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)
### Water Marketing Program Variable Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>2017 CCDP Recommended Rate</th>
<th>2020 CCDP Required Rate</th>
<th>2020 CCDP Recommended Rate</th>
<th>2017 CCDP Recommended Rate</th>
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<tr>
<td>2020</td>
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<td>0.431</td>
<td>0.434</td>
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<td>2021</td>
<td>0.431</td>
<td>0.459</td>
<td>0.452</td>
<td>0.434</td>
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<tr>
<td>2022</td>
<td>0.445</td>
<td>0.474</td>
<td>0.470</td>
<td>0.452</td>
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<td>2023</td>
<td>0.459</td>
<td>0.489</td>
<td>0.489</td>
<td>0.470</td>
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<tr>
<td>2024</td>
<td>0.474</td>
<td>0.509</td>
<td>0.489</td>
<td>0.489</td>
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<tr>
<td>2025</td>
<td>0.489</td>
<td>0.509</td>
<td>0.509</td>
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</table>

### Increase

- 3.2% increase from 2017 to 2020
- 4% increase from 2020 to 2021
- 4% increase from 2021 to 2022
- 4% increase from 2022 to 2023
- 4% increase from 2023 to 2024
- 4% increase from 2024 to 2025
# Active Contracts (24)

<table>
<thead>
<tr>
<th>Lake</th>
<th>Contract No.</th>
<th>Customer</th>
<th>Annual Contract Maximum Gallons</th>
<th>2020 Maximum Gallons</th>
<th>Rate $/1000 Gallons</th>
<th>Contract End Date</th>
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<tbody>
<tr>
<td>Big Hill Lake</td>
<td>98-1</td>
<td>PWWS Dist. No. 4</td>
<td>454,700,000</td>
<td>436,481,400</td>
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<td>4/17/2038</td>
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<td>Clinton Lake</td>
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<td>95-3</td>
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<td>10/26/2035</td>
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<td>19-1</td>
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<td>Council Grove Lake</td>
<td>81-2</td>
<td>City of Emporia</td>
<td>1,095,000,000</td>
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<td>$0.10</td>
<td>10/21/2023</td>
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<tr>
<td></td>
<td>93-4</td>
<td>City of Council Grove</td>
<td>150,000,000</td>
<td>30,000,000</td>
<td>$0.418</td>
<td>9/13/2033</td>
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<td>Elk City Lake</td>
<td>81-5</td>
<td>City of Coffeyville</td>
<td>300,000,000</td>
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<td>$0.10</td>
<td>12/16/2023</td>
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<td></td>
<td>99-5</td>
<td>Coffeyville Resources</td>
<td>608,000,000</td>
<td>608,000,000</td>
<td>$0.418</td>
<td>12/3/2039</td>
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<td></td>
<td>12-7</td>
<td>Coffeyville Resources</td>
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<td>8/9/2051</td>
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<tr>
<td>Hillsdale Lake</td>
<td>81-1</td>
<td>Miami County Rural Water Dist. No. 2</td>
<td>239,440,000</td>
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<td>13-1</td>
<td>Hillsdale Area Water Cooperative</td>
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<td>John Redmond Lake</td>
<td>17-2</td>
<td>Westar Energy- Wolf Creek Generating Station</td>
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<td>Kanopolis Lake</td>
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<td>Post Rock Rural Water District</td>
<td>400,000,000</td>
<td>390,000,000</td>
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<td>Marion Lake</td>
<td>80-1</td>
<td>City of Hillsboro</td>
<td>300,000,000</td>
<td>300,000,000</td>
<td>$0.10</td>
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<td>81-4</td>
<td>City of Marion</td>
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<td>City of Peabody</td>
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<td>City of Osage City</td>
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<td>05-6</td>
<td>City of Harveyville</td>
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<td>Milford Lake</td>
<td>80-2</td>
<td>Westar Energy- Jeffreys Energy Center</td>
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<td>Perry Lake</td>
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<td>N/A</td>
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<td>Pomona Lake</td>
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<td>Osage County Rural Water Dist. No. 3</td>
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<td>Tuttle Creek Lake</td>
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<td>N/A</td>
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</table>
2020 Maximum Quantity of State Contracts

- **Pomona**: Milford
- **Melvern**: HAWC
- **Marion**: Wolf Creek
- **Kanopolis**: HAWC
- **Hillsdale**: Hillside
- **Elk City**: Council Grove
- **Council Grove**: Clinton
- **Big Hill**: PWWSD #4

2020 Contract Maximum (Million Gallons)
## Progress

### DEBT PAYDOWN

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

Hillsdale
- Water Quality: $7,531,120
- Other/Local: $50,081,730
- Future Use: $7,768,943
- Water Marketing: $1,403,318
- Assurance District: $7,531,120
- Reserve Capacity: $50,081,730

Clinton
- Water Quality: $1,403,318
- Other/Local: $7,768,943
- Future Use: $7,531,120
- Water Marketing: $50,081,730
- Assurance District: $1,403,318
- Reserve Capacity: $7,768,943

Big Hill
- Paid Off: $13,702,777

Milford: $26,359,324
Perry: $26,258,919

Total 2020 Debt: $133,106,131

End of Contract Year / Balance Due

<table>
<thead>
<tr>
<th></th>
<th>Hillsdale</th>
<th>Clinton</th>
<th>Big Hill</th>
<th>Milford</th>
<th>Perry</th>
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<tr>
<td>2030</td>
<td>2030</td>
<td>2028</td>
<td>2029</td>
<td>2034</td>
<td>2041</td>
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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

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<th>Program/Program &amp; Impaction</th>
<th>Agency</th>
<th>FY2021</th>
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<tr>
<td>Drinking Water Protection Program</td>
<td>KDHE</td>
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<td>Watershed Dam Construction</td>
<td>KDA</td>
<td>$400,000</td>
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<td>Water Transition Assistance Program/CREP</td>
<td>KDA</td>
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<td>Irrigation Technology</td>
<td>KDA</td>
<td>$100,000</td>
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<td>Streambank Stabilization</td>
<td>KDA</td>
<td>$500,000</td>
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<td>Real-Time Water Management - Telemetry</td>
<td>KDA</td>
<td>$25,000</td>
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<td>Water Supply Restoration Program</td>
<td>KDA</td>
<td>$465,000</td>
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<td>MOU - Storage Operations &amp; Maintenance*</td>
<td>KWO</td>
<td>$70,100</td>
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<td>Technical Assistance to Water Users</td>
<td>KWO</td>
<td>$100,000</td>
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<td>Watershed Conservation Practice Imp</td>
<td>KWO</td>
<td>$300,000</td>
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<tr>
<td>Water Injection Dredging (WID)</td>
<td>KWO</td>
<td>$660,000</td>
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<tr>
<td>Arbuckle Study</td>
<td>KWO</td>
<td>$100,000</td>
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**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
How to follow Legislation & Testimony

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
Special Committee on Natural Resources

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

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>FY19 Est.</th>
<th>Percentage</th>
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<td>Municipal Water Fees</td>
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<td>$3,200,000</td>
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<tr>
<td>Clean Drinking Water Fees</td>
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<td>Industrial Water Fees</td>
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<td>$1,100,000</td>
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<td>Stockwater Use</td>
<td>3 cents/1,000 gallons</td>
<td>$450,000</td>
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<td>Pesticide Fees</td>
<td>$100/Registration</td>
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<td>Fertilizer Fees</td>
<td>$1.40/ton</td>
<td>$3,500,000</td>
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<td>Pollution Fines/Penalties</td>
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<td>Sand Royalties</td>
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<td><strong>Total</strong></td>
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<td><strong>$12,516,000</strong></td>
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Average State Water Plan Fund Revenue by County CY 2014, 2016, 2017 (Not including Pesticide Fees)

Average Revenue Range

County SWPF Revenue Receipts
- Municipal/CDWF
- Industrial/Stockwatering
- Fertilizer (2012-2014 Average)

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

Kansas Water Office January 2020
Average State Water Plan Fund Revenue by Regional Planning Area CY 2014, 2016, 2017
(Not including Pesticide Fees)

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

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

<table>
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<tr>
<th>Department of Health and Environment</th>
<th>Groundwater Initiatives</th>
<th>Reservoir Water Supply &amp; Sedimentation</th>
<th>Water Quality</th>
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<tbody>
<tr>
<td>Contamination Remediation</td>
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<td>Nonpoint Source Program</td>
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<td>TMDL Initiatives</td>
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<td>Harmful Algae Bloom Pilot</td>
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<tr>
<td>Watershed Restoration/Protection (WRAPS)</td>
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<tr>
<td>Drinking Water Protection Program</td>
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<td>Milford Lake Watershed RCPP</td>
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<td>University of Kansas–Geological Survey</td>
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<td>Budget Categories</td>
<td>Average FY15-19</td>
<td>Percent Total</td>
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<tr>
<td>1 Groundwater Initiatives (WTF, Wichita ASR)</td>
<td>$576,748</td>
<td>4%</td>
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<tr>
<td>2 Reservoir Water Supply &amp; Sedimentation (O&amp;M, SBS, dredge, study)</td>
<td>$4,734,357</td>
<td>35%</td>
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<td>3 Water Quality</td>
<td>$3,536,047</td>
<td>26%</td>
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<tr>
<td>4 Groundwater Initiatives &amp; Water Quality</td>
<td>$1,127,388</td>
<td>8%</td>
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<tr>
<td>5 Reservoir &amp; Water Quality Totals</td>
<td>$3,431,720</td>
<td>25%</td>
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<tr>
<td>6 Groundwater, Reservoir, &amp; Water Quality</td>
<td>$95,773</td>
<td>1%</td>
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<td><strong>Totals</strong></td>
<td><strong>$13,502,032</strong></td>
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82a-927. State water plan; long-range goals

(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

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

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

[Map Legend and State Abbreviations]
Average State Water Plan Fund Distribution by County
FY 2015 - 2019

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

PWS Lake
Multi-Purpose Small Lake
Water Technology Farms

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

Representation: PWS_Lakes_KDHE_2013_Rep

Kansas Water Office January 2020
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
Technology Farms of 2019

- Northwest Kansas Technical College
- Homeland Farm
- Long Farm
- Circle C Farms
- The Garden City Company - Roth Family Farm
- T&O Farms
- Harshberger Farm
- Hatcher Land & Cattle Farm
- WaterPACK & ILS Farm
- R&E Goering Farm
- Weber Farm
- Jacob Farm Equus-Walnut
- American Warrior Farm
- Shelly Hoobler Farm

2019 Water Technology Farms

June 2019
Kansas Water Office
GARDEN CITY COMPANY & DWANE ROTH FARM
(ENROLLED IN A WATER CONSERVATION AREA WITH KDA-DWR)

OPERATOR: Dwane Roth

SPONSORS: Agrica Ecosystems
RASP Corp
Kansas Corn Commission
K-State Research and Extension
The Garden City Company

INITIAL TERM: 2016-2018

American Irrigation
Crop Metrics
Kansas Water Office
Teteer Irrigation, Inc.

FARM AERIAL MAP:

TECHNOLOGY GRAPHIC:

FARM SUMMARY:
The Water Technology Farm is operated by Dwane Roth and is owned by Big D Farm. The farm is enrolled in the Water Conservation Program 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 Drag-On-Line™, I-Wob, and bubblex which were installed separately on three spans.

The farm is unique in 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 to monitor the water used. 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 half events caused 22% crop loss)
Total Average water use of 9.5 Acre-Inches/Acre
16.84 Bushels/Acre-Inch/Acre
Water Technology Farm Summary
2019 Growing Season Preliminary Data

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

WaterPack & ILS Farm - Pat Janssen (Manager)
- Sedgwick County, Kansas
- 2019 Crop(s): Corn
- West Field (305) w/tech:
  - Average Yield - 248 Bu/Ac
  - Water Applied - 11.5 Inches
- East Field (306) w/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: 8.81 acres inches
  - NE Pivot: 8.75 acres inches

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

Long Farm - Matt Long
- Wabaunsee 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
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 straightforward 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

Estimated Usable Lifetime for the Kansas High Plains Aquifer (based on groundwater trends from 1996-1998 to 2016-2018 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)

Years Until the Average 2016-2018 Saturated Thickness (ST) Reaches Minimum Thresholds*

- ST already at minimum threshold
- Water table above 1996-1998 levels
- Under 25
- 25 - 50
- 50 - 100
- 100 - 250
- Over 250

Based on average water-level changes from 1996-1998 to 2016-2018

Primary extent of the saturated portion of the High Plains Aquifer

* Thresholds computed from KGS OFR 2016-3
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?
New Business
Upcoming KWA Meeting:

April 2020