

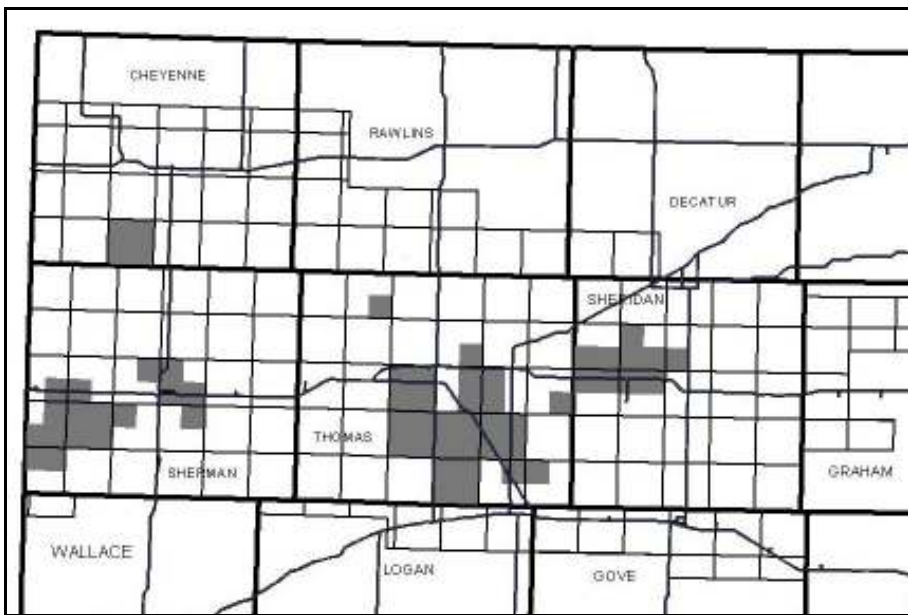
BOARD TAKES NEXT STEP IN PROTOCOL

During the June 5, 2008 meeting, the GMD 4 board deemed that the enhanced management protocol Task 3 has been completed and authorized staff to begin Task 4. As you may recall, Task 4 is the heart of the entire protocol process where the landowners and water users in the 6 designated high priority areas are invited to a series of public meetings to discuss their high priority areas.

The discussions will start with an overview of the process, and look at all the water level data available for the area. Eventually, the participants will be asked for their recommendations regarding what should be done to reduce the water level decline rates, how the preferred actions might be approached, and what goals should be set.

While the protocol process the board adopted is not absolutely specific in its goals of how much to reduce the decline rates, it does obligate us to a reduction that can be quantified. In other words, doing nothing is not an option. As ideas and suggestions are offered, they can be run through the new hydro-economic model to assess the impacts of each proposal.

The public meetings will likely begin this Fall after normal farming activities have slowed down. The high priority areas affected are shaded Gray below. These areas are also viewable and specifically described by section, Township and Range on the GMD4 webpage. For more information, contact the office.



WATER FLOWMETER TIPS

Being a mechanical device, meters also need some preventative maintenance to keep them in their best operating condition. Always follow the manufacturer's recommendations for checking, lubricating and storing the meter. Some hints are:

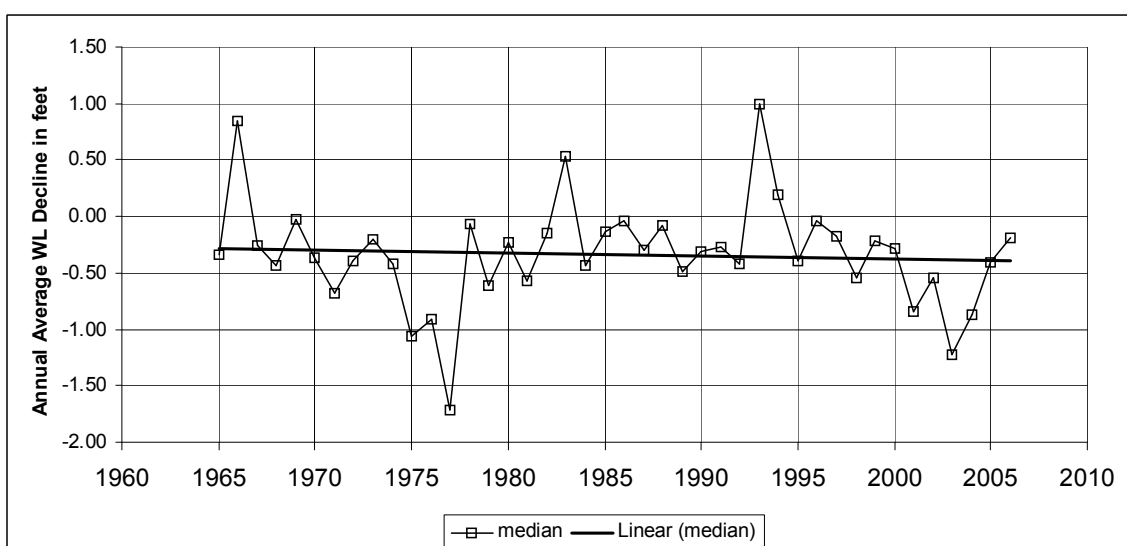
- 1) Before use each year, look for physical problems. Cattle can be tough on them, rodents can chew on the propellers, freezing water can break seals, and the sun and rain can damage the dial over time without a lid. For electronic meters, check the batteries. While some units warn of low batteries, others don't.
- 2) During operation, check for sloppy or erratic movements of the flow rate needle and volume totalizer wheels. These are indicators of faulty gears or an unbalanced propeller. Always check for moisture under the meter cap lens. One indicator of moisture problems is if the flow rate needle works but the totalizer does not. Early moisture detection and repair is important. You should also make sure the readings remain relative to, or make sense with, historic readings. Dramatic changes can signal problems with the well, the irrigation system or the meter.
- 3) After the season, remove the meter and prepare to store it as recommended by the manufacturer. First, check the spin on the propeller. It should be smooth and quiet. Grinding, popping or other noises mean sand, grit or other foreign material is present that will cause excessive wear and earlier repairs. The shaft should also have no extra play – an indicator of bearing wear. The rate needle and totalizer should also have solid responses when spun. If lubrication is needed, a white, lithium grease is most often recommended and the meter should never be over-greased. Finally, record your ending meter reading so accurate water usage can be determined. For periodic calibration and other detailed technical questions contact your meter dealer. *(Original article by Curtis Scheele, NRCS, Holdrege, NE. Permission to condense and use herein granted)*

www.gmd4.org WEBSTATS

For the combined months of April and May 2008: Our webpage experienced 4,236 visits resulting in 4,994 page views. The top 3 pages were: Water Quotes (76.2%); Formulas (8.0%) and the Home Page (7.9%). For the 12 month period June 1, 2007 to May 31, 2008 we've averaged 54 visits and 67 pageviews per day.

HYDROLOGIC MODEL CALIBRATION YIELDING RESULTS

The district has undertaken a re-application of the Republican River Compact model in cooperation with the KWO, DWR, KSU and BoR. We are attempting to use the hydrologic results of this model as inputs into a compatible economic model to tell us both the hydrologic and economic impacts of any reduced water use decisions we might make to achieve the state water plan's guideline of slowing the High Plains decline rate. The model is based on 860 well points throughout the model domain (the entire High Plains Aquifer in NW Kansas north of the Smoky Hill River) which have multiple measured water levels. It covers the time period 1965 – 2006. The graph below shows the median water level change of all 860 wells by year. Note that in only 4 years (1966, 1983, 1993 and 1994) the median water level rose throughout the model domain. The trend line shows a slight trend toward increasing water level declines, but remains less than 1/2 foot per year.



(Continued.....)

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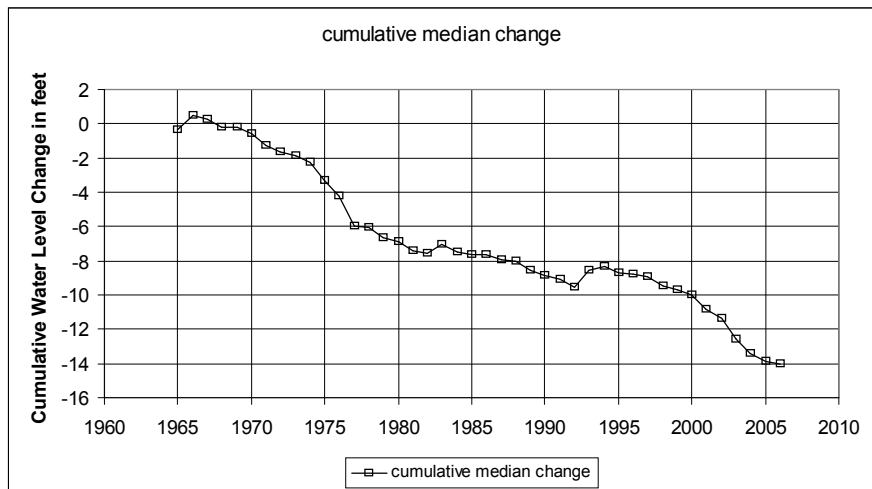
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MODEL RESULTS... (continued)

The cumulative decline graph below shows a total median decline (of all 860 wells) of 14 feet between 1965 and 2006, or .34 feet per year. Again, these data are for all of NW Kansas, not just the GMD area. The 4 “gaining” years of 1966, 1983, 1993 and 1994 can be seen on this graph, but are not overwhelming.



The calibration of the hydrologic model is wrapping up and so far the results appear to match reality pretty closely. The next steps are to: 1) suggest some water use reduction scenarios (area wide or more regionally); 2) let the hydrologic model predict the water level declines over the specified future time period; and 3) feed these results into the economic model to see what happens. The hope is to find the best water use reduction process having the least economic impacts. More to follow as these efforts progress.

The Water Table

Sponsored by the NW Kansas Groundwater Management District No. 4, 1175 S. Range, Colby, KS 67701-0905. Office hours: 8:00 a.m. to 5:00 p.m. Monday through Friday (except the noon hour) - closed during State holidays.

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ADDRESS CORRECTIONS ARE APPRECIATED

THE NATURE OF A KANSAS WATER RIGHT

More and more well owners are asking questions about using their wells for purposes they don't normally do – like supplying water for oil/gas well drilling, road construction, watering windbreaks, etc.

A water right in Kansas is approved for a specified use or uses, and only the specified use(s) are legally allowed. If you have a water right to irrigate 120 acres, only irrigation on those acres is allowed. If you want to sell water from that irrigation well, to drill an oil well for example, this new use would need its own, industrial water right. Remember, it's always permissible to use domestic water without a permit, but domestic is tightly defined (see Nov/Dec 2007 edition).

If it's a one-time sale or a fairly temporary arrangement for a limited number of sales, a term or temporary permit can be applied for, and if approved, the extra water use is then legally covered. Term and temporary permits have different conditions and limitations, and no permanent rights accrue to these permits, but they do make these water uses legal.

If you want to supply water to a new use on a longer, more permanent basis, you can also permanently change all or a portion of your current water right to the new use type – industrial use in the oil well drilling case we've been using. This is a much more formal process and results in a valid water right once completed – with a resultant reduction of the original irrigation water right to cover the consumptive use of the new use(s).

Of course, there are very specific regulations dealing with these kinds of water right changes, and they are not always permissible. And remember, the changes must be approved before the new use(s) is made. If you need more direction, contact the GMD 4 office or the Division of Water Resources in Stockton or Topeka.

Pumping the Tailwater

The following guest article has been provided by **David Barfield**, Chief Engineer, Division of Water Resources. My appreciation to David for contributing his thoughts on several of the issues I raised in last edition's Pumping the Tailwater article.Wayne Bossert

In the last issue of the Water Table, Wayne Bossert reported on efforts by the Legislature to amend the Intensive Groundwater Use Control Area (IGUCA) provisions of the Groundwater Management District Act. In his article, "The Waterscape Is Changing," he noted a series of interactions in recent years between GMDs and state officials regarding Ogallala management that caused him concern. I would like to provide my perspective on those issues.

The IGUCA provisions of the GMDs Act are important to maintain, especially as we face growing water resource conflicts. They allow using a hearing process to craft specific solutions to particular water management problems in local settings. However, over the last year or two, GMDs and some stakeholder groups have expressed concerns about the process. We believe the statute is fundamentally sound, but we have been listening. We believe we can address these concerns by adjusting the IGUCA process

We have met a number of times with the GMDs and stakeholders over the last year to work toward solutions. However, the legislative process overtook these discussions. While the legislative process developed some useful concepts and language, but in my view was not the most effective method to resolve these complex set of issues involved in resolving concerns expressed.

Since the IGUCA bill did not pass and since the matter will not be taken up by an interim legislative committee, the Kansas Department of Agriculture will proceed with its original plan to develop regulations that codify the concepts agreed to in the legislative process and others that might be developed in our discussions. The legislative bill included periodic review of IGUCAs and using administrative regulations to add more steps to the hearing process. The initial working draft of the regulations are on our website at www.ksda.gov/dwr. We are currently scheduling discussions with GMDs and stakeholders to review these.

As Wayne noted in his article, the issue that prevented the IGUCA amendments from passing had to do with the circumstances under which the chief engineer could initiate an IGUCA within a GMD. GMDs interpret existing law to mean the chief engineer does not have the authority to act independently of the GMD and that the statute should be amended to make that clear. No chief engineer has initiated an IGUCA within a GMD without its consent and I have no desire to be the first. However, it is my position, and that of the Kansas Department of Agriculture, that, we cannot support precluding the possibility. As water resource conflicts grow, there could be situation when a chief engineer must act to protect senior appropriators, a GMD is unwilling or unable to act, and the tools allowed by the IGUCA provisions will produce solutions better than strict administration under the Water Appropriation Act. We support, and even offered during the legislative process, language that would restrict the circumstances under which a chief engineer could initiate an IGUCA within a GMD and require substantial work between the chief engineer and GMD before this could occur.

Regarding Wayne's "Waterscape," I can't fully address his list of events and statements that influence his concern that locals will not have a sufficient role in local groundwater management. The "waterscape" is changing in some senses. Groundwater declines are not new; we have been experiencing them for decades but conflicts are increasing in many areas of our state. We have taken action to slow new development and make better use of our water resources, but in some areas additional action is needed.

Wayne's closing remark is for locals "to become more proactive in local groundwater problems and to find suitable, local solutions for them. Otherwise, the state will." I see this as the cooperative work of both.

Clearly, GMDs have a role, which is outlined in their purpose statement in the introduction to the GMD Act. They were created "for the proper management of the groundwater resources of the state; for the conservation of groundwater resources; for the prevention of economic deterioration..." Equally clear to me is that the state has a role under in Water Appropriation Act.

My desire as chief engineer is to work closely with the GMDs to determine what action is needed and where, and to bring about that action in a planned and organized way, providing those affected with as much time as possible to deal with the changes. I think this best serves the public interest.