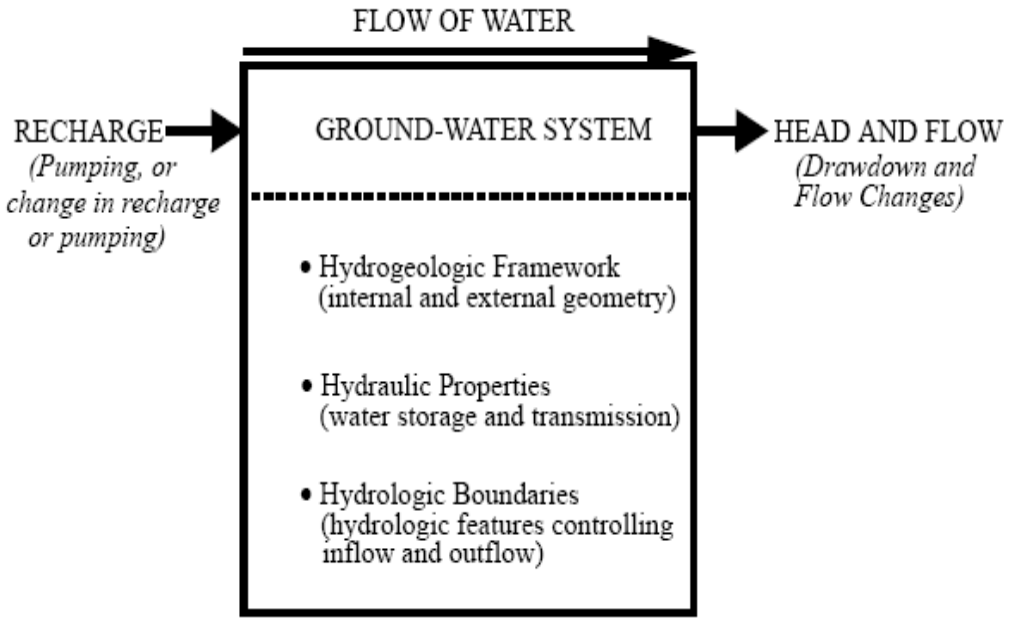
MIDDLE ARKANSAS SUBBASIN NEWSLETTER

JANUARY 2006

WHAT IS A GROUND WATER MODEL?

Ground water modeling is a tool used to represent or approximate the natural ground water system. A mathematical or numerical model simulates ground water flow of the natural system by using equations and procedures that describe the heads or flows along the boundaries of the model. A boundary can be defined as the conditions that establish the hydraulic characteristics of the system at its boundaries. Correctly identifying boundary conditions in a model means that they adequately correspond to those in the natural system and the response in the model and natural system match reasonably well. No model is perfect. However, with sufficient information, the assumptions made in the model can be fairly accurate. A model is primarily about quantifying the external influences that affect the flow of water in the aquifer and surface drainage system.



Representation of a ground-water system model (Illustration from The System Concept: Ground-Water Systems and Models, Buxton and others)

UPCOMING MEETINGS

GMD #5 ANNUAL MEETING

7 p.m. February 16, 2005

Ida Goodman Memorial Library
St. John, Kansas

UPPER ARKANSAS BAC MEETING

1 p.m. February 27, 2006

Great Bend Front Door
1615 10th Street
Great Bend, Kansas

KANSAS DAM SAFETY CONFERENCE 2006

February 20-22, 2006

Radisson Hotel
Wichita, Kansas

WATER PACK ANNUAL MEETING

10 a.m. January 11, 2006

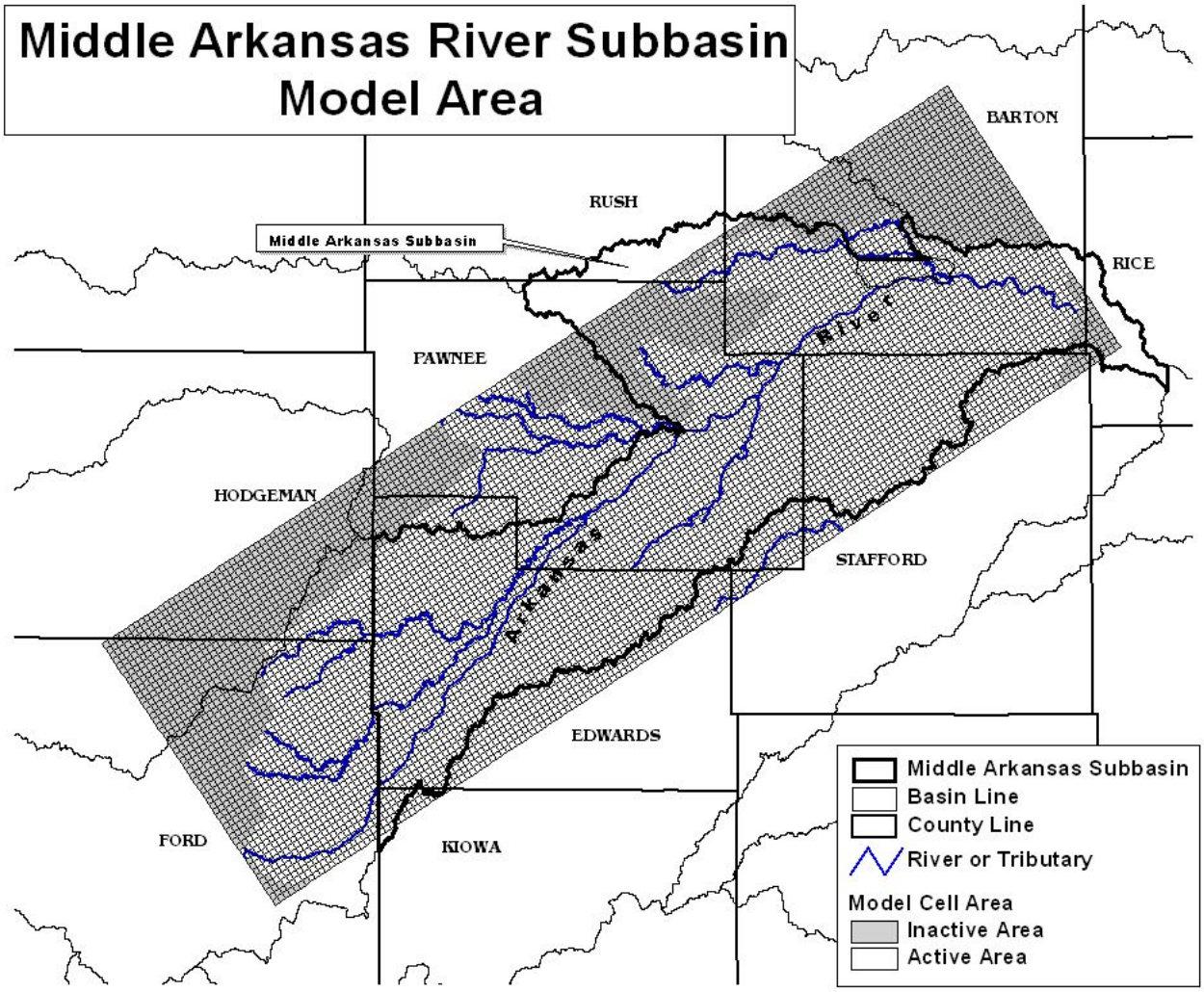
Highland Convention Center
Great Bend, Kansas

INSIDE THIS ISSUE:

WHY CONSTRUCT A GROUND WATER MODEL?

A ground water model can help us better understand our aquifer. In addition, we can gain insight into the various factors that affect a site-specific area in the model as a framework for gathering and organizing field data, which will help formulate ideas about the natural system. The results of the model should help water resource leaders make reliable decisions and manage this precious resource better.

The construction process for the numerical ground water model in the middle Arkansas River subbasin has been conducted through a technical advisory committee that includes representatives from Kansas Department of Agriculture, Kansas Water Office, Kansas Geological Survey, Big Bend Groundwater District No. 5, Water PACK (Andy Keller with Keller-Bliesner) and S.S. Papadopulos (consulting firm with Steve Larson as the representative). Model results will be presented in early 2006.



The model area contains 8,736 cells, of which 6,209 are in the active model area. Each cell approximates the area of a quarter mile section. The total active area in the model is approximately 1,566 square miles. There are 2,158 water rights and 2,505 points of diversion currently in the study area.

NRCS ANNOUNCES EQIP CUTOFF DATE

The Natural Resources Conservation Service has announced January 20, 2006, is the cutoff date for the Environmental Quality Incentives Program applications to be considered for fiscal year 2006 funding.

EQIP Ground Water and Surface Water Conservation

In addition to EQIP, producers across the state may apply for financial assistance through the provisions of EQIP. Producers will be provided assistance only to facilitate a conservation practice that results in a net savings in ground water and surface water resources in the agriculture operation of the producer.

New Provision: Quick Response Areas

"To improve the effectiveness of EQIP ground and surface water conservation funds, quick response areas have been designated in the High Plains Aquifer region for reducing water use," said Harold L. Klaege, NRCS state conservationist. "These areas were identified by four Western Kansas Groundwater Management Districts and the Kansas Department of Agriculture's Division of Water Resources."

NRCS will provide EQIP financial assistance for eligible applications located within quick response areas where producers convert irrigated cropland to non-irrigated cropland.

EQIP Self-Assessment Tool

When farmers or ranchers apply for 2006 EQIP funding, they will be required to fill out the Kansas EQIP self-assessment tool for fiscal year 2006.

"If they plan to apply, they should start the process very soon if they haven't done so already," emphasized Klaege. "The self-assessment tool is an educational tool," he explained, "providing landowners with a clear indication of what natural resource concerns they have, what they can accomplish and what they need to do to qualify for the program.

"We see this self-assessment as a time-saving and money-saving tool," said Klaege. "We envision that the self-assessment will cut down on the time it takes NRCS to process applications for EQIP and that it will also reduce the federal dollars required to administer the program and make more dollars available for producers."

EQIP Funding

Kansas received more than $24.8 million in fiscal year 2005 and 2,022 contracts were funded. More than 2,680 applications were received that totaled more than $31 million.

In Kansas, EQIP funds will help farmers and ranchers install conservation practices that improve and protect Kansas' priority natural resource concerns.

"The objective of EQIP is to address natural resource concerns through the application of improved conservation systems. EQIP is an environmental enhancement program," said Klaege.

EQIP, one of the largest programs in the 2002 farm bill, is a voluntary conservation program that promotes environmental quality and helps producers meet local, state and federal regulations.

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NRCS ANNOUNCES EQIP CUTOFF DATE

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Kansas Identifies Priority Natural Resource Concerns

The fiscal year 2006 Kansas EQIP-eligible priority natural resource concerns are as follows:

- Air Quality—objectionable odors
- Forestland Health—productivity, health, vigor
- Grazing Lands Health—productivity, health, vigor and noxious or invasive weeds
- Sedimentation of Federal Reservoirs—soil erosion-streambank; water quality-excessive suspended sediment and turbidity in surface water
- Soil Quality—organic matter depletion
- Water Quality—concentrated, unconfined animal waste
- Water Quality—confined animal waste
- Water Quality—nutrients/pesticides/suspended sediment
- Water Quantity—inefficient water use on irrigated land; aquifer overdraft
- Water Quantity (quick response areas)—inefficient water use on irrigated land; aquifer overdraft

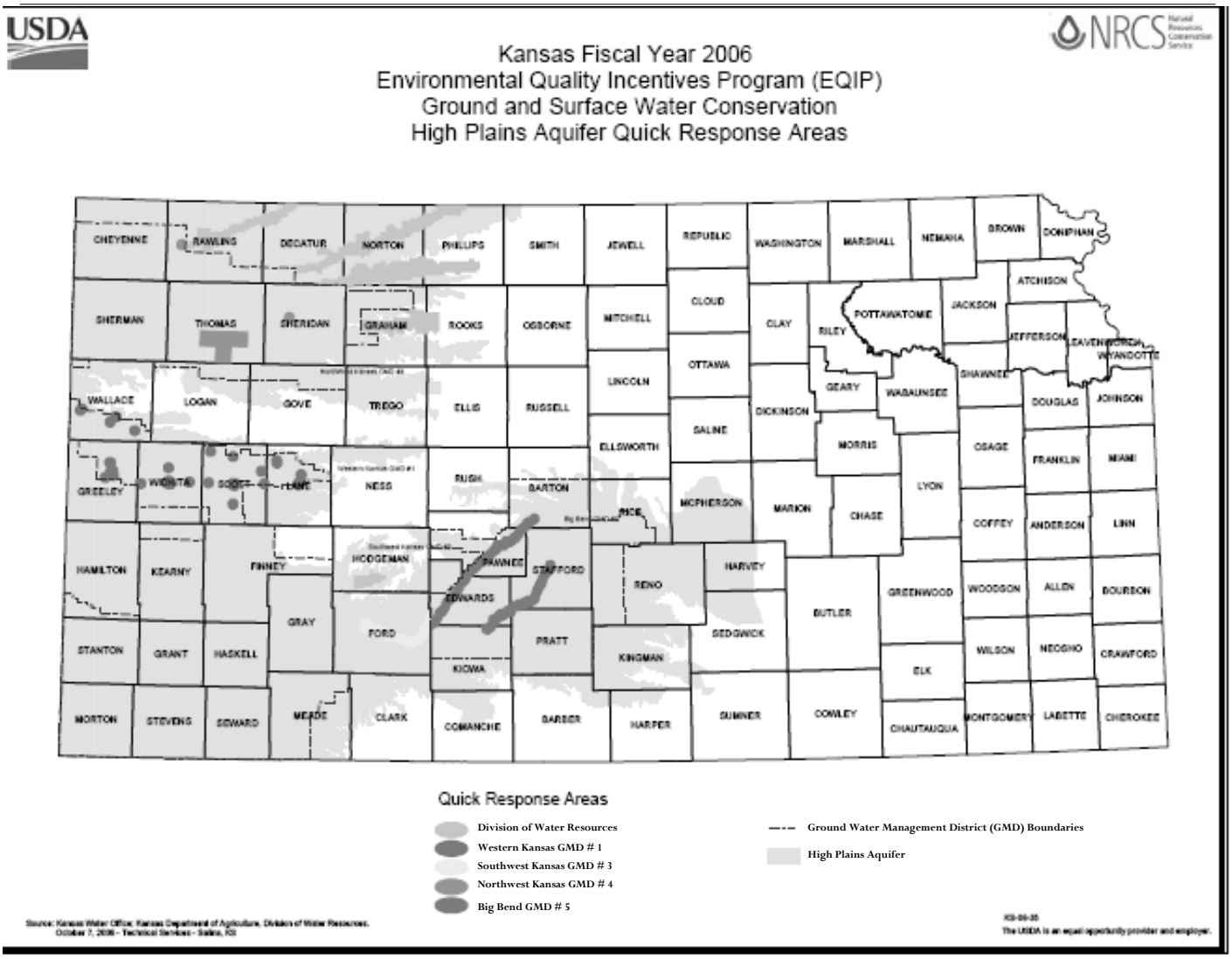
Cutoff Date Set to Evaluate EQIP Applications

"After January 20, 2006, NRCS staff will begin evaluating applications received in Kansas. Producers who submitted an application should know by the end of March if their application has been accepted and funds allocated for their contract," explained Klaege.

NRCS will evaluate each application and give higher priority to those applications that use cost-effective conservation practices; treat multiple resource concerns; address national, state or local priorities; and provide the most environmental benefit.

Apply at Local NRCS Office

Agricultural producers interested in participating in EQIP can apply at any time at their United States Department of Agriculture Service Center at their local NRCS office. Information about 2006 EQIP is available on the website at http://www.ks.nrcs.usda.gov/programs/eqip/2006, through local USDA Service Centers, from NRCS and local conservation districts. This will include information about 2006 EQIP; EQIP fact sheets explaining Kansas EQIP, ground water and surface water conservation, and quick response areas; map of quick response areas; the Kansas EQIP: Self-Assessment Tool; an application form; a list of eligible practices and average costs; and specifics on Kansas' ranking process, including criteria used to evaluate applications.



WATER PACK MEETING IS JAN. 11

Kansas Water PACK's conference and annual meeting will be Jan.11 at the Highland Convention Center, 3017 W. 10th St., Great Bend. Topics will include water banking, updates on the Rattlesnake Creek subbasin and the middle Arkansas River computer model by the Kansas Geological Survey, and the Water Transition Assistance Program David Traster, Wichita attorney, will present, "Water Rights: Are They Your Property Rights?"

Meeting registration begins at 10 a.m. Lunch will be provided. A 6 p.m. banquet will be followed by the business meeting. Registration for non-Water Pack members is $25. Call (620) 348-4874 or (620) 549-3331 by Jan. 6 to register. The public is invited to attend.

If you prefer not to receive this newsletter in the future, please contact Eve Tracy at (785) 296-3705 or etracy@kda.state.ks.us.

WATER INFORMATION NOW AVAILABLE ONLINE

Information about water rights and water use will now be available electronically on a new website launched this week by the Kansas Department of Agriculture and the Kansas Geological Survey, based at the University of Kansas.

The new system will allow the public to get up-to-date information about water rights and water usage. That data is maintained by the Kansas Department of Agriculture's division of water resources, the state program that grants water rights and collects water-use information.

"It allows us to provide useful, nearly real-time water-use data to those who need it," said Kansas Secretary of Agriculture Adrian Polansky. "This is an important step in the information age for the division of water resources, and it frees up staff to work on other priority projects."

A water right is the legal term for the right to use water in Kansas. Individuals generally do not need water rights for household wells, but water rights are required for irrigation, livestock watering, and municipal, industrial and other uses.

The new database, the Water Information Management and Analysis System, is maintained by the Kansas Geological Survey and is online at http://hercules.kgs.ku.edu/geohydro/wimas/index.cfm. The database can be searched by location (that is, by section/township/range or by latitude/longitude), by county, or by water-right number. For each water right, the database provides information about the location where water is diverted (from wells or from streams, for example), the amount of water the division of water resources has authorized to be used, the amount of water reported to be used, and other information.

The division of water resources typically fields a number of water rights information requests a year from consulting firms, other governmental agencies, municipalities, the public and students. While that information has been public in the past, the new system makes it electronically accessible from any place in the state with a computer and access to the Internet.

"This website is an important step in making complex water-right information easily available to the people of Kansas in a form that can be easily understood," said Brownie Wilson, water-data manager at the Survey. "This website provides current information about the use of one of the state's most important natural resources."

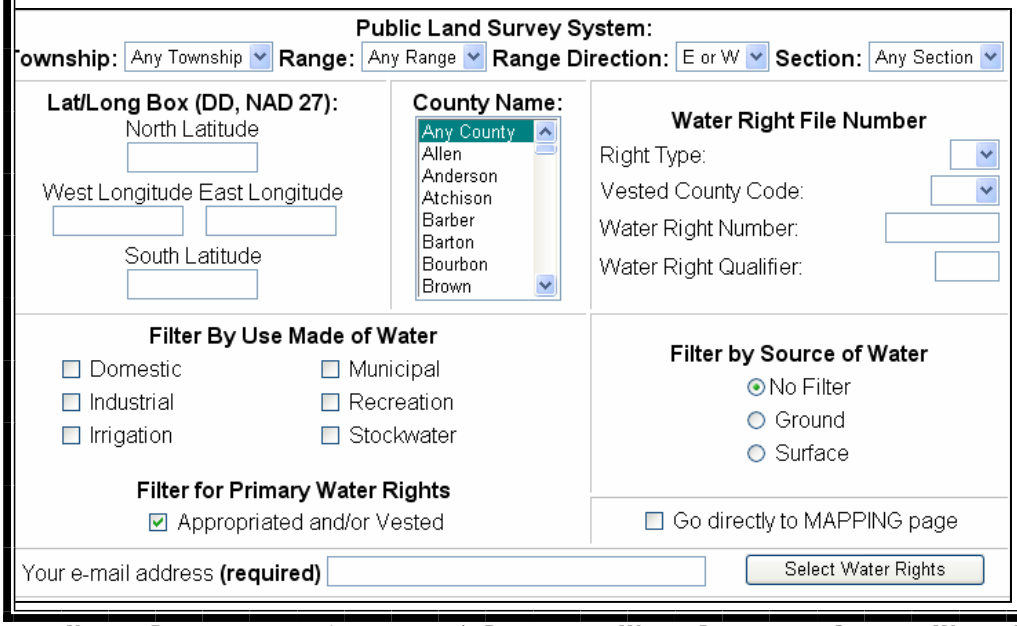


Image of the Water Information Management and Analysis System web-based application that allows users to query, analyze and map Kansas water right data.

DAM SAFETY CONFERENCE SCHEDULED FEB. 20-22

Dam owners interested in extending the life and safety of their dams, and professionals interested in expanding their understanding of dam safety issues, are invited to attend the Dam Safety Conference 2006 sponsored by the Kansas Department of Agriculture's dam safety program.

The two-day conference will be Feb. 20-22 at the Radisson Broadview Hotel, 400 West Douglas Avenue, in Wichita. It will feature nearly 40 sessions covering embankment dam design, dam inspections and maintenance, and water quality.

Frank Calcagno, hydropower security committee chairman for the Federal Energy Regulatory Commission, is the keynote speaker.

The agenda includes a field trip to area dams and an emergency action plan exercise, as well as luncheons and an evening social.

Registration is $65 per person, and it includes meals and a session book.

Certificates documenting professional development hours will be available to attendees at no charge.

To learn more about the conference, or to view the conference agenda, visit www.ksda.gov/Default.aspx?tabid=182, or contact Beth Cooper by phone at (785) 296-0573 or by email to bcooper@kda.state.ks.us.

COUNTY PRECIPITATION

Precipitation information is provided by the Kansas State University Weather Data Library at www.oznet.ksu.edu. Rainfall reports for all stations within a county have been summarized and given as a county average.

Rush County	
January	1.13”
February	2.08”
March	0.88”
April	1.56”
May	2.14”
June	4.30”
July	2.20”
August	3.14”
September	2.05”
October	2.24”

Edwards County	
January	0.91”
February	0.74”
March	0.83”
April	1.79”
May	2.41”
June	5.61”
July	2.41”
August	3.41”
September	0.48”
October	2.55”

Stafford County	
January	1.72”
February	1.96”
March	1.10”
April	1.59”
May	3.44”
June	5.30”
July	4.52”
August	3.77”
September	0.70”
October	1.76”

Pawnee County	
January	1.01”
February	1.90”
March	0.45”
April	1.83”
May	2.11”
June	4.22”
July	2.53”
August	4.13”
September	1.15”
October	2.31”

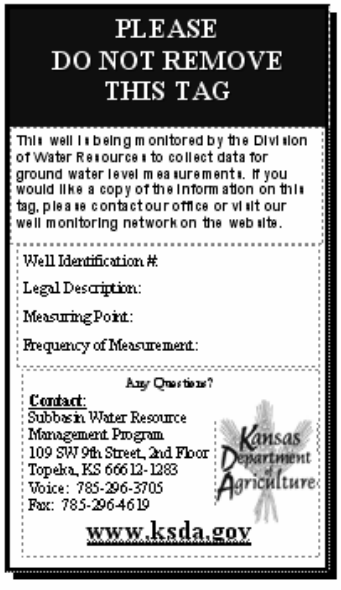
Barton County	
January	0.82”
February	2.08”
March	1.07”
April	2.69”
May	0.97”
June	4.78”
July	2.65”
August	5.08”
September	0.37”
October	1.32”
November	1.90”

Rice County	
January	1.46”
February	1.75”
March	1.72”
April	1.54”
May	3.77”
June	6.55”
July	3.02”
August	4.54”
September	0.79”
October	1.65”
November	0.69”

Kansas Department of Agriculture's
Division of Water Resources
Subbasin Water Resource Management Program
109 SW 9th Street, 2nd Floor
Topeka, KS 66612-1283 **046**

ANNUAL WELL MEASUREMENTS

Since 1973, a cooperative program between the Kansas Department of Agriculture's Division of Water Resources and the Kansas Geological Survey has been to measure approximately 1,400 wells every January. The Subbasin Water Resource Management Program measures an additional 400 well under it's measurement program. Many of the wells are used for irrigation or are in areas of major irrigation pumpage. The annual measurement program is timed for mid-winter to maximize the recovery of water levels from seasonal pumping. In many instances, streamflow measurements also are made to help correlate ground water levels with the quantity of water flowing in stream channels.



The measurements are used to determine both recent and long-term water level changes to ground water resources. DWR's Stafford field office personnel measure the most of the water levels located in south central Kansas.

Tags are left at the well site to let owners know that the water level in the wells was measured and to give them the results of those measurements.