Kansas Water Authority

January 29, 2020
Topeka, Kansas

Call to Order

Call to Order/Introductions; *Connie Owen*

THANK YOU to the Cyrus Hotel for providing our meeting space today.

Minutes

Presented by: Connie Owen

- Action Needed

Approval of minutes from December 19, 2019

KWA / PWS Committee

Presented by: Dennis Schwartz/Nate Westrup

PWS Comprehensive Capital Development Plan Update

Public Water Supply Program
Comprehensive Capital Development Plan

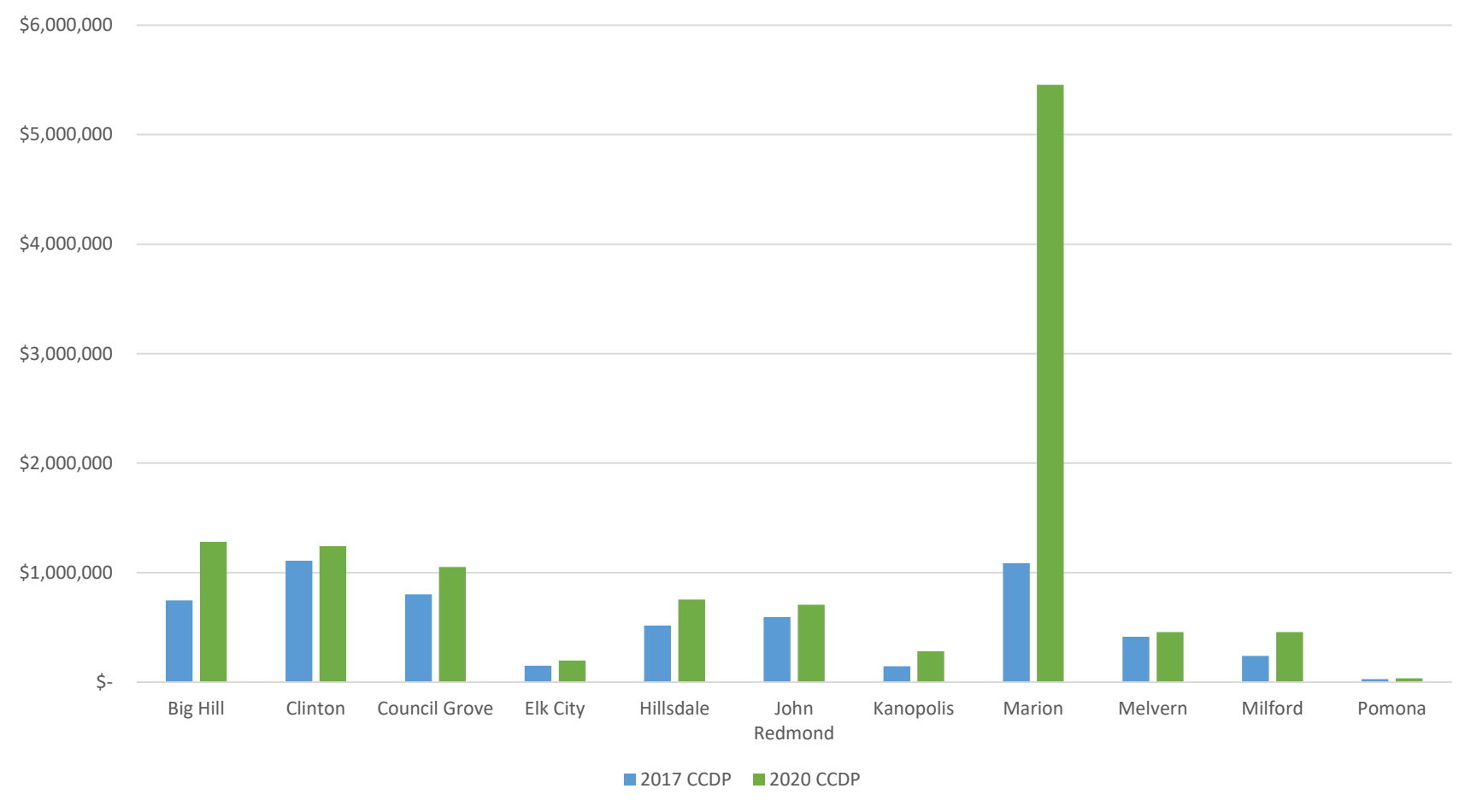
DRAFT

Spring 2020

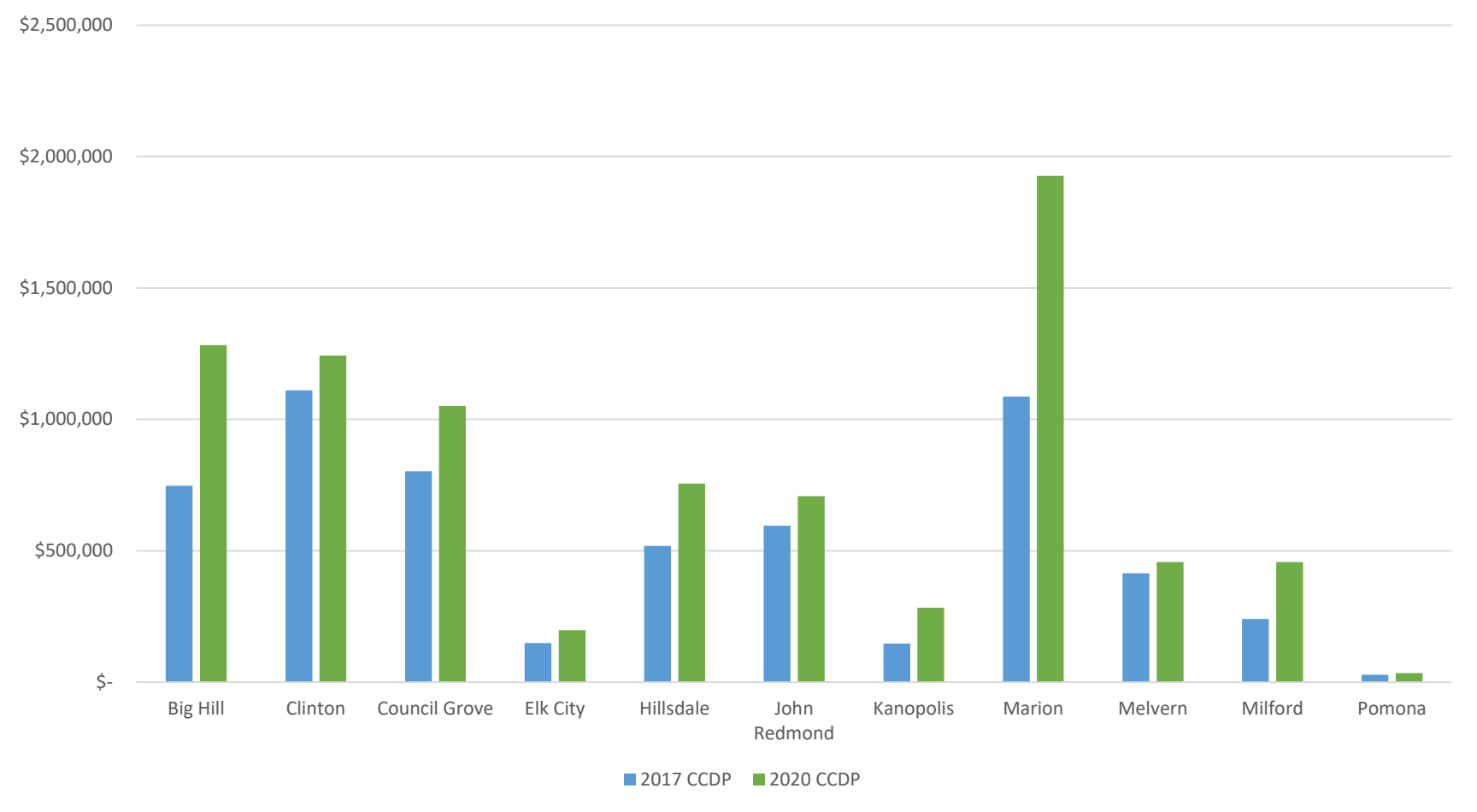
Components to Determine Rate

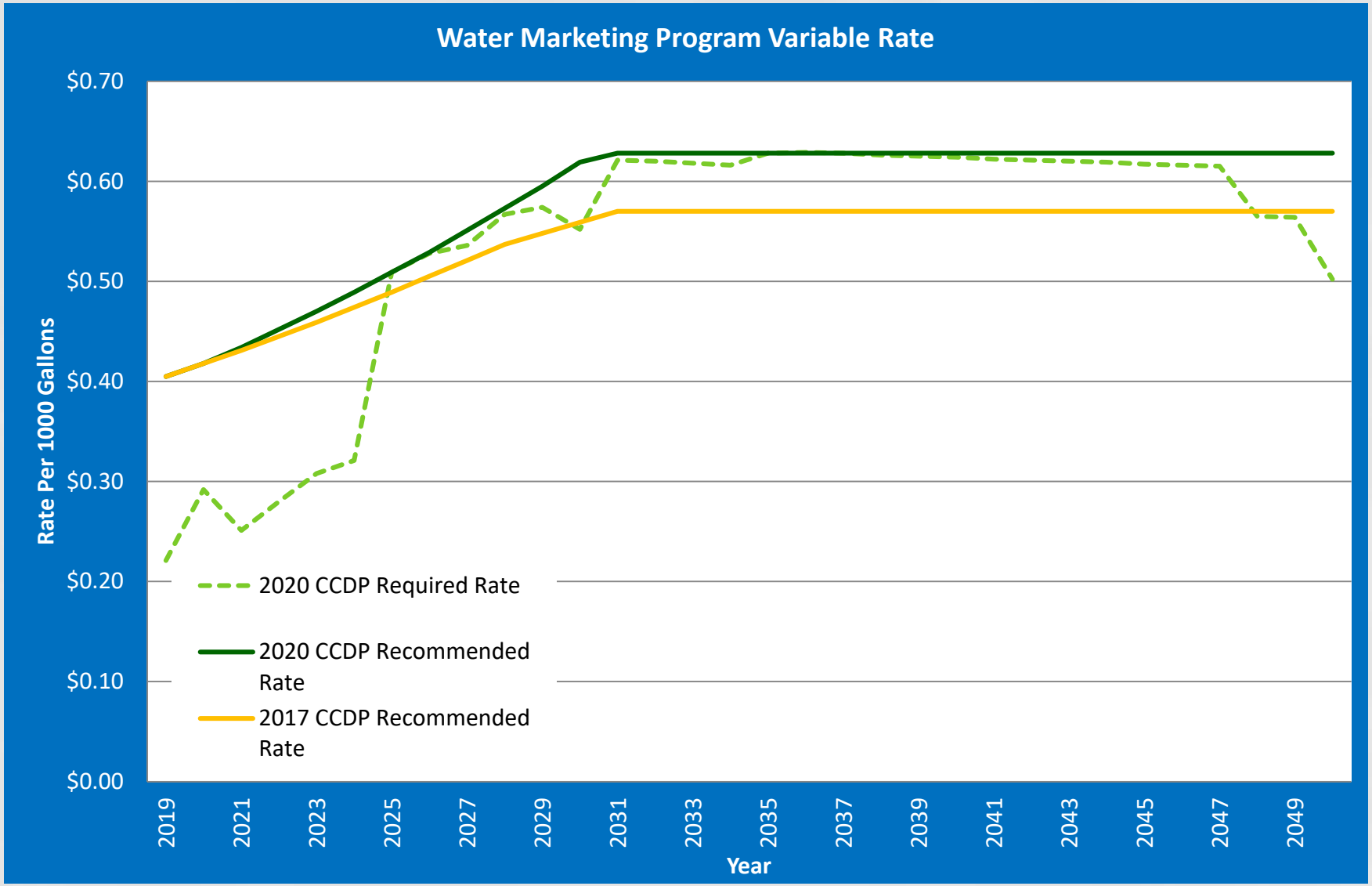
- **Expenses:**
  - Operations and Maintenance (O&M)
  - Principal and Interest (P&I)
  - Administration and Enforcement (A&E)
  - Reservoir protection and Restoration
- **Revenue**
  - Water use
  - Water Assurance District A&E

Comparison of Projected Total O&M Costs By Reservoir (2020 - 2025)



O&M Costs By Reservoir w/Marion Amortization (2020 - 2025)



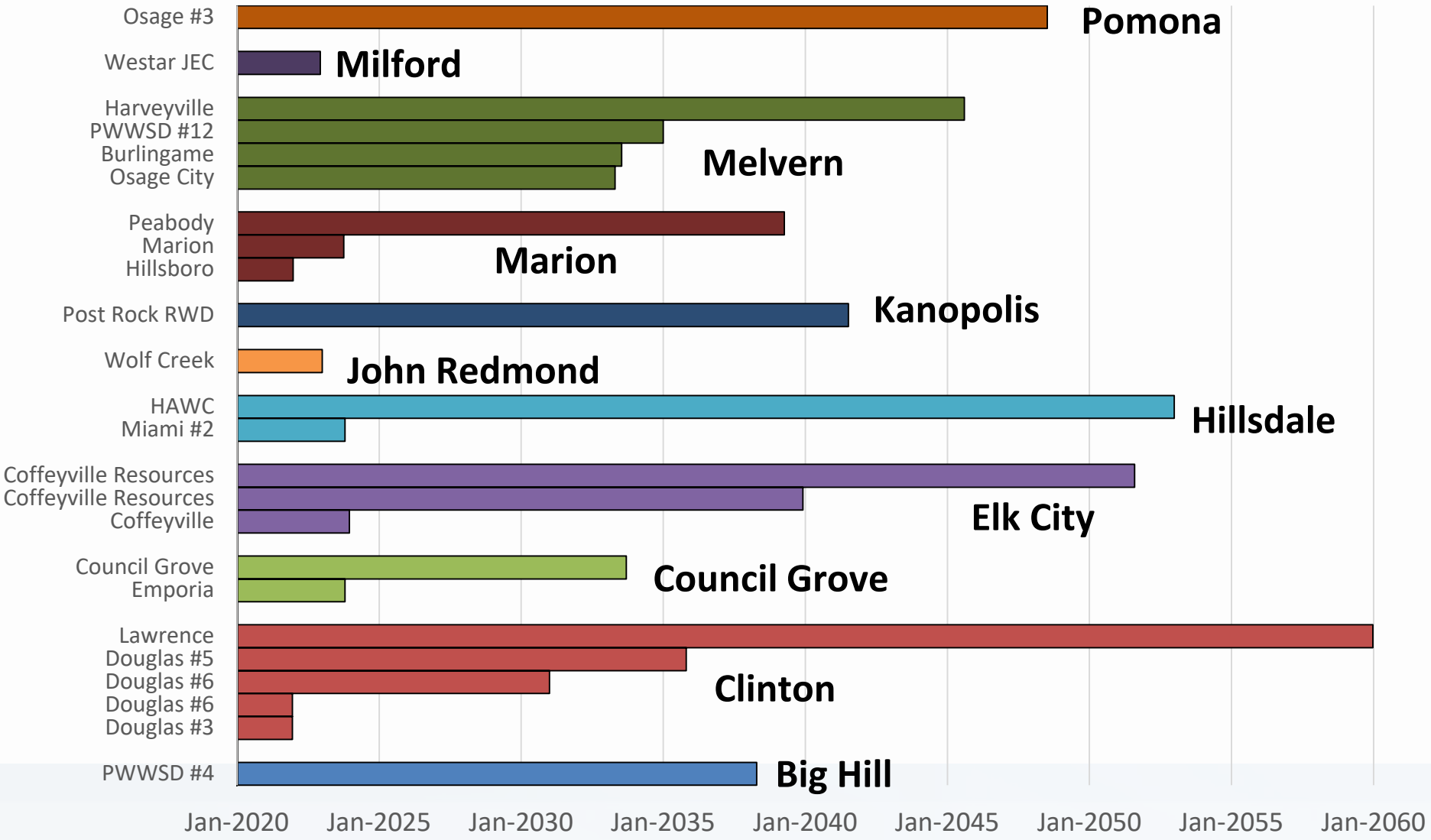


Calendar Year	2020	2021	2022	2023	2024	2025
Variable Rate (2017 CCDP)	$0.418	$0.431	$0.445	$0.459	$0.474	$0.489
Variable Rate (Draft 2020 CCDP)	n/a	$0.434	$0.452	$0.470	$0.489	$0.509
Increase	3.2%	4%	4%	4%	4%	4%

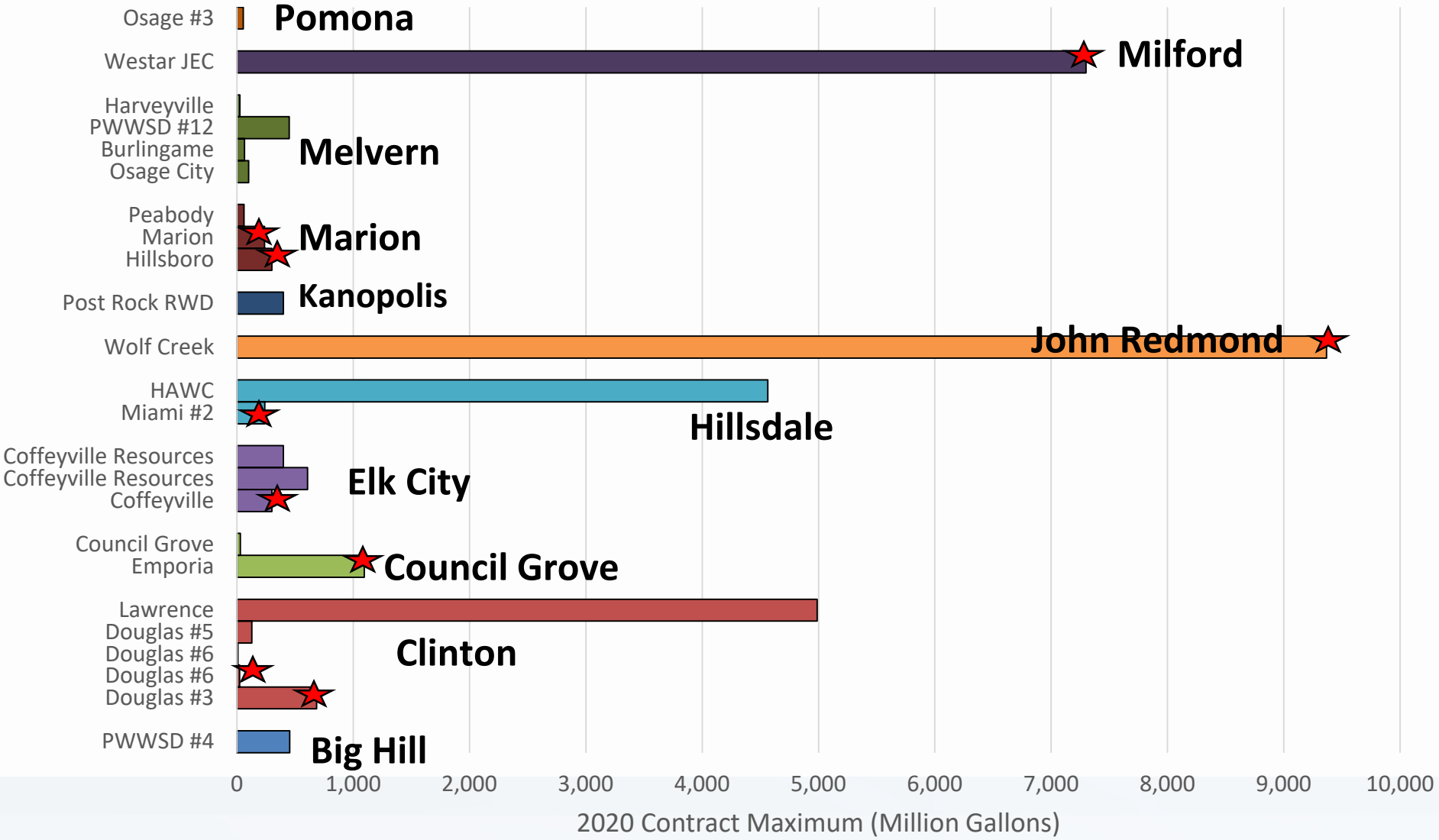
Active Contracts (24)

Lake	Contract No.	Customer	Annual Contract Maximum Gallons	2020 Maximum Gallons	Rate $/1000 Gallons	Contract End Date
Big Hill Lake	98-1	PWWS Dist. No. 4	454,700,000	436,481,400	$0.418	4/17/2038
Clinton Lake	79-1	Douglas County Rural Water Dist. No. 3	684,273,174	684,273,174	$0.10	12/13/2021
	79-2	Douglas County Rural Water Dist. No. 6	23,759,981	23,759,981	$0.10	12/13/2021
	90-2	Douglas County Rural Water Dist. No. 6	9,503,298	9,503,298	$0.418	1/1/2031
	95-3	Douglas County Rural Water Dist. No. 5	128,298,541	128,298,541	$0.418	10/26/2035
	19-1	City of Lawrence	4,988,000,000	4,988,000,000	$0.418	12/29/2059
Council Grove Lake	81-2	City of Emporia	1,095,000,000	1,095,000,000	$0.10	10/21/2023
	93-4	City of Council Grove	150,000,000	30,000,000	$0.418	9/13/2033
Elk City Lake	81-5	City of Coffeyville	300,000,000	300,000,000	$0.10	12/16/2023
	99-5	Coffeyville Resources	608,000,000	608,000,000	$0.418	12/3/2039
	12-7	Coffeyville Resources	400,000,000	400,000,000	$0.418	8/9/2051
Hillsdale Lake	81-1	Miami County Rural Water Dist. No. 2	239,440,000	239,440,000	$0.10	10/21/2023
	13-1	Hillsdale Area Water Cooperative	5,308,560,000	4,117,781,000	$0.418	12/31/2052
John Redmond Lake	17-2	Westar Energy- Wolf Creek Generating Station	9,368,000,000	9,368,000,000	$0.418	12/31/2022
Kanopolis Lake	01-2	Post Rock Rural Water District	400,000,000	390,000,000	$0.418	7/12/2041
Marion Lake	80-1	City of Hillsboro	300,000,000	300,000,000	$0.10	12/22/2021
	81-4	City of Marion	237,500,000	237,500,000	$0.10	10/3/2023
	99-1	City of Peabody	60,000,000	60,000,000	$0.418	4/9/2039
Melvern Lake	93-3	City of Osage City	100,000,000	100,000,000	$0.418	4/22/2033
	93-2	City of Burlingame	65,000,000	65,000,000	$0.418	7/15/2033
	93-1	PWWS Dist. No. 12	547,430,000	450,000,000	$0.418	1/1/2035
	05-6	City of Harveyville	25,000,000	25,000,000	$0.418	8/11/2045
Milford Lake	80-2	Westar Energy- Jeffrey Energy Center	7,300,000,000	7,300,000,000	$0.10	12/5/2022
Perry Lake	N/A	N/A	N/A	N/A	N/A	N/A
Pomona Lake	05-5	Osage County Rural Water Dist. No. 3	55,600,000	55,600,000	$0.418	7/10/2048
Toronto Lake	N/A	N/A	N/A	N/A	N/A	N/A
Tuttle Creek Lake	N/A	N/A	N/A	N/A	N/A	N/A

Remaining Duration of State Contracts



2020 Maximum Quantity of State Contracts

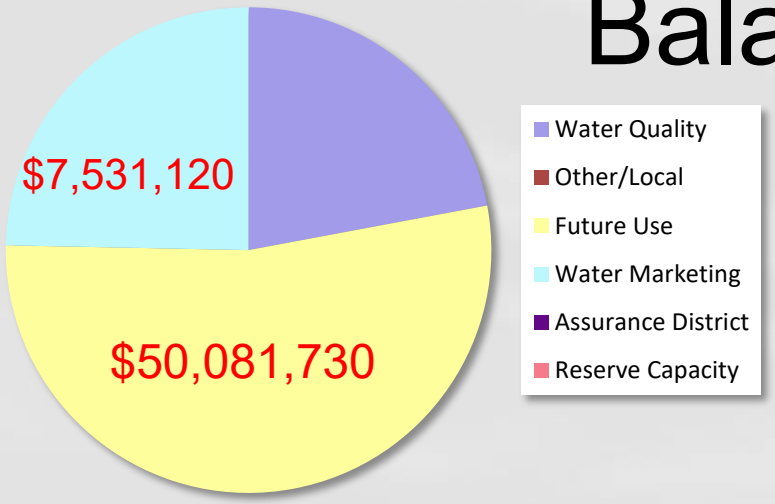


Progress

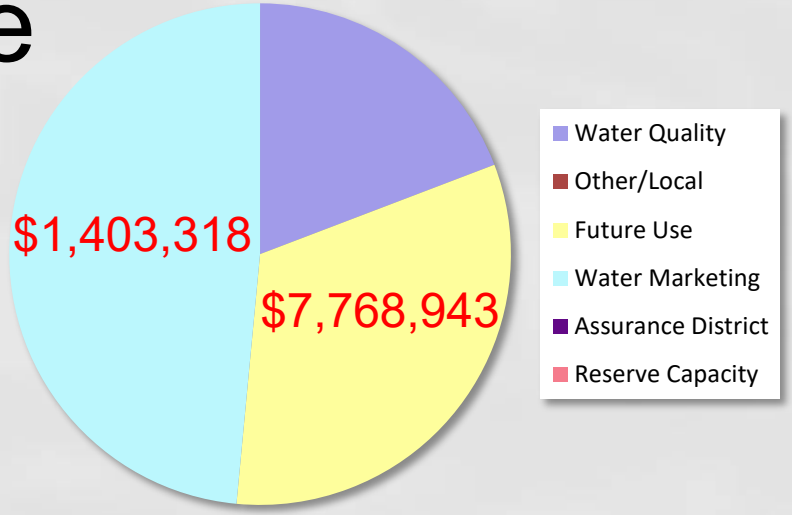
DEBT PAYDOWN					
Year	**Reservoir Storage**		**Debt Payoff**		**Interest Saved**
2017	**Kanopolis**	**$**	**2,520,791**	**$**	**1,319,314**
2018	**Elk City**	**$**	**422,763**	**$**	**40,850**
	John Redmond	**$**	**863,042**	**$**	**66,354**
2019	**Big Hill**	**$**	**1,045,249**	**$**	**215,771**
	Council Grove	**$**	**285,580**	**$**	**18,083**
2020	**Marion**	**$**	**373,017**	**$**	**46,812**
	(Projected)		**Total:**	**$**	**1,707,183**
2021	Hillsdale (Orig.)	$	1,432,257	$	309,843
2022	Clinton (Orig.)	$	1,172,193	$	149,501
2023	Hillsdale #2	$	2,313,323	$	387,793
2024	Hillsdale #1	$	2,332,752	$	334,415
			Total:	$	1,181,552

2020 Debt Balance

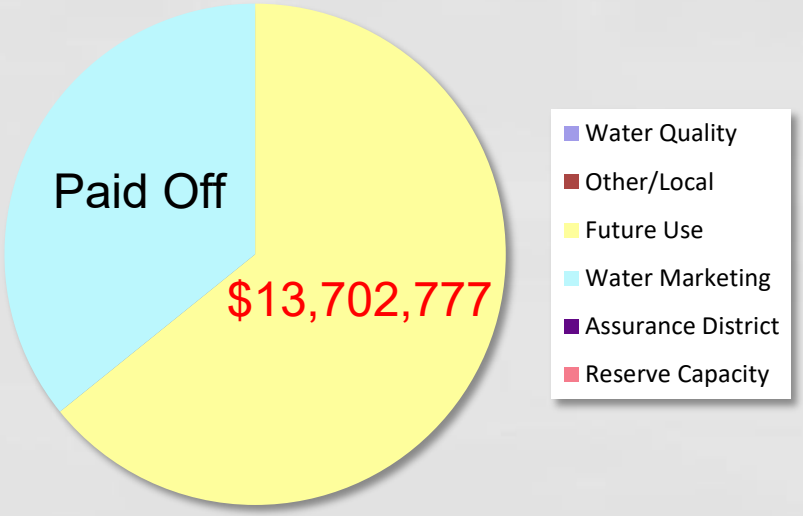
Hillsdale



Clinton



Big Hill



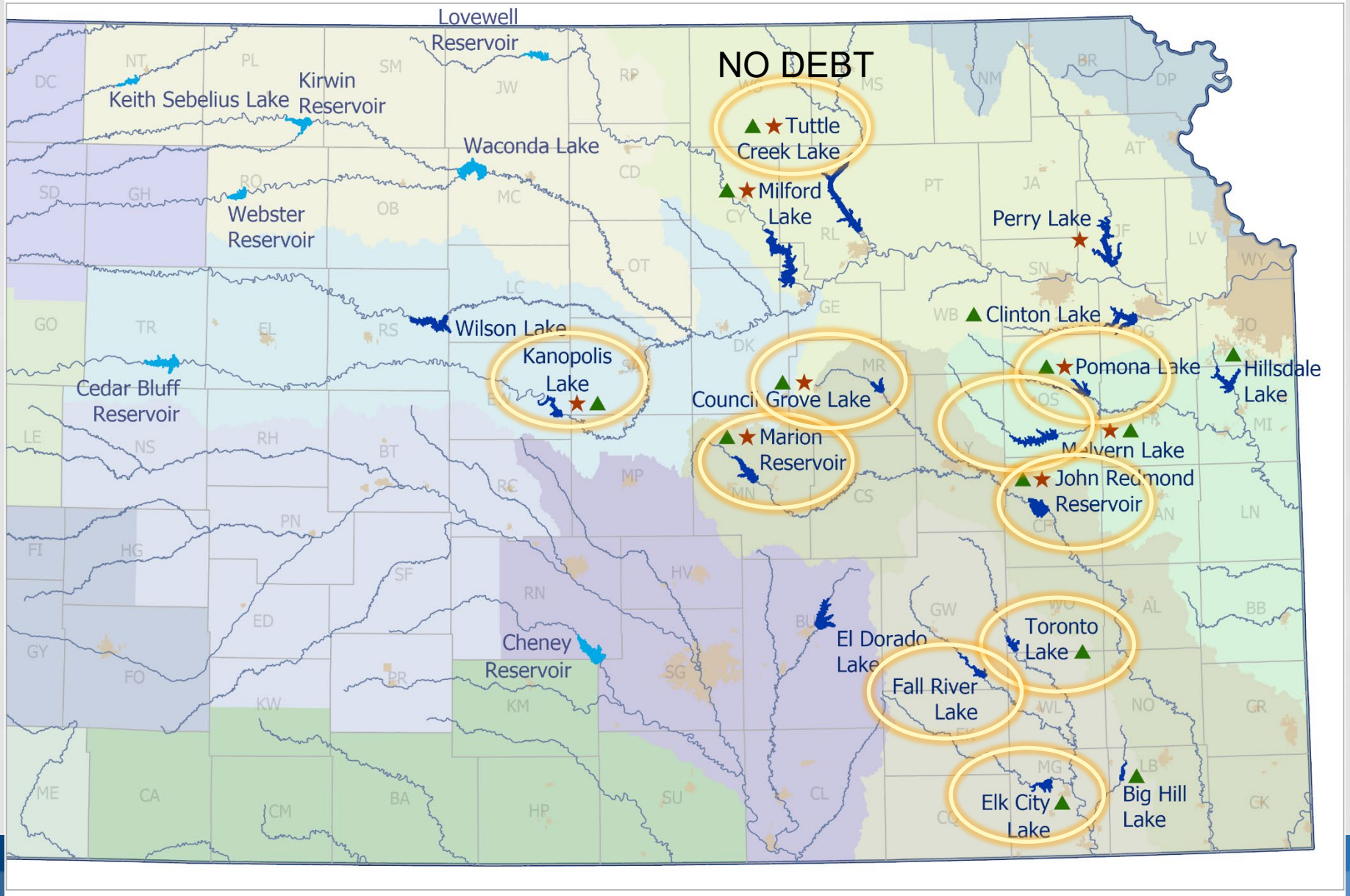
Milford: $26,359,324

Perry: $26,258,919

Total 2020 Debt: $133,106,131

End of Contract Year / Balance Due				
Hillsdale	Clinton	Big Hill	Milford	Perry
2030	2028	2029	2034	2041

Federal Reservoirs in Kansas



January 2020
Kansas Water Office

Final CCDP: Spring 2020

- Additional O&M information from Tulsa
- Determine best debt management
- Determine best O&M management
- Financial model refinement
- Anticipated rate increase =>4%

Legislative Update

Presented by: Earl Lewis / Matt Unruh

SGF/EDIF Transfer & SWPF Budget Enhancement Request Update

Kansas Water Authority SGF/EDIF & SWPF Budget Enhancement Request FY2021

	Agency	FY2021
Drinking Water Protection Program	KDHE	$ 150,000
Watershed Dam Construction	KDA	$ 400,000
Water Transition Assistance Program/CREP	KDA	$ 300,000
Irrigation Technology	KDA	$ 100,000
Streambank Stabilization	KDA	$ 500,000
Real-Time Water Management - Telemetry	KDA	$ 25,000
Water Supply Restoration Program	KDA	$ 465,000
MOU - Storage Operations & Maintenance*	KWO	$ 70,100
Technical Assistance to Water Users	KWO	$ 100,000
Watershed Conservation Practice Imp	KWO	$ 300,000
Water Injection Dredging (WID)	KWO	$ 660,000
Arbuckle Study	KWO	$ 100,000
FY2021 Enhancement Request Total		**$ 3,170,100**

**Request revised to KWO's Assessment & Evaluation Program*

Legislative Update

Presented by: Earl Lewis / Matt Unruh

FY 2021 Governor's Budget Report (1/16/2020)

- Includes $4.5 million of the KWA recommended $8 million from SGF/EDIF
- Gov.'s revised SWPF Budget for FY2020 includes the following recommendations:
  - $100,000 for Flood Response Study (taken from KWO's FY2020 Assessment & Evaluation Program)
  - $68,000 for Arbuckle Study (additional item to be funded with FY2020 SWPF budget/revenues)

Legislative Update

How to follow Legislation & Testimony

- KWO will track all relevant bills pertaining to water and other resources on our website at
  https://kwo.ks.gov/news-events/legislative-news

- You can also follow along to *live testimony* in the House & Senate on the Kansas Legislature website
  http://www.kslegislature.org/li/b2019_20/committees/

Legislative Update

How to follow Legislation & Testimony

Legislative Update

How to follow Legislation & Testimony

Kansas

2019-2020 Legislative Sessions

2017-2018 Biennium Information is available under the Historical tab.

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Jan. 24, 2020

-A +A

House Status: Adjourned until Monday, January 27, 2020 at 11:00 a.m.
Senate Status: Adjourned until Monday, January 27, 2020 at 02:30 p.m.

you are here: Home » Committees » Agriculture and Natural Resources Budget

Agriculture and Natural Resources Budget

Committee Assistant: Melissa Leach 785-296-7677
Melissa.Leach@House.ks.gov

Meeting Day: Daily Time: 1:30 pm Location: 142-S

Room 142-S Audio Stream
Agendas / Minutes / Testimony
Committee Indices

Bills, Resolutions and Appointments

Click **here** to download a spreadsheet compatible file of Legislator information for this committee.

Chair
Rep. Willie Dove

Vice Chair
Rep. Lonnie Clark

Ranking Minority Member
Rep. Sydney Carlin

Members
House
- Rep. Jim Gartner
- Rep. Trevor Jacobs
- Rep. Joe Newland
- Rep. Boyd Orr
- Rep. Alicia Straub
- Rep. Freda Warfield

Legislative Update

Special Committee on Natural Resources

The Committee is directed to:

- Review the flood damage caused by 2019 flooding events concerning:
  - The relationships between local, state, tribal, and federal entities regarding flood control and flood prevention, including state compacts;
  - The role of state government in flood control and response to flooding events; and
  - The availability and need of resources.

Special Committee on Natural Resources

The Committee recommends:

- The Kansas Water Office conduct a basin-by-basin evaluation of Kansas reservoirs to determine where flooding is occurring, what damage has occurred as a result of flooding, and possible actions that could be taken to prevent or provide remediation for flooding events. Such an evaluation should include possible use of floodplain easements and long-range planning for future flood events. When basins are located in more than one county, the evaluation should focus on the entire basin regardless of county lines;

- The House Committee on Appropriations and the Senate Committee on Ways and Means consider a plan to restore the $8.0 million statutory transfer to the State Water Plan Fund;

- The State Water Plan include efforts to combat the build-up of sedimentation in Kansas reservoirs. The Kansas Water Office should provide information to the House Committee on Agriculture and the Senate Committee on Agriculture and Natural Resources regarding sedimentation, including the estimated timeline for clearing sedimentation to increase reservoir capacity and the associated costs. The sedimentation removal planning should include preventive activities such as streambank stabilization and prevention of field erosion;

- The Kansas Water Office provide information to the House Committee on Agriculture and the Senate Committee on Agriculture and Natural Resources regarding Iowa's system for reporting flooding events and providing resources to affected citizens and landowners. Such information should include suggestions for how Kansas citizens can best access information on flood events as they occur; and

- The Kansas Department of Wildlife, Parks and Tourism provide information to the House Committee on Agriculture and the Senate Committee on Agriculture and Natural Resources regarding damage to state property and infrastructure due to 2019 flooding events.

Special Committee on Natural Resources

Proposed Legislation:

- Adopt a Joint Resolution urging the Kansas federal delegation to make appropriations for the 2019 flood damage in Kansas and to ask for congressional authority for the Tulsa Division, U.S. Army Corps of Engineers, to create a study similar to the study being conducted by the Kansas City Division, U.S. Corps of Engineers, on river bed degradation.

Performance Based Budget Task Force Update

Presented by: Mike Armstrong

- Action Needed

  Kansas Water Plan Budget Guidelines

Draft Performance based budget guidelines

- Statutory Obligations shall be met first.
- All budgeted funds should be tied to one of the projects and initiatives established by the 50-year Water Vision/State Water Plan
- Per K.S.A. 82a-951, State Water Plan funding "shall not be used for . . . replacing full-time equivalent positions of any state agency." Positions have been added for programs to implement the Kansas Water Plan. The Kansas Water Authority should encourage funding for staff positions supporting State Water Plan programs and projects to be from the State General Fund removing any confusion and allowing additional funds to be used for implementation activities.
- Funds raised through fees on specific users should be used to fund projects or initiatives that benefit the users paying those fees, or mitigate environmental impacts caused by said users
- Allocation of funds should be reasonably related to: source, geographical, hydrological, rural vs. urban.
- Priority must be given to long term contractual, or multi-year obligations: O&M,Bonds
- Consideration can be given to expenditures that can be justified based upon <u>emerging threats to water resources</u>, including appropriate research initiatives.

STATE WATER PLAN FUND

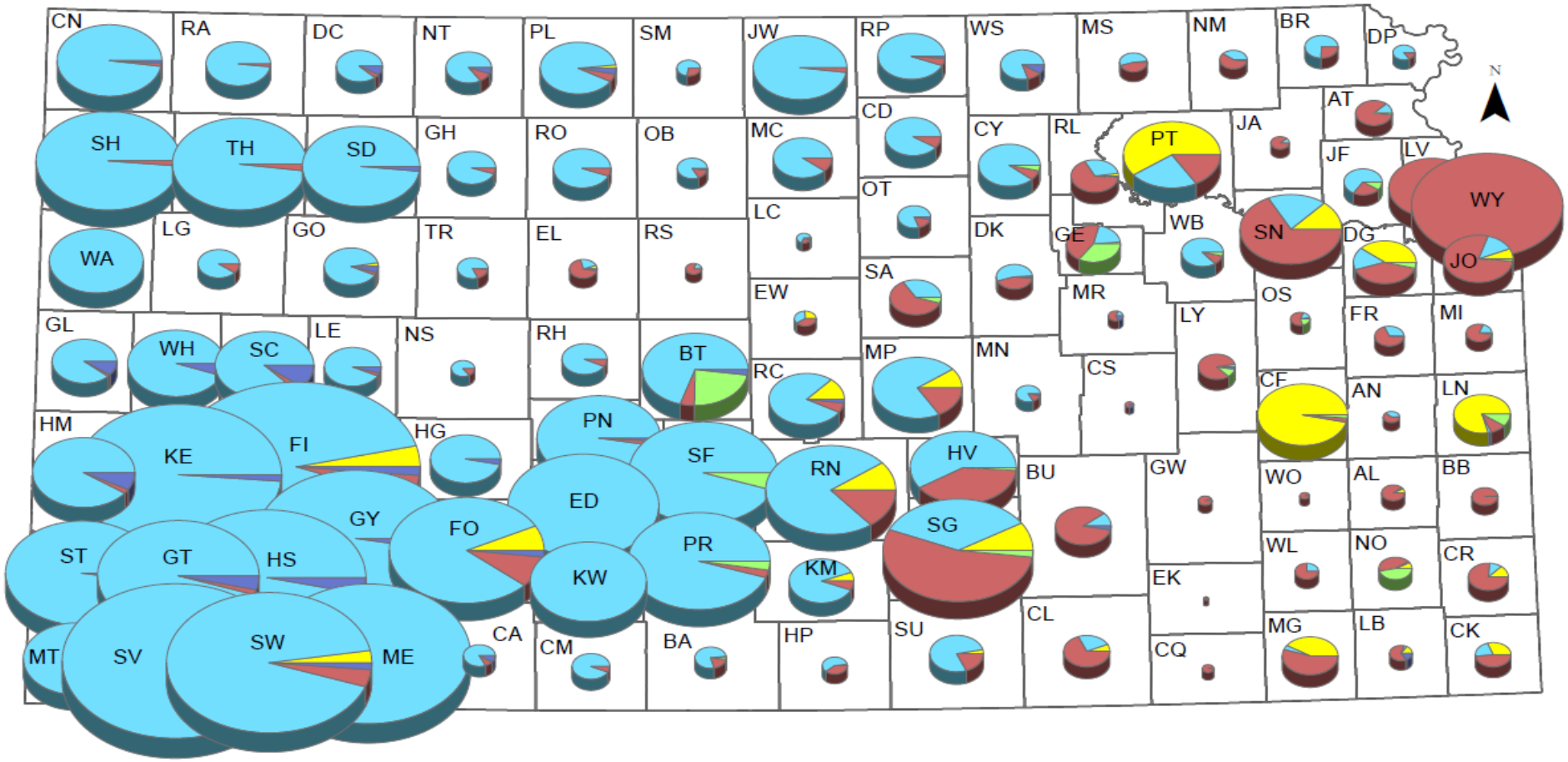
- Created in 1989 (K.S.A. 82a-951)
- Funds used for establishing and implementing water-related programs and projects identified in the State Water Plan.
- Annual funding includes revenues from fees and demand transfers

(1) Fees Total $12 – 13 million annually

- Fee structure has remained virtually unchanged since the fund was established; Sand Royalties added in 1996, Clean Drinking Water Fee 2008

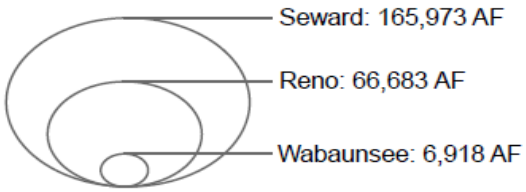
		FY19 Est.	
Municipal Water Fees	3 cents/1,000 gallons	$3,200,000	25.6%
Clean Drinking Water Fees	3 cents/1,000 gallons	$2,800,000	22.4%
Industrial Water Fees	3 cents/1,000 gallons	$1,100,000	8.8%
Stockwater Use	3 cents/1,000 gallons	$450,000	3.6%
Pesticide Fees	$100/Registration	$1,300,000	10.4%
Fertilizer Fees	$1.40/ton	$3,500,000	28.0%
Pollution Fines/Penalties	Est. $150,000	$150,000	1.2%
Sand Royalties	$0.15/ton	$16,000	0.1%
	Total	$12,516,000	

2018 Reported Water Use for Kansas Counties



Use Made of Water

- Industrial
- Municipal
- Irrigation
- Recreation
- Stockwater



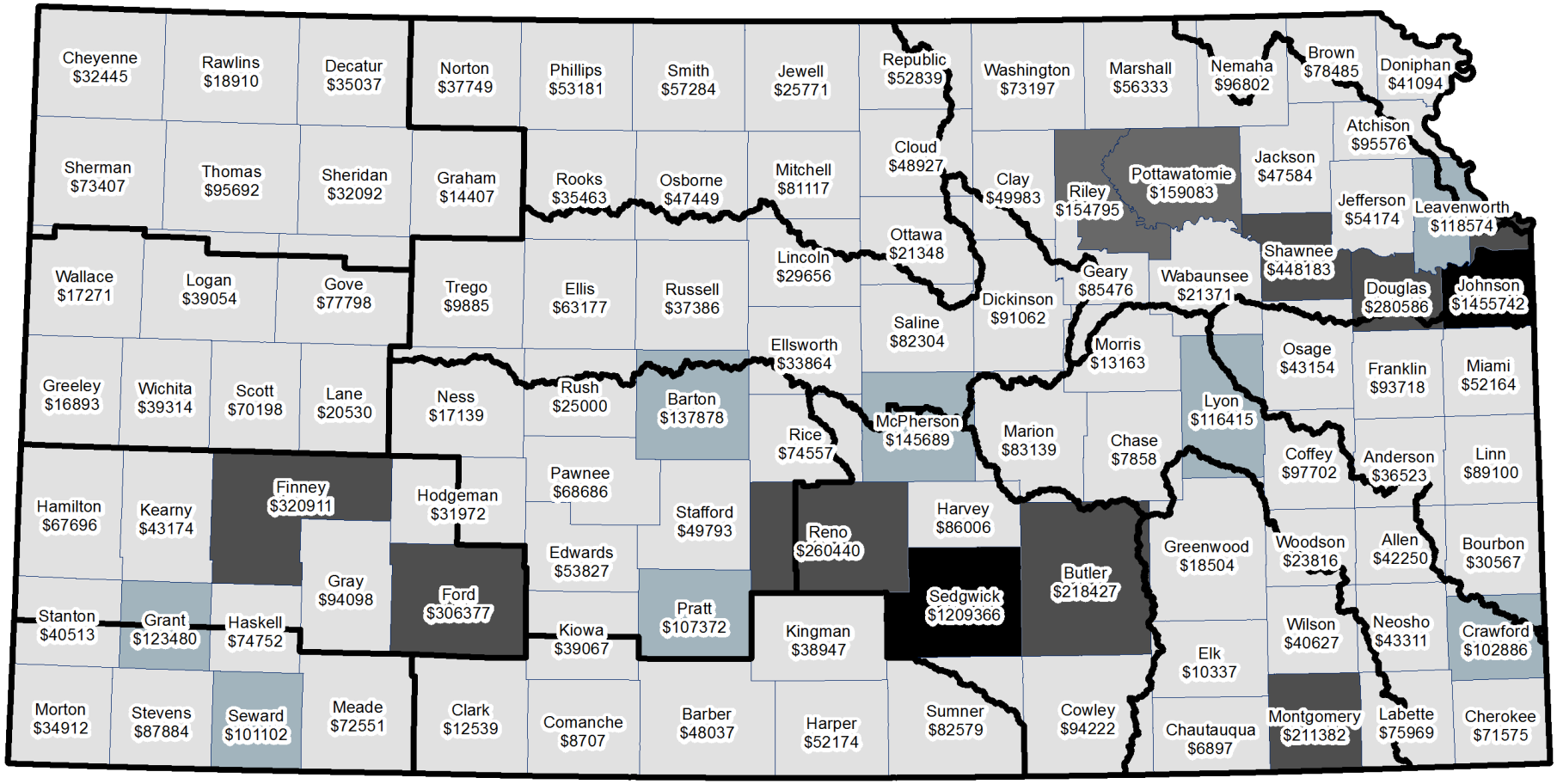
Features on this map represent conditions as of the date of the map and are subject to change. The user is referred to specific policies, regulations and/or orders of the Chief Engineer.

Uses of water for artificial recharge, contamination remediation, dewatering, domestic, fire protection, hydraulic dredging, sediment storage, thermal exchange and water power are not shown on the charts.

0 25 50 75 Miles

Kansas Department of Agriculture
Division of Water Resources
December 9, 2019

Average State Water Plan Fund Revenue by County
CY 2014, 2016, 2017 (Not including Pesticide Fees)



Kansas Water Office January 2020

Average Revenue Range (2012-2014 Fertilizer Fee averages included)

County SWPF Revenue Reciepts

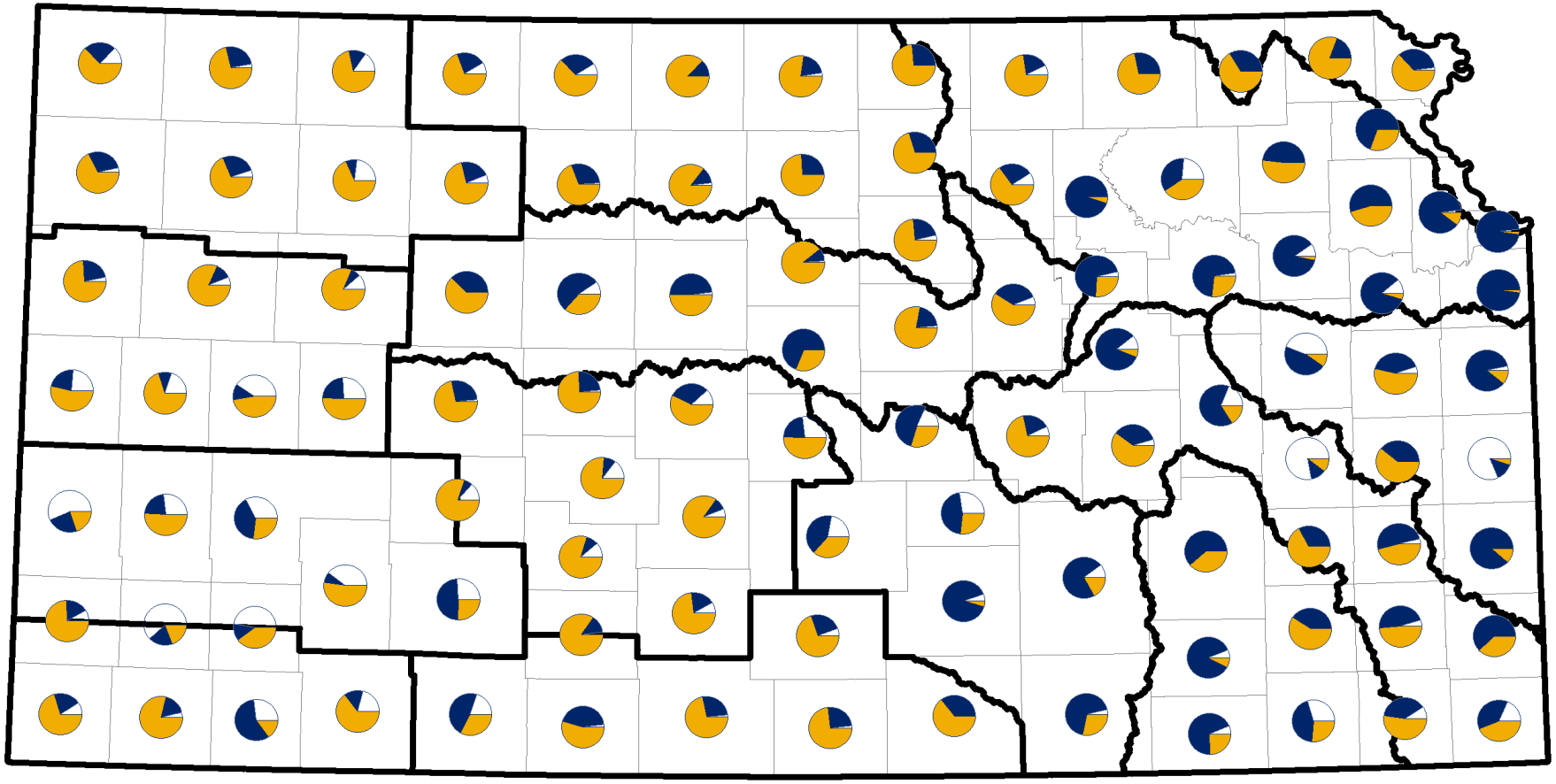
- $7,000 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $200,000 - $500,000
- $500,000 - $1,455,742

Sources:
Division of Water Resources, Water Use Program
Kansas Dept. of Revenue

50 Miles

N W E S

Average State Water Plan Fund Revenue by County
CY 2014, 2016, 2017 (Not including Pesticide Fees)



Kansas Water Office January 2020

Average Revenue Range

County SWPF Revenue Reciepts

Municipal/CDWF

Fertilizer (2012-2014 Average)

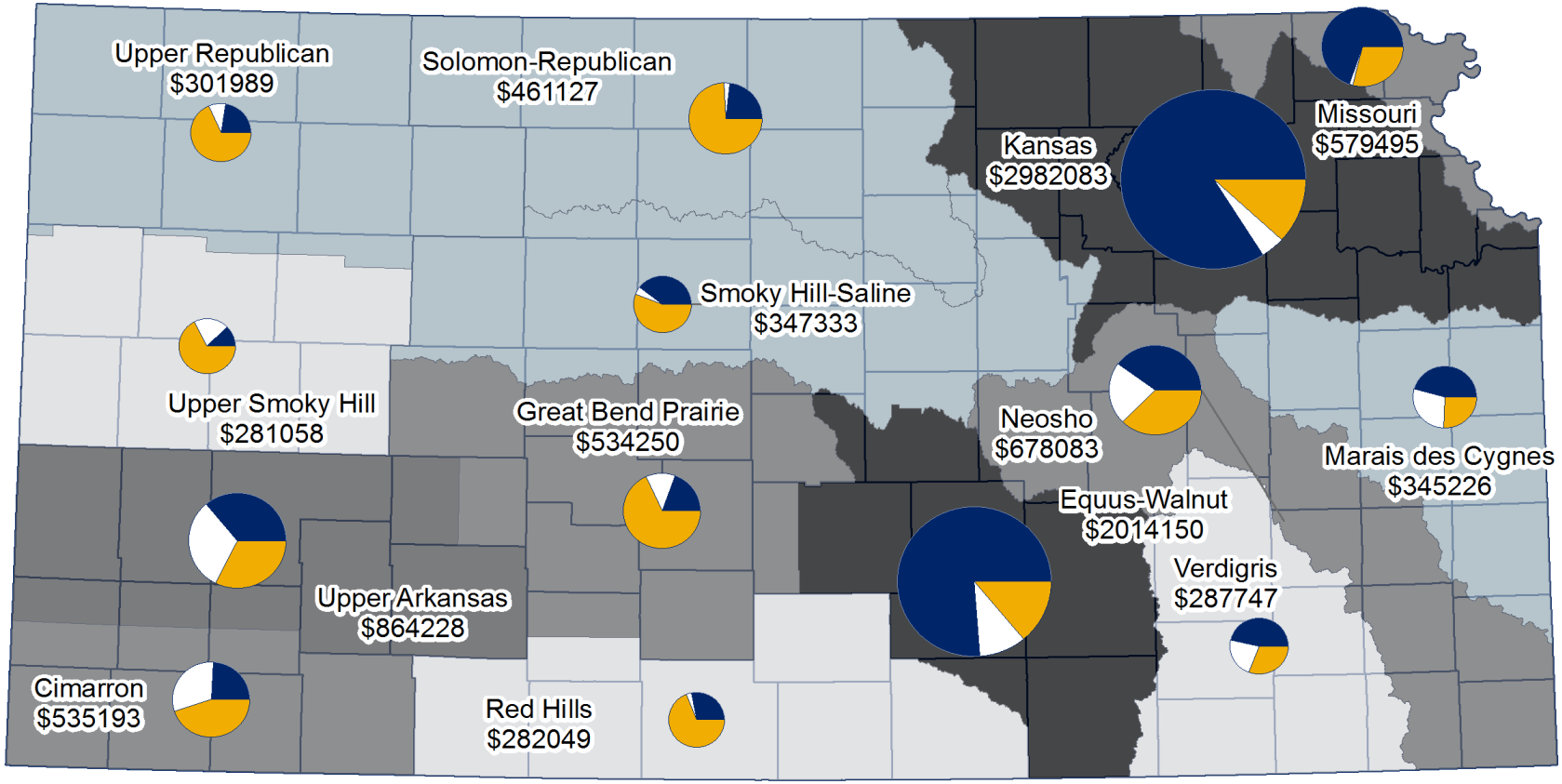
Industrial/Stockwatering

Sources:
Division of Water Resources, Water Use Program
Kansas Dept. of Revenue

50 Miles

N
W E
S

Average State Water Plan Fund Revenue by Regional Planning Area CY 2014, 2016, 2017 (Not including Pesticide Fees)



Kansas Water Office January 2020

Regional Planning Area SWPF Revenue Categories

Sum of Fields

460,000

- Municipal/CDWF
- Industrial/Stock
- Fertilizer (2012-2014 Averages)
- $280,000 - $300,000
- $300,000 - $500,000
- $500,000 - $750,000
- $750,000 - $1,000,000
- $1,000,000 - $2,980,000

50 Miles

N W E S

Sources:
Division of Water Resources, Water Use Program
Kansas Dept. of Revenue

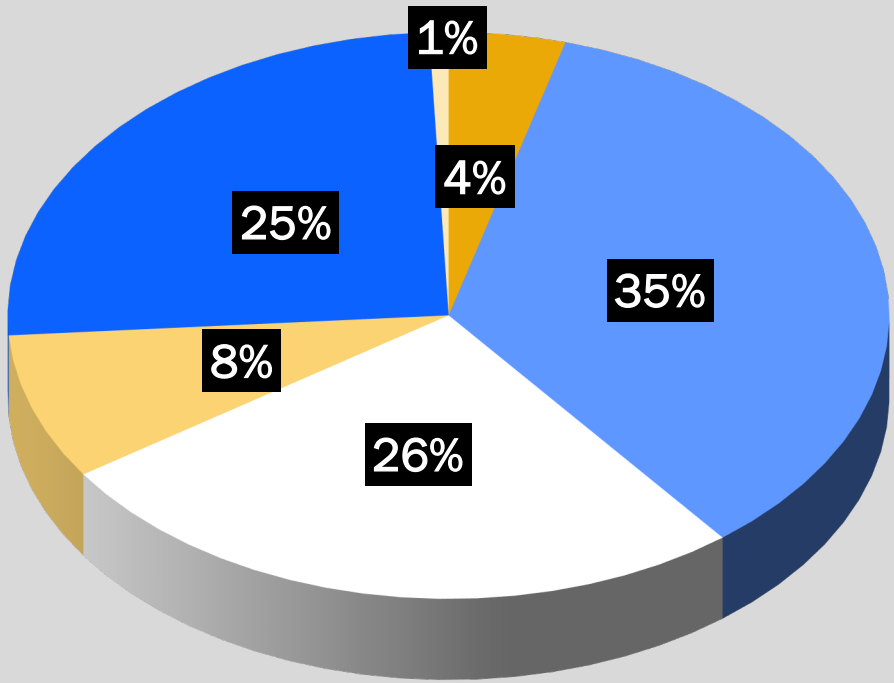
Kansas water Plan fund – Budget category breakdown

- Budget lines assigned to Primary State Water Plan and Vision Categories

- Main Categories:
  - Groundwater Initiatives
  - Reservoir Water Supply and Sedimentation
  - Water Quality
  - Education
- Blend of multiple categories:
  - Groundwater & Water Quality
  - Reservoir & Water Quality
  - Groundwater, Reservoir, & Water Quality

	Budget Category		
	Groundwater Initiatives	Reservoir Water Supply & Sedimentation	Water Quality
Department of Health and Environment			
Contamination Remediation			•
Nonpoint Source Program			•
TMDL Initiatives			•
Harmful Algae Bloom Pilot			•
Watershed Restoration/Protection (WRAPS)			•
Drinking Water Protection Program			•
Department of Agriculture			
Interstate Water Issues	•		•
Subbasin Water Resources Management	•		•
Water Use	•		•
Water Resources Cost Share		•	
Nonpoint Source Pollution Asst.			•
Aid to Conservation Districts		•	•
Watershed Dam Construction		•	
Water Quality Buffer Initiative		•	
Riparian and Wetland Program		•	•
Water Transition Assistance Program/CREP	•		
Irrigation Technology	•		
Crop and Livestock Research	•		
Streambank Stabilization		•	
Water Supply Restoration Program		•	
Kansas Water Office			
Assessment and Evaluation	•	•	•
MOU - Storage Operations & Maintenance		•	
Stream Gaging		•	•
Technical Assistance to Water Users		•	•
Vision Education Strategy	•	•	•
Reservoir and Water Quality Research		•	•
Water Tech Farms	•		
Watershed Conservation Practice Imp		•	
Equus Beds Chloride Plume Project			•
Milford Lake Watershed RCPP			•
University of Kansas--Geological Survey	•		

State Water Plan Expenditures Fy 2015-2019 - Budget Categories



- 1 Groundwater Initiatives (WTF, Wichita ASR)
- 2 Reservoir Water Supply & Sedimentation (O&M, SBS, dredge, study)
- 3 Water Quality
- 4 Groundwater Initiatives & Water Quality
- 5 Reservoir & Water Quality Totals

Total State Water Plan Fund			
		Average FY15-19	Percent Total
1 Groundwater Initiatives (WTF, Wichita ASR)	$	576,748	4%
2 Reservoir Water Supply & Sedimentation (O&M, SBS, dredge, study)	$	4,734,357	35%
3 Water Quality	$	3,536,047	26%
4 Groundwater Initiatives & Water Quality	$	1,127,388	8%
5 Reservoir & Water Quality Totals	$	3,431,720	25%
6 Groundwater, Reservoir, & Water Quality	$	95,773	1%
Totals	$	13,502,032	

- **82a-927. <u>State water plan; long-range goals</u>**

(a) The development, to meet the anticipated future needs of the people of the state, of sufficient supplies of water for beneficial purposes;

(b) the reduction of damaging floods and of losses resulting from floods;

(c) the protection and the improvement of the quality of the water supplies of the state;

(d) the sound management, both public and private, of the atmospheric, surface, and groundwater supplies of the state;

(e) the prevention of the waste of the water supplies of the state;

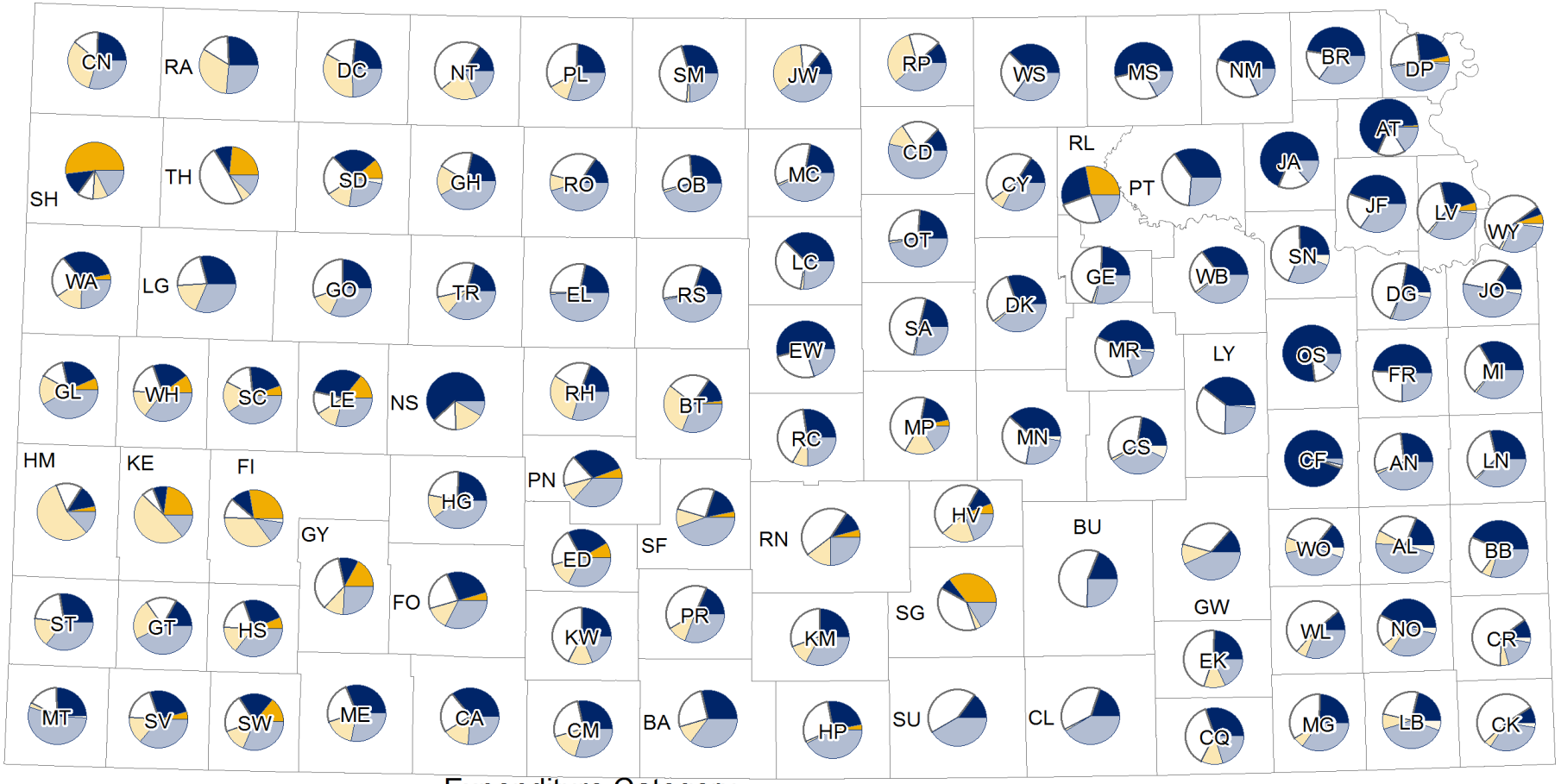
(f) the prevention of the pollution of the water supplies of the state;

(g) the efficient, economic distribution of the water supplies of the state;

(h) the sound coordination of the development of the water resources of the state with the development of the other resources of the state; and

(i) the protection of the public interest through the conservation of the water resources of the state in a technologically and economically feasible manner.

Average State Water Plan Fund Distribution by County
FY 2015 - 2019



Expenditure Category

- Groundwater Initiatives
- Reservoir Water Supply & Sedimentation
- Water Quality
- Groundwater Initiatives & Water Quality
- Reservoir & Water Quality
- Groundwater, Reservoir, & Water Quality

Kansas Water Office January 2020

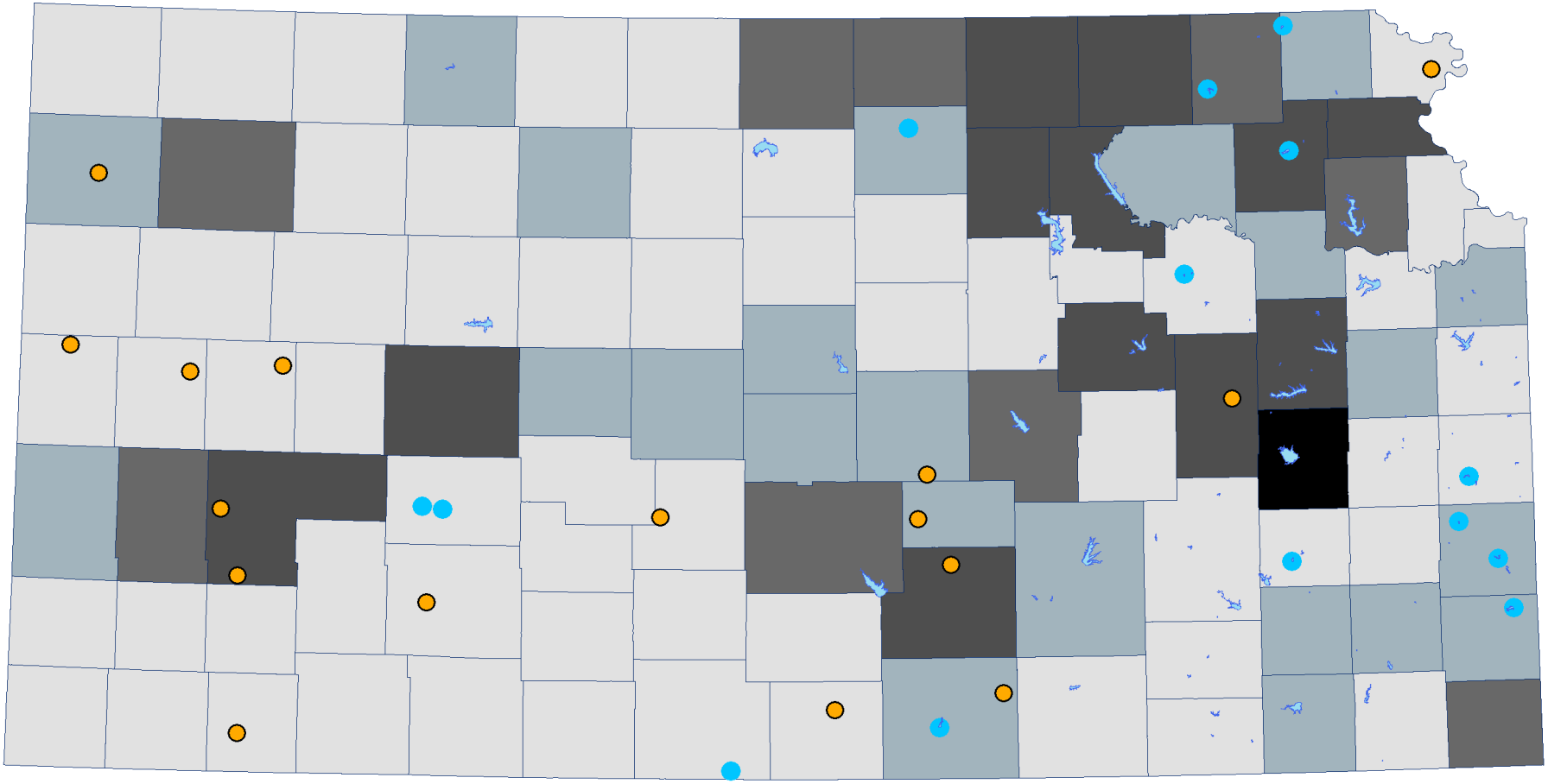
Average Yearly State Water Plan Fund Expenditure: $13,437,000

Sources:
Division of Water Resources, Water Use Program
Kansas Water Office, Water Marketing Program
Kansas Dept. of Revenue
Kansas Dept. of Health and Environment

50 Miles

N W E S

Average State Water Plan Fund Distribution by County
FY 2015 - 2019



Kansas Water Office January 2020

County SWPF Distribution

- $38,030 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $200,000 - $500,000
- $500,000 - $1,158,000

Representation: PWS_Lakes_KDHE_2013_Rep

- PWS Lake
- Multi-Purpose Small Lake
- Water_Technology_Farms

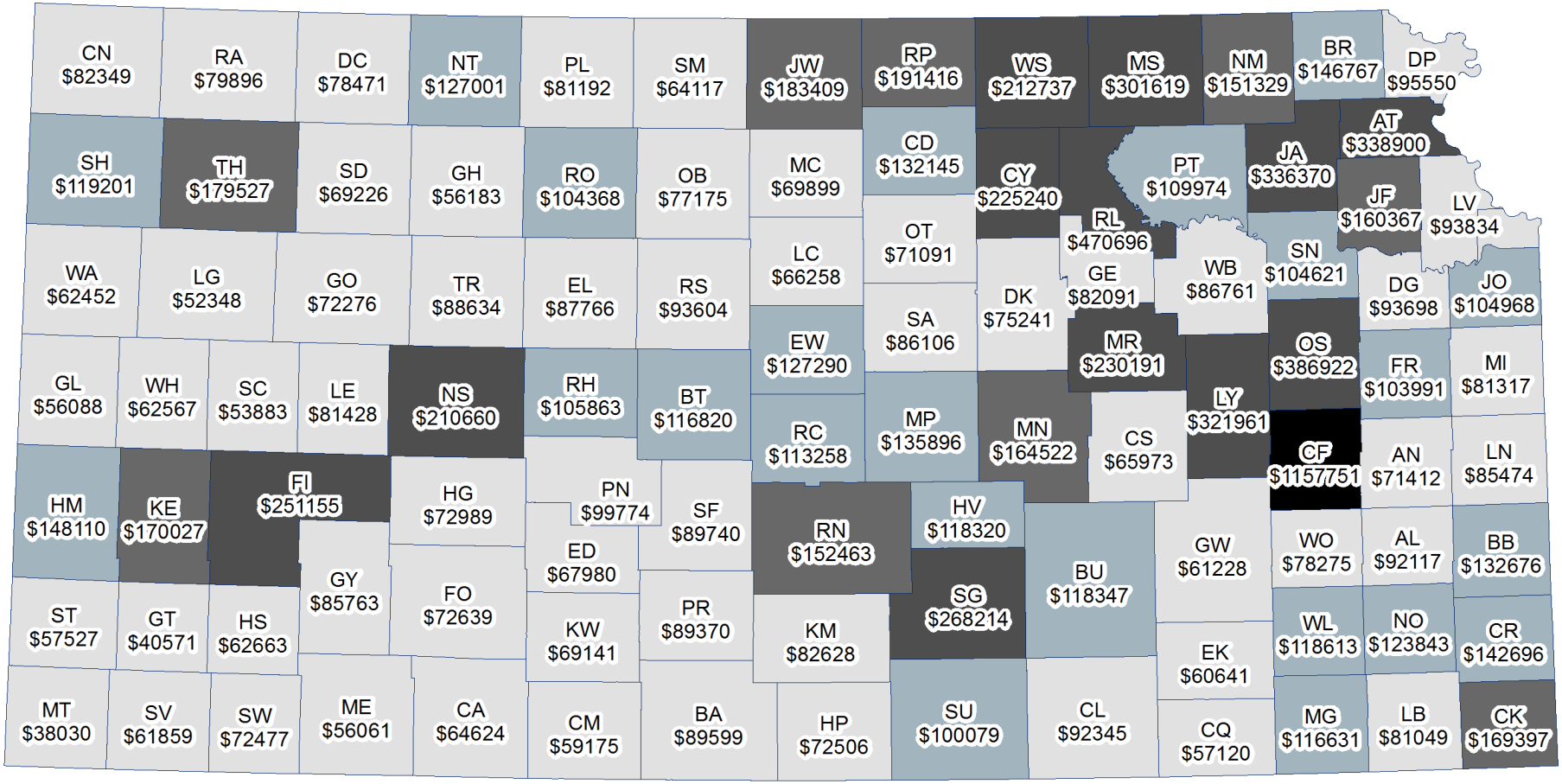
Sources:
Division of Water Resources, Water Use Program
Kansas Water Office, Water Marketing Program
Kansas Dept. of Revenue
Kansas Dept. of Health and Environment

Average Yearly State Water Plan Fund Expenditure: $13,437,000

50 Miles

N W E S

Average State Water Plan Fund Distribution by County
FY 2015 - 2019



Kansas Water Office January 2020

Average Yearly State Water Plan Fund Expenditure: $13,437,000

County SWPF Distribution

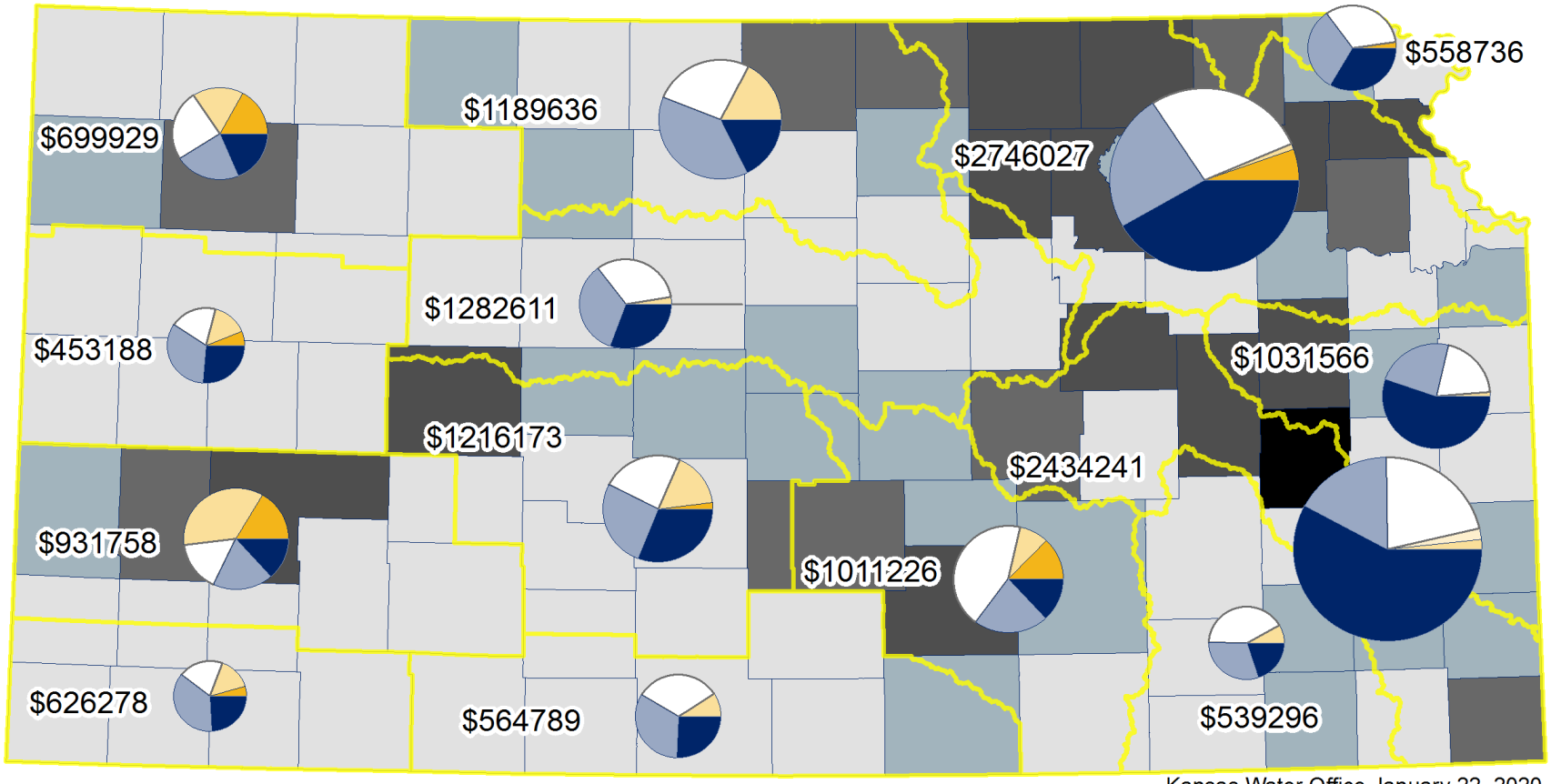
- $38,030 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $200,000 - $500,000
- $500,000 - $1,158,000

Sources:
Division of Water Resources, Water Use Program
Kansas Water Office, Water Marketing Program
Kansas Dept. of Revenue
Kansas Dept. of Health and Environment

50 Miles

N W E S

Average State Water Plan Fund Distribution by Budget Category FY2015 - 2019 Data



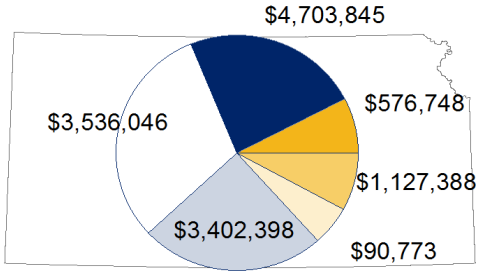
Kansas Water Office January 22, 2020

State Water Plan Fund Categories

- 370,000
- Groundwater Initiatives
- Groundwater & Water Quality
- Groundwater, Reservoir, Water Quality
- Water Quality
- Reservoir & Water Quality
- Reservoir Water Supply & Sedimentation

County SWPF Distribution

- $38,030 - $100,000
- $100,000 - $150,000
- $150,000 - $200,000
- $200,000 - $500,000
- $500,000 - $1,158,000



Sources:
Kansas Dept. of Agriculture
Kansas Dept. of Health & Environment
Kansas Water Office
Kansas Dept. of Revenue

Next Steps –

Budget Metric Review & Development

Research Coordination Work Group

Presented by: Dan Devlin

Research Coordination Work Group

Presented by: Elizabeth Smith, KDHE

HAB Research Update

Research Coordination Work Group

Presented by: Ted Harris, KBS

HAB Research Update

Federal Updates

Presented by: Cara Hendricks, Josh Olson & Matt Unruh

Kansas River Reservoirs Flood & Sediment Study Update

- KWA Letter to Congressional Delegation

Federal Updates

Presented by: Cara Hendricks, Josh Olson & Matt Unruh

Proposed Rule to Modernize NEPA Regulations

Federal Updates

Presented by: Cara Hendricks, Josh Olson & Matt Unruh

Withdrawal of USACE Water Supply Rule

Arbuckle Study Update

Presented by: Earl Lewis

Equus Beds Chloride Plume Project Update

Presented by: Gary Koons

Water Technology Farms Update

Presented by: Armando Zarco

Water Technology Farms Program

https://kwo.ks.gov/projects/water-technology-farms

- *Long-Term Vision* action item
- Public-Private Partnership
- First Tech Farms 2016
- 3-Year Enrollment
- Financial Assistance
- Water Savings
- Technology Education

Kansas Water Office

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Water Technology Farms

Water Technology Farms are three year pilot public-private partnerships where irrigation technology is demonstrated, related research is conducted on the field scale, and water conservation is supported. New irrigation technologies, management techniques, and cropping patterns can be tested on a larger scale on these farms. These public-private partnerships involve numerous agriculture vendors, agronomists, colleges and technical schools as well as other state agencies.The Water Tech Farm program has also provided an opportunity for agronomy research to be conducted by Kansas State Research and Extension.

The Water Technology Farm concept is a Phase II action item from the Ogallala-High Plains Aquifer section of the *Long-Term Vision for the Future of Water Supply in Kansas*. These farms have been valuable in expanding the conversation and education of producers and decision makers on water conservation in areas primarily overlying the depleting Ogallala Aquifer.

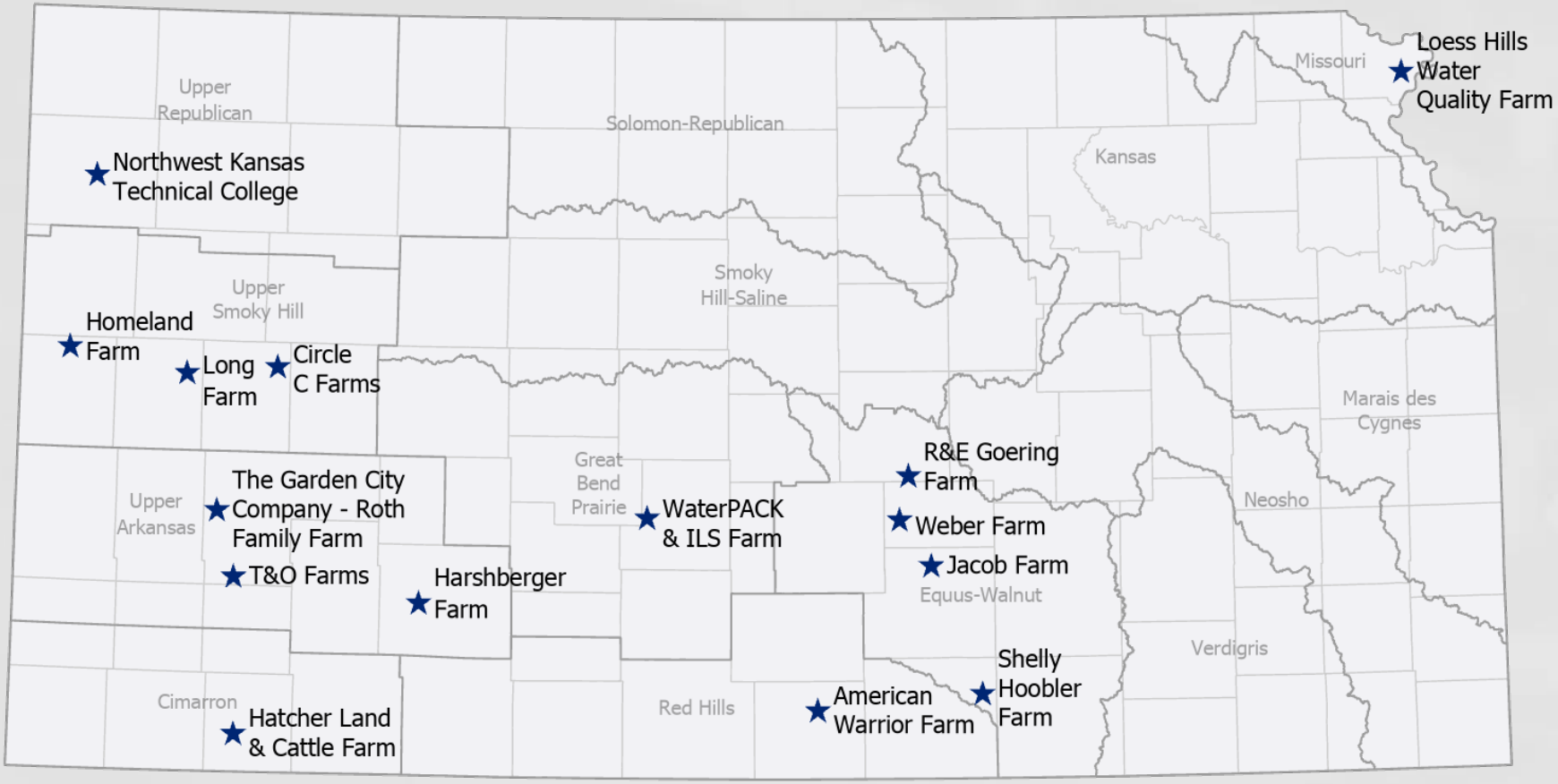
For producers interested in the Water Technology Farm program and the opportunity to apply for funding for the following year, please contact the Kansas Water Office by December 1. Funding is limited and farms currently enrolled in a conservation program, such as a Water Conservation Area (WCA), Local Enhanced Management Area (LEMA) or other documented program will be given priority. Access to land as well as annual crop and harvest data records will be required throughout the term of the Water Technology Farm agreement. This data will be shared in report each year.

For more information about becoming a Water Technology Farm please contact Armando Zarco at Armando.Zarco@kwo.ks.gov. Armando is located at the KDA-DWR office in Garden City, KS.

2019 Water Technology Farm Field Days coming soon - See Dates HERE

For more information including directions please see the individual Water Technology Farm page

Technology Farms of 2019



★ 2019 Water Technology Farms

June 2019
Kansas Water Office

2018 Growing Season Report

WATER TECHNOLOGY FARM REPORT:

2018 GROWING SEASON

Kansas Water Office

GARDEN CITY COMPANY & DWANE ROTH FARM

(ENROLLED IN A WATER CONSERVATION AREA WITH KDA-DWR)

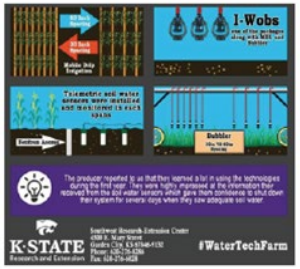
OPERATOR: Dwane Roth

INITIAL TERM: 2016-2018

SPONSORS: Agrela Ecosystems
BASF Corp
Kansas Corn Commission
K-State Research and Extension
The Garden City Company
American Irrigation
Crop Metrics
Kansas Water Office
Teeter Irrigation, Inc.

FARM AERIAL MAP:

TECHNOLOGY GRAPHIC:



FARM SUMMARY:

The Water Technology Farm is operated by Dwane Roth of Big D Farm. The farm is owned by The Garden City Company and is located northwest of Holcomb, KS on Ritchel Rd. in Finney County.

The farm is designed to compare the effectiveness of three different applicators at 30- and 60-inch spacing. The applicators include Dragon-Line™, iWob, and bubblers which were installed separately on three spans.

The farm is as unique as the water source is both ground and surface water. Surface water from the irrigation canal comes from the Arkansas River and is known for its poor water quality particularly for salinity issues. Water meter and control panel telemetry has been installed in the center pivot. AquaSpy soil water sensors have been installed on each span with different applicator. The field has been mapped to identify management zones and locate where the soil water sensors could be most effective. The entire field was planted in circular rows in 2018.

2018 CROP(S): Corn

HARVEST DATA:
160 Bushels Per Acre (*Two hail events caused 22% crop loss)
Total Average water use of 9.5 Acre-Inches/Acre
16.84 Bushels/Acre-Inch/Acre

2019 Annual Report Sampler & Sponsors

Kansas Water Office

Water Technology Farm Summary

2019 Growing Season Preliminary Data

Jacob Farm - Ryan Speer
- Sedgwick County, Kansas
- 2019 Crop(s): Corn
- Average Yield:
  - 166 Bu/Ac
    - *Corn replanted 3 times and yields impacted by heavy rain/saturated soil conditions during growing season*
- Water Applied:
  - 7.25 Inches

WaterPACK & ILS Farm - Pat Janssen (Manager)
- Sta ord County, Kansas
- 2019 Crop(s): Corn
- West Field (309) w/ tech:
  - Average Yield - 248 Bu/Ac
  - Water Applied - 11.5 Inches
- East Field (308) w/o tech:
  - Average Yield - 255 Bu/Ac
  - Water Applied - 15.3 Inches

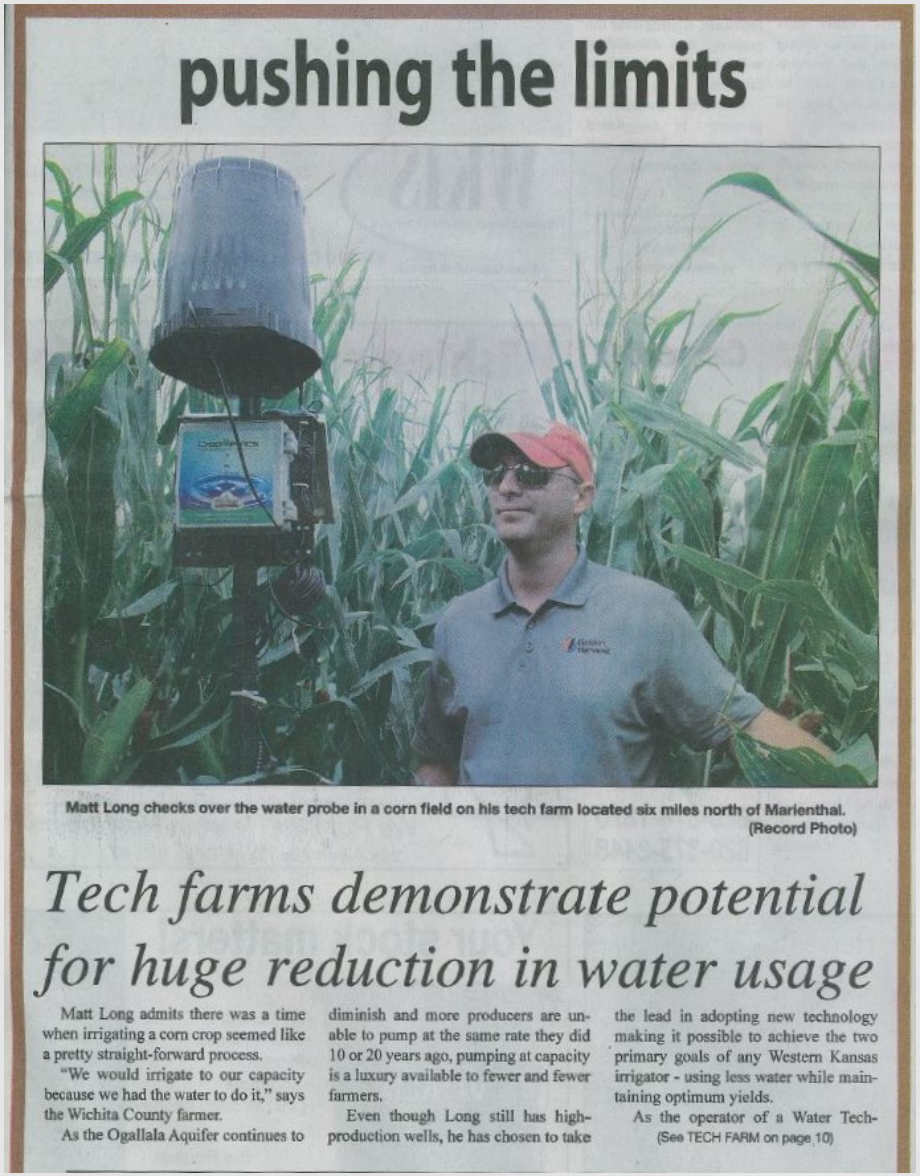
Garden City Company - Roth Family Farm - Dwane Roth
- Finney County, Kansas
- 2019 Crop(s): Corn
- Average Yield:
  - SE Pivot: Yield-197.5 Bu/Ac
  - NE Pivot: Yield-207.3 Bu/Ac
- Water Applied-
  - SE Pivot: 8.83-acre inches
  - NE Pivot: 8.755-acre inches

Circle C Farms - Steve Compton
- Scott County, Kansas
- 2019 Crop(s): Corn Silage & Corn
- Pivot 1: Corn Silage
  - Average Yield - 28.49 Tons Silage
  - Water Applied - 12.8 Inches
- Pivot 2: Corn
  - Average Yield - 126 Bu Ac (*Yield loss due to wind damage)
  - Water Applied - 11.28 Inches

Long Farm - Matt Long
- Wichita County, Kansas
- 2019 Crop(s): Corn
- Average Yield:
  - Average Yield 221bu/A
  - Limited Irrigation Area 198 Bu/Ac
  - Full Irrigation Area 228 Bu/Ac
- Water Applied-
  - Limited Irrigation Area – approx. 5 Inches
  - Full Irrigation Area – approx. 8 Inches

Kansas Water Office 2019 Water Technology Farms Sponsors

Questions?



pushing the limits

Matt Long checks over the water probe in a corn field on his tech farm located six miles north of Marienthal. (Record Photo)

Tech farms demonstrate potential for huge reduction in water usage

Matt Long admits there was a time when irrigating a corn crop seemed like a pretty straight-forward process.

"We would irrigate to our capacity because we had the water to do it," says the Wichita County farmer.

As the Ogallala Aquifer continues to diminish and more producers are unable to pump at the same rate they did 10 or 20 years ago, pumping at capacity is a luxury available to fewer and fewer farmers.

Even though Long still has high-production wells, he has chosen to take the lead in adopting new technology making it possible to achieve the two primary goals of any Western Kansas irrigator - using less water while maintaining optimum yields.

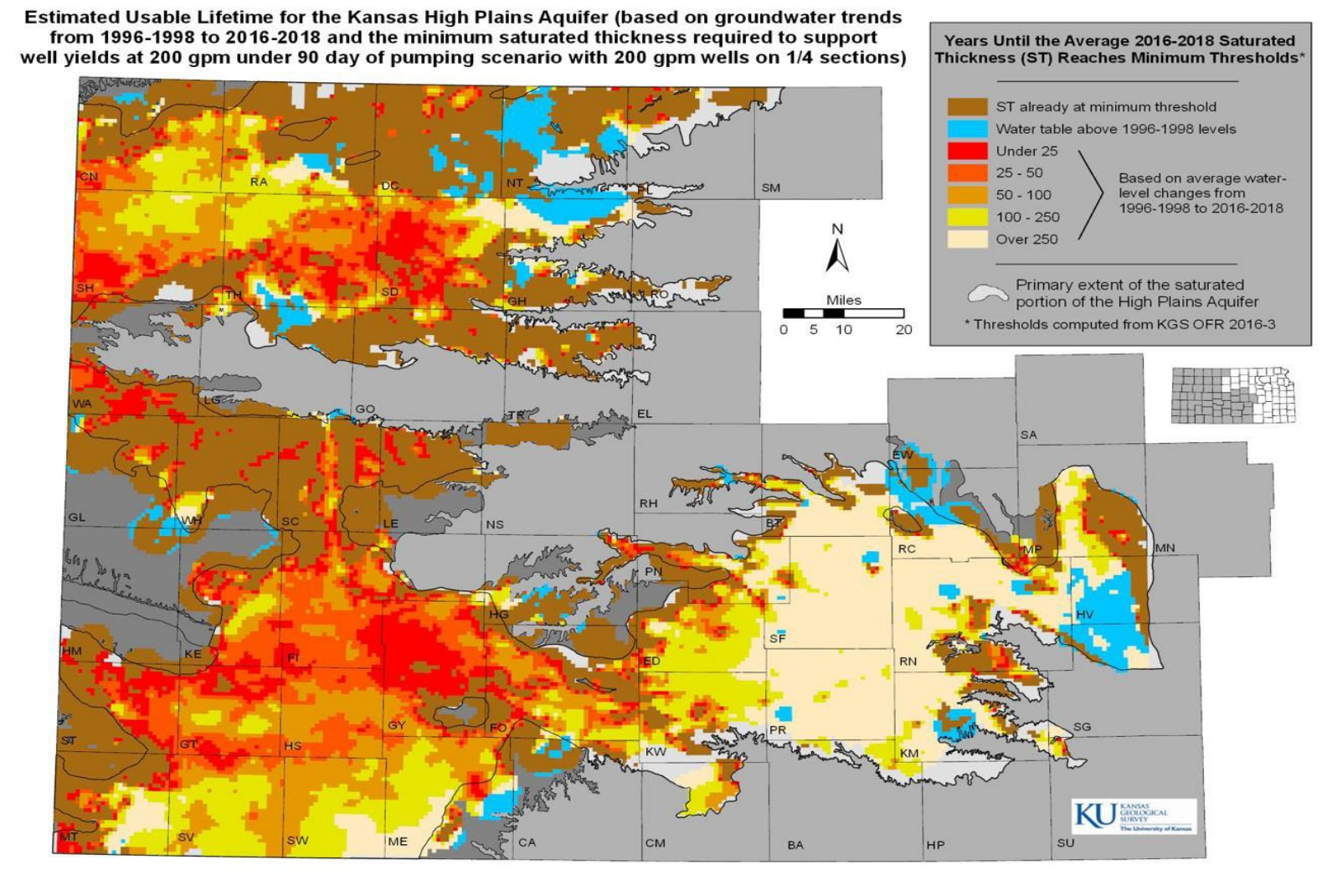
As the operator of a Water Tech-

(See TECH FARM on page 10)

GMD #1 LEMA Update

Presented by: Armando Zarco

KGS Map- Estimated Usable Life



Proposed LEMA Boundary

Summary of Proposed LEMA

- Applies to GMD1 in Wichita county

- Does not affect vested water rights (unless voluntarily enrolled)
  25% reduction from historical average use (2009-2015)
    - To be in line with active Wichita county wca plan
- Will give due consideration for past conservation
- Allows flexibilities for producers to adapt to reductions
    - Multi-year water allocations
    - Combining allocations amongst multiple water rights owned by the same producer
- Gives incentive for carry-over credit to A possible future LEMA or WCA

Timeline & Questions

- GMD1 is currently finalizing the plan and ANTICIPATES AN official submission to KDA by spring 2020 for implementation in 2021.
- QUESTIONS?

Director's Report

Presented by: Earl Lewis

New Business

Adjourn

Upcoming KWA Meeting:

April 2020