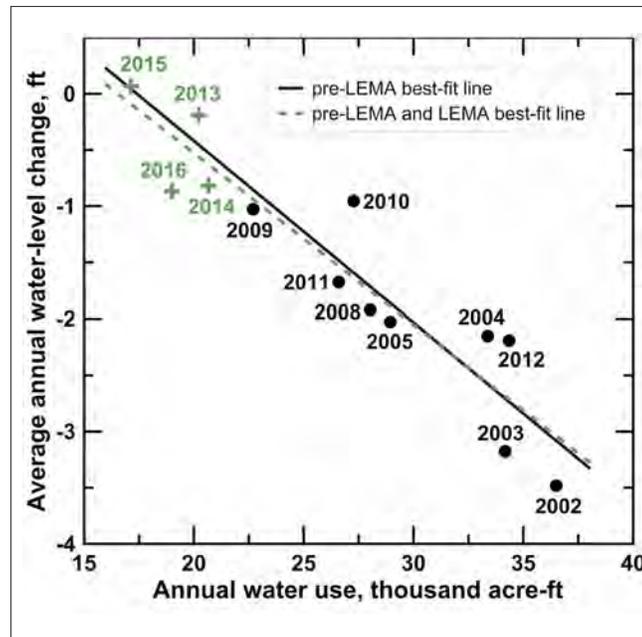
More control by GMDs

Alternatively, the Local Enhanced Management Area (LEMA) process, enacted in 2012, provides GMDs with more control in the final corrective controls. Instead of a GMD implementing the process and not knowing what the outcome might be, the GMD develops and proposes corrective controls, up front. The chief engineer can consider the GMD's proposal and either approve or reject the GMD's plan through the formal hearing process. The LEMA process allows considerable public input before a proposal is even submitted to the chief engineer or before a final decision is reached. So far, non-irrigation uses, such as public water supply seems to have escaped hard cuts through the LEMA process.

taking the next step toward dialing back water use to a more sustainable level. Moreover, the area irrigators were motivated to take measures to help protect a nearby grain purchaser, a dairy with fairly junior water rights. The primary corrective control of the GMD 4 SD-6 proposal was to cut irrigation water use by 20 percent. In July 2012, the GMD 4 board of directors sent their proposal to the chief engineer to initiate the first LEMA in Kansas. Public hearings were held on September 13 and November 28, 2012. The first required public hearing basically determines whether conditions warrant the implementation of a LEMA. Similar to the IGUCA process, the hearings must demonstrate that groundwater levels are declining excessively, the rate of groundwater withdrawal exceeds the rate of groundwater recharge, unreasonable deterioration of groundwater quality has occurred or may occur, or that other conditions exist warranting additional regulation to protect public interest. The second required public hearing determines whether corrective

controls, as proposed by the GMD, are adequate to help alleviate the identified problems and whether the LEMA plan should be adopted. On December 31, 2012, by an Order of Decision, the chief engineer accepted the enhanced management plan for the SD-6 LEMA for a five-year period.

But would the proposed 20 percent reduction be enough to make an impact? That was the question studied thoroughly by the Kansas Geological Survey (KGS) during the first few years of the LEMA. Some studies had suggested that much greater reductions in overall pumping, perhaps more on the order of 75 percent, would be needed to have any appreciable impact on the aquifer. Based on the four years of data since the LEMA was implemented, KGS unveiled their findings. They



Average annual water-level change versus annual groundwater use for the SD-6 LEMA in GMD 4. Groundwater level declines in nearby monitoring wells appear to be significantly less after implementation of the LEMA (calendar years in green) as compared to water level declines during the years prior to the implementation of the LEMA.

(Image credit: Status of the High Plains Aquifer in Kansas by Whittemore, Butler and Wilson for the Kansas Geological Survey.)

found that producers in the LEMA had actually achieved a reduction of 35 percent over four years, beating expectations and the implemented corrective controls. "The result is that the decline rate there has gone from about two feet per year to about 5 inches per year without affecting the bottom line of producers in the area," Butler was quoted in a KGS news release. "Realistically, we are talking about reducing the rate of decline or stabilizing water levels," Butler said. "Replenishment of the aquifer is really not in the cards." Much more data over time will be needed to make definitive claims regarding the effectiveness of the LEMA, but early indicators appear very positive.

More recent research by KGS incorporating the findings in SD-6, has found a similar result. In

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September, the KGS announced they were using a new water-balance approach to estimate how much pumping has to be diminished in different parts of the High Plains aquifer to achieve a zero water-level change, with release of their publication, "Status of the High Plains Aquifer in Kansas." According to the report, calculations made with their new method show that reductions may not have to be as drastic as originally thought. Their results indicate groundwater levels could be sustained in most of the imperiled areas of western Kansas for at least one to two decades by reducing pumping between by about 27 to 33 percent. While that's higher than the 20 percent reductions economic analyses indicate can be made without substantially affecting farming operations, it is significantly lower than those originally forecast using standard numerical models.

Based on the apparent success of the GMD 4 small-scale LEMA, the GMD 4 board and stakeholders were ready to double down on their efforts. Not only did they ask the chief engineer to renew the SD-6 LEMA for a second five-year period, they also initiated proceedings to implement a district-wide LEMA. A June 8, 2017, district-wide LEMA proposal went through the same process as the SD-6 LEMA, with public hearings on August 23, 2017 and November 14, 2017. But the process was not entirely a slam-dunk. Based on careful consideration of testimony provided during those hearings, the DWR chief engineer issued an order returning the proposal to GMD 4 with roughly seven proposed modifications. On March 1, 2018, the board accepted and approved the Chief Engineer's proposed modifications and on April 13, 2018, the district-wide LEMA was approved. Still, not everyone is happy with the end result. As part of the appeal process, two petitions were filed on behalf of some 45 landowners subject to the LEMA reductions, seeking judicial review, citing problems with

the LEMA statutes, erroneous interpretation and application of the law, and labeling the new LEMA arbitrary and capricious. The LEMA, however, remains in effect for all except for those challenging its implementation, while the issues raised by their petitions are decided by the courts. It is likely that at least one of the petitioners will ultimately take these issues to the Kansas Supreme Court. Much more about the GMD 4 district-wide LEMA hearing process, details about changes made before implementation and the petitions for review can be found on the DWR website.

Likewise, not all LEMA proposals have been as successful. A 2014 effort by Western Kansas GMD No. 1, covering west-central counties in Kansas, was shot down by majority vote of the stakeholders. There (so far) appears to be little interest for a LEMA in GMD 3, covering southwest Kansas, where water level declines are much greater, but there have been some LEMA prospects on the horizon and a few WCAs (Water Conservation Areas) have been established in an attempt to conserve water on a much smaller scale. Big Bend GMD No. 5 in central Kansas has been working on a LEMA in response to concerns of water right impairment at Quivira National Wildlife Refuge, near Stafford, but as of this writing, that plan has not yet been finalized. So yes, as the governor touted last summer, sustainability is attainable, but not if local stakeholders are not willing to come to the table with a viable plan. And so far, that appears to only be happening in a small portion of the High Plains Aquifer.

Ken Kopp, P.G., Water Rights/Source Water Specialist, joined KRWA as Water Rights/Source Water Specialist in early 2016. He previous worked for twenty-three years at the Kansas Dept. of Agriculture, Division of Water Resources and most recently was New Application Unit Supervisor.

