

Bureau of Water Overview

Summer Institute for European Student Leaders
on Environmental Stewardship

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Mike Tate, P.E.

Kansas Department of Health and Environment



Jargon

- ◆ 106 – EPA wastewater program grant
- ◆ 319 – EPA nonpoint source program grant
- ◆ CAFO – Concentrated Animal Feeding Operation
- ◆ DBP – Disinfection By-Products
- ◆ ECOS – Environment Council of States
- ◆ NPDES – National Pollutant Discharge Elimination System
 - Wastewater permitting
- ◆ NPS – Nonpoint Source
- ◆ PWS – Public Water Supply
- ◆ SRF – State Revolving Loan Fund
- ◆ SWP – State Water Plan
- ◆ TMDL – Total Maximum Daily Load
- ◆ UIC – Underground Injection Control
- ◆ WQS – Water Quality Standards
- ◆ WW - Wastewater



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Overview

- ◆ The Kansas Landscape
- ◆ Who we are and what we do
- ◆ Fiscal/staffing picture
- ◆ Challenges



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Precipitation

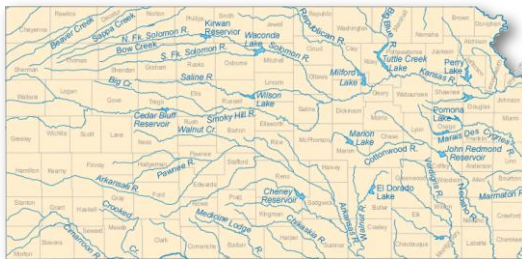


38-51 15-20	51-64 20-25	64-76 25-30	76-89 30-35	89-102 35-40	102-114 40-45
Centimeters Inches					



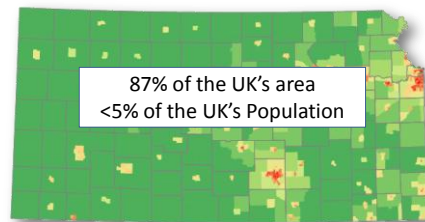
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Major Water Bodies



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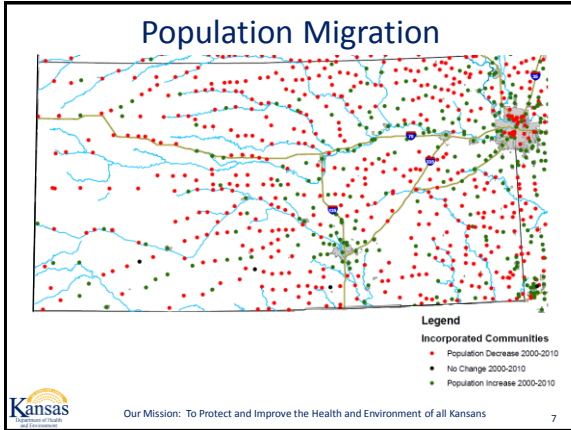
Population Density



2.9 million people
82,277 sq miles (213,096 km²)



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- ### Bureau Programs
- ◆ Administer two major federal laws in lieu of EPA
 - Clean Water Act (CWA) – Since 1974
 - Wastewater permitting/compliance
 - Livestock waste permitting
 - Surface water quality standards/monitoring
 - Nonpoint source management
 - Total Maximum Daily Load (TMDL)
 - State Revolving Fund loan program (CWSRF)
 - Safe Drinking Water Act (SDWA) – Since 1978
 - Public Drinking Water Supply (PWS) permitting/compliance
 - State Revolving Fund loan program (DWSRF)
 - Underground Injection Control (UIC) permitting/compliance
 - ◆ Receive state-matched grants from EPA to administer
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- ### Bureau Programs
- ◆ What does “Administer federal laws in lieu of EPA” mean?
 - States apply for authorization to administer programs
 - Lengthy process which requires
 - Appropriate statutes and regulations to be in place at the state
 - Attorney General opinion the state has legal framework in place
 - Agreement to meet state match dollars for federal grants
 - Annual workplans committing to perform specific tasks
 - If approved the State administers programs
 - Otherwise, the regulated community deals directly with EPA
 - ◆ What is the benefit to the state?
 - State deals with regulated community in lieu of EPA
 - State provides rational, predictable and consistent application of programs to the regulated parties
 - State has enforcement discretion on violations
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- ### Eight Major Water Programs
- ◆ Wastewater permitting, enforcement and compliance
 - ◆ Water quality standards development and total maximum daily load (TMDL) development
 - ◆ Water quality monitoring
 - ◆ Public water supply permitting, compliance, and enforcement
 - ◆ Certification of drinking water and wastewater operators
 - ◆ State revolving fund (SRF) low-interest loan programs for water and wastewater infrastructure
 - ◆ Nonpoint source pollution control
 - ◆ Underground storage and disposal wells along with a well driller certification program
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Administration

- Permit review/Public Notification
- WW compliance/enforcement
- WW data management
- Water/WW operator certification
- EPA coordination

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Municipal Programs Section

- Municipal wastewater permits
- Clean Water State Revolving Fund (CWSRF)
- Municipal stormwater permits
 - MS4

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Watershed Planning, Monitoring, and Assessment Section

- Monitor surface water quality
- Develop WQS
- Assess surface water for impairment
- Develop TMDLs





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Livestock Waste Management Section

- Permit *Federal* CAFOs
- Permit *State* CAFOs
- Permit sale barns/truck washes








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Geology Section

- UIC permitting and compliance
- Natural gas/petroleum storage in old salt caverns
- Water well driller licensing
- Odds and ends

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Industrial Programs Section

- Permit industrial wastewater discharges
- Permit construction stormwater
- Manage pretreatment program









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Public Water Supply Section

- Public drinking water permits, compliance, and enforcement
- Drinking Water State Revolving Fund (DWSRF)




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Watershed Management Section

- Nonpoint Source Management
- Watershed Restoration and Protection Strategies (WRAPS)
- Local Environmental Protection Program (LEPP)

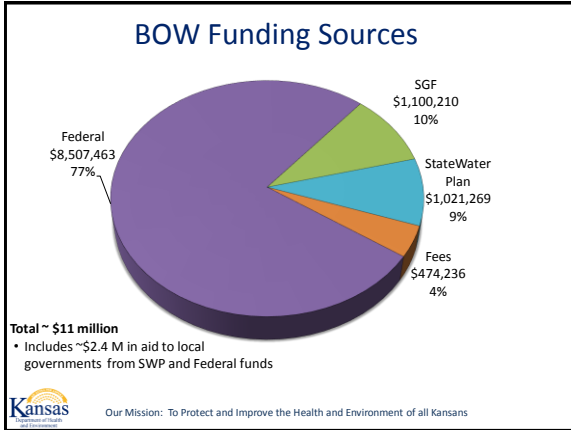






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- ### Challenges
- ♦ **Nutrients in surface waters**
 - Impacts recreation, drinking water, public health/safety
 - ♦ **Small population compliance with Federal regulations**
 - Median water/wastewater system serves <400 population
 - Drinking water – As, NO₃, U, DBP
 - Wastewater – lagoon treatment technology
 - Very green, low energy
 - Affordable
 - Don't meet EPA standards year round
 - ♦ **Intermittent/Ephemeral streams**
 - How to assess water quality on streams that only flow a portion of the time
 - ♦ **Keeping up with Federal rules while funding shrinks**
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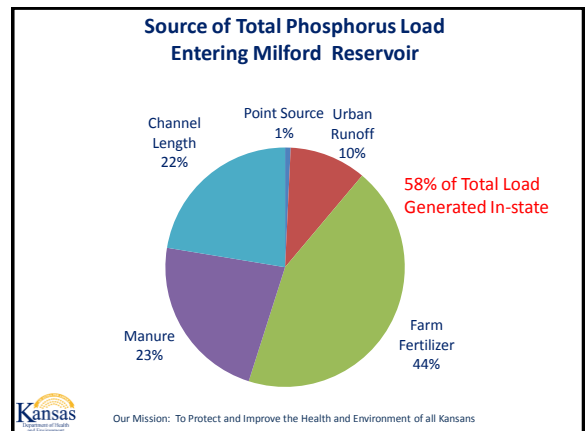
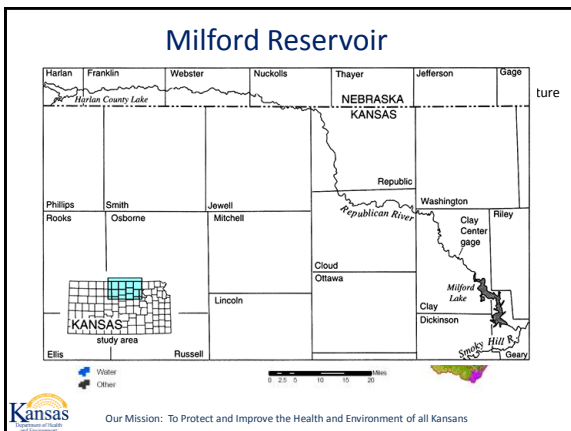


Nutrient Impaired Reservoirs – Examples

Notice
 An algal bloom has made this area potentially unsafe for water contact. Avoid direct contact with visible surface scum.

WARNING
 Harmful Algal Bloom
 • Do not consume shellfish or aquatic animals from this area.
 • Do not use shellfish for food.
 • Do not drink water from this area.
 • Do not use water for irrigation.
 • Do not use water for livestock consumption.

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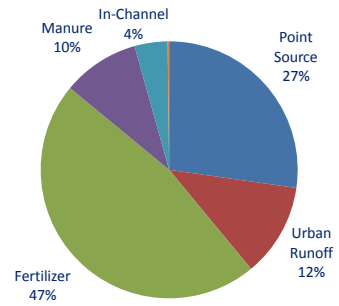


Kaw Reservoir - Oklahoma



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Source of Total Phosphorus Load Entering Kaw Reservoir - Oklahoma



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Bottom Line

- ◆ Nutrients are a persistent pollutant
- ◆ There is no one “recipe” to apply in all watersheds
- ◆ The water agencies are working together to maximize reduction
- ◆ We have made good progress, but
 - Need to continue to make progress
 - Wastewater treatment and
 - Nonpoint source

