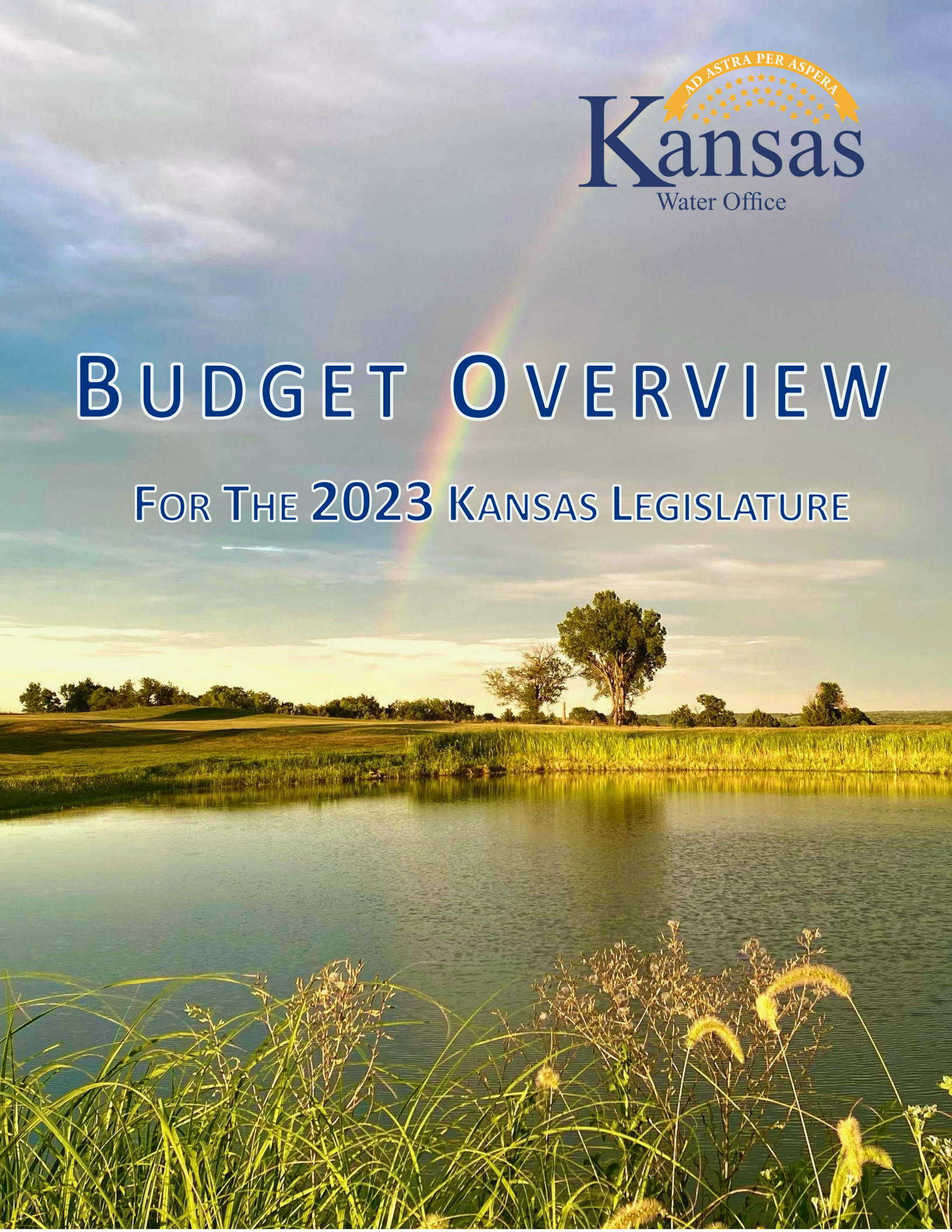
Kansas Water Office

Budget Overview

For The 2023 Kansas Legislature



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AGENCY OVERVIEW

AGENCY PURPOSE:

- Development of comprehensive State Water Plan.
- Coordinate the water resource operations of agencies at all levels of government.
- Ensure adequate quantities of good quality water to meet future needs.
- Efficiently operate state owned storage in federal reservoirs.

AGENCY PRIORITIES:

- Sustain the states reservoir system to meet current and future demands under the Reservoir Sustainability Initiative.
- Conserve and extend the life of the Ogallala Aquifer.
- Implement strategies for the protection and restoration of watersheds, with an emphasis on sediment and nutrient reduction.
- Develop regional water supply strategies where appropriate throughout Kansas.

AGENCY PROGRAMS

The Kansas Water Office (KWO) is the water planning, policy, and coordination agency for the State of Kansas, and is made up of two primary programs as listed below. The agency's budget is comprised of primarily three sources of funding: the State General Fund (SGF), user fees from the agency's Public Water Supply Program, and the State Water Plan Fund.

STATUTORY AUTHORITY

74-2613 Kansas Water Office established
74-2608 Water Policy Development, Water Planning, and Agency Coordination
74-2622 Kansas Water Authority established
82a-220 Grant of streambank easement for navigable waters
82a-733 Water conservation plans
82a-901 et seq. State Water Resources Planning Act
82a-1101 et seq. Coordination of streambank projects
82a-1301 et seq. State Water Plan Storage Act
82a-1330 et seq. Water Assurance Program Act
82a-1401 et seq. Weather Modification Act
82a-1501a Water Transfer Act
82a-1604 et seq. Multipurpose Small Lakes Act
8sa-1801 et seq. Water Litigation Act and fund
82a-2101 Clean Drinking Water Fee
82a-2301 et seq. Lower Smoky Hill Supply Access Program
82a-2401 et seq. Reservoir Improvement District Act

TOTAL OFFICE POSITIONS FUNDED: 19

17 Professional Staff

2 Administrative Staff

Total FTEs: 19

APPOINTED BOARD MEMBERS: 13

BUDGET

Program	FY2022 Actuals	FY2023 Budget	**FY2024 Budget
Water Planning & Implementation	$81,790,492	*$66,766,985	$9,013,418
Public Water Supply Program	$8,448,595	$5,842,860	$6,773,800
Total Expenditures	**$90,239,087**	**$72,609,845**	**$15,787,218**

** FY2023 Budget includes the Governor's Budget Recommendation of $53M for the payment of water supply storage debt for Milford and Perry reservoirs.*

***FY2024 Budget includes full restoration of the SGF/EDIF demand transfers and the SWPF enhancements per the Governor's Budget Recommendations*

Water Planning & Implementation

Kansas Water Authority Priorities

- Provide a comprehensive State Water Plan to address current and future water resource needs.
- Advocate for appropriate water resources funding in Kansas.
- Be an active participant in water resources policy formation and recommendation that result in legislation.

Water Planning and Implementation Priorities

- Development of comprehensive State Water Plan to address current and future water resource needs.
- Coordinate the water resource operations of agencies at all levels of government.
- Ensure adequate quantities of good quality water to meet future needs .

Kansas Water Authority Statutory Authority

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82a-2101 Clean Drinking Water Fee

Total Positions:

13 Appointed Board Members
8 Professional Staff, 1 Administrative Staff

FY2022 Actual Revenue and Expenditure by Fund

Revenue by Fund FY2022	Revenue or Appropriation	Expended	Carryover
State General Fund	$80,949,813	$77,961,087	*$2,988,726
State Water Plan Fund	$5,206,721	$2,468,624	$2,738,097
General Fee Fund	$176,396	$18,077	$158,319
Indirect Cost Fund	$1,194	$0	$1,194
Local Water Project Match	$188,565	$143,200	$45,365
Republican River Water Conservation Project-CO	$1,400,192	$155,679	$1,244,513
Republican River Water Conservation Project-NE	$932,208	$0	$932,208
Streambank Stabilization Project	$776,856	$776,856	$0
FEMA HHPD Grant	$179,543	$179,543	$0
EPA Wetland Grants	$87,426	$87,426	$0
Total Funds	**$89,898,914**	**$81,790,492**	**$8,108,422**

* $2,988,250 of the $2,988,726 carry forward is from the remaining FY2022 $80 million appropriation. These funds were paid in FY2023 to the U.S Army Corps of Engineers to prepay a portion of the remaining future use debt associated with the reservoir storage contract at Perry Lake.

Program Expenditures

Major Expenditures	FY2022 Actuals	FY2023 Budget	FY2024 Budget
Salaries and Wages	$725,710	$842,561	$842,561
Contractual Services	$3,471,762	$8,211,369	$6,183,056
Commodities	$17,139	$121,925	$131,925
Capital Outlay	$5,432	$20,900	$21,700
Other Assistance	$558,699	$1,581,980	$1,834,176
Debt Service—Principal	$77,011,750	*$55,988,250	$0
Total Expenditures	**$81,790,492**	**$66,766,985**	**$9,013,418**

** FY2023 Budget includes the Governor's Budget Recommendation of $53M for the payment of water supply storage debt for Milford and Perry reservoirs.*

Water Planning & Implementation

Future Use Storage in Corps of Engineers Reservoirs

Future Use storage is storage that is not currently in service. Some of the water supply contracts between the U.S. Army Corps of Engineers and the KWO allow the State to defer payments and the control of the storage until the storage is needed. The table below indicates the remaining debt associated with Future Use Storage.

Lake	Milford	Perry	Totals
Water Supply Storage Remaining - Future Use (acre-feet)	198,350	125,000	**323,350**
Year Contract Payment Complete	**2034**	**2041**	
Interest Rate	2.63%	3.05%	
Contract Current Balance (Est.)	$27,765,139	$24,894,727	**$52,659,866**

Performance Based Budget

Performance Measures	Actual FY2021	Actual FY2022	Current FY2023	Budget FY2024
Vision/Kansas Water Plan Action items underway or completed	258	262	262	262
Internal Agency Tracking				
State of the Resource Reports completed	14	14	14	14
Research and technical studies underway or completed	16	16	16	16
Number of people engaged in public meetings and conferences	2,947	1,725	3,000	3,250
Number of digital interactions	524,239	306,000	525,000	575,000

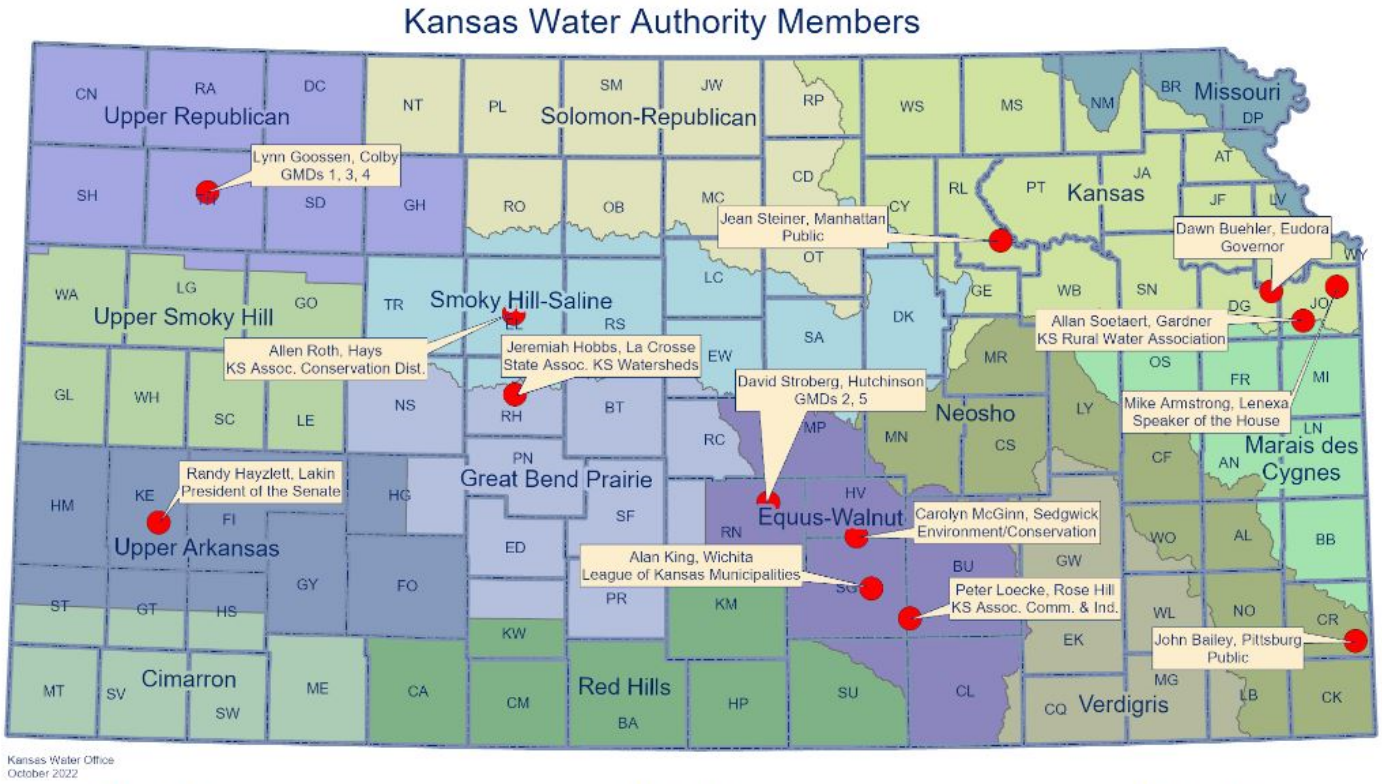
KANSAS WATER AUTHORITY

The **KWA** was established in 1981 within and as part of the Kansas Water Office. The KWA provides the leadership to ensure that water policies and programs address the needs of all Kansans.

The KWA is comprised of 24 members (13 voting and 11 ex-officio members) that are informed of water related issues representing water users, water interests, environmental interests, and the general public. The KWA conducts meetings throughout Kansas 4-5 times a year to allow legislators, stakeholders and the general public to participate in meetings. Meeting around the state also gives Authority members the opportunity to learn first-hand about the unique water resource issues that exist in Kansas.

The KWA is responsible for advising the Governor, the Legislature, and the Director of the KWO on water policy issues, approves the *Kansas Water Plan* and revisions, the annual report, federal and state contracts, public water supply contracts, and public water supply rates. Additionally, the KWA produces and approves administrative, statutory and SWPF recommendations to be proposed by the KWO.

A map detailing the membership of the KWA, and whom they represent, is included below.



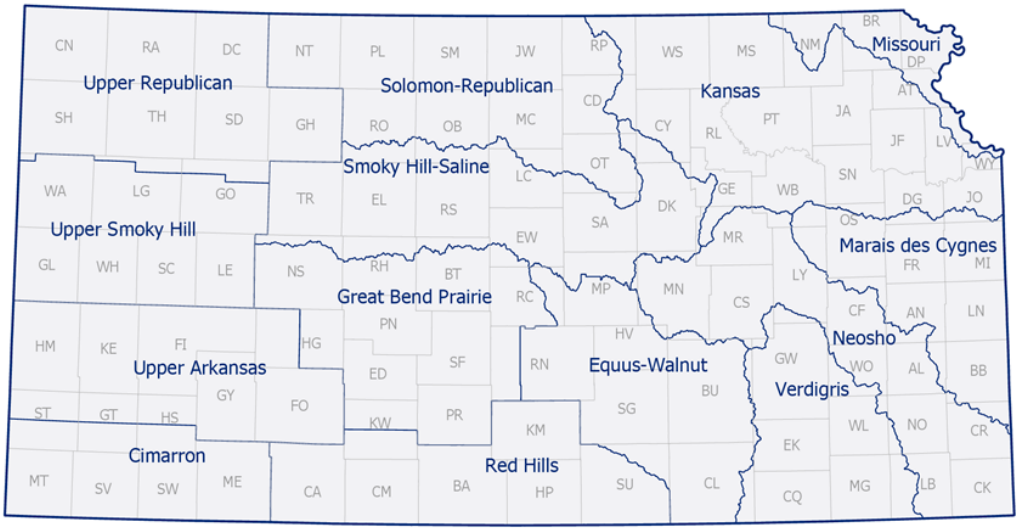
REGIONAL ADVISORY COMMITTEES

The KWO and the KWA seek advice from the general public and from committees consisting of individuals with knowledge of and interest in water issues in the water planning areas as determined by the KWO for the development of sections of the comprehensive state water plan (K.S.A.82a-903).

Regional Advisory Committee Overview

14 Regional Planning Areas were established in December 2014 by the KWA. At that time, the previously existing 12 water resource planning basins transitioned to the current 14 regional planning areas. Since the formation of the 14 Regional Advisory Committees (RAC) at the August 2015 meeting of the KWA, the KWO has worked with all RACs across Kansas to develop action plans for regional groundwater and surface water-related issues and more recently to provide guidance and coordinate efforts towards the implementation of these action plans.

The purpose of the RACs through coordination provided by KWO water resource planners, includes advising the KWO and the KWA on topics such as the identification of water-related problems, issues and concerns within their regions as well as region-specific information within the *Kansas Water Plan.* The RACs also serve as a link between the KWO and KWA and regional citizens through various groups and individuals and communicate information on concerns and issues to citizens in the region.



KWO - Regional Advisory Committee Highlights

- KWO continues to work with RACs to identify means to move *Kansas Water Plan (KWP)* implementation forward through activities such as enhancing inter-agency collaboration on regional water resource-related issues, conducting workshops to evaluate regional water supplies conditions and conservation activities, and leveraging state resources to secure federal and private funding for project implementation activities.
- The KWO, in coordination with local, state, federal, and interstate partners, has developed the 5-year update of the KWP. This update was discussed and approved by the KWA at their August 2022 meetings.
- The updated KWP includes incorporation of the 'Long Term Vision for the Future of Water Supply in Kansas', as well as an appendix of the goals and action plans submitted by the 14 RACs.

State Water Plan Fund

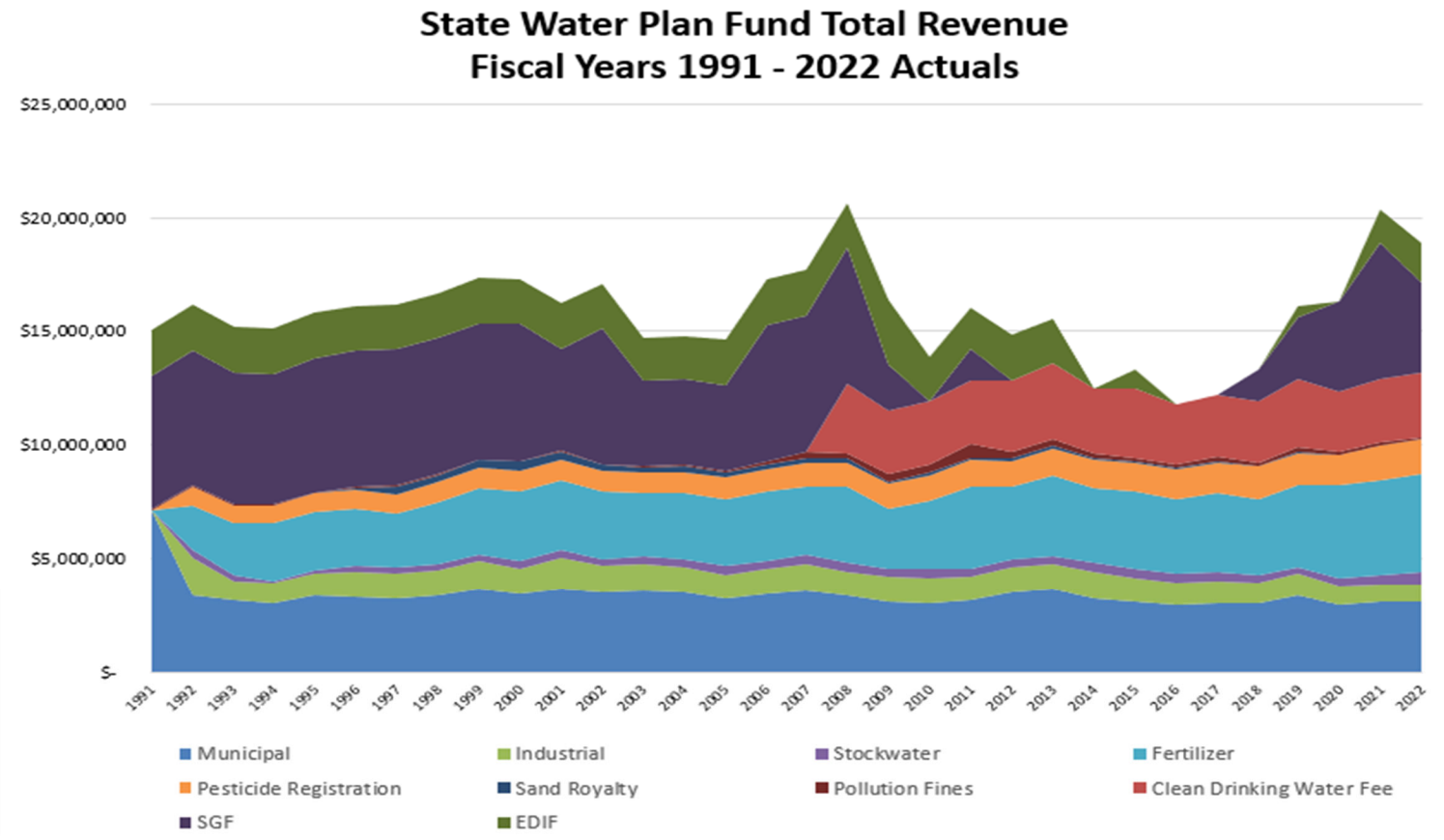
In 1989, an important step in current water planning was taken with the creation of the **State Water Plan Fund** (SWPF) (K.S.A. 82a-951). The Fund is used for establishing and implementing water related programs or projects identified in the Kansas Water Plan. Revenue for the SWPF is received from fees assessed to municipal, industrial and agricultural water-related users and includes a demand transfer from the SGF and EDIF as shown in the table.

The **fee structure** that supports the SWPF has remained virtually unchanged since the fund has been in place. Sand Royalty Receipts were added to the funding stream in FY 1996 and the Clean Drinking Water Fee began in FY2008.

Source	Rate
Municipal Water Use	3 cents/1000 gal
Clean Drinking Water Fee	3 cents/1000 gal
Industrial Water Use	3 cents/1000 gal
Stock water Use	3 cents/1000 gal
Pesticide Registration	$100/ Registration
Fertilizer Inspections	$1.40/ton
Pollution Fines and Penalties	Est. $150,000
Sand Royalty Receipts	$0.15 / ton
EDIF Transfer - Statutory	$ 2,000,000
State General Fund Transfer	$ 6,000,000

The graphic below shows that there was some growth in revenue in the early 1990's and again in the middle portion of the 2000's. The gains were primarily due to increase in water usage and the addition of the two aforementioned fees. These were offset by subsequent declines in revenue. The declines were during times of overall fiscal stress on the state and elimination of a portion or all of the SGF transfer and elimination of the transfer of EDIF monies to the SWPF. These cuts continued into FY2016, FY2017, but the transfers have been partially restored since FY2018.

The table below represents actuals in the SWPF total revenue in fiscal years of 1991-2022.



State Water Plan Fund

The Historical SGF and EDIF transfers are represented on the following table. As shown, FY2008 is the most recent year that the full $8,000,000 statutory demand transfer from these two funds were made.

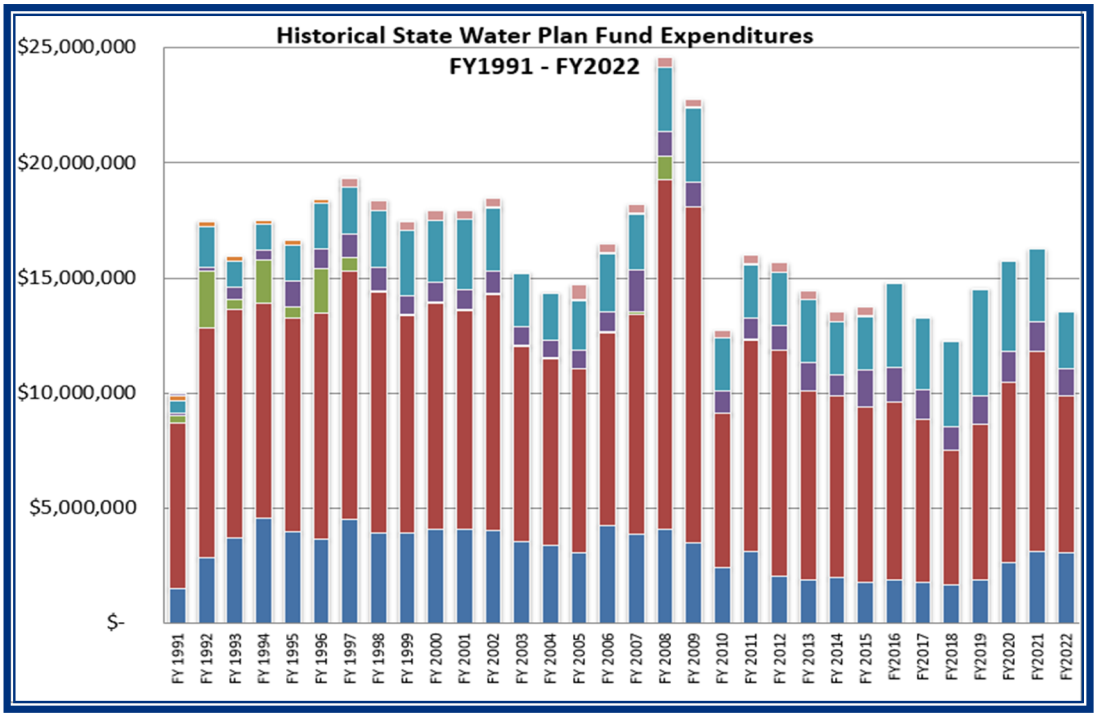
During the 2022 legislative session, the Legislature approved a $6 million SGF transfer and a $2 million statutory EDIF demand transfer into the SWPF for FY2023 to continue to implement priority water resource projects.

The KWA reviewed the agency and RAC requests regarding recommended projects for all SWPF expenditures, including those supported by SGF/EDIF transfers in FY2024 and continues to support maintaining the full $8 million SGF/EDIF demand transfers to the SWPF. The Governor's FY2024 budget recommends maintaining the SGF/EDIF demand transfers totaling $8 million.

The Historical SWPF Expenditures are represented in the graph below for FY1991 through FY2022.

History of SGF and EDIF Transfer

	SGF Transfer	EDIF Transfer	Transfers Not Made
FY1991	$ 5,895,000	$ 2,000,000	$ 105,000
FY1992	$ 5,940,000	$ 2,000,000	$ 60,000
FY1993	$ 5,820,000	$ 2,000,000	$ 180,000
FY1994	$ 5,760,000	$ 2,000,000	$ 240,000
FY1995	$ 5,932,800	$ 2,000,000	$ 67,200
FY1996	$ 6,000,000	$ 2,000,000	$ -
FY1997	$ 6,000,000	$ 2,000,000	$ -
FY1998	$ 6,000,000	$ 2,000,000	$ -
FY1999	$ 6,000,000	$ 2,000,000	$ -
FY2000	$ 6,000,000	$ 2,000,000	$ -
FY2001	$ 4,500,000	$ 2,000,000	$ 1,500,000
FY2002	$ 6,000,000	$ 2,000,000	$ -
FY2003	$ 3,773,949	$ 1,900,000	$ 2,326,051
FY2004	$ 3,773,949	$ 1,900,000	$ 2,326,051
FY2005	$ 3,748,839	$ 2,000,000	$ 2,251,161
FY2006	$ 6,000,000	$ 2,000,000	$ -
FY2007	$ 6,000,000	$ 2,000,000	$ -
FY2008	$ 6,000,000	$ 2,000,000	$ -
FY2009	$ 2,000,000	$ 2,846,126	$ 3,153,874
FY2010	$ -	$ 2,000,000	$ 6,000,000
FY2011	$ 1,348,245	$ 1,802,141	$ 4,849,614
FY2012	$ -	$ 2,000,000	$ 6,000,000
FY2013	$ -	$ 2,000,000	$ 6,000,000
FY2014	$ -	$ -	$ 8,000,000
FY2015	$ -	$ 800,000	$ 7,200,000
FY2016	$ -	$ -	$ 8,000,000
FY2017	$ -	$ -	$ 8,000,000
FY2018	$ 1,400,000	$ -	$ 6,600,000
FY2019	$ 2,750,000	$ 500,000	$ 4,750,000
FY2020	$ 4,005,632		$ 3,994,368
FY2021	$ 6,000,000	$ 1,413,325	$ 586,675
FY2022	$ 4,005,632	$ 1,719,264	$ 2,275,104
Total			**$ 84,465,098**



Kansas Water Office - State Water Plan Fund

The following table indicates the actuals for FY2022, appropriations for FY2023 and the Governor's FY2024 budget recommendations for the SWPF programs and initiatives administered through the Kansas Water Office.

KWO State Water Plan Fund Program/Project	FY2022 Actuals	FY2022 Reappropriation	FY2023 Appropriation	FY2023 Total Appropriation	FY2024 Agency/KWA Recs Full Restoration SGF/EDIF	FY 2024 GOV Recs
Assessment and Evaluation	$ 536,457	$ 322,102	$ 834,078	$ 1,156,180	$ 834,078	$ 834,078
MOU - Storage Operations & Maintenance	$ 532,589	$ -	$ 530,464	$ 530,464	$ 736,160	$ 736,160
Stream Gaging	$ 413,580	$ 9,550	$ 413,580	$ 423,130	$ 448,708	$ 448,708
Technical Assistance to Water Users	$ 298,682	$ 42,709	$ 325,000	$ 367,709	$ 425,000	$ 425,000
Reservoir and Water Quality Research	$ 252,553	$ 233,724	$ 350,000	$ 583,724	$ 450,000	$ 450,000
Water Quality Partnerships	$ 24,878	$ 555,122	$ 50,000	$ 605,122	$ 884,176	$ 884,176
KS Water Plan Education & Outreach Strategy	$ 1,865	$ 222,910	$ 250,000	$ 472,910	$ 250,000	$ 250,000
High Plains Aquifer Partnerships	$ 48,598	$ 126,402	$ 200,000	$ 326,402	$ 850,000	$ 850,000
Kansas Reservoir Protection Initiative	$ 359,422	$ 190,578	$ 1,000,000	$ 1,190,578	$ 1,000,000	$ 1,000,000
Equus Beds Chloride Plume Remediation Project	$ -	$ -	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Flood Response Study	$ -	$ -	$ 200,000	$ 200,000	$ 200,000	$ 200,000
Arbuckle Study	$ -	$ 60,000	$ 150,000	$ 210,000	$ 150,000	$ 150,000
Water Injection Dredging (WID)	$ -	$ 975,000	$ 1,025,000	$ 2,000,000	$ -	$ -
TOTAL	**$ 2,468,624**	**$ 2,738,097**	**$ 5,378,122**	**$ 8,116,219**	**$ 6,278,122**	**$ 6,278,122**

FY2024 SWPF - Governor's Budget Recommendations

The Governor's budget recommendations for the Kansas Water Office includes enhancement funding of $900,000 as follows:

- Additional $450,000 for Water Quality Partnerships
- Additional $450,000 for High Plains Aquifer Partnerships

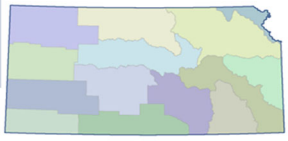
KWO SWPF Program/Project Information

As indicated in the above table, the FY2024 budget recommendations include a total of $6,278,122 from the SWPF for programs and initiatives administered by the Kansas Water Office.

John Redmond Reservoir Bond

There will not be a John Redmond Bond payment in FY2024. The John Redmond Reservoir Bond was paid off in conjunction with 2015 Series A early debt retirement recommended by the Governor and approved by the 2022 Kansas Legislature.

ASSESSMENT & EVALUATION



FY2023 ADJ. BUDGET: $1,156,180

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $834,078

Program Objective

The Assessment and Evaluation (A&E) funding line is used to contract for a variety of data collection and studies. The overall objective of the program is to provide the water planning and vision process with the background information necessary to make decisions and improve implementation.

Program Activities

The A&E funding line started in 1998 and has received some level of funding consistently since 2001. During the 1990's, and partially into the early 2000's, many individual studies were identified by appropriation within the SWPF. Nearly all KWO study funds had been rolled into the A&E funding line by FY2006. By combining these funding activities, the agency can be more responsive to study needs and changing priorities. The following table shows the list of studies completed, underway, or planned from FY2022 through FY2024

Project	Contractor / Cooperator
Suspended Sediment Monitoring	U.S. Geological Survey
High Plains Index Wells	Kansas Geological Survey
High Plains Model Maintenance	Kansas Geological Survey
Missouri Region GW Inventory	Kansas Geological Survey
GMD Model Updates/Enhancements	Kansas Geological Survey
Produced Water Pilot Test Project	Bureau of Reclamation
Kansas River Basin WS Study	U.S. Corp of Engineers
Kansas River Water Quality Monitoring	U.S. Geological Survey
Lower MO River Basin Flood Study	U.S. Corp of Engineers
Republican River Water Quality Monitoring	U.S. Geological Survey
WID PAS Study	U.S. Corp of Engineers
Flood Response PAS Study (Tulsa District)	U.S. Corp of Engineers
USGS HAB Study	U.S. Geological Survey

Program Accomplishments

Each of the studies completed has a different set of objectives. Some examples of accomplishments have been:

- Studies completed under the A&E program have improved water management in our reservoirs through OASIS surface water modeling.
- Our understanding of the Ogallala Aquifer and the amount of water remaining has been improved through groundwater modeling and the High Plains Index Well efforts.
- Funding has provided cost-share as state match for federal studies of significance with the U.S. Army Corps of Engineers.

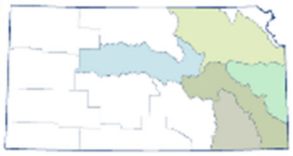
Program Budget

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$834,078	$1,156,180	$834,078
Total Expenditures	**$834,078**	**$1,156,180**	**$834,078**

Additional Funding Resources

Some of the projects are cost shared or matched to federal funds, enhancing the state's ability to leverage federal funding.

MOU-Storage Operation & Maintenance



FY2023 Adj. Budget: $530,464

FY2024 Governor's Budget Recommendation: $736,160

Program Objective

All of the contracts for state-owned storage in U.S. Army Corps of Engineers reservoirs used for water supply require the payment of a proportional amount of the operation and maintenance costs associated with the storage that is in service. Under the provisions of a 1985 memorandum of understanding (MOU) between the state and the Corps, storage that had been reallocated from water quality to water supply could be purchased at the original cost of construction and original interest rates, a significant savings. Under the MOU provisions, the state is required to make a lump sum payment for the principal and interest, which requires a continuing operation and maintenance obligation on that storage. The 1993 legislature directed the KWA to aggressively acquire all storage made available under the MOU, even though some of the storage in the following reservoirs was not immediately needed by either the Water Marketing or Water Assurance program customers: Council Grove, Elk City, Marion, Melvern, Pomona, and Tuttle Creek. In addition, the SWPF is used to pay a portion of the operation and maintenance costs of water storage space in Cedar Bluff Reservoir, which is used for recreational purposes as well as artificial recharge of the Smoky Hill alluvium downstream from the reservoir.

Program Activities

The KWO continues to utilize MOU Storage Operations & Maintenance funds within the SWPF to pay the annual operation and maintenance costs of water storage space in the following reservoirs in accordance with the associated water storage purchase agreements between the state of Kansas and the Corps. The funding request is based on the anticipated costs communicated to the KWO by the Corps for the noted fiscal year. Invoices are submitted to the KWO annually for payment.

O&M by Reservoir	FY2023	FY2024
Council Grove	$49,821	**$135,126**
Elk City	$35,368	**$120,434**
Marion	$144,916	**$123,526**
Melvern	$128,503	**$134,945**
Milford	$0	**$45,710**
Pomona	$141,461	**$151,653**
Toronto	$2,430	**$1,167**
Tuttle Creek	$22,965	**$18,599**
Cedar Bluff	$5,000	**$5,000**
Total O&M	**$530,464**	**$736,160**

Program Accomplishments

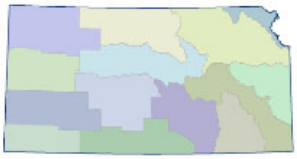
Payment to the U.S. Army Corps of Engineers for the state's contractual operation and maintenance obligation ensures water storage space is available to meet future growth.

No Additional Funding resources

Consequences of Not Funding

The state would be unable to meet its contractual obligations to the U.S. Army Corps of Engineers for payment of operation and maintenance costs associated with state-owned water storage within the associated reservoirs.

Stream Gaging Program



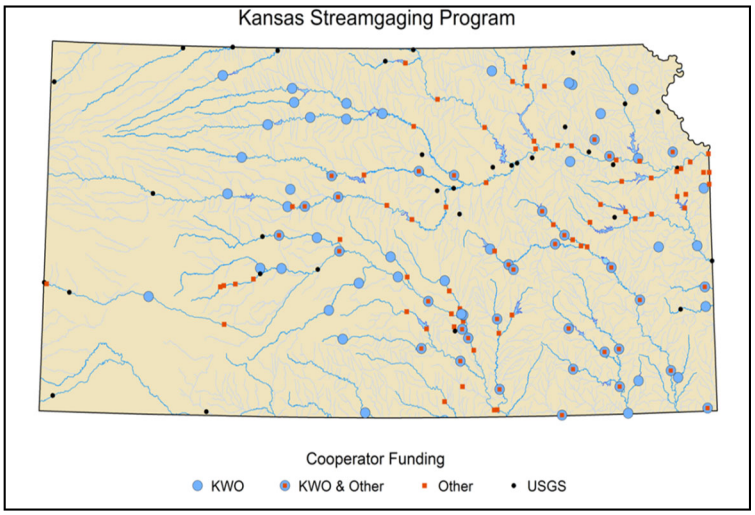
FY2023 Adj. Budget: $423,130

FY2024 Governor's Budget Recommendation: $448,708

Program Objective

Support the continuous monitoring of stream flows on key streams and rivers in Kansas. The information serves multiple purposes, public and private entities, and the general public.

The KWO contracts with the U.S. Geological Survey (USGS) to operate a network of stream gages in Kansas that have been collecting data for more than 100 years. These stream-flow stations, in combination with reservoir level stations supported by other USGS funding partners, continue to provide real time data for streamflow and lake conditions. This data is used in making operational decisions regarding water rights; minimum desirable stream flows; flood monitoring; reservoir management; and water quality monitoring and analysis. In addition, this information is used to help operate the Water Marketing and Water Assurance Programs.



Program Activities

Contracted with USGS in FY2023 to operate 62 continuous record stations (including 59 surface water and 3 ground water stations) at locations across the state and provide access to USGS data via the Internet through the USGS National Water Information System.

Recent Success

Stream gages provide near real-time information about stream and river conditions across the state of Kansas. This information is used on a daily basis by numerous local, state and federal agencies and research entities to plan, protect and conserve water resources.

Program Budget

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$413,580	$423,130	$448,708
Total Expenditures	**$413,580**	**$423,130**	**$448,708**

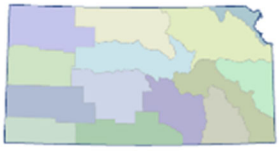
Additional Funding Resources

The KWO, in partnership with USGS, contributes money to the cost of operations of the stream gages. Other federal, state and local agencies contribute cooperative funding as do some private entities. There are a number of gages that are fully supported by the USGS and cooperatively by other entities.

Consequences of Not funding

Operation of the stream gaging sites included in the contract between the state and USGS would cease and the vital flow data collected at these sites would be unavailable.

Technical Assistance to Water Users



FY2023 Adj. Budget: $367,709

FY2024 Governor's Budget Recommendation: $425,000

Program Objectives

The Technical Assistance to Water Users program, which began in 1992, provides on-site technical assistance to municipalities (cities and rural water districts). The intent of the program is to improve the operations and maintenance of public water supply systems (PWS), as well as water conservation planning and emergency response, through on-site assistance.

Per K.S.A 82a-2101, not less than 15% of the Clean Drinking Water Fee shall be used for technical assistance to water users to aid such systems in conforming to responsible management practices and complying with regulations of the United States Environmental Protection Agency (EPA) and rules and regulations of the Kansas Department of Health and Environment (KDHE).

Program Activities

The KWO is charged by statute to provide technical assistance for water users required to adopt and implement conservation plans and practices (K.S.A. 82a-733 et seq.). On-site technical assistance is provided by contract with the Kansas Rural Water Association (KRWA). Assistance is available to PWS personnel on operations, maintenance, finance, management, regulatory requirements, water quality and public health concerns and/or other critical issues. Assistance is prioritized based on severity of the problem and as time and resources permit. All technical assistance activities are logged and reimbursed on a time and expenses basis.

Program Accomplishments

In FY 2022, the KRWA provided assistance to 224 Cities and 105 Rural systems, public wholesale systems or other water systems. The Association conducted 141 water loss surveys, locating over 250 million gallons of water loss on an annual basis.

Program Budget

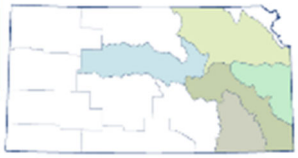
	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$325,000	$367,709	$425,000
Total Expenditures	**$325,000**	**$367,709**	**$425,000**

No Additional Funding Sources

Consequences of Not funding

The state will be unable to provide much needed local technical assistance to public water suppliers throughout the state affecting their ability to provide safe drinking water to the residents of Kansas.

RESERVOIR & WATER QUALITY RESEARCH



FY2023 ADJ. BUDGET: $583,724

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $450,000

PROGRAM OBJECTIVES

Continued coordination, support, and implementation of reservoir and water quality related data collection and analysis. Project identification and selection is done in collaboration with the Research Coordination Workgroup, which includes representatives from K-State Research and Extension, Kansas Geological Survey (KGS), Kansas Biological Survey (KBS), the University of Kansas, USGS, Kansas Department of Agriculture (KDA), KDHE and the KWO.

PROGRAM ACTIVITIES

- Completion of reservoir bathymetry surveys on a rotating basis to determine storage volume changes due to sedimentation. This information is necessary for operation of the KWO's PWS Programs.
- Collection and analysis of sediment cores taken from Kansas reservoirs on a rotating basis. The cores serve as a measure of infill thickness and a layered timeline of sedimentation and harmful algal bloom (HAB) events.
- 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.
- Establishment and continued operation of a Kansas River Alluvial Aquifer Observation Well Network.
- Development of a stand-alone tool that KDEM and other agencies could use to model flood inundation scenarios on -the-fly to enhance the state's ability to address future flooding events.
- Collection of groundwater nitrate samples and evaluation of potential sources and controls on groundwater nitrate concentrations at Flickner Innovation Farm.

PROGRAM ACCOMPLISHMENTS

- The KWO began a bathymetric survey at Perry Lake in 2021, which was completed in 2022.
- The KBS collected sediment cores in 2021 from Tuttle Creek Lake and Waconda Reservoir.
- The KGS has continued to collaborate with KBS, KWO, USGS and the U.S. Army Corps of Engineers to collect data and baseline survey information at current and proposed streambank stabilization project sites.
- The KGS completed the initial development of the Kansas River Index Well Network in 2022, which now includes 16 wells with continuous measurements posted on the KGS website.
- The KBS completed beta versions of the flood mapping dashboard and the Rapid Image Viewer web tool.
- The KGS completed multiple rounds of groundwater nitrate sampling, analysis of existing data, and direct push profiling at three wells at the Flickner Innovation Farm in 2022.

PROPOSED ACTIVITIES

- Evaluate current research focus areas based on research needs identified in the new KWP.
- Continue to support existing research efforts that are identified as priorities in the new KWP.
- Create opportunities for new research projects that address needs identified in the new KWP.

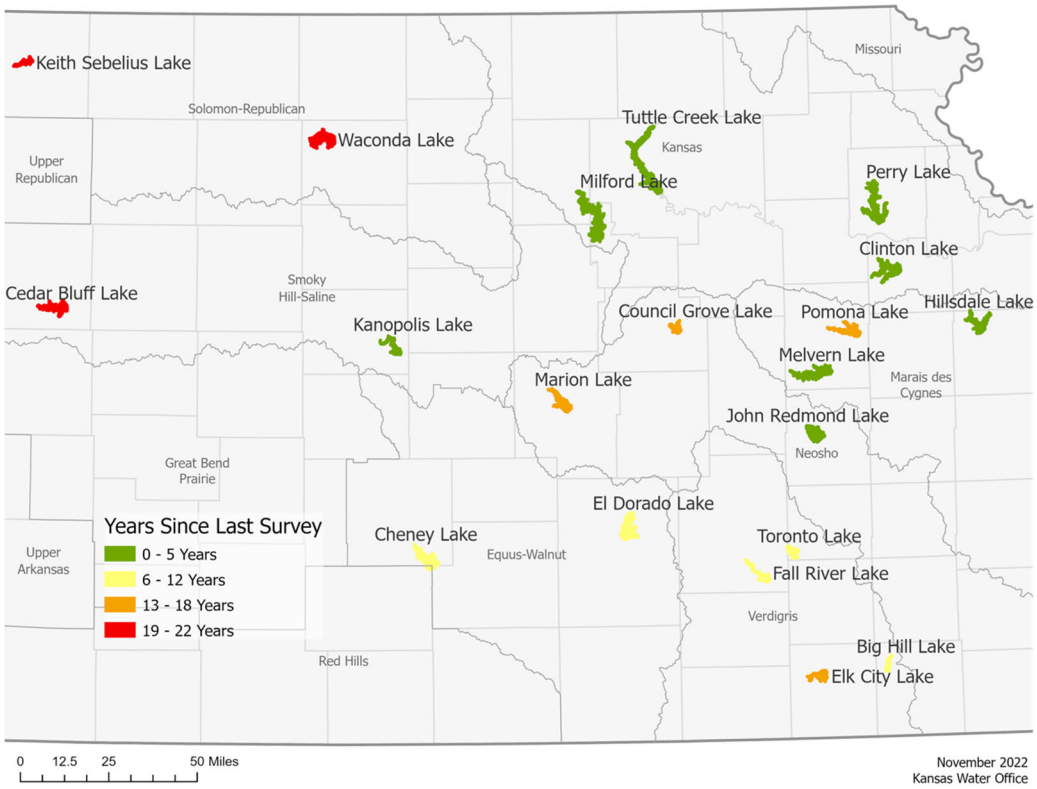
Reservoir & Water Quality Research (cont.)

Program Budget

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$350,000	$583,724	$450,000
Total Expenditures	**$350,000**	**$583,724**	**$450,000**

Consequences of Not Funding

Insufficient understanding of complex water resource issues in Kansas, likely resulting in less effective management of water resources and fewer innovative solutions to address problems facing the state.



WATER QUALITY PARTNERSHIPS

FY2023 ADJ. BUDGET: $605,122

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $884,176

PROGRAM OBJECTIVES

- Provide increased funding for leveraging partnership opportunities which support overall efforts to improve our state's water quality.
- Enhance watershed conservation practice implementation benefiting surface and groundwater quality.
- Development of new partnerships and enhancement of existing partnership to facilitate enhanced watershed conservation practice implementation with a goal of improving Kansas water quality.

PROGRAM ACTIVITIES

- Leverage partner resources with other state, federal, local and private technical/financial resources to enhance watershed conservation practice implementation within priority areas of Kansas experiencing surface and/or groundwater quality issues.
- Collaborate with partners to hold stakeholder-focused meetings within priority areas to increase awareness on resources available to assist with conservation practice implementation.
- Collaborate with partners to identify additional leveraging opportunities for which SWPF resources could be utilized to advance KWP implementation efforts focusing on water quality. This could include but not limited to the Milford Lake Watershed as well as the Arkansas River Basin in southwest Kansas.

PROGRAM ACCOMPLISHMENTS

KWO has been working since January 2018 to coordinate project activities in association with the Milford Lake Watershed Regional Conservation Partnership Program (RCPP). To date, $2.16 million in federal technical financial assistance has been obligated towards the project along with over $3 million in additional partner resources beyond KWO's SWPF contribution to the project. These types of partnership leveraging opportunities would be supported beyond just the Milford Lake Watershed within the proposed Water Quality Partnerships project line.

PROGRAM BUDGET

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget	FY2024 Enhancement	FY2024 Budget w/ Enhancement
Other Assistance	$50,000	$605,122	$434,176	$450,000	$884,176
Total Expenditures	**$50,000**	**$605,122**	**$434,176**	**$450,000**	**$884,176**

The FY2023 adjusted amounts denote contributions still forthcoming from KWO towards the Milford Lake Watershed RCPP with NRCS through the end of the original agreement term (August 2023). Access to and utilization of these funds will allow KWO to fulfill our entire partnership contribution within the original agreement terms of the Milford Lake Watershed RCPP. FY2024 funding, including that within the proposed enhancement package, could support establishment of new water quality partnership opportunities in southwest Kansas along the Arkansas River as well as continued support for nutrient reduction efforts through RCPP or other water quality-related partnerships.

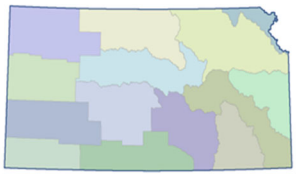
Additional Funding Resources

Further financial support for partnership efforts could include, but is not exclusively limited to the federal government, other state agencies, groundwater management districts, local municipalities/utilities, agricultural advocacy/commodity groups, non-profit organizations.

Consequences of not funding

- Decreased opportunity to leverage SWPF financial resources with other partner resources to support conservation practice implementation and other activities in priority areas of Kansas to improve water quality.
- Decreased opportunity to provide financial assistance to producers within Kansas to voluntarily adopt conservation practices which benefit on-farm profitability while also benefitting state water resources.

KS WATER PLAN EDUCATION & OUTREACH STRATEGY



FY2023 ADJ. BUDGET: $472,910

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $250,000

Program Objectives

To implement an education plan that builds upon existing efforts and leads to the development of new statewide programs that focus on water resources. Water resource education should begin at the kindergarten level, develop into secondary education, prepare students to go into the workforce in a water related field at the university level, and continue to provide information to the general public and key stakeholders in our state. The ultimate goal is to raise awareness of water issues within the state and increase the knowledge of those working within water-related careers.

Program Activities

The activities proposed within this section are identified in Increase Awareness of Kansas Water Resources Guiding Principle of the KWP. This Guiding Principle, and the included action items, were created and approved through public input involving any and all state and federal entities, RAC members and any other Kansans that found value in participating in drafting this Guiding Principle, as well as members of varying education sectors.

- Hold a statewide Summit on Water Education for educators and educational organizations to share best practices, resources, curriculum and services.
- Develop a grant program for new and existing water education organizations to provide professional development, curriculum and resources which build on statewide messaging efforts.
- Begin evaluation of higher education institutions current academic offerings and identify water-related courses and curriculum and partner in water programs within universities.
- Coordinate regional/topical workshops to facilitate development of partnerships between higher education and business and industry. Partnerships will analyze existing academic degree programs leading to water-related careers.
- Develop a grant-sponsored internship/mentorship program in water-related careers, sponsored across water agencies.
  - Employ university or high school student interns at various statewide locations in water-related careers from policy to technical work.
  - Conduct week long mentorship programs for high school students in at various state-wide locations in water-related careers from policy to technical work.
- Coordinate and cost share with Kansas Groundwater Management Districts for implementation of a certified irrigator program to increase producer understanding of water saving techniques.

Program Accomplishments

- The marketing firm Walz Tetrick initiated the Statewide Marketing Campaign.
  - Created campaign and marketing slogan "Kansas Runs on Water (KSROW)" and completed phased development of a statewide website.
- Communication continues with state agency partners and other conservation education non-governmental organizations to pursue joint grant funding to implement water education programs and accomplish Kansas Water Plan education goals.
- In 2022, presentations were provided at various events promoting KSROW and future Kansas water education efforts, reaching approximately 1000 adults.
- In 2022, Kansas water education lessons and activities were provided at conservation education workshops, field days, water festivals and other events reaching approximately 600 youth and 300 adults.
- In May 2021, KWO received a finalized project report from Kansas State University containing:
  - A comprehensive summary surrounding the KSROW initiative
  - Detailed audience analysis
  - Suggested outreach goals and objectives
  - Potential message development
  - Determination of best/most efficient channels to deliver the message
  - Recommended plans for outreach implementation and evaluation

KS Water Plan Education & Outreach Strategy (Cont.)

Program Budget

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$250,000	$472,910	$250,000
Total Expenditures	**$250,000**	**$472,910**	**$250,000**

Additional Funding Resources

- Partnering State Agencies: KDA, KDHE, KDWP, and KWO
- Other public and private organizations

Consequences of not funding

Inability to implement water resource education-related activities and initiatives recommended within Increase Awareness of Kansas Water Resources Guiding Principle of the KWP. Water resource knowledge will not improve, water-related career development opportunities will not be increased, and marketing campaign & website development will be incomplete. Knowledge regarding the value of water in Kansas will not be elevated to appropriate levels, leading to waste and decline of water as a valuable resource and lead to water deficits in some regions and economic decline in various areas within the state.

HIGH PLAINS AQUIFER PARTNERSHIPS

FY 2023 ADJ. BUDGET: $326,402

FY 2024 GOVERNOR'S BUDGET RECOMMENDATION: $850,000

PROGRAM OBJECTIVES

- Provide increased funding for leveraging partnership opportunities which support overall state efforts to conserve and extend the High Plains Aquifer in Kansas.
- Enhance and showcase conservation efforts which benefit the overall viability of the High Plains Aquifer for multiple water use groups (i.e. irrigation water use, dairies & feeders, municipalities & utilities).
- Development of new partnerships to demonstrate emerging tools & technologies which promote water use reduction in the High Plains Aquifer Region of Kansas.

PROGRAM ACTIVITIES

- Provide continued support for development of conservation strategies which provide measurable and scalable groundwater conservation, improved water quality, and overall soil/ecological health.
- Provide SWPF support to the City of Garden City in addition to additional funding resources Garden City is pursuing in support of water reclamation and reuse.
- Pursue additional partnership opportunities across the High Plains Aquifer Region of Kansas which support conservation of groundwater resources.

PROGRAM ACCOMPLISHMENTS

Water Technology Farms and associated SWPF support for this program has provided numerous demonstration opportunities across western Kansas to highlight and showcase tools and technologies which provide water conservation benefits to irrigation water users as well as the dairy industry within the region. Previously appropriated SWPF resources for the Water Technology Farm program have been leveraged extensively with support provided by program participants, commodity groups, and the private sector. A transition to High Plains Aquifer Partnerships allows for enhancement of partnership opportunities benefiting the water resources of the High Plains Aquifer Region of Kansas under the KWO Water Innovation Systems and Education (WISE) initiative.

Program Budget

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget	FY2024 Enhancement	FY2024 Budget w/ Enhancement
Contractual	$25,000	$35,000	$50,000	$450,000	$50,000
Other Assistance	$175,000	$291,402	$350,000	$0	$800,000
Total Expenditures	**$200,000**	**$326,402**	**$400,000**	**$450,000**	**$850,000**

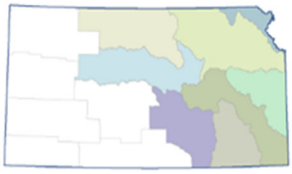
Additional Funding Resources

Further financial support for partnership efforts could include, but is not exclusively limited to the federal government, other state agencies, groundwater management districts, local municipalities/utilities, agricultural advocacy/commodity groups, non-profit organizations.

Consequences of not funding

- Decreased opportunity to leverage SWPF financial resources with other partner resources to support water use education efforts looking to conserve and extend the High Plains Aquifer in Kansas.
- Decreased opportunity to showcase water use reduction efforts and technologies which can play a role in conserving water quantity and quality of the High Plains Aquifer in Kansas.

KANSAS RESERVOIR PROTECTION INITIATIVE



FY2023 ADJ. BUDGET: $1,190,578

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $1,000,000

PROGRAM OBJECTIVES

To protect water supply storage and improve water quality in reservoirs across Kansas that provide water to municipal and industrial customers through implementation of watershed best management practices (BMPs) within priority reservoir watersheds. BMPs are individual or a combination of practices that are determined to be the most effective and practicable (including technological, economic, and institutional considerations) means of controlling point and non-point sources of pollution at levels compatible with resource and economic goals. BMPs which can be utilized to reduce sediment and nutrient runoff in watersheds above water supply sources in Kansas include but are not limited to terraces, grassed water-ways, cover crops and buffer strips. Water storage is being diminished over time due to reservoir sedimentation and water quality is being impacted by nutrient runoff, potentially resulting in harmful algae blooms, taste and odor issues with drinking water, and impacts to recreation in Kansas.

PROGRAM ACTIVITIES

- Provide financial assistance to producers within targeted watersheds to implement conservation practices which reduce sediment runoff.
- Coordinate with KDA-Division of Conservation, KDHE, local conservation districts, local Watershed Restoration and Protection Strategy (WRAPS) program staff and RAC representatives on delivery of program to producers within eligible watersheds.
- Engage with project partners to evaluate the FY2023 Kansas Reservoir Protection Initiative and make modifications to improve the overall effectiveness and efficiency of the program for FY2024.

PROGRAM ACCOMPLISHMENTS

- Four reservoir watersheds targeted since initiation of funding in FY2019 for watershed conservation practice implementation include Fall River, John Redmond, Kanopolis, and Tuttle Creek.
- Estimated sediment reduction as field scale based on applications approved for funding:
    - FY2019 through FY2022: Over 126,000 tons
    - FY2023: Nearly 14,000 tons (ongoing signup period as of August 2022 will add to FY 2023 total)

PROGRAM BUDGET

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Other Assistance	$1,000,000	$1,190,578	$1,000,000
Total Expenditures	**$1,000,000**	**$1,190,578**	**$1,000,000**

ADDITIONAL FUNDING RESOURCES

Further financial support for conservation practice implementation efforts to reduce sediment runoff which contributes to reservoir sedimentation could include, but is not exclusively limited to the federal government, other state agencies, local municipalities/utilites, agricultural advocacy/commodity groups, non-profit organizations.

CONSEQUENCES OF NOT FUNDING

- Continued reservoir sedimentation at or above current sedimentation rates.
- Continued nutrient and sediment runoff & soil erosion at current or worse rates.

Equus Beds Chloride Plume Remediation Project

FY2023 Adj. Budget: $50,000

FY2024 Governor's Budget Recommendation: $50,000

Program Objectives

Chloride contamination within the Equus Beds Aquifer resulting from previous oil field production in the Burrton area has resulted in areas of groundwater which is unsuitable for most uses. Remediation of areas of high chloride concentrations within the Equus Beds would help generate an additional water supply source as well as help protect and prolong the useable lifespan of groundwater wells around areas of chloride contamination.

Program Activities

- Previous funding was utilized, through a technical service provider contract, to complete an analysis of strategies and alternatives within the Equus Beds Aquifer that would remediate the Equus Beds chloride plume between Burrton and Halstead which impact groundwater within the region. The impacted water use types include irrigation water for agricultural production as well as the City of Wichita's groundwater well field within the Equus Beds Aquifer.
- FY2023 and FY2024 funding will be utilized to continue to advance efforts and understanding of groundwater conditions within the region in support of a future chloride plume remediation project.

Program Budget

	FY2023 Appropriated	FY2024 Budget
Other Assistance	$50,000	$50,000
Total Expenditures	**$50,000**	**$50,000**

Additional Funding Resources

- U.S. Bureau of Reclamation
- City of Wichita
- Groundwater Management District #2

Consequences of not funding

Continued movement of the Equus Beds chloride plume towards the east-southeast from its current location between Burrton and Halstead, leading to further impacts with the City of Wichita's groundwater well field, irrigation water supporting crop production, and other regional groundwater uses.

Flood Response Study

FY2023 Adj. Budget: $200,000

FY2024 Governor's Budget Recommendation: $200,000

Program Objectives

The 2019 Special Committee on Flooding recommended funding for a basin-by-basin evaluation of flood risks in Kansas. The purpose the evaluation is to identify areas of recurring flooding, determine economic loss, and identify potential mitigation projects that can lessen future damage.

Program Activities

- The agency plans on utilizing state funding to leverage federal resources to complete a flood study in the Neosho region in FY2022/FY2023.
- Identify areas of recurring damage and economic loss.
- Identify potential mitigation strategies and projects that will lessen future damage.
- Develop recommendations for future project implementation.

Program Budget

	FY2023 Appropriated	FY2024 Budget
Other Assistance	$200,000	$200,000
Total Expenditures	**$200,000**	**$200,000**

Additional Funding Resources

- U.S. Army Corps of Engineers
- FEMA

Consequences of not funding

Continued loss of property and economic gain due to recurring flood damage. Potential loss of federal funding for implementation of mitigation efforts.

Arbuckle Study

FY2023 Adj. Budget: $210,000

FY2024 Governor's Budget Recommendation: $150,000

Program Objectives

The Arbuckle formation is a resource heavily relied upon by a range of industries and municipalities in Kansas for fluid-waste disposal, oil production, storage, and fresh water. Historical disposal of fluids in the Arbuckle has been at sustainable to moderate rates. However, yearly tests of Class-I disposal wells indicate that pressure and static fluid levels have risen in the Arbuckle, particularly in south-central Kansas, decreasing the storage capacity, and therefore life expectancy, of the disposal receptacle and increasing pore pressure on deeper, connected rock formations. Recent elevated rates of fluid deposited in the Arbuckle have been associated with, and the likely catalyst for, the significant increase in seismicity in south-central Kansas since 2013. Additionally, if static fluid levels in the Arbuckle continue to rise, there is potential for them to exceed the basal depth of shallow aquifers in some critical areas in just a few years. Unanticipated or unknown hydrologic conduits could thus threaten these aquifers. The goal of the Arbuckle Study Group is to increase understanding of the storage capabilities of the Arbuckle and impacts of disposal activities, providing critical information to ensure that the resource is managed properly, the usable life of the Arbuckle is extended, and undesirable impacts are minimized.

Program Activities

The KWO was directed to facilitate a stakeholder group focused on initiating a study of the Arbuckle formation. This group has worked towards consensus regarding a study plan that addresses fundamental data needs to characterize the storage capabilities of the Arbuckle, emphasizing south-central Kansas as the primary study area. As part of that effort, the KGS began a preliminary study to determine the accuracy and functionality of various measurement techniques for a future Arbuckle monitoring network by collecting static fluid level, density, and bottom-hole pressure measurements at three yet-to-be-identified disposal wells that could be part of a longer-term, expanded monitoring network. The KGS is also developing a full proposal for acquisition and analysis of critical fluid data and assimilation of all geologic, geophysical, and hydrological data available for the eight-county Arbuckle study area.

Recent Accomplishments

In early 2022, the KGS completed a "Report on Feasibility Study of Regional Arbuckle Properties in South Central Kansas; Now and Planning for the Future" which proposed to evaluate methodologies and develop a testing protocol for accurately and functionally acquiring Arbuckle fluid data on a routine basis across spatially optimized network of Arbuckle monitoring wells. The KGS also contracted for collection of bottom hole pressure data in 2022 at two Class II wells owned by the KCC.

Proposed Activities

- Continue pursuing data collection in the proposed Class II wells and complete the preliminary study.
- Compile available annual disposal volumes for Class-I and Class-II wells in Kansas and compare it to previous values (i.e., post-2018).
- Analyze Class-I and any available Class-II static fluid levels and bottom-hole pressure for recent years, determine fresh -water equivalent fluid levels and present results both graphically and by maps, showing year-to-year changes.
- Compare disposal volumes with the latest static-fluid levels and bottom-hole pressures for the Arbuckle.
- Determine in selected well logs the salinity of the Arbuckle fluids, in preparation for regionally mapping the salinity in those areas of central Kansas where static fluid levels are shallow.

ARBUCKLE STUDY (CONT.)

- Compare historic injected fluid volume and density with Arbuckle fluid salinity/density and trends in static fluid level and bottom-hole pressure.
- By well-log analysis, map the lithologies both immediately above and below the top of the Arbuckle in south-central Kansas.
- Contrast historical disposal volumes to production data.
- Compare and correlate across the study area porosity and permeability in the Arbuckle based on well logs and well-specific testing.
- Acquire SFL, BHP, and density estimates from 20 Class II SWD wells (pending permission from owners) in FY2023 distributed across the Sedgwick Basin sufficient to provide reliable extrapolations between sample points and resolution on contour intervals.
- Acquire SFL, BHP, and density estimates from 20 Class II SWD wells in FY2024, revisiting some wells from FY2023 and some new locations to fill data gaps (pending permission from owners).
- Analyze data from measurements made in Class I and Class II wells to identify wells best suited to include in an Arbuckle well network for long-term sampling providing the necessary spatial resolution.
- If permission to measure privately owned wells cannot be secured, then:
- Select the most critical location where data will provide insights into potential for Arbuckle fluids to become a public health risk and contract the drilling of a monitoring well for long-term surveillance of SFL, BHP, and density of Arbuckle fluids.
- Determine if any abandoned wells could be reworked and outfitted to provide reliable SFL and BHP data relatable to existing Class I database.

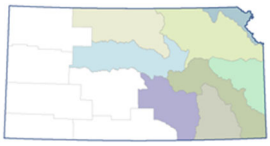
PROGRAM BUDGET

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$150,000	$210,000	$150,000
Total Expenditures	**$150,000**	**$210,000**	**$150,000**

CONSEQUENCES OF NOT FUNDING

Lack of understanding of the storage capabilities of the Arbuckle could lead to the resource being mismanaged, reducing the functional life of the resource, limiting its future use as a storage receptacle including possibly for carbon sequestration, and potentially raising the chances of surface and/or groundwater quality degradation and increased seismic activity associated with elevated fluid levels and pore pressures.

WATER INJECTION DREDGING (WID)



FY2023 ADJ. BUDGET: $2,000,000

FY2024 GOVERNOR'S BUDGET RECOMMENDATION: $0

PROGRAM OBJECTIVES

The KWO, in partnership with the U.S. Army Corps of Engineers (USACE), will implement a Water Injection Dredging (WID) demonstration project at Tuttle Creek Lake to promote sustainable long-term reservoir sediment management. 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 through the use of pumps and a series of nozzles located on a horizontal pipe positioned above the sediment bed. 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 Lake, the proposed WID demonstration project 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.

The goal of the project is to demonstrate successful application of WID technology at Tuttle Creek Lake, with the ultimate goal of sustaining long-term use of Tuttle Creek Lake, and potentially other Kansas reservoirs, for all of its authorized purposes. The reservoir continues to lose capacity due to sedimentation at an accelerated rate. Recent estimates from the KWO indicate that approximately 50% of Tuttle Creek Lake's original storage capacity has been lost due to sedimentation, with an estimated 5% of remaining storage lost in 2019 alone. Tuttle Creek Lake is a vital resource within the Kansas River Basin. The continued loss of capacity and impending impact to the authorized purposes is a major concern for the State of Kansas. Successful demonstration of WID technology at Tuttle Creek Lake will help to advance other innovative methods aimed at extending the life of reservoir storage in Kansas, including the use of WID with hydrosuction or other sustainable sediment management techniques.

PROPOSED ACTIVITIES

- The proposed demonstration project includes the following major components:
- Acquisition of a water injection dredge.
- Demonstration of the WID at Tuttle Creek Lake at different elevations and flow discharges.
- Monitoring and evaluation of both the operational and environmental results.
- Continue development of monitoring, implementation, and outreach plans in coordination with USACE. The KWO is currently engaged with USACE, agency partners, and stakeholders within the basin to discuss the project and develop the monitoring plan and strategies for measuring project success.
- KWO will continue its partnership with USACE to provide technical and financial resources for the upcoming demonstration, to potentially include WID procurement, stakeholder outreach, project planning and implementation, and onsite field data collection and analysis.
- The KWO and USACE are currently in the process of discussing the timeline and plans for the demonstration, which will begin no sooner than 2023, potentially in the fall.

PROGRAM ACCOMPLISHMENTS

- KWO continues to support USACE and ERDC with ongoing WID study.
- Through a Planning Assistance to States (PAS) agreement, KWO continues to provide cash and in-kind contributions, while leveraging federal funding. State contributions include technical services and support for field data collection, model development, testing and analysis necessary to move forward with the WID demonstration.
- Work completed by the state and federal partners in support of the WID study includes:
    - Collection of sediment cores and surface sediment samples at Tuttle Creek Lake and delivery to ERDC facility for sediment property analysis and fluidization testing.
    - Water quality sampling and analysis of sediment samples taken from Tuttle Creek Lake to move forward with the WID demonstration.

WATER INJECTION DREDGING (WID) (CONT.)

PROGRAM ACCOMPLISHMENTS (CONT.)

- Collection and analysis of velocity current transects at selected locations within the reservoir.
- Completion of cross section surveys downstream of Tuttle Creek Lake pre- and post- flood storage releases in 2019 to assess sedimentation impacts.
- Completion in 2019 of a partial lake multi-beam bathymetric survey to increase resolution of the reservoir bed in the area of the anticipated WID demonstration project and a full bathymetric survey of Tuttle Creek Lake in 2020.
- Collection of sediment cores and water samples at Tuttle Creek Lake and delivery to ERDC for elutriate testing.
- Expansion of baseline condition monitoring on the Big Blue River below Tuttle Creek Lake.
- Coordination of a Tuttle Creek Reservoir Water Injection Dredging Demonstration Research/Monitoring Needs Workshop in June 2022 to gather input for monitoring and assessing considerations related to WID effectiveness, environmental effects, and human use considerations.

- Ongoing work and efforts planned to be initiated in FY2023 by the state and federal partners in support of the WID study include:
  - Development of a Kansas River sediment transport model, currently being refined and calibrated by USACE.
  - Collection of baseline condition data and completion of water quality models in preparation for the demonstration.
  - Continued development of implementation and monitoring plans for the WID demonstration, coordinating planning efforts with federal partners and local stakeholders.
  - Stakeholder outreach and coordination.
  - Acquisition of a water injection dredge.

- The $2,000,000 total appropriated ($975,000 in FY2022 and $1,025,000 in FY2023) from the SWPF for the demonstration reflects the state's contribution for acquisition of a water injection dredge, project planning and outreach, and implementation and monitoring of the demonstration. USACE received $1.3 million in Federal Year 2022 funding for the project. Additional Federal funding of up to $2.8 million to cover remaining project needs, contingent on the budget process, is anticipated in Federal Year 2023.

PROGRAM BUDGET

	FY2023 Appropriated	FY2023 Adjusted w/cf	FY2024 Budget
Contractual	$1,025,000	$2,000,000	$0
Total Expenditures	**$1,025,000**	**$2,000,000**	**$0**

ADDITIONAL FUNDING RESOURCES

- U.S. Army Corps of Engineers

CONSEQUENCES OF NOT FUNDING

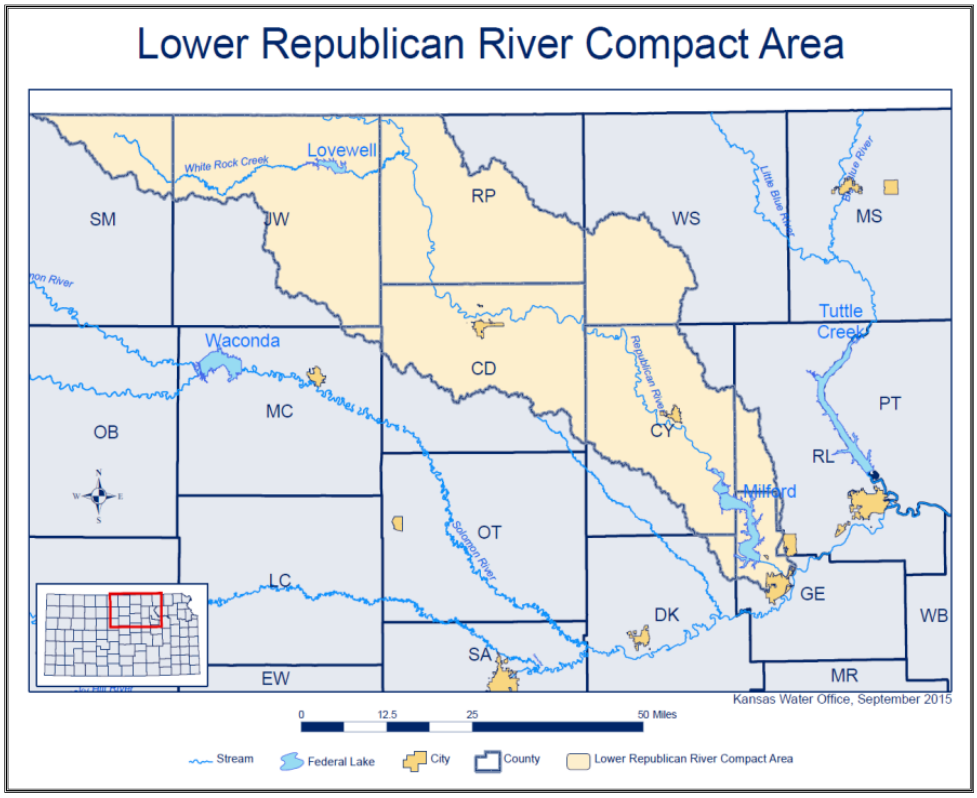
Continued loss of reservoir storage capacity and impending impact to Tuttle Creek Lake's authorized purposes, including water supply.

REPUBLICAN RIVER WATER CONSERVATION PROJECT—NEBRASKA

PROGRAM OBJECTIVES

The Lower Republican River basin has many competing needs for the limited water supplies: irrigation, recreation, wildlife areas, municipalities, industries and minimum desirable streamflow.

In 1943, the water supply of the Republican River valley was allocated among the three states. The Republican River is subject to an interstate compact entered into by Colorado, Nebraska, and Kansas. In 1985, Kansas began raising serious concerns about Nebraska's continued development and overuse of ground water in the Republican River Basin. In 1998, Kansas filed a motion for leave to file a bill of Complaint with the U.S. Supreme Court alleging that Nebraska was violating the compact, including groundwater that was connected to surface flows in the Basin. Over the years many users have had reduced water due to reduced supplies or regulation of Minimum Desirable Streamflow. In 2003, the Republican River Compact Administration adopted accounting procedures that included an extensive groundwater model. Nebraska exceeded its allocation during the water short years of 2005-2006, and also during the five-year time period that ended in 2007. Consequently, Kansas did not get its full allocation. The arbitration filed in 2009 agreed with Kansas that Nebraska had not complied with the compact. On February 24, 2015, the U.S. Supreme Court ordered Nebraska to pay Kansas $5.5 million.



During the 2015 Legislature a provision was in acted in House Substitute for Senate Bill 112 Sec. 178.

SB 112 Sec. 178

The provision divides monies received from the state of Nebraska pursuant to the interstate litigation to be credited to the Republican River Water Conservation Projects – Nebraska moneys fund of the KWO and the Interstate Water Litigation fund of the Attorney General. Near the end of the 2015 Legislative Session, the State of Nebraska approved a measure to pay Kansas $5.5 million as a result of the U.S. Supreme Court ruling on the Kansas v. Nebraska lawsuit regarding violations of the Republican River Compact. Funds were received from Nebraska on June 23rd, 2015. The Kansas Treasurer deposited these funds into two accounts in accordance with the budgetary proviso.

Fund/Account Designation	Agency	Amount
Republican River Water Conservation Project- Nebraska Money Fund	Kansas Water Office	$3,500,000
Interstate Water Litigation Reserve Account	Attorney General	$2,000,000
Total		**$5,500,000**

Republican River Water Conservation Project—Nebraska (Cont.)

Program Activities

The proviso also requires that the Director of the KWO, in consultation with the local stakeholders in the basin, the Chief Engineer and the Secretary of Agriculture, shall expend such moneys in the Republican River water conservation projects – Nebraska moneys fund of the KWO for water improvement projects in the Republican river basin as described in K.S.A. 2014 Supp. 82a-1804(g), and amendments thereto. K.S.A. 82a-1804 (g) lists the type of projects that are eligible to be implemented with funds from the Republican River Water Conservation Projects-Nebraska Moneys Fund.

Projects can include:

(1) Efficiency improvements to canals or laterals managed and paid for by an irrigation district or projects to improve the operational efficiency of management of such canals or laterals.
(2) water use efficiency upgrades;
(3) implementation of water conservation of irrigation and other types of water uses;
(4) implementation of water management plans or actions by water rights holders;
(5) water measurement flumes, meters, gauges, data collection platforms or related monitoring equipment and upgrades;
(6) artificial recharge, funding a water transition assistance program; the purchase of water rights for stream recovery or aquifer restoration and cost share for state or federal conservation programs that save water;
(7) maintenance of the channel and the tributaries of the Republican river;
(8) reservoir maintenance or the purchase, lease, construction or other acquisition of existing or new storage space in reservoirs;
(9) purchase, lease or other acquisition of a water right; and
(10) expenses incurred to construct and operate off-stream storage.

Program Accomplishments

The Kansas Bostwick Irrigation District (KBID) is in the process of converting portions of their remaining open irrigation canals to a buried pipe system. As of FY2021, KBID has completed five installments of the canal project, which included a total of 2.79 miles of open irrigation canals eliminated in FY2021. During FY2022, KBID has moved to the sixth installment, converting the 50.7 – Courtland 5th Canal to a buried pipe system, eliminating 2.90 miles of open canal.

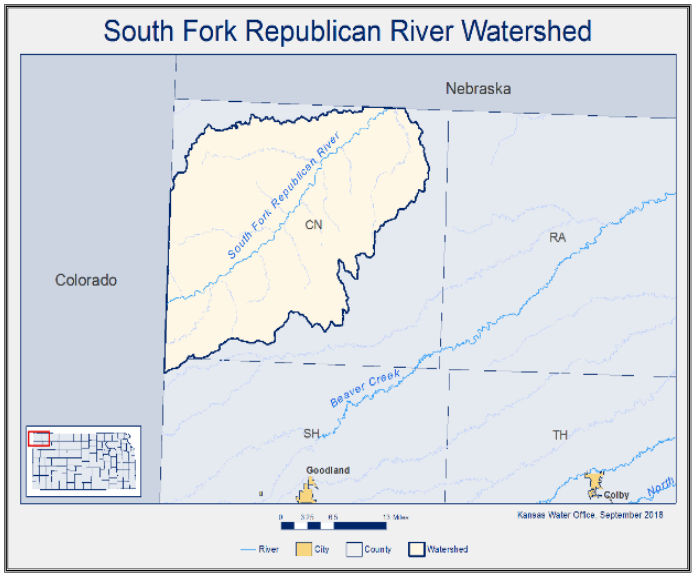
Program Budget

	FY2023 Appropriated	FY2024 Budget
Contractual	$106,843	$200,000
Total Expenditures	**$106,843**	**$200,000**

REPUBLICAN RIVER WATER CONSERVATION PROJECT—COLORADO

PROGRAM OBJECTIVES

The South Fork Republican River Basin in Northwest Kansas has historically not received the water to which it is entitled under the Republican River Compact due to overdevelopment in Colorado. In August of 2018, the states of Kansas and Colorado reached a settlement regarding past compact violations in Colorado. That agreement will resulted in a transfer of $2 million in funds from Colorado to Kansas during Fiscal Year 2019.



K.S.A. 82a-1804 (d) establishes the Republican River Water Conservation Projects — Colorado Moneys Fund to be administered by the director of the KWO. Moneys received from Colorado will be deposited in this fund to be used in the Upper Republican River Basin. Paragraph 5 of the agreement signed by Governors and Attorneys General from both Kansas and Colorado states that "Kansas agrees to pursue a good faith effort to spend the $2 million paid . . . for the benefit of the South Fork of the Republican River within Kansas in maintaining compliance with the Compact and the FSS."

PROGRAM ACTIVITIES

The KWO and the KDA have sought input from stakeholders within the region on the activities, which are allowed by state statute, will provide the most benefit to the region.

K.S.A. 82a-1804 (g) lists the type of projects that are eligible to be implemented with funds from the Republican River Water Conservation Projects-Colorado Moneys Fund. Projects can include:

(1) Efficiency improvements to canals or laterals managed and paid for by an irrigation district or projects to improve the operational efficiency of management of such canals or laterals.
(2) water use efficiency upgrades;
(3) implementation of water conservation of irrigation and other types of water uses;
(4) implementation of water management plans or actions by water rights holders;
(5) water measurement flumes, meters, gauges, data collection platforms or related monitoring equipment and upgrades;
(6) artificial recharge, funding a water transition assistance program; the purchase of water rights for stream recovery or aquifer restoration and cost share for state or federal conservation programs that save water;
(7) maintenance of the channel and the tributaries of the Republican river;
(8) reservoir maintenance or the purchase, lease, construction or other acquisition of existing or new storage space in reservoirs;
(9) purchase, lease or other acquisition of a water right; and
(10) expenses incurred to construct and operate off-stream storage.

PROGRAM ACCOMPLISHMENTS

- During FY2020 and FY2021, a total of $143,224.65 was expended for 13 producers.
  - Cost-share projects included soil moisture probes, nozzle packages, pivot control systems, aerial imagery, variable-rate irrigation systems, and electrical conductivity (EC) soil mapping.
- In FY2021, $500,000 of the original $2 million was transferred to Cheyenne County Conservation District to be leveraged for a Regional Conservation Partnership Program (RCPP) project through NRCS. The RCPP was approved in April 2021 providing $2,766,243 in federal funds for the project.
- During FY2022, $211,360 has been committed to 15 producers for the implementation of irrigation technologies with the goal of improving efficiency and reducing water use in the South Fork Republican basin.

Republican River Water Conservation Project—Colorado (Cont.)

Program Accomplishments (cont.)

- Planned work in FY2023 and FY2024 includes continued cost-share for irrigation technologies, as well as the identification of potential locations and possible implementation of low-head dam projects within the region, in partnership with the Kansas Department of Wildlife and Parks.

Program Budget

	FY2023 Appropriated	FY2024 Budget
Contractual	$600,000	$600,000
Total Expenditures	**$600,000**	**$600,000**

Public Water Supply

Public Water Supply Program Priorities

- Ensure adequate quantities of good quality water to meet future needs.
- Efficiently operate state owned storage in federal reservoirs.

Statutory Authority

82a-1301 et seq. State Water Plan Storage Act
82a-1330 et seq. Water Assurance Program Act
82a-1604 et seq. Multipurpose Small Lakes Act
82a-2301 et seq. Lower Smoky Hill Supply Access Program
82a-2401 et seq. Reservoir Improvement District Act

Total Positions: 10

9 Professional Staff
1 Administrative Staff

FY2022 Actual Revenue and Expenditure by Fund

Revenue by Fund FY2022	Revenue or Appropriation	Expended	Carryover
Water Marketing Fund	$12,395,391	$7,797,238	$4,598,153
Conservation Storage Water Supply Fund	$228,856	$0	$228,856
Lower Smoky Access District Fund	$101,866	$101,866	$0
Water Supply Storage Assurance Fund	$724,201	$549,491	$174,710
Total Funds	**$13,450,314**	**$8,448,595**	**$5,001,719**

Program Expenditures

Major Expenditures	FY2022 Actuals	FY2023 Budget	FY2024 Budget
Salaries and Wages	$646,713	$932,844	$958,095
Contractual Services	$2,300,255	$2,122,419	$2,912,005
Debt Service - P&I	$5,498,676	$2,777,497	$2,893,600
Commodities	$2,622	$4,300	$4,300
Capital Outlay	$329	$5,800	$5,800
Total Expenditures	**$8,448,595**	**$5,842,860**	**$6,773,800**

Performance Based Budget

Performance Measures	Actual FY2021	Actual FY2022	Current FY2023	Budget FY2024
Number of people directly served	1,258,914	1,272,084	1,344,078	1,388,409
Number of industrial customers directly served	15	15	16	17
Number of irrigation water rights directly served	51	51	56	56
Percent of time demands are met by public water supply programs	100%	100%	100%	100%

Kansas Water Office - Public Water Supply

Public Water Supply Program

The KWO operates the Kansas Water Marketing, Water Assurance and Access District programs as part of its overall PWS Program. KWO has developed the PWS Program Comprehensive Capital Development Plan (CCDP) in order to account for all revenue and expenses related to the State's public water supply storage, and to provide for the long-term planning of future program needs, including acquisition of all the water supply storage under federal contracts, potential new storage development and protection and restoration of the storage owned by the State. Various funding sources contribute to KWO's overall PWS Program and are represented as part of the CCDP. These sources are further described on the following pages in separate sections: Water Marketing Fund, Conservation Storage Development Fund, Water Assurance Fund, and Access District Fund.

Water Supply Storage

Kansas has contracts with the U.S. Army Corps of Engineers for purchase of water supply storage in 14 reservoirs; 12 of those have storage currently committed to, and being paid for by, the customers of the Water Marketing Program, 8 of the reservoirs have storage that has been dedicated to Assurance Districts for district members, and 5 of the reservoirs have Future Use storage that is under contract with the state, but has not yet been called into service.

Future Use Storage in Corps of Engineers Reservoirs

Future Use storage is storage that is not currently in service. Some of the water supply contracts between the U.S. Army Corps of Engineers and the KWO allow the State to defer payments and the control of the storage until the storage is needed. The table below indicates the remaining debt associated with Future Use Storage.

Lake	Milford	Perry	Totals
Water Supply Storage Remaining - Future Use (acre-feet)	198,350	125,000	**323,350**
Year Contract Payment Complete	**2034**	**2041**	
Interest Rate	2.63%	3.05%	
Contract Current Balance (Est.)	$27,765,139	$24,894,727	**$52,659,866**

Expenditures of All PWS Programs

Principal and Interest to Corps

The State is obligated to fully pay the capital costs of the water supply storage assigned to all of the PWS Programs – including the Water Marketing, Water Assurance, and Access District programs. The contracts with the federal government typically give the State 50 years to pay the costs associated with the purchase of all of the contracted storage.

Operation and Maintenance

The State pays the annual operation, maintenance and repair costs incurred by the U.S. Army Corps of Engineers for that portion of the storage space designated to each program. In addition to the PWS Programs, SWPFs are utilized to pay the annual operation and maintenance costs associated with the portion of the state-owned storage in Reserve Capacity. The operation and maintenance costs vary from year to year and by reservoir.

Administration and Enforcement

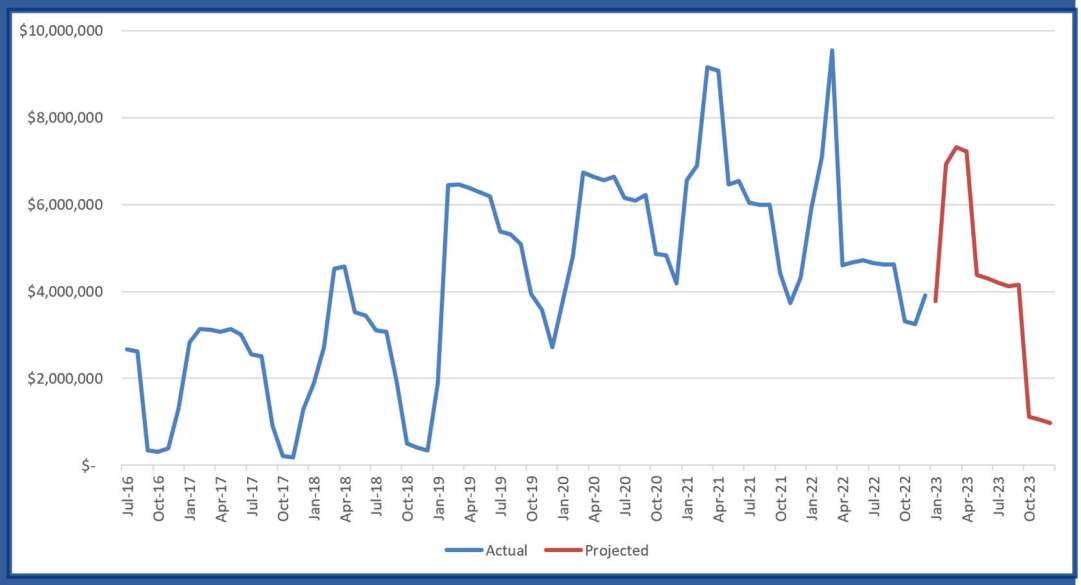
The Water Marketing Program pays for administration and enforcement costs to the state to operate and administer the Program. The Assurance District Program (directly through the Marketing Fund) and Access District Program also pay a small portion of administration and enforcement costs.

Reservoir Protection and Restoration

A component of the PWS CCDP is the budgeting and planning for projects that will restore and protect the water supply storage in the state-owned reservoirs. Sediment deposition reduces the water supply yield from a reservoir. The state-owned reservoir storage is considered an asset, and management of these assets includes maintenance of the storage to ensure long-term viability.

Water Marketing Fund

The Water Marketing Fund receives money from revenue collected on water supplied under contracts with public water suppliers and industries from state-owned storage in federal reservoirs. Over half of the state's population is served directly or indirectly by Water Marketing contracts. The majority of the revenue is received in January and February of each year, and is used to pay the Corps of Engineers for the principal and interest costs associated with storage construction and operation and maintenance costs of the reservoirs. The majority of the expenditures are paid in September and October of each year.



The Water Marketing Program operates on a cash basis, with a variable rate set each year that is adequate to meet program expenses. The PWS Comprehensive Capital Development Plan included an update to the variable marketing rate structure with a projected annual increase, in lieu of the previous flattened rate. Revenue generated in the near term is planned to be utilized to pay down a portion of the program debt. This will help to alleviate the large increase in annual program payments necessary to pay for future use storage.

Conservation Storage Development Fund

The State Conservation Storage Water Supply Fund was established as a savings fund for acquisition, development or maintenance of state-owned public water supply storage.

Water Assurance Fund

The Water Assurance Fund receives money from three water assurance districts. The purpose of the Water Assurance Program is to allow for coordinated operation of water storage space in federal reservoirs to satisfy downstream municipal and industrial water rights during drought conditions. Water right holders are therefore assured to receive enhanced flow during times of drought while the state operates the reservoirs in a basin as a system for increased efficiency in water delivery.

The districts are charged for the costs incurred by the State for both P&I associated with storage construction and operation and maintenance of the storage dedicated to the districts. Payments from the assurance districts are passed through to the U.S. Army Corps of Engineers for P&I and operation and maintenance costs. In addition, the districts are charged for the cost to administer and enforce the program. These funds are transferred to the Water Marketing Fund to cover a portion of the cost of positions funded by the Water Marketing Fund. A small amount is also transferred to the SGF to repay KDA for the Division of Water Resource's costs to assist with the program's administration.

Access District Fund

In 2016, the Lower Smoky Hill Water Supply Access District was formed, and the Access District purchased a portion of the water supply pool from Kanopolis Reservoir through a lump sum payment to the State in accordance with the purchase contract between the KWO and the Access District. The water supply storage in Kanopolis purchased by the Access District can be utilized to supplement the Smoky Hill River streamflow to provide the ability for Access District members to make use of their reasonable and justified authorized quantities under their water rights through drought conditions.

The Access District is charged for the cost incurred by the State for operation and maintenance of the portion of storage dedicated to the use of the district. Payments from the Access District are passed through to the U.S. Army Corps of Engineers for operation and maintenance costs. In addition, the Access District is charged for the cost to administer and enforce the program. These funds are transferred to the Water Marketing Fund to cover a portion of the cost of positions funded by the Water Marketing Fund.

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