

KANSAS WATER OFFICE

Report to the House Committee on Water

January 17, 2023



Kansas Water Office

- Established in 1981 as the water planning, policy, coordination and marketing agency for the state.
- Coordinates with the Kansas Water Authority (KWA) on review of water laws and makes recommendations to Governor and Legislature for needed legislation to ensure water policies and programs address the needs of all Kansans.
- Primary statutory function is development and implementation of the Kansas Water Plan (K.S.A. 82a-903)

Kansas Statutes

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



Kansas Water Office

Agency Mission:

Provide Kansans with the framework, policy and tools, developed in concert with agency partners and stakeholders, to manage, secure and protect a reliable, safe, long term statewide water supply.

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 Overview

***Kansas Water Office**

WATER PLANNING & IMPLEMENTATION

**Kansas Water
Authority**

Water Planning

State Water Plan Development
& Implementation

**Drought
Monitoring**

Drought Response Team
Water Conservation Planning

PUBLIC WATER SUPPLY

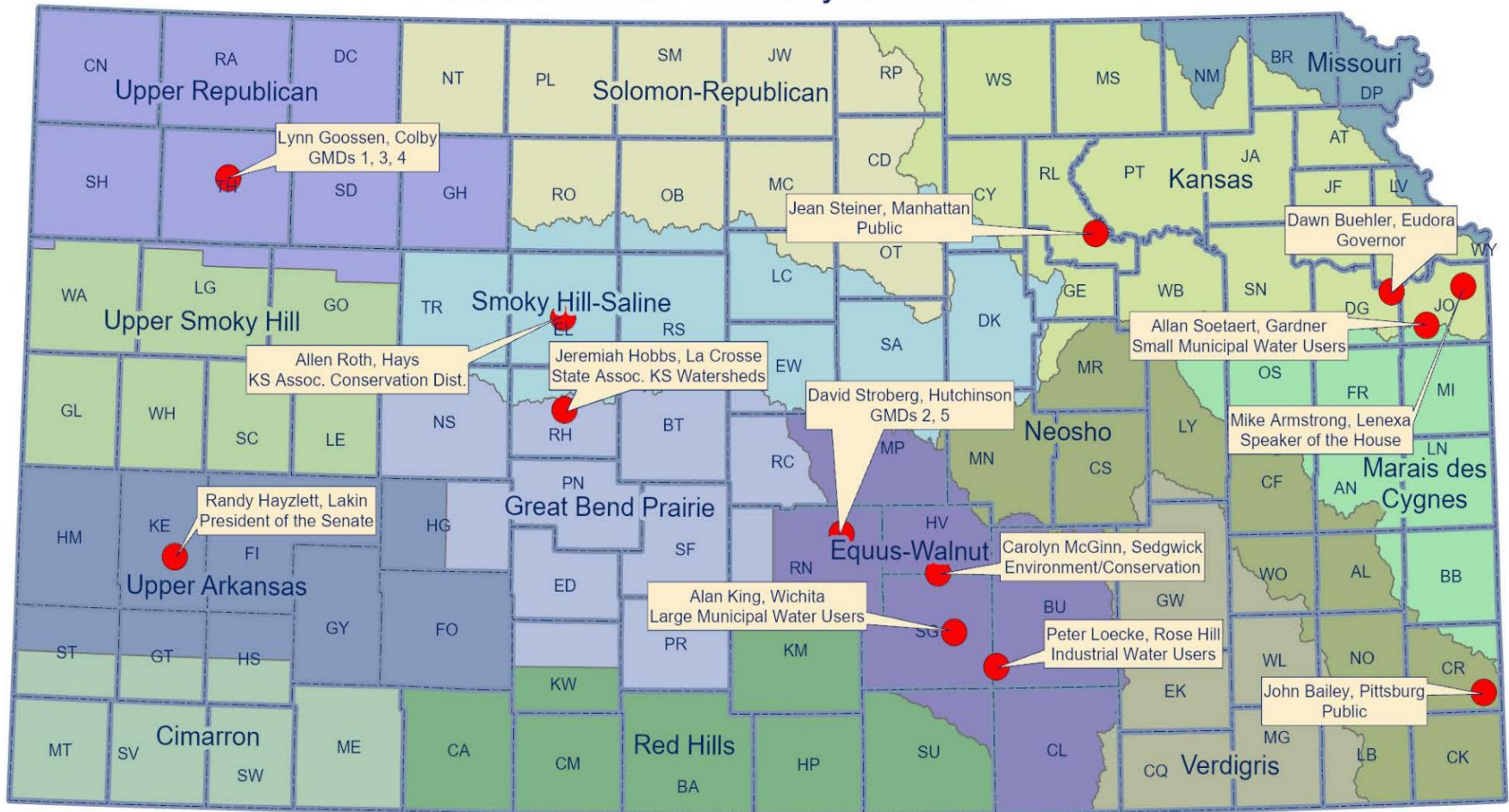
**Public Water Supply
Programs**

Reservoir Operations
Water Marketing Program
Water Assurance Program
Access District Program

**KWO Director Appointed by Governor*



Kansas Water Authority Members



The Kansas Water Authority consists of 13 voting members who are appointed by the Governor or Legislative Leadership. State agency directors serve as ex-officio members.

Kansas Water Authority

Ex-Officio Members

- Earl Lewis
KS Dept. of Agriculture –
Division of Water Resources
- Brad Loveless
KS Dept. of Wildlife, Parks &
Tourism
- Mike Beam
KS Dept. of Agriculture
- Ernie Minton
Ag Experiment Station
Kansas State University
- David Toland
KS Dept. of Commerce
- Connie Owen
Kansas Water Office
- Andrew Lyon
KS Dept. of Agriculture -
Division of Conservation
- Sara Baer
Kansas Biological Survey
- Dwight Keen
Kansas Corporation
Commission
- Leo Henning
KS Dept. of Health &
Environment
- Jay Kalbas
Kansas Geological Survey

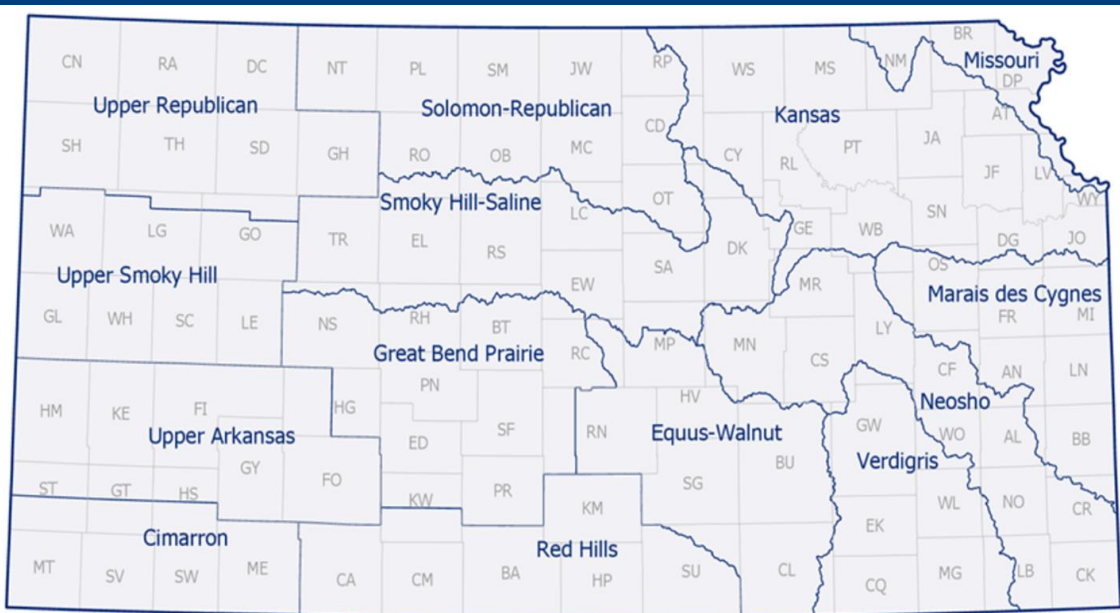
Water Planning

State Water Plan Development & Implementation

- Address state's current water resource issues and plan for future needs
 - Groundwater declines
 - Reservoir sedimentation
 - Water quality issues
- Public Input and Stakeholder Involvement
 - Regional Advisory Committees (RACs)

State Water Plan Fund

- Coordinate with KWA, RACs and agency partners to develop annual SWPF budget recommendations to implement State Water Plan



Water Planning Support

Assessment and Evaluation

- Assess water resource conditions statewide and regionally
- Targeted to implement priority water projects through technical assessment

Technical Assistance to Water Users

- TA to municipalities through Kansas Rural Water Association

Streamgaging Program

- Cooperative agreement with U.S. Geological Survey
- Development and maintenance of water resource assessment, reservoir operations, marketing and assurance programs, MDS protection and drought monitoring

GIS Database Development

- Comprehensive GIS Database coverage across the state

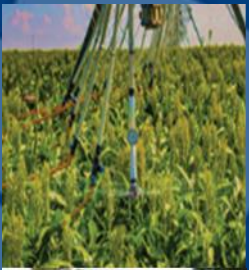
Drought Monitoring & Response

Drought Monitoring

- KWO is responsible for monitoring drought and notifying the Governor when drought conditions exist within the state.
- Coordinate monitoring efforts with several agencies including the KDA, KDHE, KSU Weather Data Library and the Applied Remote Sensing Program at KU.

Drought Response

- KWO Director serves as committee chair of Governor's Drought Response Team.
- Advises the Governor when to assemble this team which represents 11 state and federal agencies.



Public Water Supply Program



Public Water Supply Programs

Water Marketing Program

- Long term contracts with Municipal & Industrial (M&I) customers (*24 current contracts*)

Water Assurance Program

- 3 Districts formed by M&I water right holders

Access District Program

- Voluntary, includes Irrigation & Recreation, M&I



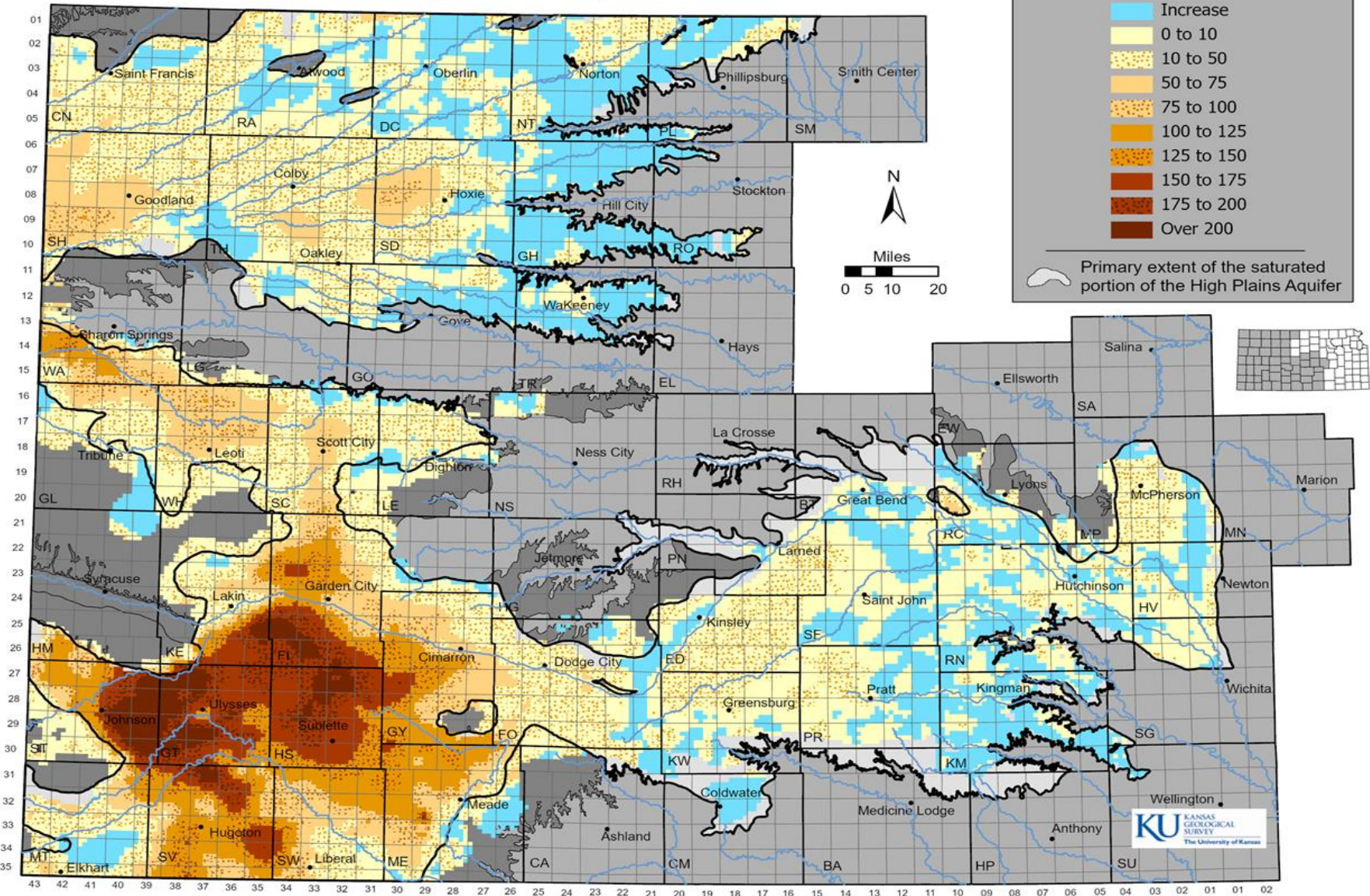
Priority Kansas Water Issues

- High Plains Aquifer Declines
- Reservoir Sedimentation
- Water Quality Concerns
- Extreme Events: Drought & Flood



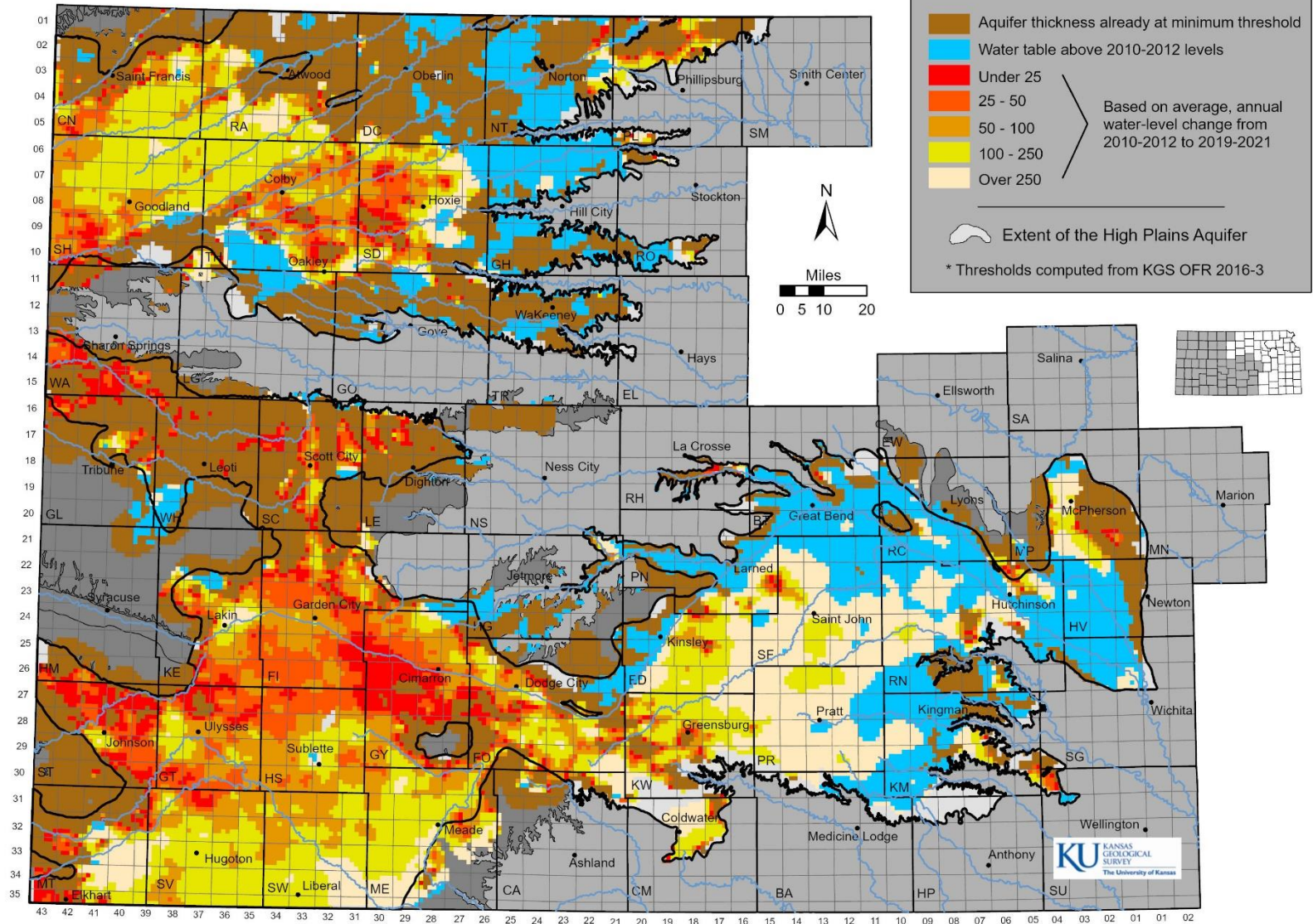
High Plains Aquifer Declines

Change in Aquifer Thickness, Predevelopment to Average 2019-2021, Kansas High Plains Aquifer



High Plains Aquifer Declines

Estimated Usable Lifetime for the Kansas High Plains Aquifer (based on groundwater trends from 2010-2012 to 2019-2021 and the minimum saturated thickness required to support well yields at 200 gpm under 90 day of pumping scenario with 200 gpm wells on 1/4 sections)



Reservoir Sedimentation

Remaining Storage within Kansas Reservoirs

The vertical height of each bar represents total storage capacity. The blue indicates the 2021 capacity of each reservoir. The brown indicates the volume of sediment in each reservoir.



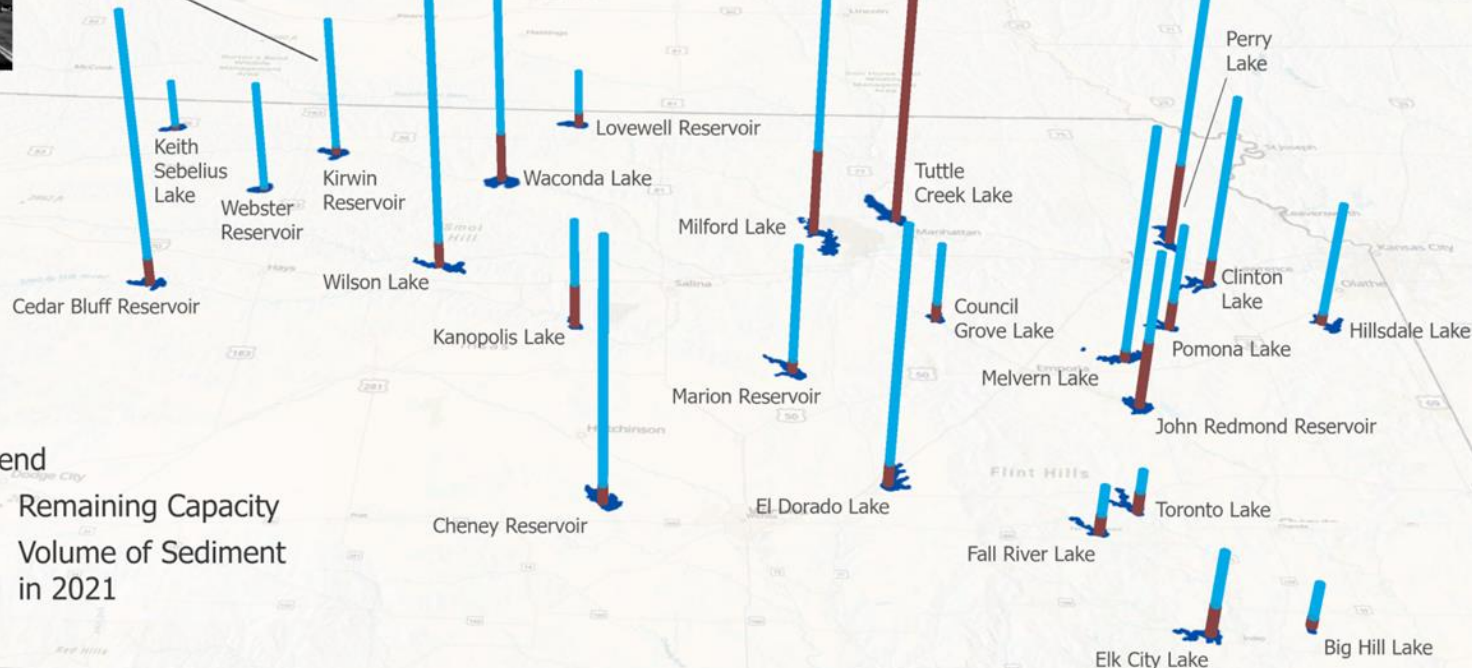
Tuttle Creek Lake

52.8% Remaining capacity

47.2% Capacity lost to sediment

Legend

- Remaining Capacity
- Volume of Sediment in 2021



Reservoir Sedimentation

Remaining Storage within Kansas Reservoirs

The vertical height of each bar represents total storage capacity. The blue indicates the 2070 capacity of each reservoir. The brown indicates the volume of sediment in each reservoir.

Legend

- Remaining Capacity
- Volume of Sediment by 2070

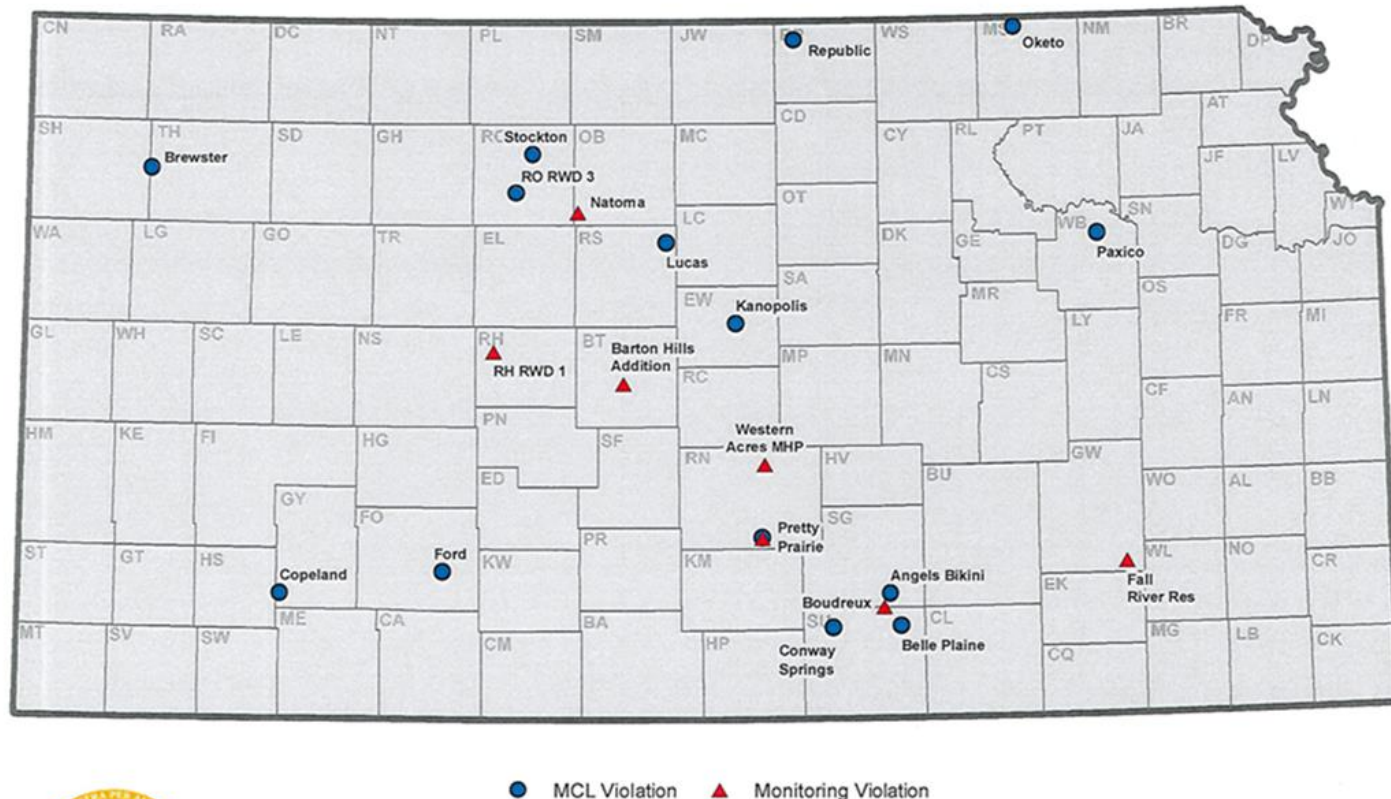
Tuttle Creek Lake

10.1% Remaining capacity
89.9% Capacity lost to sediment



Water Quality Concerns

Figure 12: Nitrate Violations

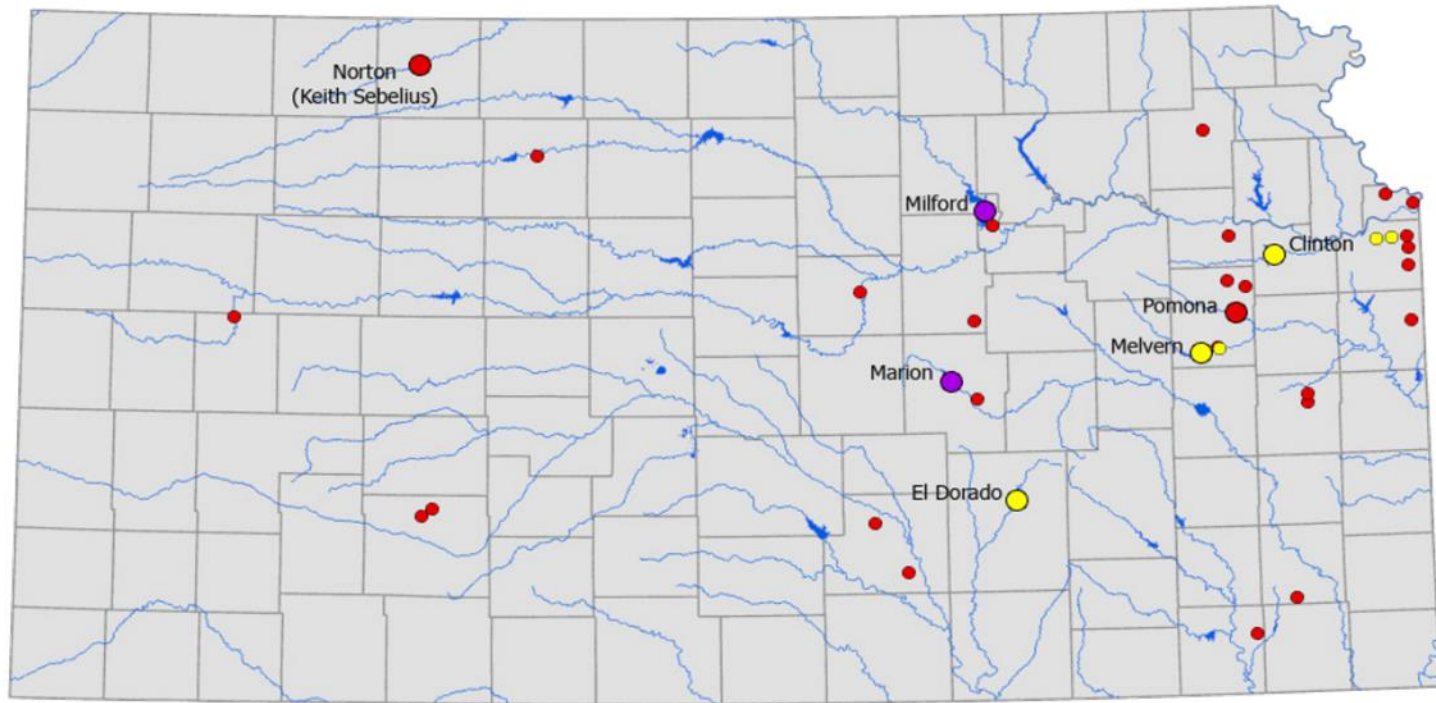


Data Source: KDHE, Bureau of Water, Public Water Supply
Date Published: July 1, 2020



Water Quality Concerns

Public Lakes Confirmed with Harmful Blue-Green Algae Blooms (HABs) in 2022



Maximum Advisory Level:

● Watch

● Warning

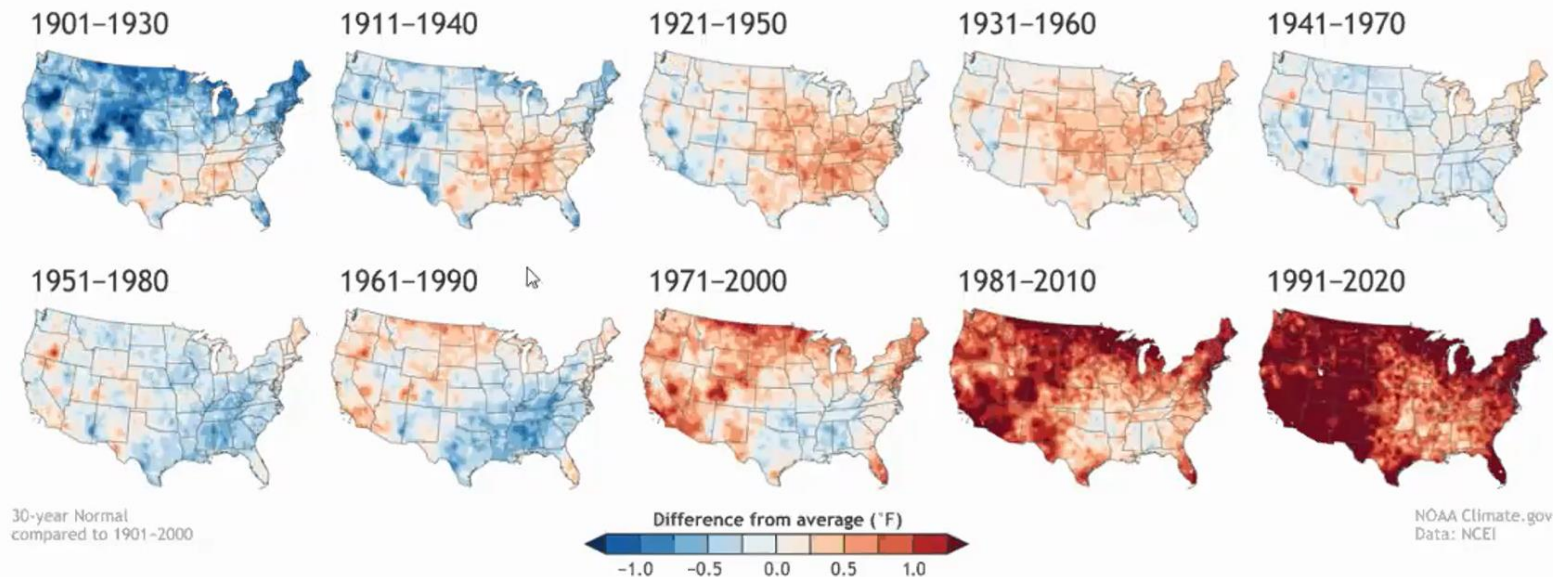
● Hazard

Source: Kansas Geological Survey

Vulnerability to Extreme Events



Annual Temperature Normals since 1901 Compared to the 20th Century Average



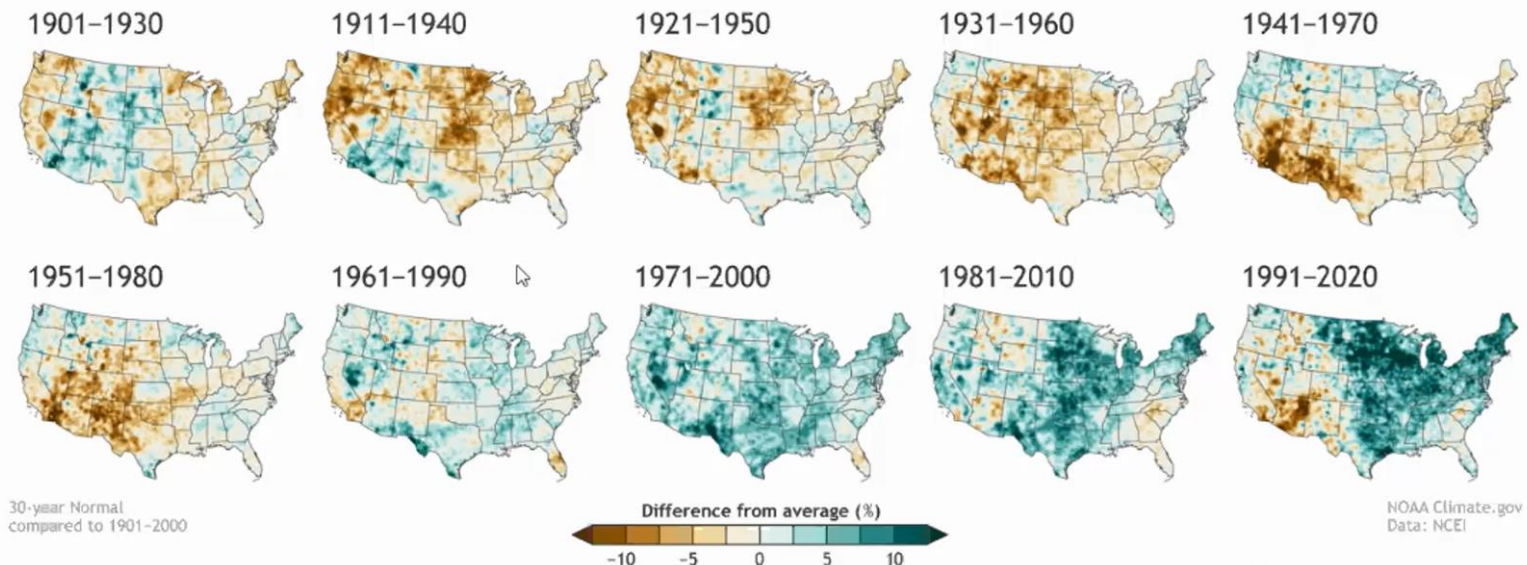
<https://www.climate.gov/news-features/understanding-climate/climate-change-and-1991-2020-us-climate-normals>

Doug Kluck Presentation: 2021 Governor's Water Conference

Vulnerability to Extreme Events



Annual Precipitation Normals since 1901 compared to the 20th Century Average

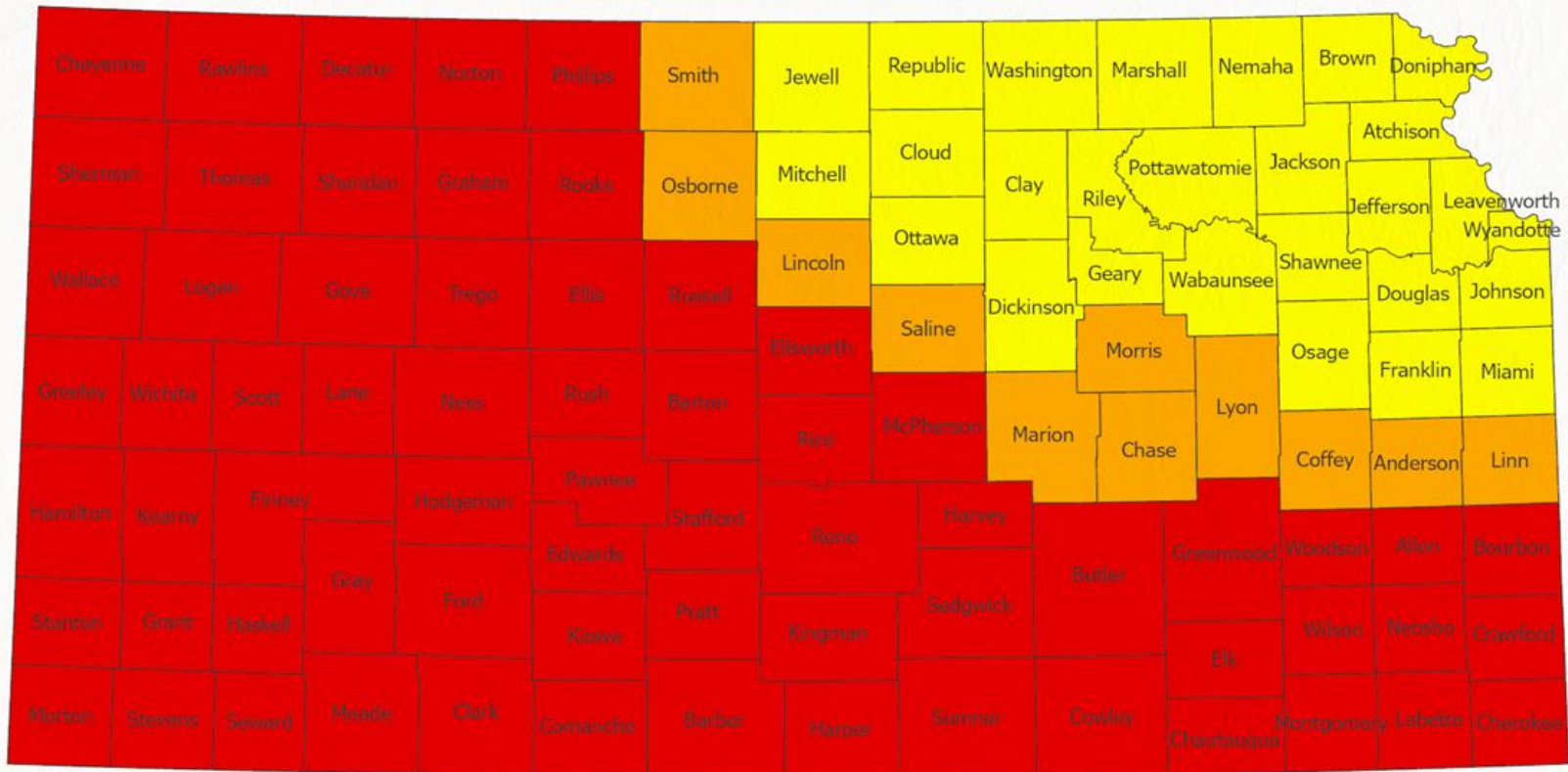


- Climate change is coming into focus in recent normals.

Doug Kluck Presentation: 2021 Governor's Water Conference

for Kansas Counties

September 30, 2022



Emergency Warning Watch



Kansas Water Plan Development & Implementation Coordination

Kansas Water Plan (KWP) Update

- Completed in 2022
- Incorporation of Vision into updated KWP

Guiding Principles and Priorities

- Conserving and Extending the High Plains Aquifer
- Securing, Protecting and Restoring our Kansas Reservoirs
- Improving our State's Water Quality
- Reducing our Vulnerability to Extreme Events
- Increasing Awareness of Kansas Water Resources

Conserving and Extending the High Plains Aquifer

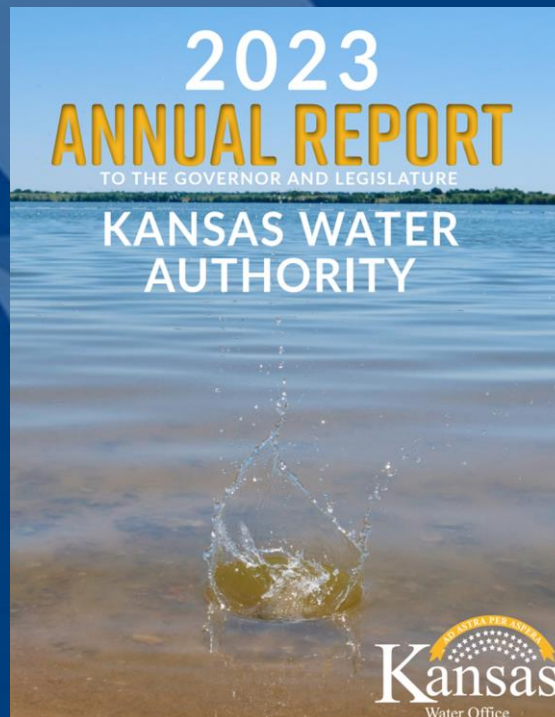
Efforts include but are not limited to:

- Stakeholder Input & Agency/Partner Collaboration
- Water Innovation Systems and Education (WISE) Initiative
- LEMAs and WCAs
- Index Well Network Collaboration
- Republican River Basin Projects
 - Identification of projects for implementation with funds from Nebraska and Colorado moneys within the Republican River Basin



Conserving and Extending the High Plains Aquifer

- The KWP recommended the creation of a committee focused on Ogallala Aquifer issues
- Committee met in November in Hays
- Policy recommendations from the Committee were adopted by the KWA and included in the Annual Report to the Governor and the Legislature



Securing, Protecting and Restoring our Kansas Reservoirs

Efforts include but are not limited to:

- Stakeholder Input & Agency/Partner Collaboration
- Tuttle Creek Water Injection Dredging (WID) Demonstration Planning
- Sediment Monitoring Strategy
 - KWO Bathymetry Program
- Research Coordination Group
- Kansas Reservoir Protection Initiative
- Streambank Stabilization Collaboration



Improving our State's Water Quality

Efforts include but are not limited to:

- Stakeholder Input & Agency/Partner Collaboration
- Milford Lake Water Regional Conservation Partnership Program (RCPP)
- Equus Beds Chloride Plume Project
- Upper Arkansas Mineralization Study
- Best Management Practices Implementation



Reducing our Vulnerability to Extreme Events

Efforts include but are not limited to:

- Stakeholder Input & Agency/Partner Collaboration
- Reservoir Operations (Drought & Flood)
- Lower Missouri River Basin Coordination
- Kansas River Reservoirs Flood and Sediment Study
- Future Basin Flood Planning Efforts
 - Recommendation from 2019 Special Committee on Natural Resources



Increasing Awareness of Kansas Water Resources

Efforts include but are not limited to:

- Stakeholder Input & Agency/Partner Collaboration
- Governor's Conference on the Future of Water in Kansas
- Water Innovation Systems and Education (WISE) Tour
- Kansas Runs on Water Campaign



<https://kansasrunsonwater.org/>

Kansas *Runs* on Water



State Water Plan Fund (SWPF)

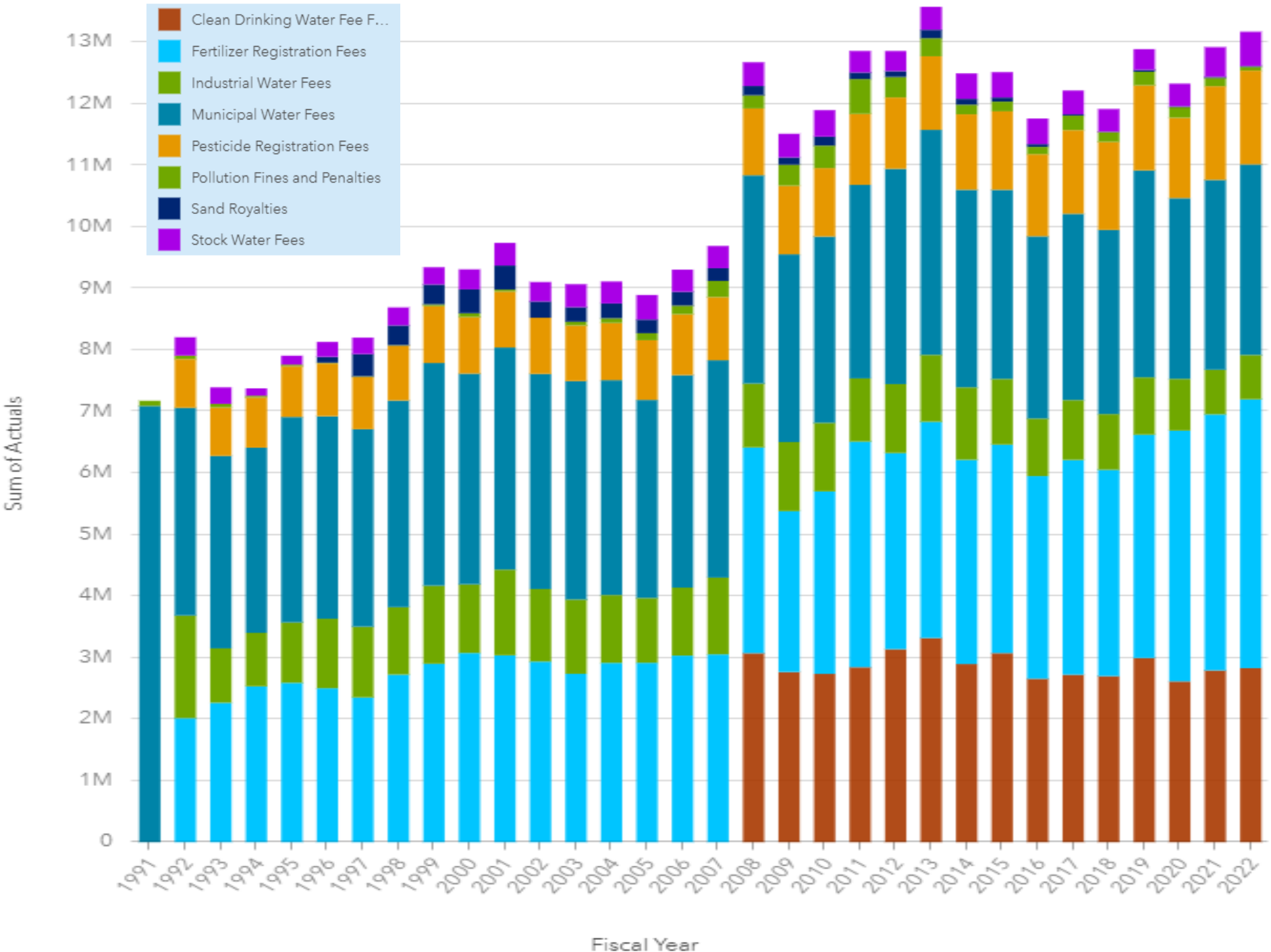
- Created in 1989 (K.S.A. 82a-951)
- Funds used for establishing and implementing water-related programs and projects identified in the State Water Plan
- Annual funding includes revenues from fees and demand transfers
- Fees collected total \$12 – 13 million annual
- Fee structure has remained virtually unchanged since fund was established:
 - Sand Royalties added in 1996
 - Clean Drinking Water Fee added in 2008



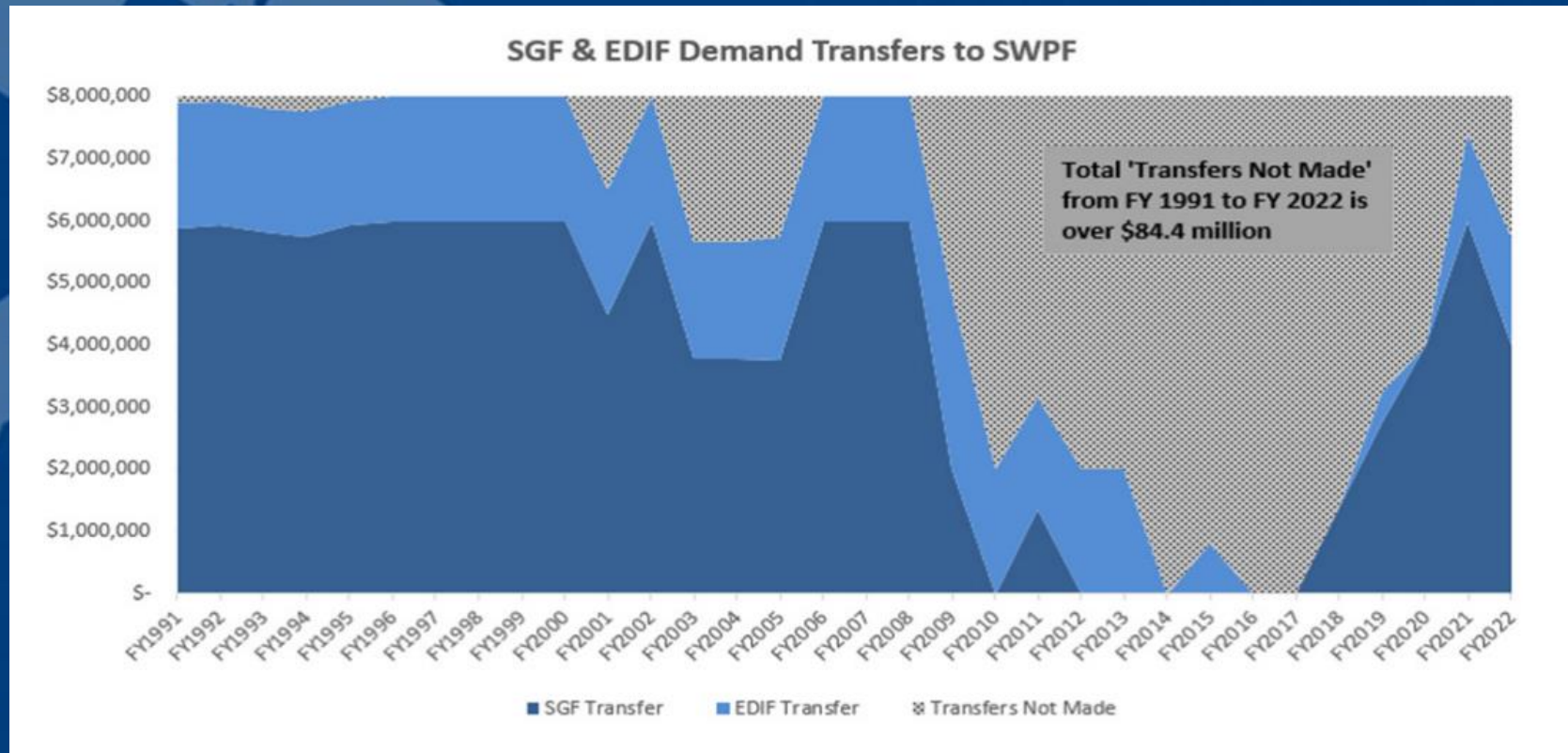
State Water Plan Fund (SWPF)

Revenues - Fees

Municipal Water Fees	3 cents/1,000 gallons
Clean Drinking Water Fees	3 cents/1,000 gallons
Industrial Water Fees	3 cents/1,000 gallons
Stockwater Use	3 cents/1,000 gallons
Pesticide Fees	\$100/Registration
Fertilizer Fees	\$1.40/ton
Pollution Fines/Penalties	Est. \$150,000
Sand Royalties	\$0.15/ton

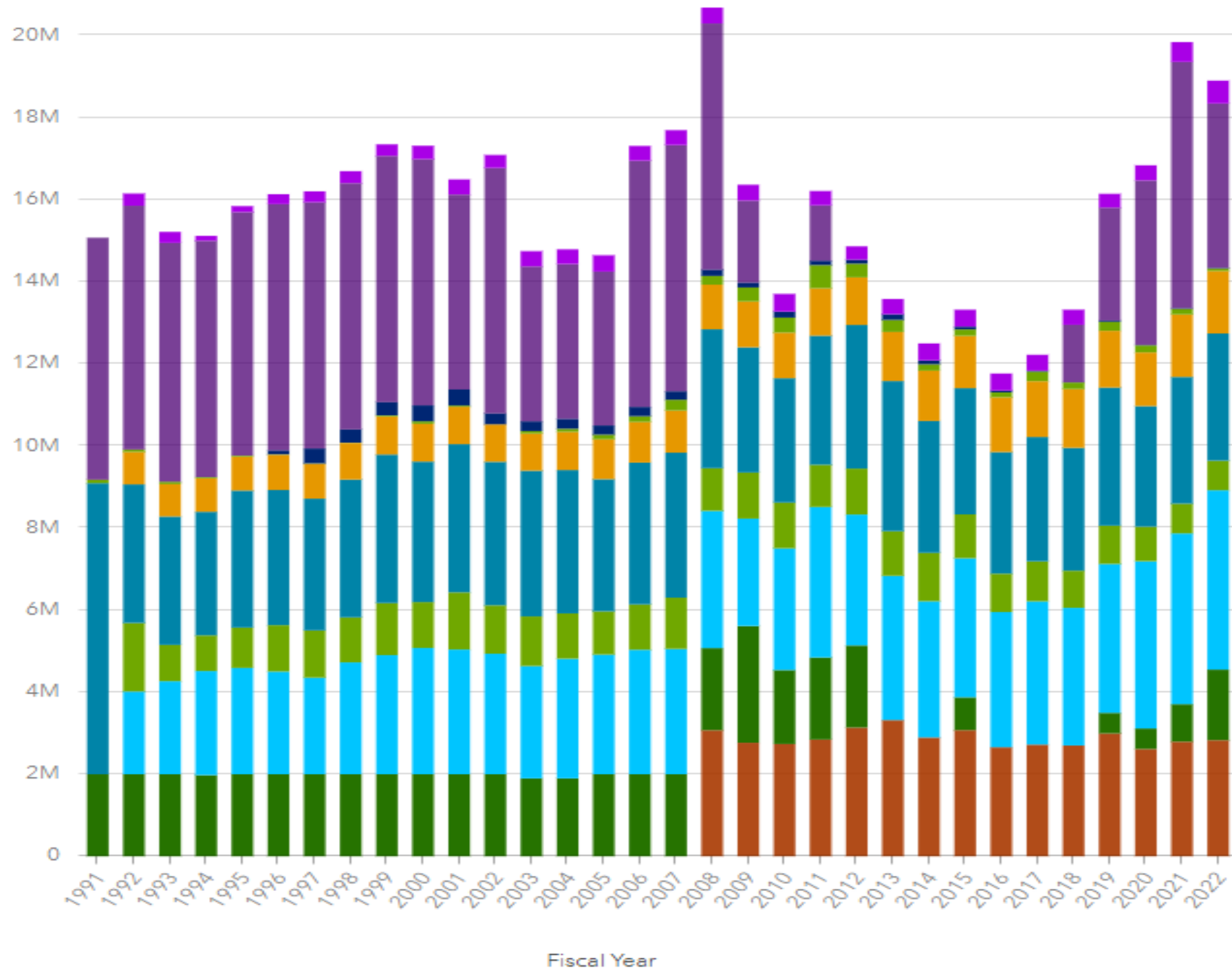


State Water Plan Fund (SWPF) Revenues - Demand Transfers



- Economic Development Initiatives Fund (EDIF) - \$2 million (statutory)
- State General Fund (SGF) - \$6,000,000 (statutory)
- FY 2023 – First full SGF/EDIF demand transfers since FY 2008

Sum of Actuals



Current State Water Plan Fund Expenditure Development Process

LOCAL AND AGENCY INPUT PROCESS

- RAC Priorities Identified & Compiled by KWO
- Agency Budget Recommendations to KWA

KANSAS WATER AUTHORITY PROCESS

- KWA Budget Committee Recommendations to Full KWA
- Full KWA Action on Budget Recommendations

STATE BUDGET PROCESS/GOVERNOR'S BUDGET RECS

- Agency Budget Submittals to Division of Budget accounting for KWA SWPF Budget Recommendations
- Governor's Budget Recommendations Presented

LEGISLATIVE PROCESS

- Agency Budget Hearings in Committee
- Committee Deliberation/Action
- Final Legislative Action – Appropriations Bill

2023 ANNUAL REPORT

TO THE GOVERNOR AND LEGISLATURE

KANSAS WATER AUTHORITY



State Water Plan Fund Expenditure Recommendations

Agency/Program	FY 2022 Actuals	FY 2023 Appropriation w/carry forward and pay plan adj	FY 2024 KWA Recommendations
Department of Health and Environment			
Contamination Remediation	\$ 1,020,958	\$ 1,163,792	\$ 1,095,978
Nonpoint Source Program	\$ 224,335	\$ 506,806	\$ 414,893
TMDL Initiatives	\$ 270,426	\$ 459,722	\$ 384,916
Harmful Algae Bloom Pilot	\$ 656,182	\$ 766,429	\$ 150,547
Watershed Restoration/Protection (WRAPS)	\$ 590,000	\$ 1,140,884	\$ 1,000,000
Drinking Water Protection Program	\$ 286,230	\$ 863,770	\$ 800,000
NEW: LEPP			\$ 250,000
NEW: Surface Water Trash Removal			\$ 50,000
SUBTOTAL--KDHE	\$ 3,048,131	\$ 4,901,402	\$ 4,146,334
Department of Agriculture			
Interstate Water Issues	\$ 445,668	\$ 791,882	\$ 514,664
Subbasin Water Resources Management	\$ 460,323	\$ 1,169,439	\$ 650,174
Water Use	\$ 27,387	\$ 216,144	\$ 100,000
Water Resources Cost Share	\$ 1,149,752	\$ 4,023,581	\$ 2,834,714
Nonpoint Source Pollution Asst.	\$ 1,550,065	\$ 2,291,809	\$ 1,863,636
Aid to Conservation Districts	\$ 2,223,373	\$ 2,473,373	\$ 2,502,706
Watershed Dam Construction	\$ 688,285	\$ 550,000	\$ 650,000
Water Quality Buffer Initiative	\$ 1,167	\$ 635,432	\$ -
Riparian and Wetland Program	\$ 43,670	\$ 666,194	\$ 154,024
Water Transition Assistance Program/CREP	\$ 339,680	\$ 979,867	\$ 650,727
Irrigation Technology	\$ 266,070	\$ 408,976	\$ 550,000
Crop and Livestock Research	\$ 250,000	\$ 250,000	\$ 350,000
Soil Health - NEW	\$ -	\$ 100,000	\$ 400,000
Streambank Stabilization	\$ 583,698	\$ 1,084,589	\$ 850,000
Transfer for KRPI			
SUBTOTAL--KDA	\$ 8,029,138	\$ 15,641,284	\$ 12,070,645
Kansas Water Office			
Assessment and Evaluation	\$ 536,457	\$ 1,156,180	\$ 834,078
MOU - Storage Operations & Maintenance	\$ 532,589	\$ 530,464	\$ 736,160
Stream Gaging	\$ 413,580	\$ 423,130	\$ 448,708
Technical Assistance to Water Users	\$ 298,682	\$ 367,709	\$ 425,000
Reservoir and Water Quality Research	\$ 252,553	\$ 583,724	\$ 450,000
Water Quality Partnerships	\$ 24,878	\$ 605,122	\$ 884,176
KS Water Plan Education & Outreach Strategy	\$ 1,865	\$ 472,910	\$ 250,000
High Plains Aquifer Partnerships	\$ 48,598	\$ 326,402	\$ 850,000
Kansas Reservoir Protection Initiative	\$ 359,422	\$ 1,190,578	\$ 1,000,000
Equus Beds Chloride Plume Remediation Project	\$ -	\$ 50,000	\$ 50,000
Flood Response Study	\$ -	\$ 200,000	\$ 200,000
Arbuckle Study	\$ -	\$ 210,000	\$ 150,000
Water Injection Dredging (WID)	\$ -	\$ 2,000,000	\$ -
SUBTOTAL--KWO	\$ 2,468,626	\$ 8,116,217	\$ 6,278,122
Department of Wildlife & Parks			
Aquatic Nuisance Species (ANS) Program	\$ -	\$ 224,457	\$ 224,457
University of Kansas--Geological Survey		\$ 26,841	\$ 140,000
Total State Water Plan Expenditures	\$ 13,545,894	\$ 28,910,201	\$ 22,859,558

Summary of Request for SGF/EDIF Transfer Restoration

After reviewing the agency and RAC requests, the KWA recommended projects for the SGF/EDIF transfers in FY 2024 and the KWA supports continuation of the full \$8 million SGF/EDIF demand transfer to the SWPF.

The table to the right shows the additional SGF/EDIF requests for the indicated programs that are an increase from the FY 2023 Appropriation.

The KWA will continue to focus funding on priority projects that are in the KWP, along with KWA and RAC goals/ action plans consistent with the KWP. Page 6 of this report contains the KWA total SWPF recommendations for FY 2024.

KWA SWPF Recommendations	Agency	Increase from FY 2023 Appropriation
Surface Water Trash Removal (pg. 19)	KDHE	\$ 50,000
LEPP (pg. 20)	KDHE	\$ 250,000
Irrigation Technology (pg. 10)	KDA	\$ 200,000
Water Transition Assistance Program/CREP (pg. 11)	KDA	\$ 100,000
Streambank Stabilization (pg. 13)	KDA	\$ 100,000
Watershed Dam Construction (pg. 14)	KDA	\$ 100,000
Soil Health (pg. 18)	KDA	\$ 300,000
Water Resources Cost Share (pg. 19)	KDA	\$ 136,425
Aid to Conservation Districts (pg. 21)	KDA	\$ 29,333
High Plains Aquifer Partnerships (pg. 10)	KWO	\$ 650,000
Water Quality Partnerships (pg. 17)	KWO	\$ 834,176

*University of Kansas – Geological Survey:
Additional \$113,159 increase from FY 2023 Appropriation*

Kansas Water Plan 5-Year Update

Incorporation of Vision & Updated RAC Goals and Action Plans

The Kansas Water Office, in coordination with local, state, federal, and interstate partners, has developed the 5-year update of the Kansas Water Plan (KWP). This update of the KWP 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.

The updated KWP includes strategies to address ongoing and emerging water resource issues of the state, including focused efforts on groundwater declines, decreasing reservoir water supply storage lost to sedimentation, statewide water quality issues, and increasing awareness of these water issues across the state.



KANSAS WATER PLAN

ANNUAL REPORT 2022 | Page 7



Funding Deficiency

The KWA notes that the current revenue of the State Water Plan Fund is not sufficient to meet all current program needs described in the Kansas Water Plan. The fee structure that supports the SWPF has remained virtually unchanged since the fund was established in 1989. The 2017 Blue Ribbon Funding Task Force for Water Resource Management report recommended changes which would have resulted in annual revenue of approximately \$55 million. However, this recommendation was based on the funding needs described in the 2015 Vision for the Future of Water Supply in Kansas report. With the update of the Kansas Water Plan, the KWA supports action that would generate sufficient revenue to meet the program needs described in the Plan. In collaboration with state agencies, the KWA provides an estimate of annual program funding needs below.

		Estimated Annual Cost
Conserve and Extend the High Plains Aquifer		
Data Collection, Research, Modeling	\$	500,000
Irrigation/Water Technology	\$	2,000,000
Water Right Purchase (WaterTAP/CREP)	\$	3,000,000
Secure, Protect, and Restore our Kansas Reservoirs		
Public Water Supply Storage Debt	\$	4,000,000
Streambank Stabilization	\$	5,000,000
Watershed Conservation Practice Implementation	\$	10,000,000
Sediment Management	\$	10,000,000
Improve the State's Water Quality		
Watershed Conservation Practice Implementation	\$	10,000,000
Watershed Restoration and Protection Strategy - Nonpoint Source Pollution	\$	3,180,000
Small Town Water Compliance	\$	2,000,000
Contamination Remediation	\$	2,240,000
Total Maximum Daily Load Program	\$	250,000
Source Water Protection - Land Acquisition	\$	1,000,000
State Revolving Loan Fund Matching Funds	\$	5,000,000
Regional Conservation Partnership Program Matching Funds	\$	5,000,000
Data Collection, Research, Modeling	\$	1,150,000
Reduce our Vulnerability to Extreme Events		
Dam Rehabilitation	\$	3,000,000
Data Collection, Research, Modeling	\$	500,000
Increase Awareness of Kansas Water Resources		
Water Plan Education and Outreach	\$	1,500,000
Total	\$	69,320,000



Questions?

Thank You!

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