DWR Currents
www.ksda.gov/dwr
Kansas Department of Agriculture

Volume 2 Issue 4 | Division of Water Resources | October 2009

Inside This Issue

Staff News

Best wishes to the following employees who left the agency since the last newsletter:

Tina Alder
Basin Management Team

Lynette Brungardt
Garden City Field Office

Sharon Chermok

Budget Cuts Prompt Program Phase Out

As a result of funding cuts equal to about 20 percent of its budget, the Kansas Department of Agriculture is amending regulations for its water rights conservation program to phase it out by the end of the calendar year.

"In these tight economic times, when we've had to lay off employees and keep vacant positions open, we need to keep our focus on fulfilling our core responsibilities that are mandated by law, like processing water right applications and certifying water rights," said Josh Svaty, acting secretary of agriculture. "That means we've had to make some difficult management decisions while keeping in our sights the long-term preservation of our state's water resources."

The water rights conservation program was initiated in 1992 to protect water rights from being declared abandoned due to nonuse. It required that any water right enrolled in the program not be used for a five- to 10-year period. However, there are at least 10 other due and sufficient causes for nonuse of water that can be applied to many of the water rights currently enrolled in the program, and proposed amendments to add one more and to make an existing one simpler to use are pending.

"Critics of the proposal to end the program cite water savings as reason to continue it. However, most of the water rights enrolled in the program are in areas where the water supply is substantially depleted and wells aren't able to pump the volume of water they once were," Svaty said. "Water that can't be pumped is not the same as water saved."

During the 2009 legislative session, the agency sought a $20-per-year enrollment fee to support the program, but it was opposed by stakeholders and lobbyists, and the Legislature did not pass it.

The unsuccessful attempt to establish an application fee compounded challenges the agency faced as a result of its 20 percent funding reduction and a related 29 percent vacancy rate in the division of water resources.

"Phasing out this program will have little impact on areas closed to new water rights, and there's no requirement that these water rights be put back into use," Svaty said. "In fact, we expect many will be covered by other due and sufficient causes for nonuse, and we anticipate that very few will be put back into service."

The department is accepting public comment on its amendments to the water rights conservation program regulations to end it effective

Data Management

Janey Denton
Stockton Field Office

Wayne Groves
Dam Safety

Drew Pearce (intern)
Dam Safety

Kathy Sipes
Stafford Field Office

Scott Voss
Stockton Field Office

Kelly Warren
Technical Services

Promotions:
Sherry Fergel
Floodplain Management to Senior Administrative Specialist for the Chief Engineer

Transfers:
Lisa Allen
Basin Management Team to Water Appropriation Program
Stafford Field Office

Calendar of Events

October 8
Great Bend Groundwater Management District No. 5
Board Meeting
125 S Main Street
Stafford
www.gmd5.org/

October 8
9 a.m.,
Lower Arkansas Basin Advisory Committee Meeting
Hughes Metropolitan Complex
5015 E. 29th Street
Wichita
(316) 978-3258

October 8
9 a.m.

Dec. 31, 2009. Comment may be made in person at a public hearing at 1:30 p.m. Monday, Nov. 30, 2009, in the fourth floor conference room of the Kansas Department of Agriculture, 109 SW 9th Street, Topeka.

Written comment may be submitted by U.S. mail to the Secretary of Agriculture, 109 SW 9th Street, 4th Floor, Topeka, KS 6612; or by electronic mail to leslie.garner@kda.ks.gov.

The full public notice, including the proposed amendments to K.A.R. 5-7-4, an economic impact statement, and a fact sheet are available online at www.ksda.gov/dwr.

End-of-Year Deadlines

Annual Nonuse Notices

In 1999, the Kansas Legislature amended the Kansas Water Appropriation Act to require the chief engineer to notify water right owners by certified mail whenever the owner had reported there were three or more consecutive years of nonuse on their water use reports.

While receiving certified mail from a state agency may seem threatening, the intent is merely to provide water right owners an opportunity to remedy an abandonment situation before five consecutive years of nonuse are attained. That's because K.S.A. 82a-718 requires that all water rights of any kind be deemed abandoned and terminated when no lawful beneficial use of water has been made for five successive years without due and sufficient cause for that nonuse.

Acceptable due and sufficient causes for nonuse of water can be found in Kansas Administrative Regulation (K.A.R.) 5-7-1. The reasons must demonstrate that water use was prevented or made unnecessary during the period water was not used for beneficial purposes. The reasons for nonuse should always be noted on the annual water use report so that they are a matter of record in the division's files. However, if an owner has not been reporting reasons for nonuse, that information can be provided to the Division of Water Resources in writing at any time.

If you receive a notice regarding nonuse, but you believe the division's records may be incorrect, it is in your best interest to provide documentation as soon as possible.

Before a water right can be declared abandoned, the chief engineer must conduct a hearing, which gives the water right owner a final opportunity to submit evidence that a water right has not been abandoned. Generally, the chief engineer's staff carefully research the nonuse with the water right holder before reaching this step, but the burden of proving due and sufficient cause for nonuse ultimately rests with the water right holder. If no due and sufficient cause can be found, the chief engineer will schedule a hearing and notify the water

Walnut Basin Advisory Committee Meeting, Hughes Metropolitan Complex 5015 E 29th Street Wichita (316) 978-3258 **October 8** 1 p.m. Neosho Basin Advisory Committee Meeting Schermerhorn Park Galena **October 12** Equus Beds Groundwater Management District No. 2 Board Meeting 313 Spruce Street Halstead www.gmd2.org/ **October 13** 1 p.m. Marais des Cygnes Basin Advisory Committee Meeting Miami RWD No. 2 Office 25290 Harmony Road Paola **October 14** Southwest Kansas Groundwater Management District No. 3 Board Meeting www.gmd3.org **October 14** 1 p.m. Verdigris Basin Advisory Committee Meeting Fredonia **October 15** 10 a.m. Kansas-Lower Republican Basin Advisory Committee Meeting Horton High School Horton **October 15** 10 a.m. Missouri Basin Advisory Committee Meeting	right owner(s) at least 30 days prior to the hearing date. *Deadline to complete diversion works* After a permit to appropriate water for beneficial use is issued by the Division of Water Resources, the permit holder must complete the authorized diversion works, put water to beneficial use and perfect their water right within the timeframe specified in the permit. Deadlines to complete these tasks always expire at the end of the calendar year. Affected permit holders will be notified of these deadlines by certified mail at least 60 days prior to their deadline. *Notify DWR of completed diversion works* The permit holder must notify the chief engineer when all diversion works are in place and ready to be inspected. "Diversion works" means any well, pit, pump site, (stream bank installation) or dam, and the pump, power unit or other equipment necessary to bring water under control so that it can be put to beneficial use. A water flowmeter and water level measurement tube must also be installed. If a permit holder is unable to complete the diversion works within the time allowed by their permit, they may request an extension of time. Such requests must be submitted before the deadline to complete the diversion works. When requesting an extension of time, the applicant must explain their plans and timeframe for completing the diversion works, the progress that has been made and the reason why the diversion works are not complete. Refer to K.A.R. 5-3-7 and K.A.R. 5-8-4 of the rules and regulations for the full requirements to qualify for an extension to complete. The Water Appropriation Act and its rules and regulations require the chief engineer to dismiss a permit if the holder fails to complete the diversion works, notify the chief engineer of that fact and pay the inspection fee. *End of time to perfect* In some cases, a permit holder may not have fully perfected their water right up to the maximum rates, quantities or authorized land. Any request for an extension of time must be received in the chief engineer's office prior to the current deadline to perfect. As is the case with extension of time to complete diversion works, the permit holder must justify an extension. Failure to request an extension of time will limit the permit holder to the extent that water was actually used during the authorized perfection period. Refer to K.A.R. 5-8-7 of the rules and regulations for the full requirements to qualify for an extension to perfect. *Forms* Access the Request Extension of Time to Complete form at www.ksda.gov/includes/document_center/appropriation/DWR_forms/1_203_15.pdf

Horton High School
Horton

October 20
9 a.m.
Western Kansas Groundwater Management District No. 1
Board Meeting
906 West 5th
Scott City
www.gmd1.org/

October 21
Residential Substantial Damage Estimator Class
Wichita

November 5
8 a.m.
National Flood Insurance Program Basics
Hays

November 5
Northwest Kansas Groundwater Management District No. 4
Board Meeting
www.gmd4.org

November 11
Veterans Day
State offices closed

November 11
Southwest Kansas Groundwater Management District No. 3
Board Meeting
www.gmd3.org

November 11
Equus Beds Groundwater Management District No. 2
Board Meeting
313 Spruce Street
Halstead
www.gmd2.org/

November 12
Great Bend Groundwater Management District No. 5
Board Meeting
125 S Main Street
Stafford

Access the Notice of Completion of Diversion Works form at www.ksda.gov/includes/document_center/appropriation/DWR_forms/1_203_11.pdf

Access the Request Extension of Time to Perfect form at www.ksda.gov/includes/document_center/appropriation/DWR_forms/1_204_1.pdf

Read your water meter

DWR water use report forms will be mailed to water users during the first week of 2010. Reports reflecting water use during 2009 (total water use from January 1 to December 31, 2009), will be due in the office of the chief engineer on March 1, 2010. Water right holders who wait until the end of February to take care of water use reporting risk getting caught by late winter storms or early spring priorities, which makes it impossible to submit the reports on time and results in civil penalties.

When shutting down irrigation equipment at the end of the 2009 growing season, it is a good idea to record your end flowmeter readings.

Dam Safety Inspections

DWR has issued letters to owners of high- and significant-hazard dams notifying them of the upcoming inspections for 2009 and 2010.

DWR dam safety engineers will inspect more than 145 dams during the year. High-hazard dams are inspected every three years and significant hazard dams are inspected every five years.

Inspectors follow the Dam Safety Field Inspection Checklist posted on DWR's website. If any deficiencies are observed, the inspector will contact the dam owner to address the problems.

Typical problems include blocked trash screens, excessive woody vegetation, and excessive erosion of slopes or spillway. The amount of time allowed to correct problems will depend in part on the degree to which the deficiency increases the risk of dam failure.

FEMA Dam Safety Grant Doubling in 2009-2010

The FEMA dam safety grant provides funds to states to strengthen their dam safety programs. The grant addresses public awareness and outreach, research and technical training. During federal fiscal year 2009, FEMA distributed $7.55 million to the 48 states that participate.

Grant funds will continue to be used to increase the number of emergency action plans for state-regulated, high-hazard dams and the number of dam inspections conducted by the states. As a special

www.gmd5.org/

November 17-18
Kansas Water Authority
Meeting
Liberal

November 26-27
Thanksgiving
State offices closed

November 30
1:30 p.m.
Topeka
Public hearing
Regulation amendment to discontinue Water Rights Conservation Program
Kansas Department of Agriculture
109 SW 9th Street
Topeka
Details Online

December 8
Garden City
Arkansas River Compact Administration Annual Meeting

December 8
Equus Beds Groundwater Management District No. 2
Board Meeting
313 Spruce Street
Halstead
www.gmd2.org/

December 9
Water and Climate Forum
Wichita

December 9
Southwest Kansas Groundwater Management District No. 3
Board Meeting
www.gmd3.org

December 10
Water and Climate Forum
Hays

December 12
Great Bend Groundwater Management District No. 5

initiative in FY 2009, FEMA requests that states use a portion of their grant funds to develop public awareness and outreach programs and materials on the risk posed by dams to the downstream public and critical facilities. States also will self-assess their performance, identify deficiencies, and establish a plan to use grant funds to address those deficiencies.

Kansas has nearly 6,000 jurisdictional dams, so the dam safety program received twice the amount of previous grants. These funds will be used to help dam owners with emergency action planning, for dam owner outreach, and for inspections and management. Two additional engineers and an intern will be added to accomplish these tasks.

Dam owners across the state, especially homeowner associations, were having the following problems:
1. Inadequate emergency plans
2. Limited budgets
3. Lack of familiarity with inspection reports

The dam safety program addresses these concerns by offering on-site seminars and field trips to local dams. The seminars include a presentation on maintenance and failure modes and a page-by-page review of the emergency action plan. The field trip provides an opportunity to review the inspection report.

A benefit of providing seminars at the client location is that local floodplain and emergency management staff get to participate in the reviews and field trips. This builds relationships between the parties involved in the emergency action planning process.

Other dam safety outreach programs include Small Dam Owner Seminars, Dam Safety Conference and EAP seminars.

Role Changed for Basin Management Team

From its inception in 1994, one of the core functions of the Basin Management Team was to help form stakeholder groups, convene meetings and lead the groups through a process to identify water resource problems in their areas; develop strategies, goals and plans to address the problems; and implementing those plans to achieve their goals. In sum, this became known as the "stakeholder process."

The state fiscal crisis in 2008 and 2009 caused the agency to significantly reduce its staff and reevaluate the services that could be provided. Facing dramatically reduced resources in fiscal year 2010, management decided to sharply curtail the Basin Management Team's stakeholder process. The Basin Management Team will still play an important role in the public presentation of information but will no longer work to convene and lead stakeholder groups.

The Basin Management Team has established a strong history of high-quality products and this work has proven very valuable to the Division of Water Resources and other entities outside the agency.

Board Meeting
125 S Main Street
Stafford
www.gmd5.org/

December 25
Christmas
State offices closed

January 1
New Year's Day
State offices closed

January 18
Martin Luther King Jr. Day
State offices closed

January 27-28
Kansas Water Authority
Meeting
Topeka

February 8-10
Kansas Dam Safety
Conference
Hutchinson

From the Field

Horsethief Reservoir
Submitted, KWP

KANSAS DEPARTMENT OF AGRICULTURE

Division of Water Resources
Kansas Department of Agriculture
109 SW 9th Street, 2nd Floor
Topeka, KS 66612-1283
(785) 296-3717

For 15 years, the Basin Team has been helping develop numeric groundwater models, compiling water resource data, performing hydrologic analyses and issuing reports on basins throughout the state. In the face of this fiscal crisis, the Basin Management Team is narrowing its focus to concentrate on these decision-support work products.

Basin Management Team reports on hydrologic conditions in project areas, and related information that may be of interest and use to stakeholders and the public, is available on the agency's website at www.ksda.gov/subbasin.

Update on Republican River Compact Matters

Arbitration

On June 30, 2009, the arbitrator issued his final decision in the nonbinding arbitration regarding Nebraska's 2005-2006 violations of the Republican River Compact. Kansas issued its official response on July 30, 2009, and Attorney General Stephen Six issued a news release noting, "The Arbitrator agreed that Nebraska has used more than its share of water and has not taken adequate steps to live up to its obligations under the compact."

Six described Kansas' response as follows: "After a point-by-point review of the decision, Kansas decided to accept some parts of the decision and to reject others. Kansas accepted the arbitrator's statement that Nebraska's attempts to comply are inadequate and that Nebraska should make further reductions in consumptive groundwater withdrawals. However, Kansas rejected the arbitrator's recommendations on damages, on a proposed remedy and that sanctions must await additional violations by Nebraska."

The arbitrator's final decision, Kansas' official response and Attorney General Six's press release are accessible from DWR's website at: www.ksda.gov/interstate_water_issues/content/142.

In August 2009, Colorado officials filed notice of arbitration on their plan to augment streamflow by pumping groundwater through a pipeline to be constructed to the North Fork Republican River at the Colorado-Nebraska state line, and Nebraska officials separately filed notice of arbitration for their proposal to allow monetary damages to offset water shortages in the compact accounting. These nonbinding arbitrations are scheduled for trial in February 2010.

Annual Meeting

The Kansas delegation, including DWR's chief engineer, several DWR staff and a representative from the Kansas Attorney General's office attended the 49th annual meeting of the Republican River Compact Administration in August 12 in Lincoln, Nebraska. There are many unresolved issues between the states.

Nebraska offered a resolution that would give Nebraska water credit

for any damages paid for Nebraska's compact violations so that those violations would essentially be removed from the accounting. The resolution failed, with both Kansas and Colorado voting against it. Nebraska has given notice that, in accordance with their rights under the compact's dispute resolution procedures, they are invoking nonbinding arbitration to have the merits of their proposal decided by an outside party.

In a special meeting of the RRCA in April 2009, Colorado submitted a proposal and plan to build an augmentation pipeline to address their noncompliance on the North Fork Republican River. Kansas and Nebraska both voted no and rejected the proposal at that special meeting. At the August 12 annual meeting, Colorado again submitted their augmentation pipeline plan to the administration. Kansas Commissioner David Barfield noted that Colorado's plan had not substantively changed from what was originally submitted at the April special meeting. Citing deficiencies in Colorado's plan, Kansas and Nebraska both voted against the proposal. Colorado has given notice that, in accordance with their rights under the compact's dispute resolution procedures, they are invoking nonbinding arbitration to have the merits of their proposal decided by an outside party.

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Update on Arkansas River Compact Matters

Use Rules / Litigation Concluded

After months of negotiations, Kansas and Colorado came to agreement on the sufficiency of Colorado's use rules that require replacing river depletions due to pumping high-capacity irrigation wells along the Arkansas River from near Pueblo, Colorado, to the Colorado-Kansas state line. This agreement provides for a continuing process to set the level of replacement of these wells annually.

This topic was the last to be addressed under the U.S. Supreme Court case, Kansas v. Colorado No. 105 Original. With the agreement, the states have been released from the retained jurisdiction of the court, and one of the most complicated and protracted Supreme Court cases in history has been closed. Kansas will continue to monitor Colorado's compliance with this judgment and decree, the compact, and other interstate agreements between Kansas and Colorado related to the Arkansas River.

The main tenet of the Arkansas River Compact is that river flow at the Colorado-Kansas state line not be materially depleted by developments after 1948. When the efficiency of surface water irrigation systems are improved, it generally means that more water is used by the crops and less water returns to the river. Colorado has proposed rules that will quantify the reduced return flows due to increased efficiencies and specify how Colorado water users will replace those lost return flows. Colorado has provided drafts of these irrigation improvement rules and related document on which Kansas has commented.

Annual Meeting

The annual meeting of the Arkansas River Compact Administration will be December 8 in Garden City, Kansas. This annual meeting is typically held in Lamar, Colorado, but the compact administration moved this meeting for 2009.

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Kansas-Oklahoma Arkansas River Compact Commission Annual Meeting

The annual meeting of the Kansas-Oklahoma Arkansas River Compact Commission was July 21, 2009, at the Three Forks Harbor in Muskogee, Oklahoma. Attending for Kansas were Paul Graves, assistant chief engineer representing the chief engineer/compact commissioner; Bob Lytle, member of the engineering and budget committees; and Compact Commissioners Kent Ott, Mulvane, and Peggy Blackman, Marion.

The normal business of the compact was conducted. Reports by state commissioners were given, and the legal, engineering and budget committee reports were presented and accepted by the compact commission.

During the 2008 water year, the flows on the Lower Arkansas River and its major tributaries within the compact area were above their historic averages except for the Cimarron near Waynoka, Oklahoma. Kansas has the majority of its allocated conservation storage capacity (reservoir construction) remaining. 79 percent remains in the Neosho Basin, 98 percent in the Salt Fork River Basin, 99 percent in the Main Stem Arkansas River Basin, and 100 percent in both the Cimarron and the Verdigris basins.

The 2011 budget for the compact was approved by the commission. It was proposed by the treasurer to reduce the amount assessed to the states from $2,900 to $1,700 because the carryover balance has been increasing. However, it was decided to keep the assessment the same for 2011 and to wait until the secretary-treasurer retires and that portion of the budget can be removed in FY 2012 with those duties taken over by staff from each state. An update of the current activities of the Tri-State Coalition was also given.

The current federal chairman, William Franklin of Prairie Village, resigned his position as chair. It was moved by Commissioner Duane Smith of Oklahoma that Alternate Federal Chairman Ernie Gilder of Muskogee be nominated for chairman, and the alternate chairman be someone recommended by Kansas.

Kansas is currently considering candidates for alternate federal commissioner, and soon a letter signed by both the Oklahoma and Kansas commissioners will be sent to the White House recommending the new appointments.

Next year's meeting is scheduled for the fourth Wednesday of July at a location to be determined in Kansas.

Hazard Mitigation Assistance

FEMA has taken all mitigation grant programs and put them in a single unit called Hazard Mitigation Assistance. or HMA. Hazard Mitigation Assistance programs present an opportunity to reduce risks from natural hazards by reducing risk to individuals and to properties through mitigation. This is a common benefit to local communities, individuals and taxpayers who provide federal disaster relief funds.

Five grant programs are now under HMA. The first is the Hazard Mitigation Grant Program, or HMGP, which helps communities take action to reduce risks to loss of life and property during the reconstruction phase following a disaster. In Kansas, HMGP is managed through Kansas Division of Emergency Management, and funds are currently being used for projects like tornado shelters in schools and buying out flood-prone structures.

Flood Mitigation Assistance, or FMA, is also managed by the Kansas Division of Emergency Management. FMA grants can be used for minor, local flood reduction projects or dry flood proofing historic or nonresidential structures. Pre-Disaster Mitigation, or PDM, is to reduce risks from future events. PDM funds can be used for soil stabilization or infrastructure retrofit projects.

Repetitive Flood Claims, or RFC, has the goal of reducing flood damage to properties that have had one or more flood insurance claims. The theory is that if a property has been flooded before, it likely will flood again. A typical RFC project would involve elevation or acquisition. Severe Repetitive Loss, or SRL, expands on RFC. Its target is property that has had severe repetitive losses. Since these properties are the subject of many claims, they should have the highest cost benefit.

All of these programs have prerequisite requirements, and all require different levels of a local match. RFC is 100 percent funded without a local match. PDM can have a 90-10 (10 percent local) match for small and impoverished communities. HMGP, SRL and PDM typically have a 75-25 ratio. The 25 percent local match doesn't always have to be in cash. Sometimes it can be from materials and services provided by the grantee.

The Hazard Mitigation Assistance Fact Sheet provides a complete list of mitigation projects for each type of grant. It is available online at www.fema.gov/library/viewRecord.do?id=3648. It explains the variety of funds available and the many categories of eligible projects. For instance, eligible projects include structure demolition and relocation, mitigation reconstruction, structural retrofitting, nonstructural retrofitting, wildfire mitigation, post-disaster code enforcement, mitigation planning, and management costs. The fact sheet also explains the general requirements for applicant eligibility.

There's also an HMA helpline to answer questions you may have. You can reach the hotline by e-mailing hmagrantshelpline@dhs.gov,

or by calling (866) 222-3580.

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Water Resource Laws Administered by DWR

Since 1917, the Kansas Legislature has assigned responsibility for enforcing the laws that govern management of the state's water resources to the chief engineer of the Kansas Department of Agriculture's Division of Water Resources or his predecessor. Some laws originally conferred responsibility to the Kansas Water Commission and the Division of Irrigation, which were consolidated in 1927 to create the Division of Water Resources. The laws and regulations under these statutes seek to ensure the prudent management of our state's water resources for the benefit and protection of all Kansans. These laws govern water use, water conservation, flood control, and interstate compacts. A list of these laws is available on the department's website at www.ksda.gov/dwr.

There are many laws because that is how legislation is enacted. Typically, laws are passed to correct problems. Some of the earliest laws administered by the chief engineer are for flood control works, floodplain zoning, drainage districts, watershed districts, and stream obstructions and levees. These laws were passed after severe floods showed the need for measures to reduce flood damage. Even when addressing a single problem, like flooding, several laws may be enacted because each offers a different approach to the solution. For instance, one law may limit development in flood-prone areas, another may regulate construction that alters stream channels and overbank flow ways, and yet another may require local units of government to oversee levee construction and maintenance and dams to reduce flood impacts.

The laws that assign responsibility to the chief engineer can be grouped into three main categories:

- Flood control. These laws are to prevent or reduce loss of life and property damage due to manmade changes in streams and floodplains.
- Compacts. These laws codify agreements with neighboring states on the quantity and quality of streamflow crossing state lines.
- Water use and conservation. These laws establish and protect water rights, regulate water use, and encourage water storage and conservation.

As noted, flood-control laws were among the earliest, dating to the early 1900s after a period of devastating floods. The four interstate river compacts to which Kansas is a party – two compacts on the Arkansas River, and one each on the Republican River and Big Blue River – were established between 1943 and 1971 as irrigated agriculture became more common and the limitations of water resources became more fully understood. Possibly the most far-reaching water law is the Kansas Water Appropriation Act, which was enacted in 1945. Most other laws, like the Groundwater Management District Act and the Water Assurance Program Act, were enacted in the 1970s and 1980s.

The Water Appropriation Act is one of the best known and most profound of these laws. It dramatically altered how our state's water is managed. Until 1945, Kansas water law was similar to water laws in eastern states, which operate under what is called the riparian doctrine. The riparian doctrine says, essentially, that if water flows through or along your property or if water exists in the ground beneath your property, you can use it without permission from the state, although you can be sued if your water use harms someone else.

The 1945 Kansas Legislature recognized that water was scarce, particularly in western Kansas, so it declared that all water be dedicated to the people of the state and subject to control and regulation through a water rights system. The right to use water is based on the prior appropriation doctrine, commonly stated as "first in time, first in right." In times of shortage, that means the earliest water right or permit has first right to use the water. Water right and permit records allow Kansas water to be apportioned fairly. In adopting this system, Kansas affirmed its similarity to other western states, which typically have areas with an arid or semi-arid climate and highly variable water supplies.

One of the most impressive aspects of the Kansas Water Appropriation Act is its regulation of both surface water and groundwater in a single system of water rights. This demonstrates an understanding that streams and aquifers can be interconnected, and surface water and groundwater rights must be concurrently administered to properly protect senior rights. (Nebraska, on the other hand, regulates surface water and groundwater under separate laws and separate units of government, which has severely limited their ability to comply with the terms of the Republican River Compact.)

The 1945 Legislature showed great foresight in adopting the Water Appropriation Act. It has served Kansas well for more than half a century. It also has been flexible enough to allow for amendments to add details and requirements like minimum desirable streamflow, which addresses ecological water needs.

The Kansas Department of Agriculture's Division of Water Resources website at www.ksda.gov/dwr provides more information about the laws administered by the agency. Another source of information is the Kansas Legislature's website at www.kslegislature.org .

Rainwater Harvesting Q & A

What is rainwater harvesting?
It is collecting and storing precipitation and the runoff from precipitation for later use. This is a more direct approach to capturing precipitation than waiting for it to percolate into aquifers and then pumping it out, or than diverting water from streams.

Why is this timely topic?

Rainwater harvesting has been going on for centuries. Think of the rain barrels used by our ancestors. Like windmills, rainwater harvesting is an ancient technology that is coming into vogue again with some modern updates.

Some people are interested in rainwater harvesting because they realize that it makes more sense than using treated water to irrigate their lawns and flush their toilets. For some people, it may be a way to save money on their water bills. And some Kansans have been practicing rainwater harvesting for decades with their livestock watering ponds.

In the past year or so, this topic has been given more attention by the media due to an ongoing debate in Colorado about whether rainwater harvesting should be allowed.

How does it work?
Typically, someone installs a tank or cistern to store runoff from their roof or pavement. Then, when they need the water for their garden or other needs, they can either open the valve or pump it out, depending on how their system is designed.

As previously noted, farm ponds are another way to harvest rainwater. Look at a farm pond and you can usually see the small catchment area above the dam that drains to the pond.

Cities tend to use dry detention basins, typically grass-lined depressions in the ground, to collect and temporarily store stormwater runoff from developed areas after heavy rainfall. This reduces the peak rate of flow to streams and helps reduce flooding. In addition, it removes some pollution and improves groundwater recharge. Sometimes this is accomplished in small ponds for aesthetic appeal, wildlife habitat, and to provide water for fire protection.

So, can anyone just start collecting rainwater or is a permit needed?
Kansas law allows rainwater harvesting for domestic uses and other small uses without a permit. Domestic uses means the water is used by any person or by a family unit or household for household purposes, or to water livestock, poultry, farm and domestic animals used in operating a farm, and for irrigating lands not exceeding a total of 2 acres for growing gardens, orchards and lawns. Other small uses are those collecting less than 15 acre-feet per year, which might be enough for a small farm or small industry.

Rainwater harvesting for nondomestic, large uses (greater than 15 acre-feet per year) requires a water appropriation permit, subject to safe-yield requirements and availability after prior appropriations.

Is rainwater harvesting cost-effective?
One would have to evaluate the benefits and costs on a specific project to answer this question. For many situations, it is apparently cost-effective, based on the thousands of farm ponds and other existing projects across Kansas.

Some preliminary estimates suggest that rainwater harvesting for

lawn watering and other incidental uses could potentially offset 20 percent or more of a typical city's water demands. This would require substantial infrastructure investments for all the storage tanks and piping.

With the trend toward green buildings, it is possible that in the future new houses and other buildings might be constructed with rainwater harvesting systems built-in. This is strongly promoted in some areas, such as in Texas, and even required in other areas, such as on the island of Bermuda.

Anything else I should know before pursuing this further?
Most people in this country do not use rainwater harvesting for potable water needs. If you plan to get your drinking water this way, you'll need to take steps to ensure the water is safe to drink by boiling it or otherwise filtering and disinfecting it.

Modern rainwater harvesting systems often use a special valve to bypass the first flush of runoff from your roof or driveway as the first flush contains the most impurities. The runoff after the first flush should be clean enough for most outdoor uses and filling toilet tanks.

There are many rainwater harvesting equipment vendors, so you will have to do some homework before installing a system to see which one best suits your needs and budget. Some landscaping firms offer design services for rainwater systems.

In addition to the initial (capital) costs to install a system, keep in mind that there will be some ongoing maintenance and operational costs to occasionally remove debris, replace filters and so on.

Also, consider that you may need approval from your city under local ordinances and building codes before installing a system.

Where can I get more information?
The Texas Water Development Board has a good rainwater harvesting manual on their website at www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf. An internet search of the topic may yield other helpful references.

Web Updates

New regulations on Intensive Groundwater Use Control Area hearings and reviews (effective September 18, 2009)
www.ksda.gov/appropriation/statutes/id/181

New fact sheets on Intensive Groundwater Use Control Areas, Arkansas River Compact, and Impairment Investigations
www.ksda.gov/dwr/content/314

Arbitrator's Final Decision on Nebraska's 2005-2006 violations of the Republican River Compact (June 30, 2009), Kansas' official response, and news release

	www.ksda.gov/interstate_water_issues/content/142 Proposed regulatory amendments to discontinue the Water Rights Conservation Program, public hearing notice, and online comment submission form www.ksda.gov/appropriation/statutes/id/184 Sworn statement of legal access to or control of the point of diversion in a water appropriation application (pursuant to change in statute effective July 1, 2009) www.ksda.gov/appropriation Kansas Dam Safety Conference 2010, Stream Obstructions Seminar, and Emergency Action Plan for Dams Seminar (information, registration forms, and agenda where available) www.ksda.gov/structures Updated list of laws and regulations administered by DWR www.ksda.gov/dwr/content/308/cid/1573 Additional information on Water Assurance Districts www.ksda.gov/water_management_services/content/210