

Word From The Street



Tracy Streeter

I've come to realize that focusing people and resources on water problems we will not likely face for decades is easier said than done. When the Governor's Water Vision was initiated in 2013, I believed the challenge of reducing the decline of the Ogallala Aquifer would be far more difficult than keeping sediments and nutrients out of our reservoirs. Now I believe the opposite. Water Technology Farms,

Water Conservation Areas and Local Enhanced Management Areas are providing evidence that pumping less water and sustaining an economy can be included in the same sentence. Most importantly, many people in western Kansas are rallying around the issue. Why? They own their future, know and understand their liquid assets are diminishing in many areas of the aquifer and eventually be worthless unless changes are made. Also, the solution is fundamentally simple.

Our liquid assets in our reservoirs are diminishing as well. However, ownership of our water supply res-

ervoirs and related issues is much more diverse. The federal government owns the lakes, the state and some water users own some of the storage, the public recreates on the water that is stored in the reservoir for purposes other than recreation, and protection of the reservoirs is in the hands of thousands who live and work upstream. Compound that with some uncertainty on which protection and restoration practices are most effective and economical. The ultimate task is convincing decision makers at all levels of government to help finance those best practices and encourage land managers to voluntarily install or adopt them in the right location.

As you will see below, the 2018 Kansas Legislature has begun the process of enhancing funding to address our water future. We will continue to work at the federal level to encourage policy and secure available funding that will aid in our endeavor. We won't be able to do this alone. All reservoir stakeholders, whether downstream, in-lake, or in the contributing watershed must rally to sustain this resource. If we don't, who will?

Legislative Update

During the 2018 session, the Kansas Legislature again took action to include additional funding for water projects. This year, \$3.25 million was added in the State Water Plan Fund. To fund the additional appropriations, \$2.75 million will be transferred from the State General Fund (SGF) and \$500,000 from the Economic Development Initiatives Fund (EDIF).

The additional funding, follows many of the recommendations put forth by the Kansas Water Authority (KWA). They had recommended restoration of the full \$6 million SGF and \$2 million EDIF transfers. The complete KWA budget recommendations from this last year can be found on page 5 of 2018 KWA Annual Report to the Governor and Legislature found at www.kwo.ks.gov.

In April, the KWA recommended the agencies develop a budget recommendation for the next two fiscal

years, again asking for the full SGF and EDIF demand transfers. That process is underway with budget recommendations being finalized at the August meeting in Manhattan.

Project Description	FY2018 Budget Supplement	FY2019 Budget Enhancements
Vision Education Strategy		\$ 100,000
Best Management Practices Implementation		\$ 900,000
Milford Lake Watershed RCPP Project	\$200,000	\$ 200,000
Streambank Stabilization		\$ 500,000
Harmful Algae Bloom (HAB) Pilot		\$ 450,000
Irrigation Technology		\$ 100,000
Water Technology Farms		\$ 75,000
Reservoir Bathymetric Surveys		\$ 100,000
KS Alluvial Aquifer Monitoring		\$ 50,000
Streambank stabilization effectiveness Research		\$ 100,000
Harmful Algal Bloom Research		\$ 100,000
Sorghum Crop Research		\$ 150,000
Hemp Research		\$ 100,000
Equus Beds Chloride Plume Project		\$ 50,000
KWO Position		\$ 100,000
WRAPS Program		\$ 175,000
Total	\$ 200,000	\$ 3,250,000

Kansas River Study Planning Assistance to States

In 2018, the Kansas Water Office (KWO), per approval by the Kansas Water Authority, will enter into an agreement with the U.S. Army Corps of Engineers (USACE) for a Planning Assistance to States (PAS) agreement relative to the Kansas River. Reservoir sedimentation within the Kansas basin is an emerging problem that needs to be addressed so that benefits provided by the reservoirs for water quality, water supply, fish and wildlife, recreation and flood control can be realized into the future. A major goal of the PAS is to evaluate innovative sediment management technologies to promote environmentally and economically sustainable long-term management of reservoirs.

Included as part of the PAS scope is the continued development of a comprehensive Kansas River sediment analysis and transport model. The sediment transport model is a key component in analyzing sediment management scenarios (i.e. sediment bypass at Tuttle Creek reservoir) and impacts to downstream infrastructure and ecological resources. This study will complement the ongoing PAS study (initiated in 2017) by collecting additional information necessary to complete the model.

Also included in the PAS scope is work necessary for the development of a Water Injection Dredging (WID) demonstration at Tuttle Creek reservoir. WID is a process in which large volumes of water are injected at low pressure into the sediment bed near the bottom of

the reservoir. The injected water effectively fluidizes the sediment creating a 'density current' that allows the sediment to flow by gravity to deeper areas. In the case of Tuttle Creek reservoir, a WID demonstration would be aimed at moving the sediment toward the existing low level outlet in the dam, and monitoring the flow of the density current through the outlet during controlled discharges. If successful, the WID technology may become part of a viable strategy to address sediment management at Tuttle Creek reservoir and other potential reservoirs.

Major PAS tasks tied to the development of a WID demonstration include collection of sediment cores and sediment sample analysis, as well as velocity current measurements at selected locations within the reservoir. This information will be analyzed by the USACE Engineering Research and Development Center (ERDC) in order to evaluate the potential for a WID demonstration project at Tuttle Creek. The KWO also plans to contribute to the development of a comprehensive WID monitoring plan, and will facilitate communication and outreach efforts with permitting agencies and downstream stakeholders regarding the project.

The one-year agreement totals \$260,000, with a projected total amount of \$130,000 to be provided by the KWO as cash match and/or work-in-kind contribution.



Kansas Geological Survey Sustainability Evaluation

The Kansas Geological Survey (KGS), with the financial assistance of State Water Plan Funding through the Kansas Water Office (KWO) as well as Equus Beds Groundwater Management District #2 (GMD2) in south-central Kansas, recently completed a study to evaluate the potential for groundwater sustainability within the region.

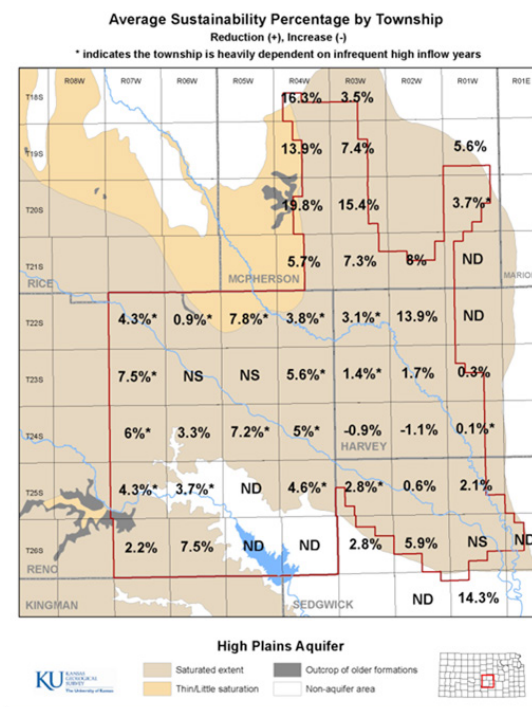
This study used an approach that was recently developed at KGS for assessing the prospects for sustainability in the High Plains Aquifer in Kansas.

The objective of the study was to calculate Q_{stable} , the average annual pumping that would produce stable areally-averaged water levels over a given area. Q_{stable} is a function of net inflow, which comprises recharge from the land surface, subsurface inflow from adjacent areas, water drawn into the aquifer from surface water sources by pumping as well as inflow from artificial recharge projects, and any additional pumping-induced inflows into the aquifer, minus discharge to streams, evapotranspiration, and subsurface outflow to adjacent areas. It is calculated using the average annual water-level change and annual reported water use for an area as described in the following section.

Major findings of this assessment revealed that from a GMD-wide standpoint the area is very close to sustainable levels, with the average Q_{stable} 1.2% below the average annual reported water use for GMD2. Harvey and Sedgwick counties are close to Q_{stable} levels while Reno and McPherson counties have average annual reported water use of 2.6% and 8.0%, respectively, above Q_{stable}

levels for those areas. The average reported water use above that identified as stable for Reno and McPherson is consistent with water level declines observed in those areas during the period of study (1996-2014).

For more information on the results of the Equus Beds GMD2 Sustainability Assessment please view the KGS Open-File Report No. 2017-3 at http://www.kgs.ku.edu/Hydro/Publications/2017/OFR17_3/OFR_2017-3.pdf



Meet Our Summer Interns

Bailey Hittle, is from Harveyville, KS and is studying Agricultural Communications and Journalism with an Emphasis in Animal Science at K-State. She will graduate in May of 2020.

This summer she will be helping the office with graphic design work. Some of her projects include; State of the



Steven Sweeny and Bailey Hittle

Resource Reports, social media posts and Digital Displays for the Governor's Water Conference.

In Bailey's free time she rodeos and enjoys training horses in the summer.

Steven Sweeny is from Ottawa and is studying Civil Engineering with an Environmental Emphasis at KU. He will graduate in December.

This summer he will be updating the input data for the OASIS computer model which simulates the routing of water through a system, or in our case the reservoirs, and water user demands. He is also working to determine if changes in land management and additions of impoundment structures within the watershed above Clinton Lake have measurably affected inflows into the reservoir.

In Steven's free time he likes to skateboard, workout and compete in billiards tournaments.



THE WATERFRONT CALENDAR

June

- 5- Marias Des Cygnes, Ottawa, KS
- 7- Neosho RAC Meeting, Langley, OK
- 7- Upper RAC Meeting, Colby, KS
- 21- Missouri RAC Meeting, Atchison, KS
- 28- Verdigris RAC Meeting, Toronto Lake, KS

July

- 11- Kansas RAC Meeting, Topeka, KS
- 24- Cover Crop and Soil Health Field Day, Waverly KS

August

- 15- Roth Water Technology Farm Field Day, Holcomb, KS
- 22- Kansas Water Authority Meeting, Manhattan, KS
- 27-31- Water Technology Field Days, TBD

For comments or questions on
The WaterFront please contact
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Mark Your Calendars!

**The Kansas Water
Authority Meeting will
be in Manhattan
August 22. Watch
your emails for more
information closer to
the date.**



SAVE THE DATE!



Governor's Conference on the Future of Water in Kansas
November 13-14, 2018
Hilton Garden Inn, Manhattan, Kansas
www.kwo.ks.gov



Sponsorship opportunities are available for the Governor's Conference on the Future of Water in Kansas. For sponsor information visit : <https://kwo.ks.gov/news-events/governor's-water-conference>

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