Kansas Department of Health and Environment
Division of Environment

# KDHE Bureau of Water

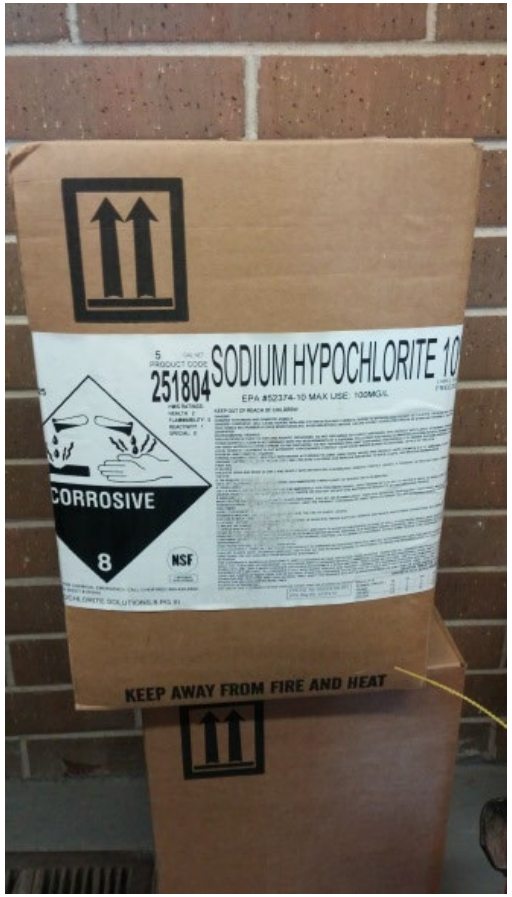
## KU Environmental Engineering Conference | April 16, 2025

# Kansas Leads the Nation


Dr. Samuel Crumbine

- 1909 – Kansas Banned Common Drinking Water Cup
- 1912 – First National DW Regulation Banning Common Cup on Inter-State Carriers

# Early Disinfection Practices




- 1917 – Valley Falls and Coffeyville Among First in the Nation to Use Liquid Chlorine

- 1958 – Kansas State Board of Health Adopted Regulation Requiring All PWS Systems to Chlorinate

# Operator School 100th Anniversary - 2019

July 2025 Annual School – Celebrate 104 Years of Partnership with KU

# 1952 Annual KU Operator School

## WATER AND SEWAGE WORKS SCHOOL

### General Information

**Location:** University of Kansas, Lawrence, Kansas.

**Dates:** September 3, 4, and 5.

**Registration:** 9:00 to 10:00 a.m. and 1:00 to 1:30 p.m., September 3, 4th Floor, Lindley Hall.

**Fees:**

| | |
|---|---|
| Enrollment | $4.50 |
| Wednesday Night Stag Party | 1.50 |
| Thursday Night Banquet | 2.00 |
| Total Registration Fee | $8.00 |

**Lodging:** Housing in University Dormitories will be provided at $1.50 per night (including soap and towels). Hotel rooms or other off-campus accommodations should be reserved by the individual as soon as possible.

**Meals:** Wednesday Luncheon — Lakeview Club, $1.00, please make reservations in advance by use of the enrollment blank.

Thursday and Friday Lunch— Student Union Cafeteria

Wednesday Evening — Stag Party, Lone Star Lake $1.50

Thursday Evening — Buffet Dinner and Basketball Film, Hotel Eldridge, $2.00.

**Recess Periods:** Free cokes and coffee will be available during all recess periods.

Please address all communications to:
**E. A. McFarland, Manager**
Lawrence Center, 115 Fraser
University of Kansas
Lawrence, Kansas

**Make check payable to:**
**University of Kansas**

- Stag Party at Lone Star Lake - $1.50
- 1975 – Recess with Free Cokes

# 1954 Annual KU Operator School

DWIGHT F. METZLER
Chief Engineer
K.S.B.H.

## PROGRAM

### Thursday Morning

CASSANDRA RITTER
Chief Bacteriologist
Water & Sewage
Laboratory

**GENERAL SESSION**

Pine Room, Student Union
R. L. Chandler, Presiding

9:00- 9:45 Effects of Synthetic Detergents on Water and Sewage Treatment.
Paul D. Haney, Black & Veatch, Kansas City

9:45-10:00 Recess

| | Water Works Session | Water Works Session | Sewage & Industrial Wastes |
|---|---|---|---|
| | Pine Room, Student Union<br>R. S. Fassnacht, Presiding | Room 305, Student Union<br>Carl Wortman, Presiding | Myron K. Nelson<br>Presiding |
| 10:00-10:45 | Basic Water Chemistry,<br>Howard A. Stoltenberg,<br>K.S.B.H. | Chlorination of Surface Waters<br>Stanley Smith<br>K.S.B.H., Salina | Secondary Treatment.<br>Trickling Filters<br>Activated Sludge<br>Sand Filters<br>Herman A. Janzen,<br>K.S.B.H., Chanute |
| 10:45-11:30 | Basic Principles of Chlorination<br>Stanley Smith,<br>K.S.B.H., Salina | Chemistry of Water Softening<br>Howard A. Stoltenberg,<br>K.S.B.H. | Effects of Industrial Wastes on Sewage Plants<br>N. J. Burris, K.S.B.H., Lawrence<br>V. C. Pickering,<br>Wichita |

11:30 Lunch at Student Union Cafeteria

First Woman on the Program:

Cassandra Ritter – Chief Bacteriologist, Water & Sewage Laboratory

# Operator Training and Certification

- 1920 – First Operator Training
- 1954 – Certification Exams
- 1975 – Water and Wastewater Operator Certification Program Established by Kansas Legislature

# Safe Drinking Water Act Turned 50 In 2024

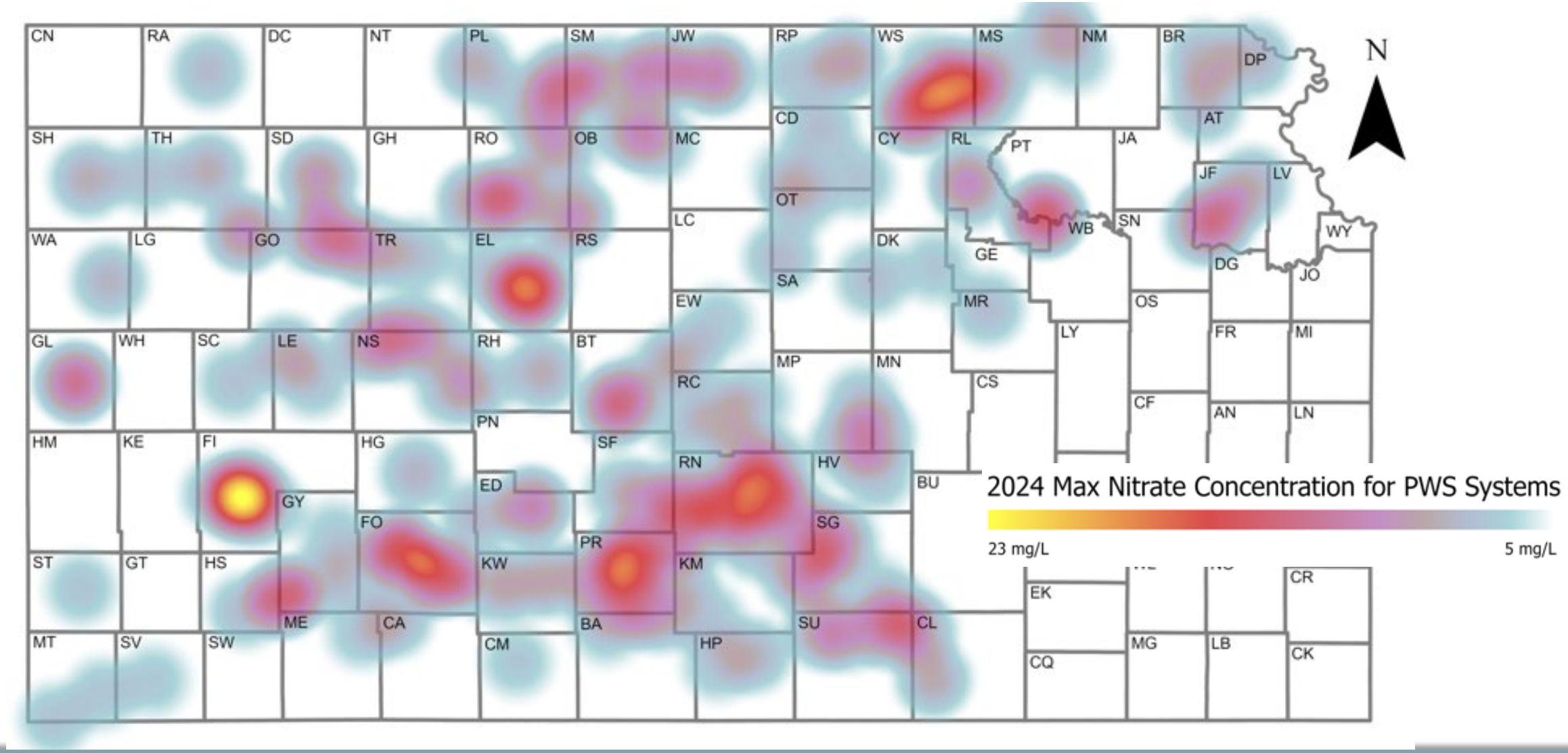
- Signed Into Law December 1974
- 1975 Regulations: 8.5 Pages, 18 MCLs
- July 2024: 40 C.F.R. Part 141, 343 Pages, over 90 Contaminants

# KDHE Implements SDWA

- PWS Monitoring, Compliance Determinations & Enforcement
- Operator Certification and Capacity Development
- SRF and Non-SRF Project Review and Approval
- SRF Loans for Infrastructure Improvements

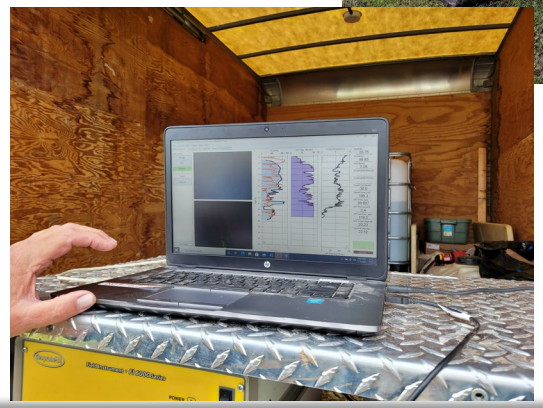

Kansas Department of Health and Environment

# 2024 PWS System Nitrate Concentrations



# Water Well Construction Regulations

- K.S.A. 65-163: Requires PWS system permits
- K.A.R. 28-15-16: Implements 65-163
- K.S.A. 65-171h: Minimum Design Standards (MDS)
- MDS Chapter IV: Source development
- Chapter IV, Section D. 3. g.: Grouting requirements
- P.E. or P.G. certification well constructed according to approved plans, including grout plan
- Proper test well abandonment



https://www.kdhe.ks.gov/486/Minimum-Design-Standards-for-Public-Wate

Kansas Department of Health and Environment

# PFAS Regulatory Landscape

- ✓ Drinking Water (MCL) – April 2024
- ✓ Cleanup at Remedial Sites (CERCLA/Superfund) – April 2024
- ❑ Water Quality Standards – Human Health
- ❑ Water Quality Standards – Fish Consumption
- ❑ Wastewater – Permitted Effluent Limits
- ❑ Biosolids – Field Application Guidelines and Alternate Disposal
- ❑ RCRA – Hazardous Waste Listing
- ❑ Landfill leachate – Monitoring and Treatment
- ❑ Air – Hazardous Air Pollutants

Kansas Department of Health and Environment

# DW Maximum Contaminant Levels

| PFAS Compound | Proposed MCLG (ppt) | Proposed MCL (ppt) |
|---|---|---|
| PFOA | 0 | 4.0 |
| PFOS | 0 | 4.0 |
| PFNA | 10 | 10 |
| PFHxS | 10 | 10 |
| HFPO-DA (GenX) | 10 | 10 |
| Mixture of 2 or more: PFHxS, PFNA, HFPO-DA and PFBS | Hazard Index of 1 (unitless) | Hazard Index of 1 (unitless) |

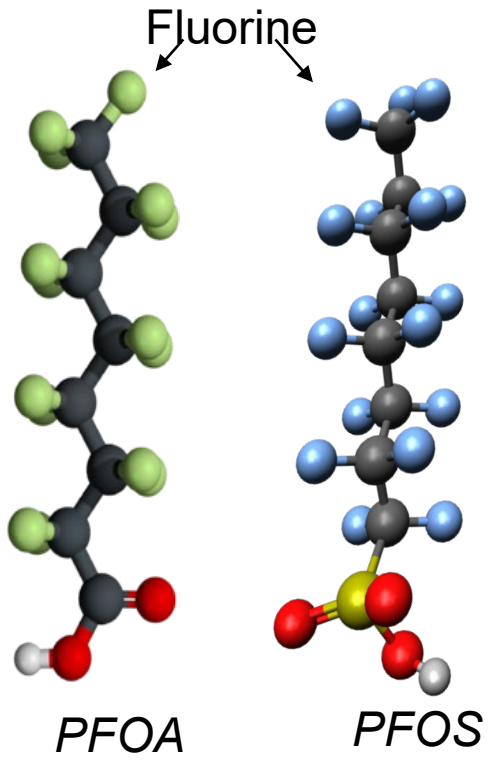
# Preliminary Results on Drinking Water PFAS

- EPA's Monitoring Results to Date in Kansas:
  - Many utilities see detects of PFAS compounds
  - Few are the six regulated compounds
  - Two out of 40 utilities may have compliance issues

# PFAS On The Other End Of The Plumbing

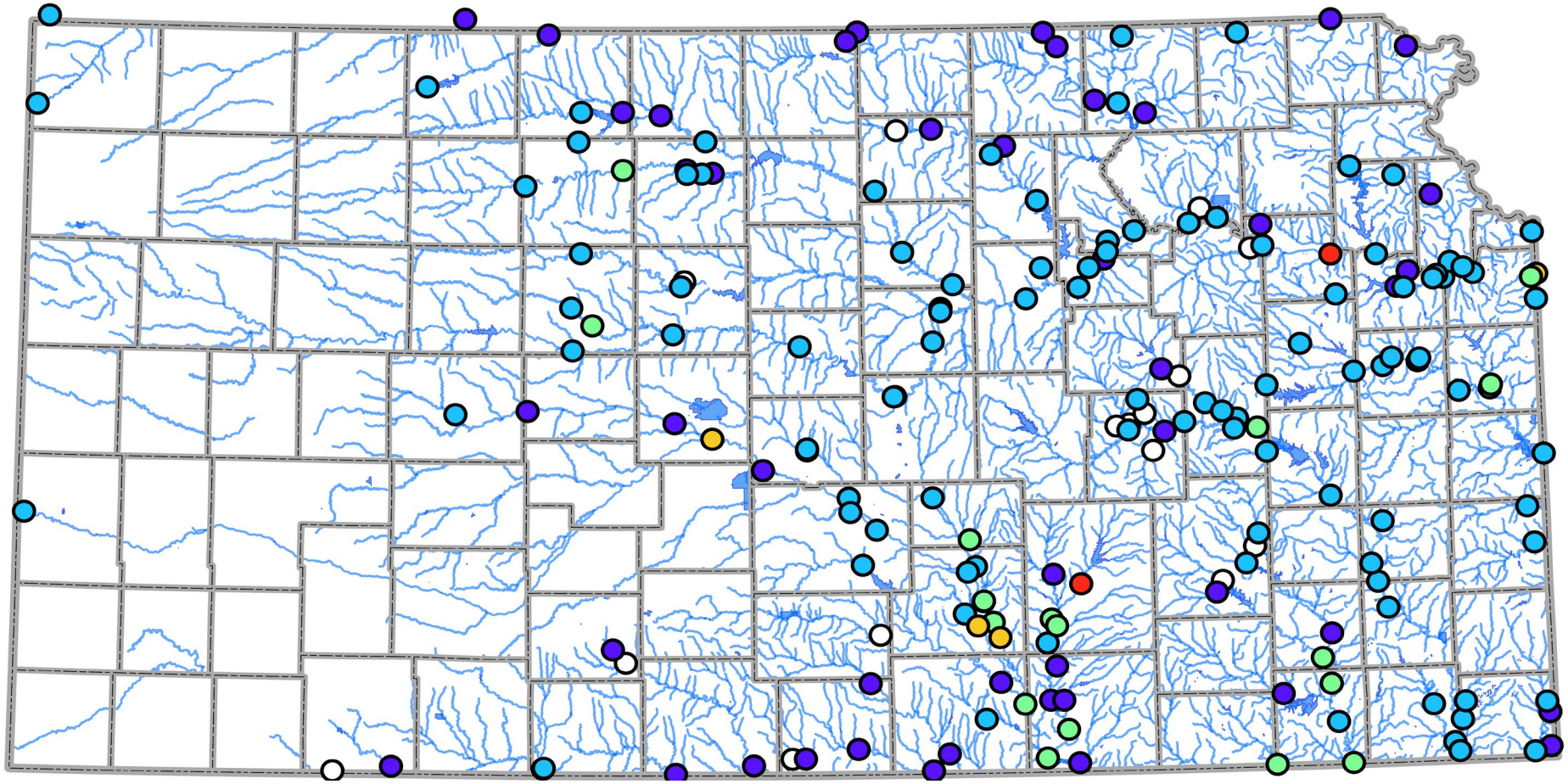
## EPA Changing Focus To Wastewater

- Pre-Treatment Requirements - Industrial Wastewater Limits
- Monitoring Requirements for All Dischargers
- Surface Water Quality Criteria Being Established
  - Aquatic Life Protecting Fish & Macroinvertebrates Finalized
  - PFOA – 3,100,000 ppt acute; 100,000 ppt chronic
  - PFOS – 71,000 ppt acute; 250 ppt chronic
  - But draft Human Health Criteria are in parts per quadrillion



Kansas Department of Health and Environment

# Monitoring PFAS in Rivers and Streams



**Total PFAS, Streams (ng/L, or ppt)**

| | |
|---|---|
| | Non-detect |
| | ≤ 4 |
| | ≤ 30 |
| | ≤ 70 |
| | ≤ 150 |
| | ≤ 240 |

# Monitoring PFAS in Surface Waters

## Kansas Snapshot: Rivers and Streams

- Perfluorobutanoic acid (PFBA) was the most detected PFAS (87% rate) in Kansas streams and rivers. PFBA is a breakdown product of other PFAS chemicals found in stain-resistant fabrics, paper food packaging, and carpets.

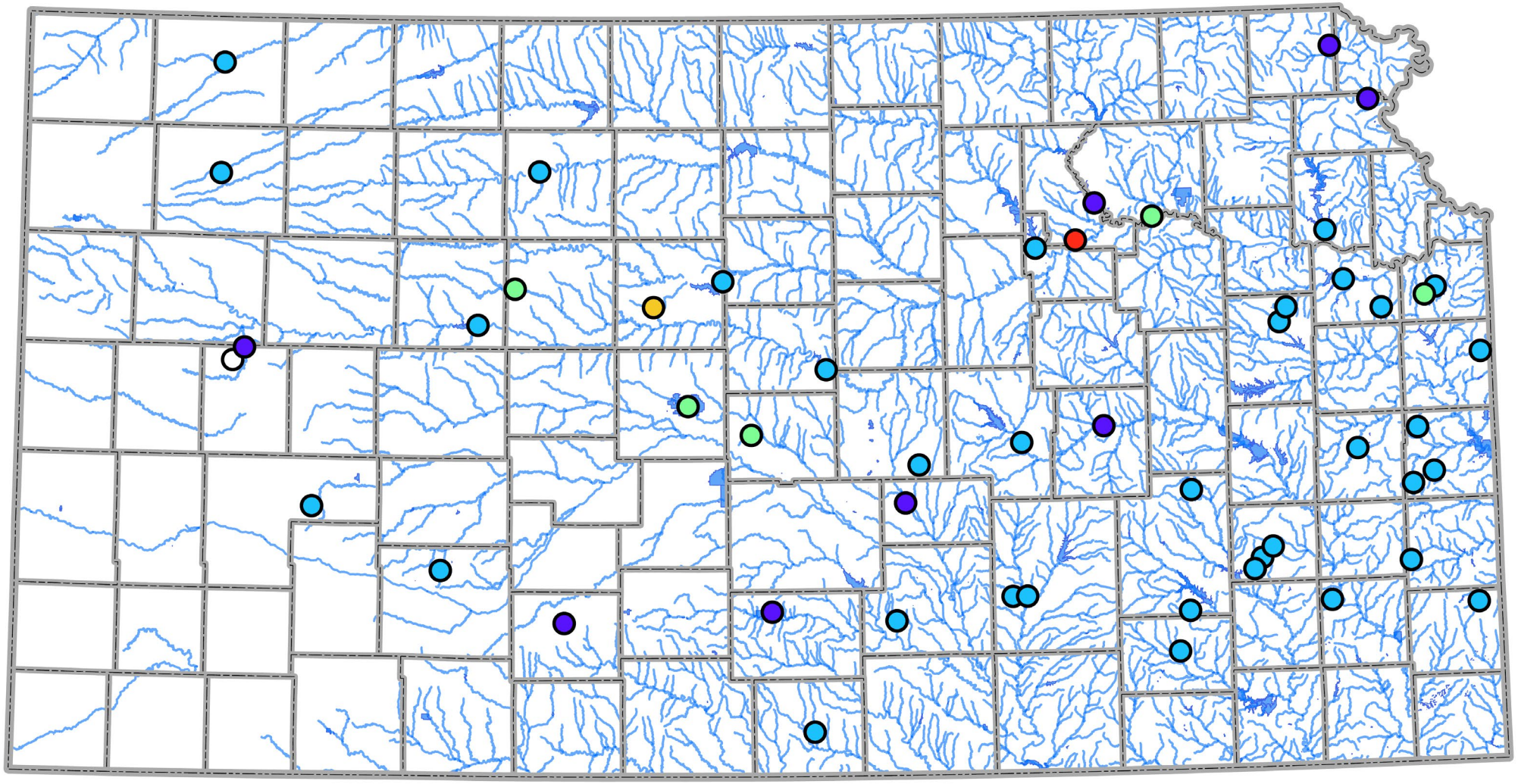
- Perfluorohexanoic acid (PFHxA) and perfluoropentanoic acid (PFPeA) were found in 55% and 52% of the samples, respectively. PFHxA and PFPeA are utilized as an industrial surfactants in firefighting foams, as well as water-resistant and stain-resistant coatings.

- Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) chemicals were found in 40% and 27% of the stream samples, respectively. These chemicals have been used for decades with non-stick coating and protective coating attributes .

- Shunganunga Creek below Topeka had the highest measured Total PFAS concentration (234 and 186 ng/L) followed by Walnut River below El Dorado (173 ng/L), Arkansas River near Derby (116 ng/L), Cowskin Creek Wichita-Valley Center Floodway (109 ng/L), and Arkansas River below Great Bend (103 ng/L).

Kansas Department of Health and Environment

# Monitoring PFAS in Lakes and Wetlands



**Total PFAS, Lakes (ng/L, or ppt)**

| | |
|---|---|
| | Non-detect |
| | ≤ 4 |
| | ≤ 20 |
| | ≤ 50 |
| | ≤ 150 |
| | ≤ 300 |

# Monitoring PFAS in Surface Water

## Kansas Snapshot: Lakes and Wetlands

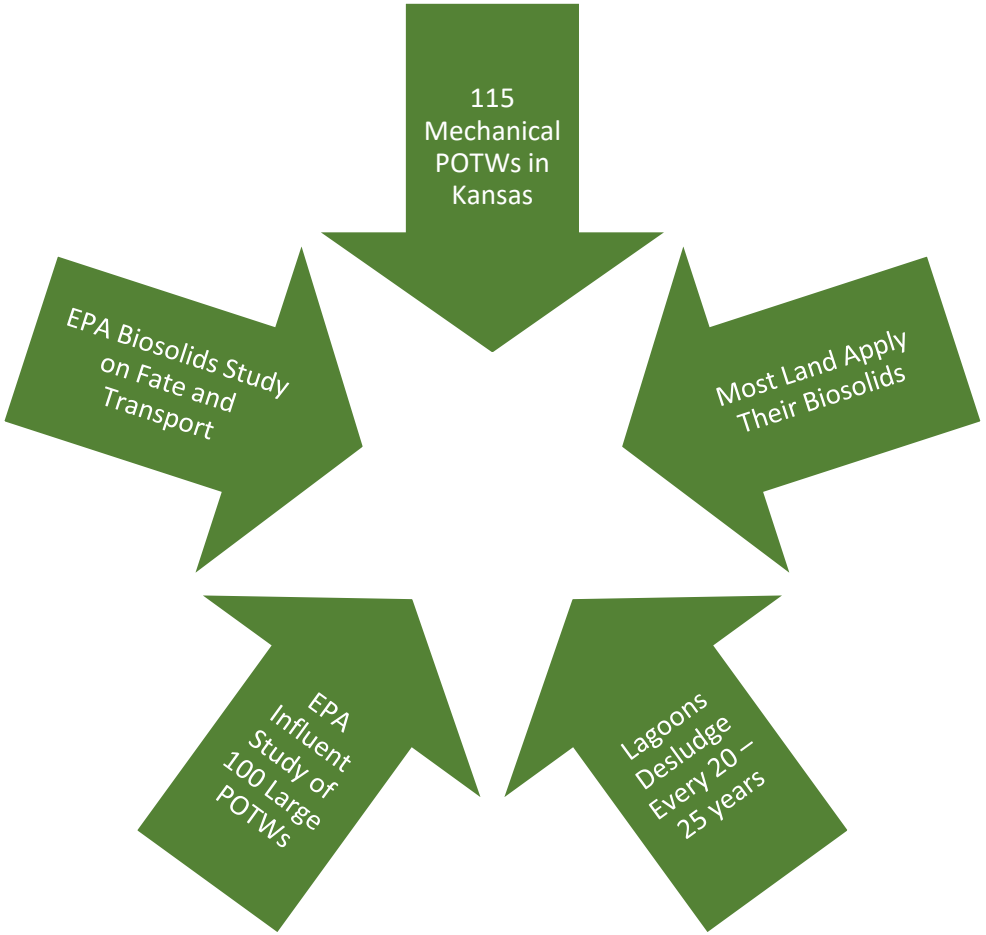
- Perfluorobutanoic acid (PFBA) was the most detected PFAS (98% rate) in Kansas lakes and wetlands. Perfluorohexanoic acid (PFHxA) and perfluoropentanoic acid (PFPeA) were found in 27% and 29% of the samples, respectively.

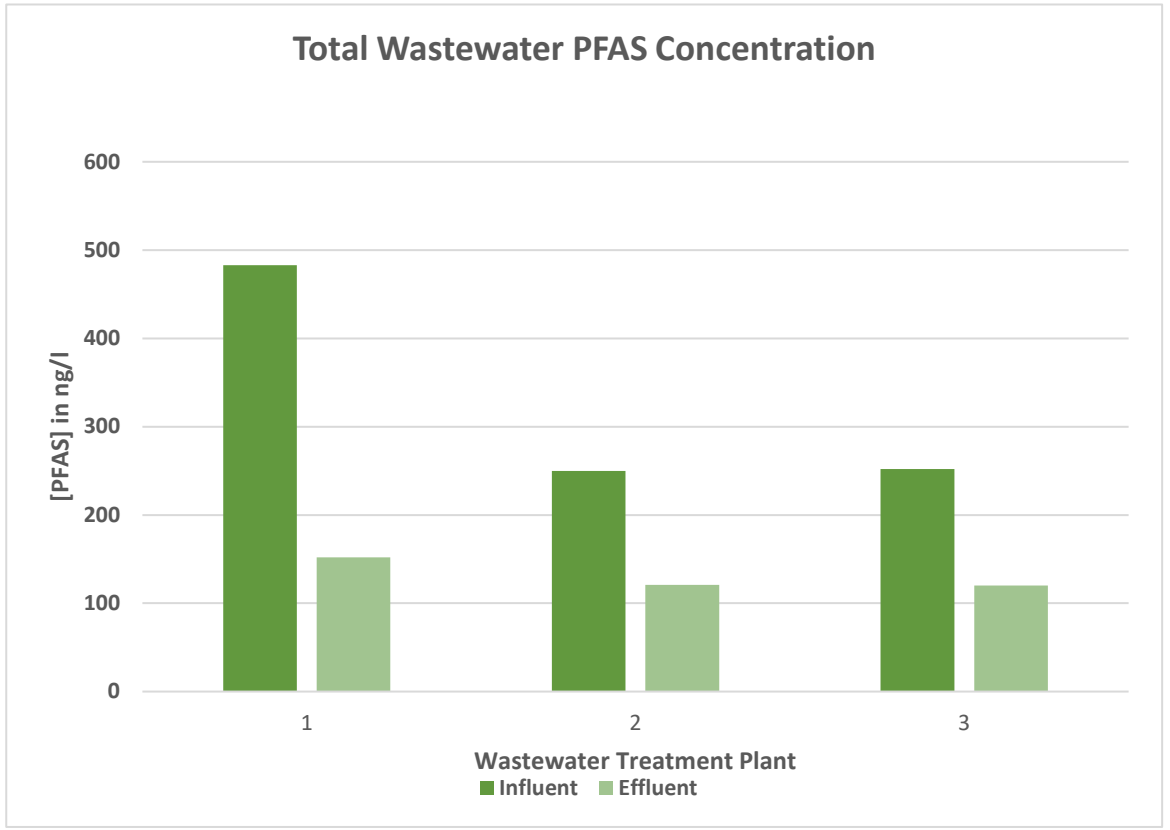
- Perfluorooctanoic acid (PFOA) and perfluoroctane sulfonate (PFOS) chemicals were found in 24% and 20% of the lake and wetland samples, respectively.

- Ogden City Lake near Junction City had the highest measured Total PFAS concentration (290 ng/L) followed by Fossil Lake near Russell (137 ng/L), Gardner Lake in Gardner (48 ng/L), Ellis City Lake in Ellis (35 ng/L), Wamego City Lake in Wamego (30 ng/L), and Cheyenne Bottoms Pool #1 near Great Bend (30 ng/L).

# Monitoring PFAS in Wastewater (Biosolids)

## Wastewater Treatment Removes PFAS – Settles in Sludge



Kansas Department of Health and Environment

# PFOA & PFOS CERCLA Designation

- April 19, 2024: PFOA & PFOS designated as hazardous substances
  - CERCLA (Superfund)
- Helps ensure polluters pay to clean up their contamination
- Biden EPA enforcement policy allows for discretion related to:
  - Farms Where Biosolids are Applied to Land
  - Municipal Landfills
  - Water Utilities
  - Municipal Airports
  - Local Fire Departments
  - Municipal Wastewater Treatment Plants

Kansas Department of Health and Environment

# PFAS Legal Challenge

- Request for Judicial Review – June 7, 2024
  - American Waterworks Association (AWWA)
  - Association of Metropolitan Water Agencies (AMWA)
- February 7, 2025 – D.C. Circuit Court Granted EPA 60-Day Stay
  - Give Trump Administration Time to Review and Consider Changes
- EPA Must Respond to Court by April 8, 2025
- April 8, 2025 – EPA Filed a 30-Day Motion to Continue Abeyance
  - Motion Approved By Court

**Lawsuit in Abeyance, Not the Regulation**

https://www.amwa.net/pfas-litigation-information

# Proposed Federal Legislation

- H.R. 1267 – Water Systems PFAS Liability Protection Act
  - Introduced February 12, 2025
  - Committee On Energy and Commerce
  - Committee On Transportation and Infrastructure
- Exempts Water and Wastewater Utilities from Liability Under CERCLA
- Cosponsors (5): 3 Democrats, 2 Republicans
  - Sharice Davids – KS District 3

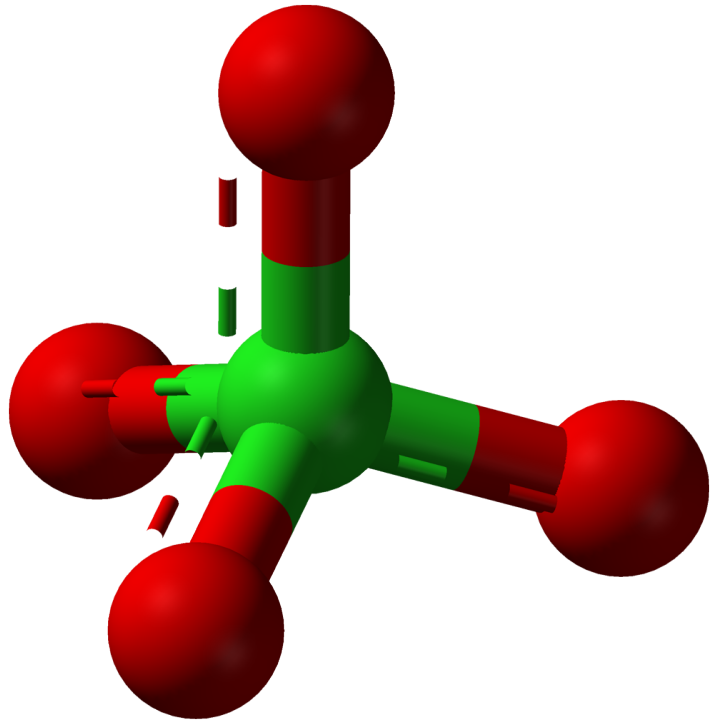
https://www.congress.gov/bill/119th-congress/house-bill/1267/text

# Looking To The Future – Perchlorate

## EPA Under Court Order To:

- Propose DW Regulation By November 21, 2025
- Publish Final DW Regulation By May 21, 2027

https://www.epa.gov/sdwa/perchlorate-drinking-water



# Looking To The Future

## Water Reuse On The Horizon

- WateReuse Kansas – Section Established December 2024
- Indirect Reuse
- Direct Potable Reuse
  - Need Regulations, Will Take Years
- Aquifer Recharge
  - Wichita (ASR Project)
  - Garden City
  - Dodge City

# EPA Administration

- Administrator – Lee Zeldin, Sworn In on 1/29/2025
- Asst. Admin. for Water – Jessica Kramer, Nominated 2/11/2025
- EPA Region 7 Administrator – Jim Macy


EPA Oversight
Cyber
DBPs
BIL Funding
Nitrates
LCRI
Unregulated Contaminates
PFAS
LCRR Inventories
New Rules

# Bureau of Water

**Cathy Tucker-Vogel**
Cathy.Tucker-Vogel@ks.gov
785-368-7130

**kdheks.gov/water**