



**Before the
Senate Committee on Ways and Means
Update on the State Water Plan Fund
Earl Lewis, Acting Director, Kansas Water Office
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Madam Chair and members of the committee, thank you for the opportunity to provide an update on implementation activities funded through the State Water Plan Fund. I am Earl Lewis, Acting Director of the Kansas Water Office.

First, I would like to thank you for your actions during the last two legislative sessions. During the 2017 session, you restored \$1.2 million of the statutory State General Fund (SGF) demand transfer for FY 2018. Last year, you added \$2.75 million of the SGF transfer and \$500,000 from the Economic Development Initiatives Fund (EDIF) demand transfer for FY 2019 and an additional \$200,000 to FY2018 for the Milford Lake RCPP. The additional funding was appropriated to the following activities.

		FY 2018	FY 2019
KWO/KDA	Streambank Stabilization	\$ 1,000,000	\$ 500,000
KWO	Reservoir Bathymetric Surveys	\$ 100,000	\$ 100,000
KWO	KS Alluvial Aquifer Monitoring	\$ 100,000	\$ 50,000
KWO	Streambank Stabilization Effectiveness Research		\$ 100,000
KWO	Harmful Algal Bloom Research		\$ 100,000
KWO	BMP Implementation		\$ 900,000
KWO	Milford Lake RCPP	\$ 200,000	\$ 200,000
KWO	Vision Education Strategy		\$ 100,000
KWO	Water Technology Farms		\$ 75,000
KWO	Equus Beds Chloride Plume Project		\$ 50,000
KWO	Water Resource Planner		\$ 100,000
KDA	Irrigation Technology		\$ 100,000
KDA	Sorghum Crop Research		\$ 150,000
KDA	Hemp Research		\$ 100,000
KDHE	Harmful Algae Bloom Pilot		\$ 450,000
KDHE	WRAPS Program		\$ 175,000
	Total	\$ 1,400,000	\$ 3,250,000

Information on each of the activities is contained on the following pages.

Streambank Stabilization FY 2018 - \$1,000,000; FY 2019 - \$500,000

Funding was appropriated to the Kansas Water Office in FY 2018, and to the Kansas Department of Agriculture for FY 2019. Implementation is jointly managed by a team from the Kansas Water Office, Kansas Department of Agriculture, and Kansas Department of Health and Environment.

Streambank stabilization efforts continue to be concentrated in three priority Kansas watersheds above Federal reservoirs: Tuttle Creek Lake; Perry Lake; and John Redmond Reservoir. In 2018, construction was completed for stabilization of four streambank sites achieving an estimated sediment load reduction of 3,600 tons per year.

Also in 2018, construction contracts were awarded for the stabilization of an additional 13 streambank sites, and design services were initiated for 12 new sites. The FY 2019 funding will provide resources for five to seven additional sites to be completed.

Reservoir Bathymetric Surveys FY 2018 - \$100,000; FY 2019 - \$100,000

In FY2018, funding was appropriated by the Legislature for the implementation of reservoir-related data collection. Bathymetric surveys of Marion and Council Grove reservoirs were planned to be completed through a contract with the Kansas Biological Survey (KBS). In addition to the surveys, the contract included the collection of sediment cores at Milford Lake for analysis.

In 2018, the low lake levels at Marion and Council Grove prevented the completion of these two surveys; but the sediment cores at Milford Lake were collected and analyzed by KBS. As a result, the original contract with KBS was re-scoped to remove the bathymetric survey work, and replace it with the collection of additional sediment cores at Marion and Sebelius Reservoirs for analysis in order to reconstruct historical data including evidence of previous harmful algal bloom (HAB) events. This information will be utilized to examine links between HAB events and specific changes in the watershed and/or environmental factors.

In 2018, the Kansas Water Office purchased a boat and new bathymetric survey equipment for an in-house bathymetry program. In 2019, the KWO plans to complete 5-8 bathymetric surveys. Completion of reservoir bathymetry surveys on a rotating basis to determine storage volume changes due to sedimentation provides information necessary for the KWO's continued operation of the agency's and local units of governments public water supply programs.

KS Alluvial Aquifer Monitoring FY 2018 - \$100,000; FY 2019 - \$50,000

The Kansas Water Office and Kansas Geological Survey (KGS) have maintained a continued partnership to develop, monitor, and expand the Kansas Alluvial Index Well Network. Funding has been utilized for installation of 5 new index wells at key locations in the alluvium along the Kansas River, and for the continued development of a stream-aquifer model of the Kansas River alluvial aquifer from Junction City to the junction with the Missouri River.

FY 2018 work included installation of seven index wells. FY 2019 work includes installation of the final three wells and equipping all 10 wells in the aquifer with telemetry to allow real-time monitoring of water levels. Currently, all 10 index wells are in and seven are fully equipped with telemetry. The telemetry equipment for the remaining three wells has been obtained and will be installed the spring of 2019.

Streambank Stabilization Effectiveness Research FY 2019 - \$100,000

As part of the Vision implementation research efforts, the Kansas Geological Survey (KGS) has been utilizing the FY2019 funding to lead a multi-year study evaluating current and proposed streambank stabilization (SBS) projects to help determine SBS effectiveness at reducing erosion and associated sedimentation, and help to inform adaptive management strategies for enhancing project efficiency. The KGS has continued to collaborate with the Kansas Biological Survey, KWO, USGS and the Corps of Engineers to collect data and baseline survey information at current and proposed streambank stabilization project sites. Additionally, the USGS has enhanced suspended sediment monitoring at gages below implemented and planned SBS sites.

Harmful Algal Bloom Research FY 2019 - \$100,000

As part of the Vision implementation research efforts, the Kansas Biological Survey (KBS) has been conducting extensive HAB-related research. The KBS has collected sediment cores from Marion and Sebelius reservoirs in order to reconstruct historical HAB events and perform HAB-related analyses. Cyanobacteria collected from Milford and Marion reservoirs by KBS staff are being grown under controlled conditions at the KU Field Station. The KBS researchers are working to determine growth characteristics, predict reservoir susceptibility to HABs, determine conditions enabling the prediction of HABs as toxin release events, and to develop potential management recommendations. This work is targeted at better understanding in river algae development and transport to provide earlier warning of potential water quality issues.

Best Management Practices Implementation FY 2019 - \$900,000

Watershed conservation practice implementation within the Vision priority watersheds is necessary to protect water supply storage and improve water quality in reservoirs across Kansas. Conservation practice implementation provides the most cost effective means of addressing these issues. In FY 2019, \$900,000 was awarded to producers within the Tuttle Creek, John Redmond, Kanopolis, and Fall River watersheds through the Kansas Reservoir Protection Initiative in support of sediment-reducing conservation practice implementation. It is currently estimated that from 100 applications awarded funding from the initial signup period, more than 33,000 tons of sediment could be prevented from eroding on nearly 22,000 acres per year.

Milford Lake Watershed RCPP Project FY 2018 - \$200,000; FY 2019 - \$200,000

This project in conjunction with United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) and nearly 30 other partners, will implement conservation practices within the Milford Lake watershed to decrease nutrient runoff which will decrease the formation of HABs.

FY2018 and 2019 funding appropriated for the Milford Lake Watershed Regional Conservation Partnership Program (RCPP) project will be utilized to provide eligible applicants within the Lower Republican Watershed additional financial assistance to implement nutrient-reducing best management practices to help reduce for identified core practices which provide the most efficient nutrient reduction benefits for cropland and livestock-related practices. These funds are paired with financial assistance funding provided by NRCS through EQIP. This RCPP project is currently in year 1 of 5 with application ranking cutoff dates occurring on December 21, 2018 and March 15, 2019. An additional \$600,000 over the next three years is needed to ensure that the full \$2.88 million in funding NRCS available for this project can be utilized.

Vision Education Strategy FY 2019 - \$100,000

This project has worked to sponsor more education and outreach regarding Kansas water resources. An Education and Public Outreach Supplement was developed for the Vision and implementation began this past year. A “Kansas Runs on Water” media campaign has been initiated with research from focus groups, slogan development, and example promotional material. Funding will be utilized to further the campaign by development of specific media and identification of stakeholders to cost share on implementation. In 2018, the KWO and Kansas Department of Agriculture (KDA) were able to continue to work with Walz Tietrick to develop the statewide marketing campaign and begin to create ideas for the centralized website. KWO was also able to initiate communication with entities to begin establishing a mentoring and intern program for high school students, as well as continue to work on partnering with universities to establish water related career curriculum.

Water Technology Farms FY 2019 - \$75,000

Water Technology Farms have given producers the opportunity to demonstrate and determine if the advances in irrigation technology work better in the field at little to no cost to the owner/operator. This program allows for products such as mobile drip irrigation (MDI), soil moisture probes, and various more-efficient sprinkler nozzles to be tested and purchased by vendors and state agencies that support the technology.

For the 2018 growing season four new water technology farms were established that included Long Farm in Wichita County, Harshberger Farm in Ford County, Weber Farm in Harvey County, and Jacob Farm in Sedgwick County. Due to the increasing popularity of the Water Technology Farm program, a request for project proposals was completed in December 2018, with 6 potential new farms being identified for the 2019 growing season.

Equus Beds Chloride Plume Project FY 2019 - \$50,000

Chloride contamination within the Equus Beds Aquifer from previous oil field production has resulted in areas of groundwater which is unsuitable for most uses. The KWO has collaborated with Equus Beds Groundwater Management District #2 (GMD2) and the City of Wichita on development of a process to prioritize potential chloride remediation sites, evaluation of remediation alternatives, and management alternatives for generated waste streams.

A request for proposals will be conducted by GMD2 to identify financial resources necessary to complete components of an overall remediation planning and implementation process. FY 2019 funding will be utilized to fund components of the remediation process identified from the RFP, with future funding utilized to complete the alternative evaluation process and produce options for implementation.

Water Resource Planner FY 2019 - \$100,000

To better support water planning efforts and water technology farms in Western Kansas, the Kansas Water Office has hired an additional staff member. This water resource planner is stationed in the Kansas Department of Agriculture-Division of Water Resources Garden City Field Office. The planner was hired in July and has been providing staff support to our western 4 planning regions as well as overseeing and coordinating water technology farm operations.