

STUDIES LOOK AT ECONOMIC VALUE OF AG PRODUCTION

Next Board Meeting Date: **May 12, 2005, 10:00 a.m.**

Three recent studies have focused on the economic ramifications of reduced water use: 1) When the Well Runs Dry: The Value of Irrigation to the Western Kansas Economy (Leatherman, Cader and Bloomquist for the Kansas Policy Review); 2) Potential Economic Impacts from Groundwater Regulation in the Republican Valley (Supalla and Nedved for Nebraska University, Lincoln) and 3) a study done by Assistant Professor James Pritchard (Colorado) which is untitled in the referenced news article.

These three studies all attempt to place an economic value on irrigation water use, and more importantly, what the economic impacts will be if water use is restricted. While the Nebraska and Colorado reports were done in direct response to recent US Supreme Court decision(s), the Kansas report was motivated more by the overall decline of the Ogallala Aquifer and to predict what is likely to happen if the status quo continues.

The Nebraska Report concludes: 1) a significant economic impact to the producer sector and the secondary sectors - depending on how much water use is restricted and how it is accomplished. Since there is a diminishing return per acre inch applied, small restrictions have a much smaller economic impact relative to larger restrictions; 2) regulating reduced allocations affect the producer most while retiring irrigated acres affects the secondary economy the most; 3) deficit irrigation of corn is a better option than reducing irrigated acres, or changing cropping; and 4) each Republican River NRD displays different impacts due to differences in rainfall and irrigation practices.

The Kansas Report conservatively concludes a loss of \$500 million in total output, a loss of 3,300 jobs and loss of \$140 million in regional income if all irrigation stopped at once. It also suggests that the costs of policies that do not solve the problem (achieve sustainability) are not an overall positive societal benefit, but they do give producers time to adjust to altered production and reduced income strategies. Less water intensive, replacement economic growth is needed, but is very difficult to accomplish.

The Colorado Report, for the counties along the Republican River, concludes that not irrigating these acres would be a loss of \$324 million over a 30-year period, or, \$16,197 per acre.

From the tone of these reports (and if they are right) it seems that the up front economic cost of reducing water use to ease water table declines is sobering at best. These reports also suggest that replacing lost economy will need to be a huge part of any palatable solution. Adding the Secretary of Commerce to the Kansas Water Authority now looks like a great move. Let's hope this agency gets involved.

VOLUNTARY WATER LEVEL MEASUREMENTS DISCUSSED

Not sure how many people are aware of it, but the Ogallala Aquifer has a state water plan supported **WISP (Water Issue Strategic Plan)** being developed on it. The WISP goal is: to better characterize the aquifer; to conserve and extend the life of the Ogallala through management by sub-units which target activities and efforts to higher priority areas; and to implement strategies for improved ag practices with limited water resources.

The WISP committee is made up of federal, state, local and private representatives. Currently 16 activities are under consideration involving the 4 broader activities of:

*Coordination, Education and Public Info
Water Conservation Implementation*

*Water Right Management
Data and Research*

It is the second activity under *Data and Research* that is the subject of this article. While everyone agrees that the existing water level monitoring network is suitable for large regional characterizations over longer periods of time, few believe this data will adequately support the smaller, sub-unit management efforts. How do we best get the added data? One of the options being discussed involves well owners voluntarily measuring their own water levels - provided they receive sufficient outside support to make this effort scientifically acceptable. Such support would include accurately locating the well with GPS, describing it, providing measurement equipment and measuring instruction, and setting up a web site to record and access all data collected.

This approach will be the least expensive way to capture many additional data points that will significantly enhance our decision-making capability - if there is enough participation. But what do the well owners think? Will it be an acceptable approach under the conditions discussed above? Do you feel infringed upon? Alternatively, would you rather move ahead with the existing data implementing decisions? The WISP is anxious to know if well owners will support or oppose individual monitoring - and why. Think about it a bit and give us a call if you care to comment.

WATER CONFERENCE ATTENDED

GMD 4 Board President Robin Deeds was a panelist at the annual Water and the Future of Kansas Conference held March 17 in Topeka. Governor Sebelius opened the conference with some comments on the importance of water and how confident she was that Kansas had the agencies and personnel to address water issues effectively. All of the general session speakers drove home the point of cooperative and coordinated approaches toward solutions. The breakout sessions were very diverse - covering topics from Geology and Human Health to Water Quality Trading. And of course, both surface and groundwater topics were involved.

One of the concurrent panel discussions comprised 4 of the state's 5 GMD's talking about groundwater policy from their perspective. Discussion began with the question: **Who makes groundwater policy?** Panelist responses included: the Legislature; the courts; the agencies via regulations; hopefully everyone working through the established process; and all of the above. The remaining discussion came almost exclusively from audience questions posed as follows: What's the public interest? How do I get information on the relevant local issues if I can't attend the meetings? What role does water administration play in solving water issues? How well does the water use reporting system work - including metering? The district perspectives expressed were both varied and consistent - depending on the question/issue.

As it usually happens, the session ran out of time just as the most lively discussion of the session was getting started: **Why water rights should be bought?** While most appeared OK with this approach following GMD 3's comments, the session was over before the other side of the issue could be discussed. This was too bad as this side of the argument needs to be considered, too.

FOUNDATION UPDATE

The Northwest Kansas Groundwater Conservation Foundation (www.groundwaterfoundation.com) sent out 15 grant proposals late last year requesting a total of \$7.8 million for reducing consumptive groundwater use in GMD4. Thus far, 3 have been returned with regrets, 1 returned no forwarding address, and 1 moved their submittal date by 6 months. Having not heard from the remaining 10 grantors does not appear promising, but, we're still trying. And the GMD4 board is continuing its support. More to come.



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PROTOCOL UPDATE

The state water plan guidance says the western Kansas GMD's are to do enhanced management in order to reduce the water level declines and extend the life of the aquifer. We are to do this by establishing aquifer sub-units, prioritizing the sub-units, setting water use goals and implementing enhanced management plans in the high priority sub-units. The state division of water resources is to do this for the aquifer areas outside the GMD boundaries.

The first step for GMD 4 was to incorporate the protocol process into its management program. This language is to specify the process to be used to accomplish the goals above. This step requires board approval, then state adoption by the chief engineer of the division of water resources, then a local public hearing for the district members, and then final board adoption. Once these steps are done the remaining details of the process will be developed by the GMD 4 board.

The district's Revised Management Program (including the protocol procedure) was approved by the board on January 20, 2005 and submitted to the chief engineer on January 25. On February 16 the board opted to stop any further protocol discussions until the management program is formally adopted.

Among the remaining issues to be decided (assuming the current protocol survives the state review and local public hearing) are: 1) the specific criteria to establish the aquifer sub-units; 2) the specific triggers to be used in setting the high, medium and low priority ratings; and 3) How to conduct the public meetings (high priority areas) to set goals and management approaches. As always, your ideas are welcomed.

THE ADAPTIVE MANAGEMENT APPROACH

The Problem: The rigor science needs to reach useful conclusions rarely can be met in complex, public policy settings. Moreover, often decisions on these complex issues can't wait for science to reach proven (statistically or otherwise) answers. What to do?

The answer seems to be **Adaptive management**, which is a way to design an ongoing "process of learning" intended to yield answers using actual projects as the source of knowledge. While the design of the study process is important, it is the required post-study efforts that are most important and which must be able to integrate case-specific contextual knowledge into the broader scientific understanding of the particular issue.

In short, adaptive management is designing and promoting project experimentation as another way to find complex, public policy answers. While some see this approach as a way to defeat the scientific catch 22 we now face and a necessary step forward, others question if political institutions should be conducting publicly funded experiments - even when designed to add practical knowledge to the broader issue. This article is included here because "adaptive management" is now being discussed inside Kansas - specifically within the Ogallala Water Issue Strategic Plan (see article on Page 1). We'll keep an eye on this topic for you.

GMDA SUMMER MEETING

The Summer Seminar of the Groundwater Management Districts Association will be in Twin Falls, Idaho, June 22-24 at the Shilo Inn Suites Hotel. The program includes topics on ground and surface water interaction, modeling, Idaho surface water system operations, local groundwater district operations, water quality, conflicts and cooperation between ground and surface water users, water conservation Indian water issues and more. Contact Judith McGaugh, PO Box 129, Stoneville, MS 38776, (662) 686-7712, (judith@ymd.org) for info.

PIVOT EVALUATIONS BEING OFFERED

Doug Musick, Thomas County Extension, is seeking interested irrigators who want to have their center pivot systems evaluated for application uniformity and rate. Individual nozzle rates can change over time and thus negatively affect the system's water distribution. A limited number of evaluations can be done for free and can be done in about 1/2 day. The system needs to be running and the crop needs to be less than full canopy. Finally, the system owner need not be present for the entire evaluation.

If you are interested, contact Doug at the Thomas County Extension Office or call at (785) 460-4580 to schedule an appointment. Evaluations in other areas have shown some significant variations in application uniformity that were unknown to the system owner. The Kansas Corn Commission and the State Water Plan have contributed financially to support this effort by K-State Research and Extension.

Pumping the Tailwater

Editorial Comment by Wayne Bossert, GMD 4 Manager

ITAP FAILS - WHAT'S THE MESSAGE?

So we have ended another legislative session with no ITAP bill to help in reducing irrigated acreage or consumptive crop water use - either or both of which are necessary to achieve the guidance goals of slowing the water level declines in the priority areas of the High Plains Aquifer. Is there a message here?

We are left to wonder if the Legislature did not agree with the ITAP goal itself, or, if their objection was simply the way the goal was being approached. The State Conservation Commission did recently say: *"The SCC understands the Legislature's perspective that permanent retirement of real property rights to address over-appropriated areas of ground and surface water may not be the answer that Kansans are ready for at this time."* While this statement implies that the Legislature was singularly opposed to just the approach being used by ITAP, I'd be less than honest if I said I never heard a Legislator express equal concern over the negative economic impacts associated with passing ITAP and reducing water use.

All the while, the state agencies, the GMDs and the subbasin management efforts are still laboring under the notion that water use reductions are being required by the state water plan and are going to happen either through voluntary, economic incentives, or, through state regulation if the incentives don't work. Is it fair to put everyone through this effort if it's not even consistent with the Legislative mindset and/or no Legislative help is a possibility? Frankly, if the real Legislative message in failing to address ITAP (water use reductions) is that it's too much impact on the economy, then this body is not at all in concert with the state agency goals, and the current planning and regulatory efforts of these agencies are actually at cross purposes.

It might help if Kansas had a clearer set of goals concerning the relationship between our water resources management and the economy. If we don't want to negatively affect the economy, don't reduce water use (see page 1 article on the economic studies). If we want to reduce the water use, we'd better plan on an economic impact and have a co-plan to address these impacts. Either way, we all need to be tugging in the same direction if we're going to efficiently move anywhere else. From our perspective, the Legislature and the state agencies are simply not seeing the same vision on this issue, and we're not sure who is going to prevail. Actually, we do know who is going to prevail - the Legislature is always right, even when they're not right.

The Water Table

Sponsored by the Northwest Kansas Groundwater Management District No. 4, 1175 S. Range, Colby, KS, 67701. Mailing address: PO Box 905, Colby, KS 67701-0905. Office hours: 8:00 a.m. to 5:00 p.m. Monday through Friday (except the noon hour) - closed on State holidays.

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