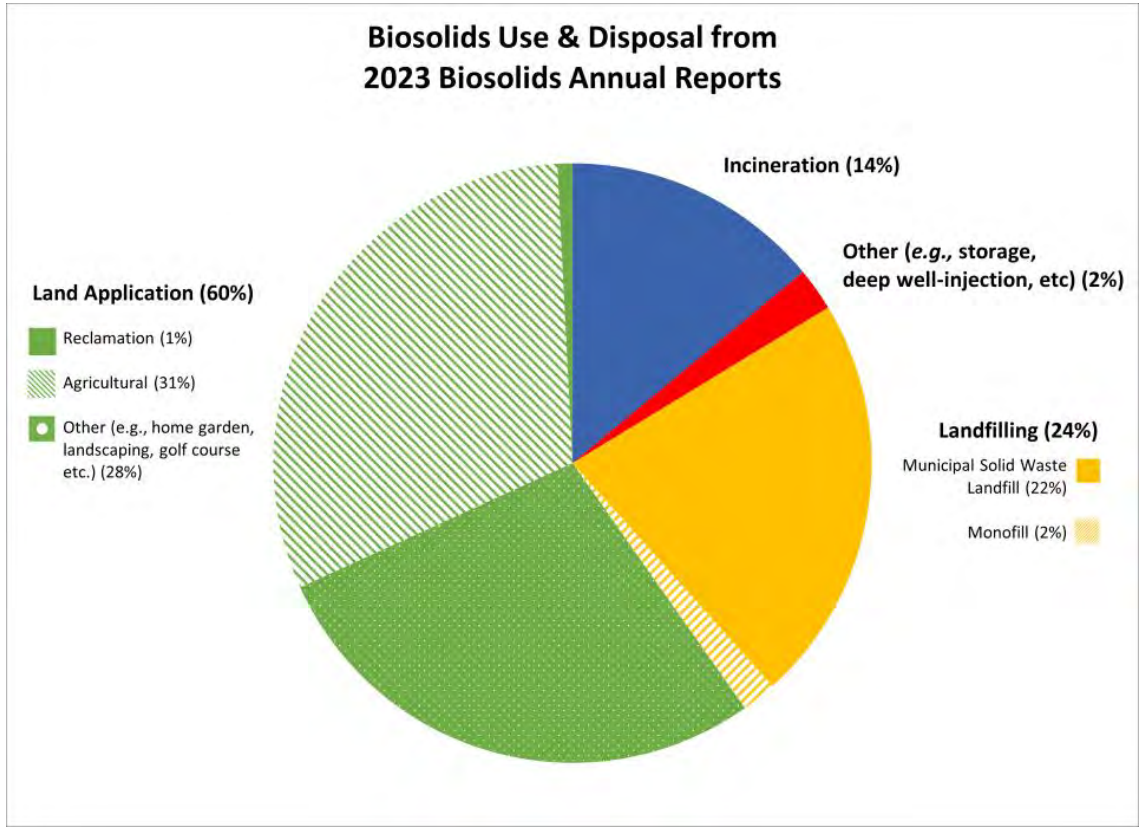
2025 Tulsa Area Legislative Forum

Biosolids discussion

August 25, 2025

CITY OF TULSA

What are biosolids?



https://www.epa.gov/biosolids/basic-information-about-sewage-sludge-and-biosolids

- Treated wastewater is separated into a liquid and semi-solid, nutrient rich sewage sludge, or biosolids
- Three options for use or disposal of biosolids: land application, landfilling or incineration
- 7,100,000 dry tons at 16,000 treatment plants annually

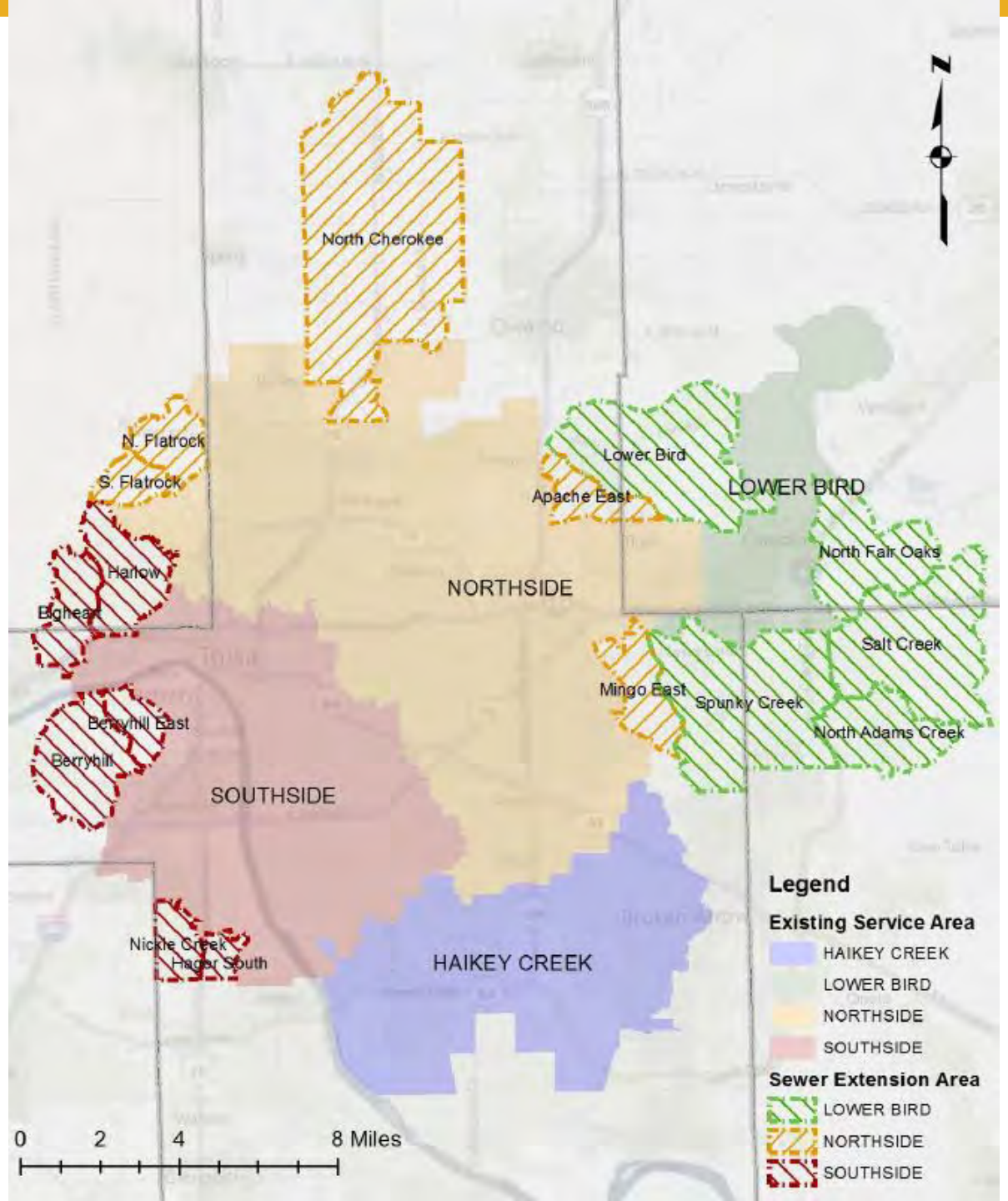
Wastewater basins

Population by service area

- Northside: 182,938
- Southside: 150,705
- Haikey Creek: 116,408 (w/ BA)
- Lower Bird: 10,359

Permitted capacity

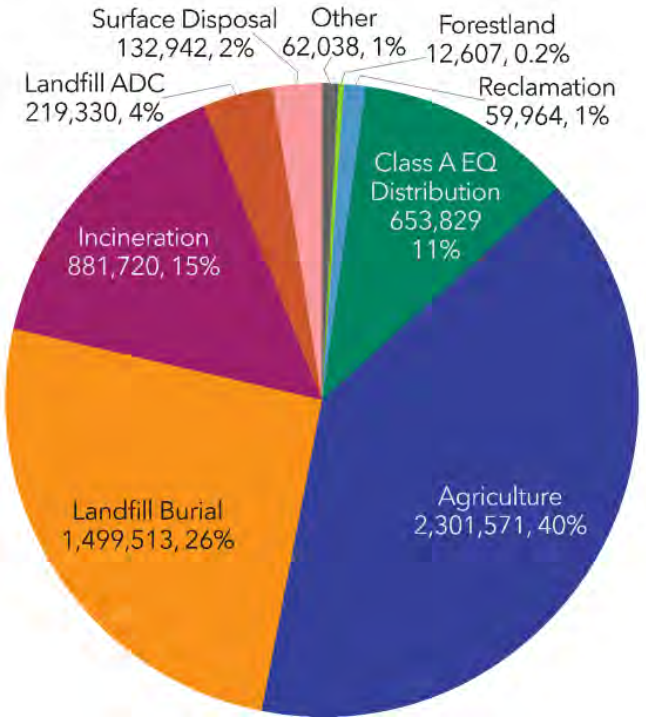
- Northside: 42.6 MGD
- Southside: 42.0 MGD
- Haikey Creek: 16.0 MGD
- Lower Bird: 4.0 MGD



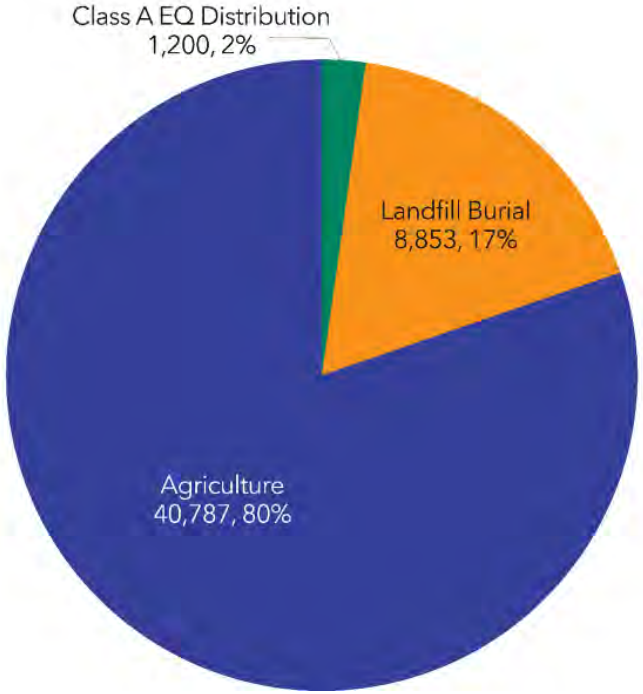
Biosolids disposal in Oklahoma

How are Water Resource Recovery Facilities Managing Biosolids?

United States
Biosolids Use & Disposal 2018
(dry metric tons, %)
Total: 5,823,000

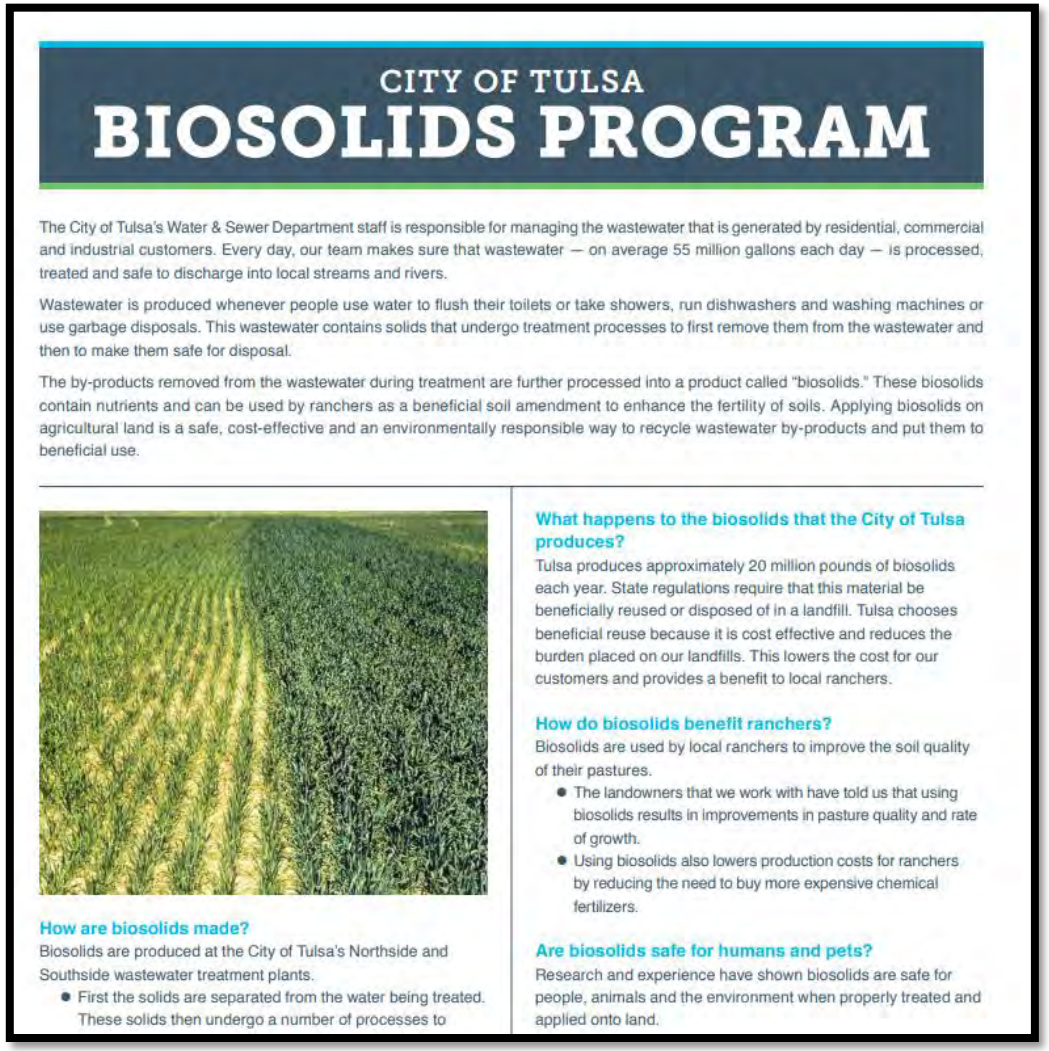


Oklahoma Biosolids Use & Disposal 2018
(dry metric tons, %)
Total: 50,900



What does Tulsa do with biosolids?

- EPA regulation “Standards for the Use or Disposal of Sewage Sludge” (40 C.F.R. Part 503) allows land application of biosolids as a soil conditioner or fertilizer
- Tulsa produces Class B biosolids with pathogen reduction of 99% (Class A inactivates pathogens and can be distributed commercially)
- 10,000 dry tons annually using anaerobic digestion



CITY OF TULSA

BIOSOLIDS PROGRAM

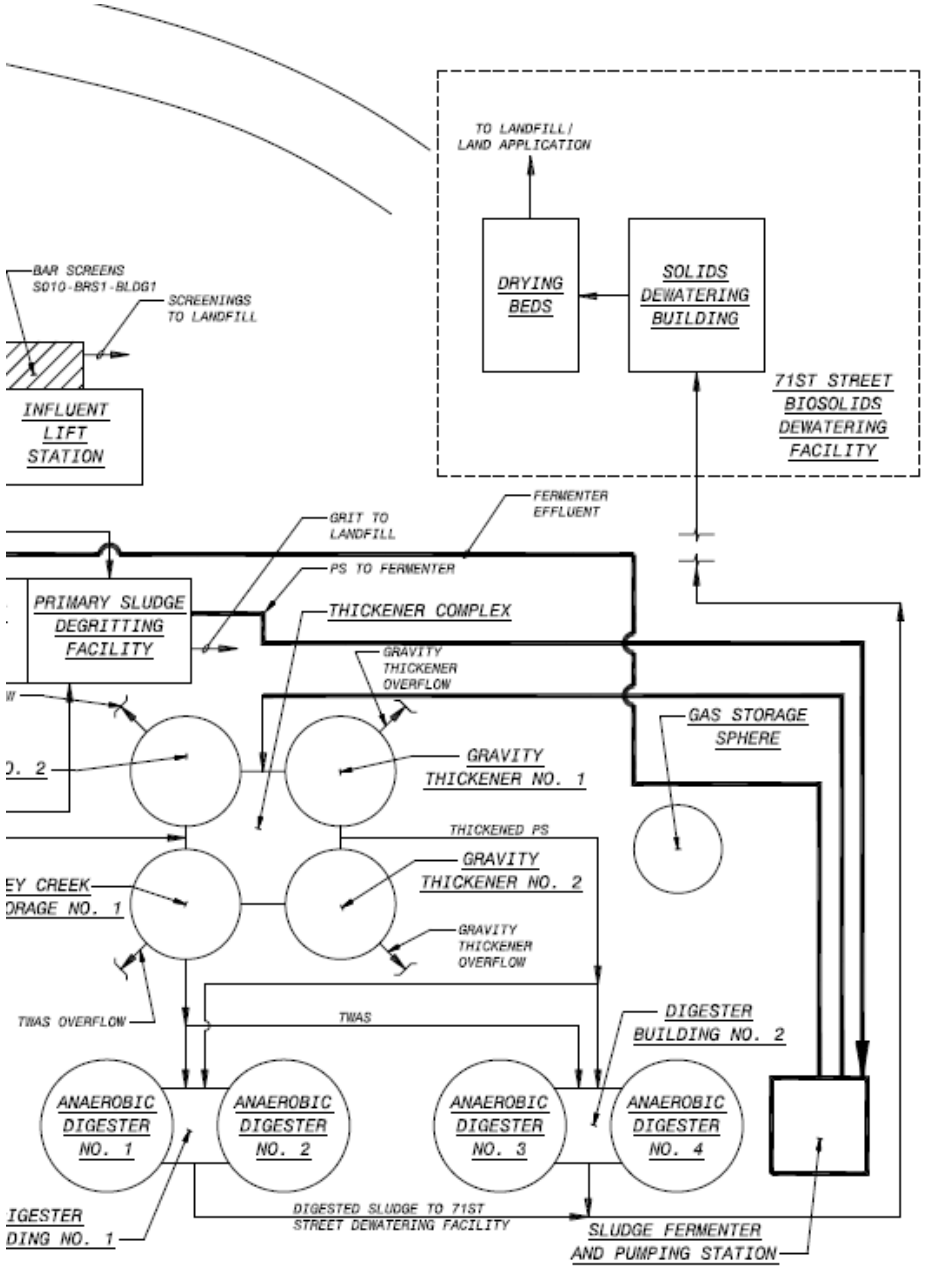
The City of Tulsa's Water & Sewer Department staff is responsible for managing the wastewater that is generated by residential, commercial and industrial customers. Every day, our team makes sure that wastewater — on average 55 million gallons each day — is processed, treated and safe to discharge into local streams and rivers.

Wastewater is produced whenever people use water to flush their toilets or take showers, run dishwashers and washing machines or use garbage disposals. This wastewater contains solids that undergo treatment processes to first remove them from the wastewater and then to make them safe for disposal.

The by-products removed from the wastewater during treatment are further processed into a product called "biosolids." These biosolids contain nutrients and can be used by ranchers as a beneficial soil amendment to enhance the fertility of soils. Applying biosolids on agricultural land is a safe, cost-effective and an environmentally responsible way to recycle wastewater by-products and put them to beneficial use.

Biosolids stabilization

- Aerobic digestion
- Anaerobic digestion
- Alkaline stabilization
- Composting
- Air drying
- Thermal drying
- Incineration

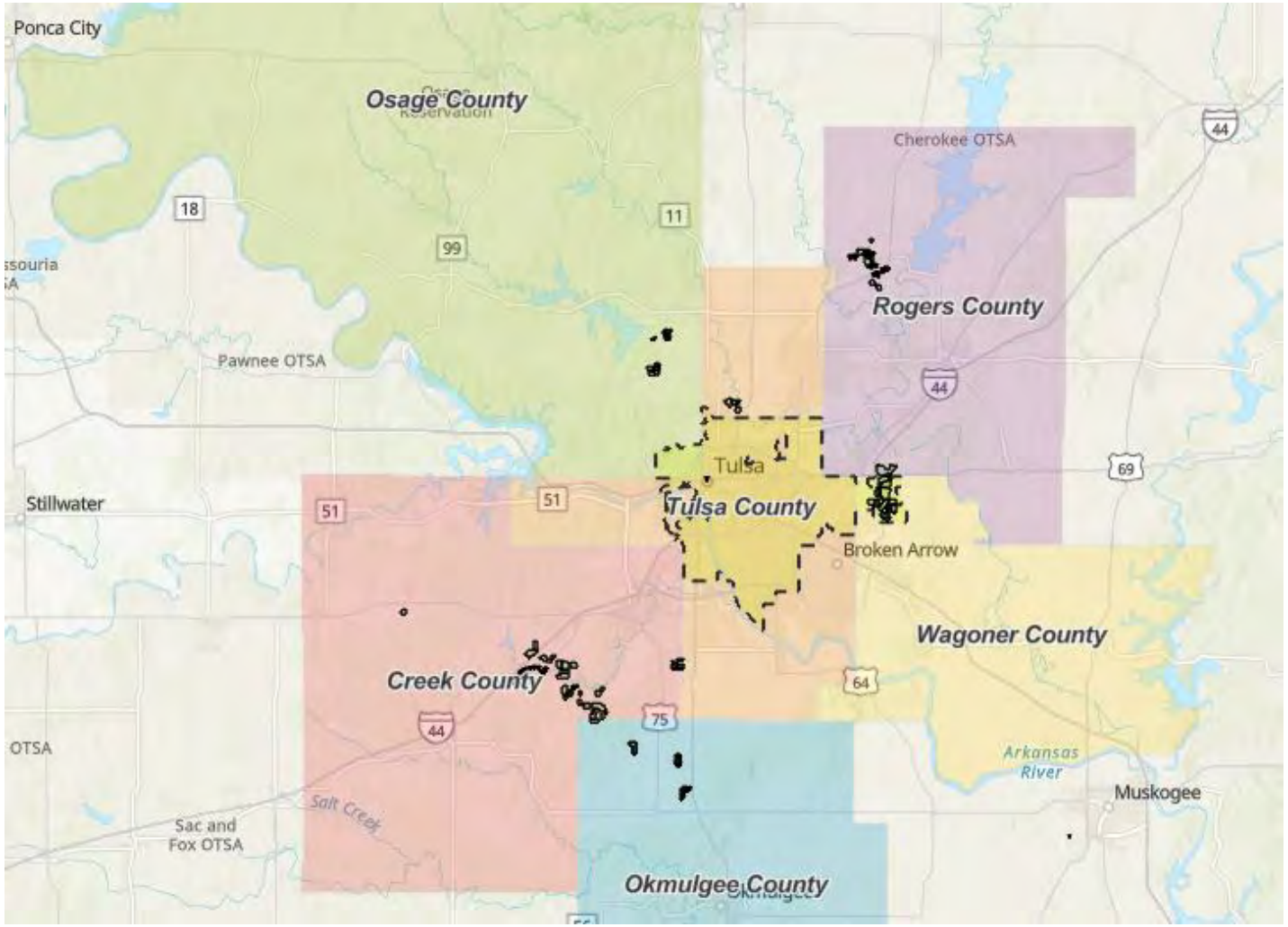


Treatment plants and biosolids

Wastewater Treatment Plant	Permit Limits (MGD)	Effluent Average (MGD)	Annual dry tons of biosolids	Biosolids process
Southside	42.0	19.8	3,377	Dewatering to 15% solids with drying bed storage
Haikey Creek (with BA)	16.0	12.1	-	Transport untreated sludge by truck to Southside for treatment. Project under design for composting with $9.6M USDA grant.
Northside	42.6	17.7	4,243	Sludge digested to 1.5% solids, to lagoons, then decant to 7.0% solids.
Lower Bird Creek	4.0	0.9	-	Sludge is pumped through line to Northside for treatment.

Land application

- Each field permitted through ODEQ
- 167 fields over 13,000 acres
- Counties: Creek, Osage, Okmulgee, Wagoner, Rogers, Tulsa
- Great response from landowners; we have a waiting list
- Costs Tulsa $25/ton



Proposed legislation

Senate Bill 268 – prohibits the application of sludge, compost that uses sludge, and any sludge material on any state land and prohibits sale of it in the state. Directs ODEQ to study and develop plan for prohibiting land application of septage

Senate Bill 271 – direct the ODEQ to promulgate rules related to the receipt, storage, treatment and disposal of PFAS

Senate Bill 620 – disclose biosolid use on certain product labeling and signage on property

House Bill 1726 – prohibiting land application, spreading, sale and distribution of biosolid materials; requiring ODAFF to develop removal, remediation and recovery plans

Senate Bill 3 – land application of sludge and biosolid material is prohibited on and after July 1, 2027

Senate Bill 3

[biosolids - land application - permits - cessation of certain actions - plan submission - rule promulgation - codification - emergency]

BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA:

SECTION 1. NEW LAW A new section of law to be codified in the Oklahoma Statutes as Section 2-6-501.7 of Title 27A, unless there is created a duplication in numbering, reads as follows:

A. To protect the health and safety of the people of this state, land application of sludge and biosolid material is hereby prohibited on and after July 1, 2027. On and after the effective date of this act, the Department of Environmental Quality shall not issue any new permit for the land application of sludge or biosolid material. Renewal of permits for land application shall be left to

September 1, 2025: full cessation plan for land application of biosolids due to ODEQ

September 1, 2025: 25% reduction in biosolids land applied

September 1, 2026: 50% reduction in biosolids land applied

July 1, 2027: total ban on biosolids land applied. No new ODEQ permits, renewals left to ODEQ decision.

“Biosolids material” means sewage sludge containing any PFAS

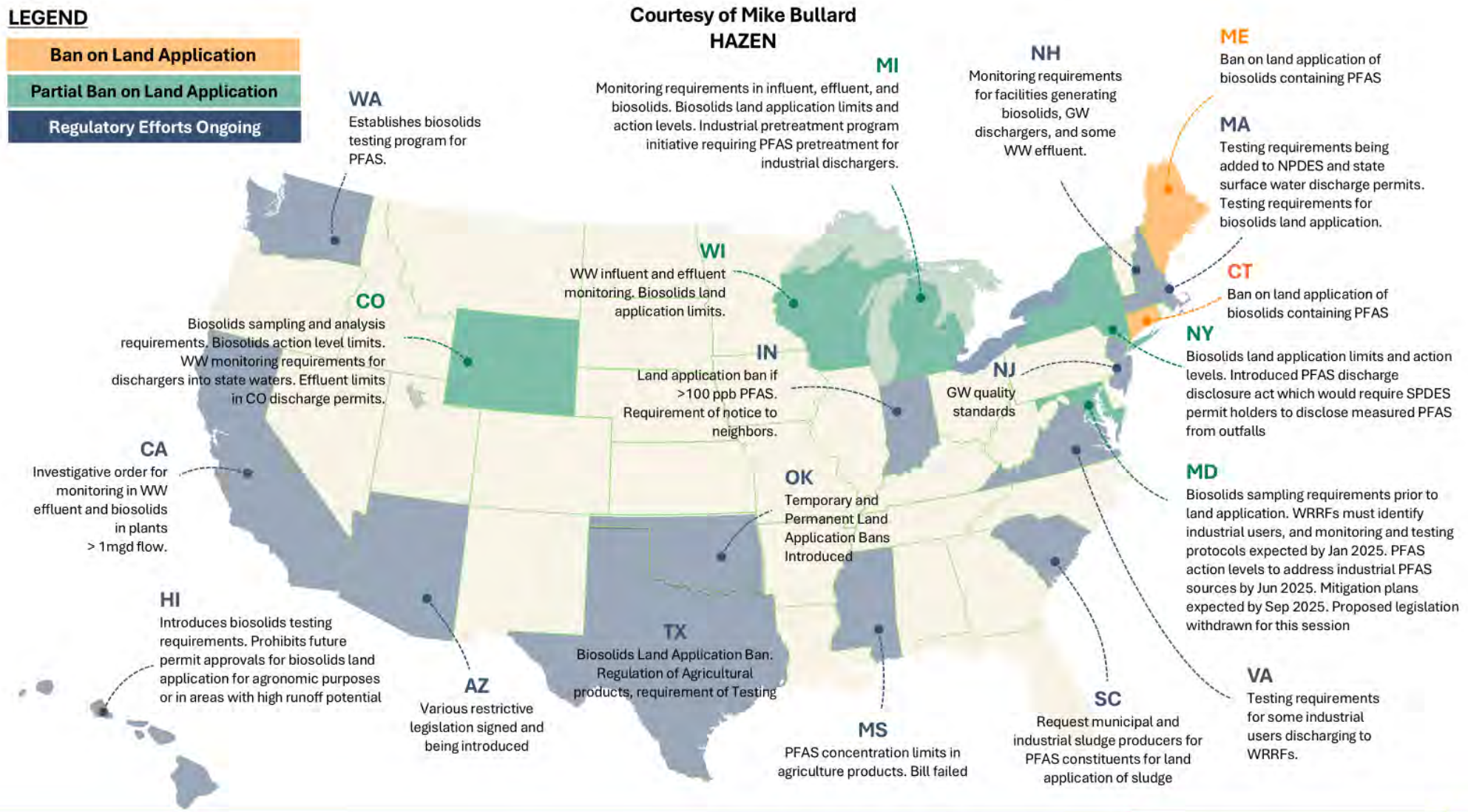
What the concern?

- Odors – especially with some treatment processes
- Perception of URBAN impact on RURAL Oklahoma
- PFAS - EPA issued a DRAFT Risk Assessment for PFOA and PFOS in biosolids on January 15, 2025
  - Identified unacceptable risk for an extreme “farm family” scenario

What are PFAS?

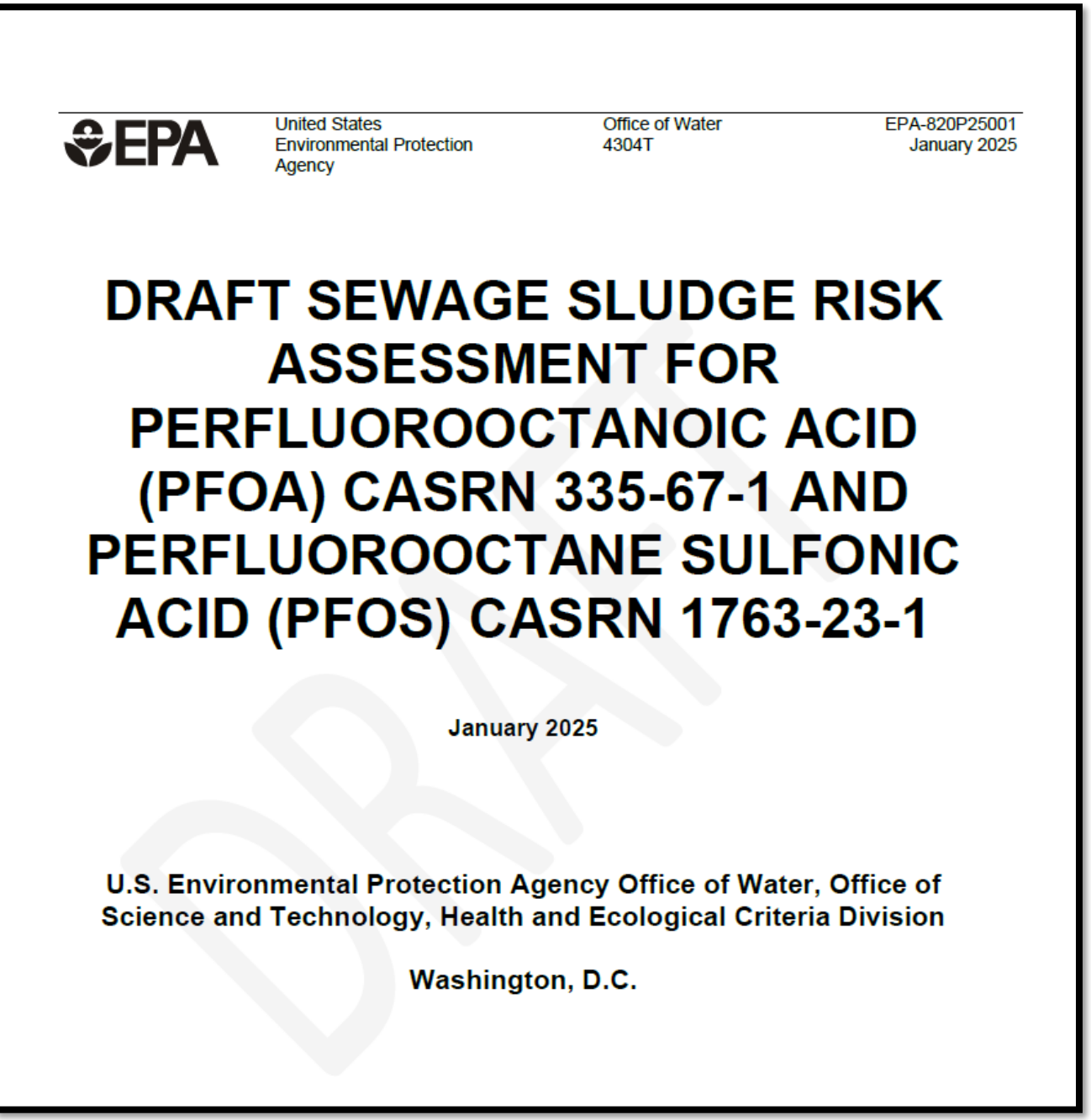
- PFAS, or per- and polyfluoroalkyl substances, are human made synthetic chemicals that are used for properties of water, grease, stain and heat resistance. PFAS are also known as “forever chemicals” because they do not easily break down into their natural carbon and fluorine components.
- Application of PFAS examples include non-stick cookware, water and stain resistant clothing and carpet, food packaging, fire-fighting foam, makeup, sunscreen, microwaveable popcorn, etc.

Biosolids Legislation of Concern



Across the nation

- **Fear based strategy:**
  - Maine (2022) and Connecticut (2024) have total biosolids ban
- **Water based strategy:**
  - California focused on surface and drinking water
- **Scientific based strategy:**
  - Michigan, Wisconsin and New York have some restrictions
  - Michigan strategy supported by EPA
- **Michigan**
  - Less than 20 micrograms per kilogram (or ppb), no land application restrictions
  - 20 ppb to 99 ppb is reduced land application and additional testing
  - 100 ppb or greater requires disposal of biosolids
- **USGS**
  - Recent study shows no agronomic uptake into corn



EPA | United States Environmental Protection Agency | Office of Water 4304T | EPA-820P25001 January 2025

DRAFT SEWAGE SLUDGE RISK ASSESSMENT FOR PERFLUOROOCTANOIC ACID (PFOA) CASRN 335-67-1 AND PERFLUOROOCTANE SULFONIC ACID (PFOS) CASRN 1763-23-1

January 2025

U.S. Environmental Protection Agency Office of Water, Office of Science and Technology, Health and Ecological Criteria Division

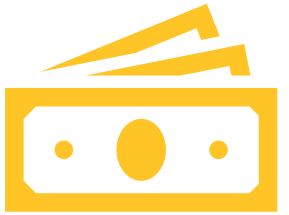
Washington, D.C.

DRAFT

Tulsa testing

- **Southside**
  - Most PFOA below 3 ppb
  - Avg. PFOS is 38 ppb
- **Northside**
  - Most PFOA below 12 ppb
  - Avg. PFOS is 112 ppb
- **Haikey Creek**
  - Compost test below 20 ppb of PFOS

Impacts of proposed legislation



- Would lose composting at Haikey Creek and USDA fertilizer grant of $9.6M
- Would add $50M in dewatering capital project at Northside
- Would add over $100M in capital for incineration at each plant
- Would add $5M in annual operating costs for landfill disposal (could add more for electrical costs)
- Would impact septic tank owner's cleanout costs

Recommendations

- More testing of biosolids, acreage, and uptake
- Science-based approach to PFAS like Michigan
- Focus on PFAS dischargers and do not penalize all residents
- Provide a more realistic timeframe for capital improvements
- Protect passive receivers – Senator Rader in 2023 and 2024
- Allow composting alternative – Class A product

THANK YOU

CITY OF TULSA