

# City of Wichita Drought Response & Water Supply Resiliency



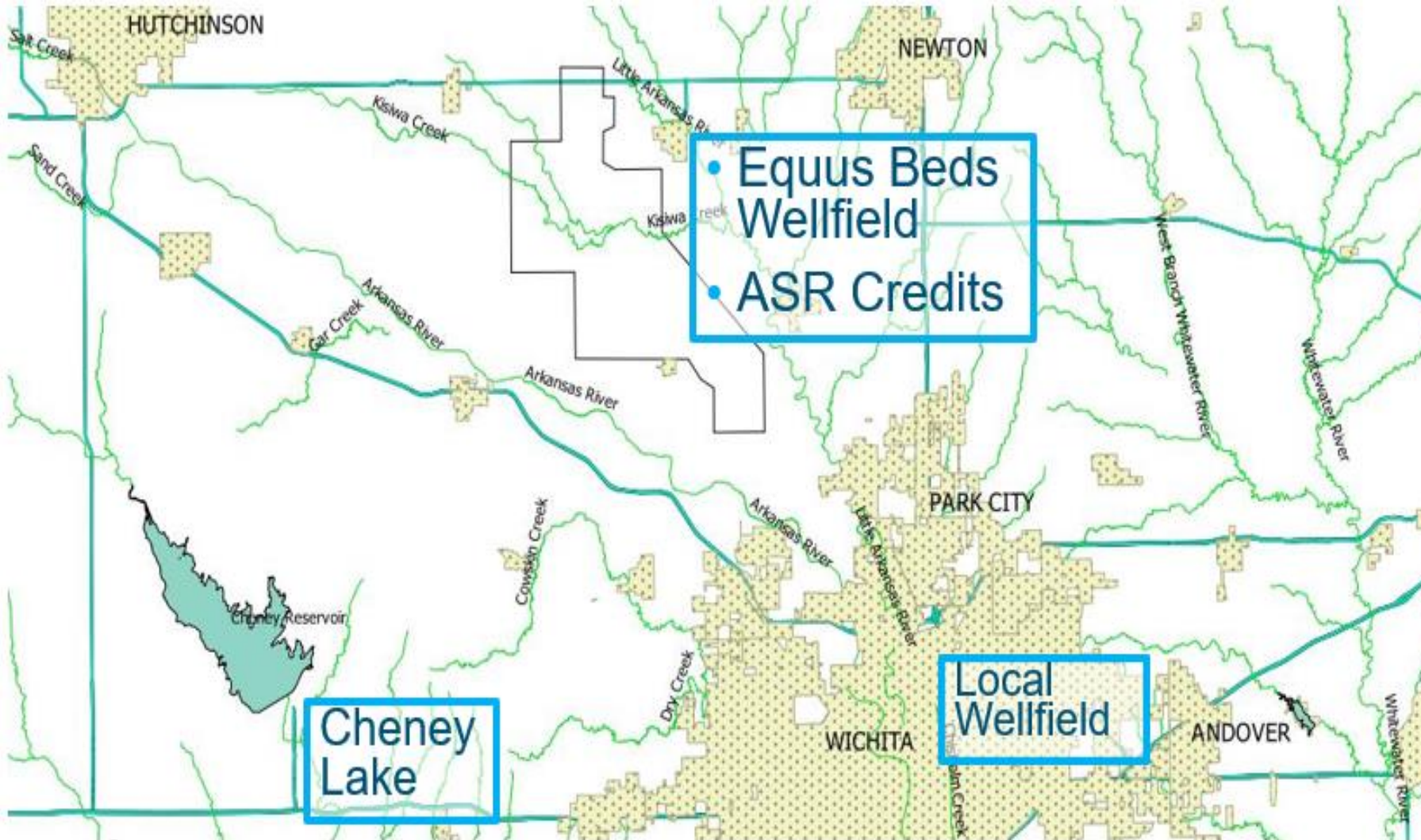
Gary Janzen, P.E., Director -  
Public Works and Utilities

November 13, 2024



# Wichita Raw Water Sources

- Wichita raw water two main sources:
  - 55-60 % from Cheney Reservoir (**surface**)
  - Remaining from Equus Beds Wellfield (**groundwater**)
    - Includes ASR recharge credits for future use
    - 94% full
  - Maximize groundwater use during drought; will change with new treatment plant



# Wichita Water Treatment

- Wichita provides water to 500,000 residents:
  - Wichita: 150,000+ residential & commercial customers
  - 11 Wholesale Customers: Bel Aire, Benton, Bentley, Derby, Kechi, Park City, Rose Hill, Valley Center, RWD 1-3-5



# Cheney Pool Condition

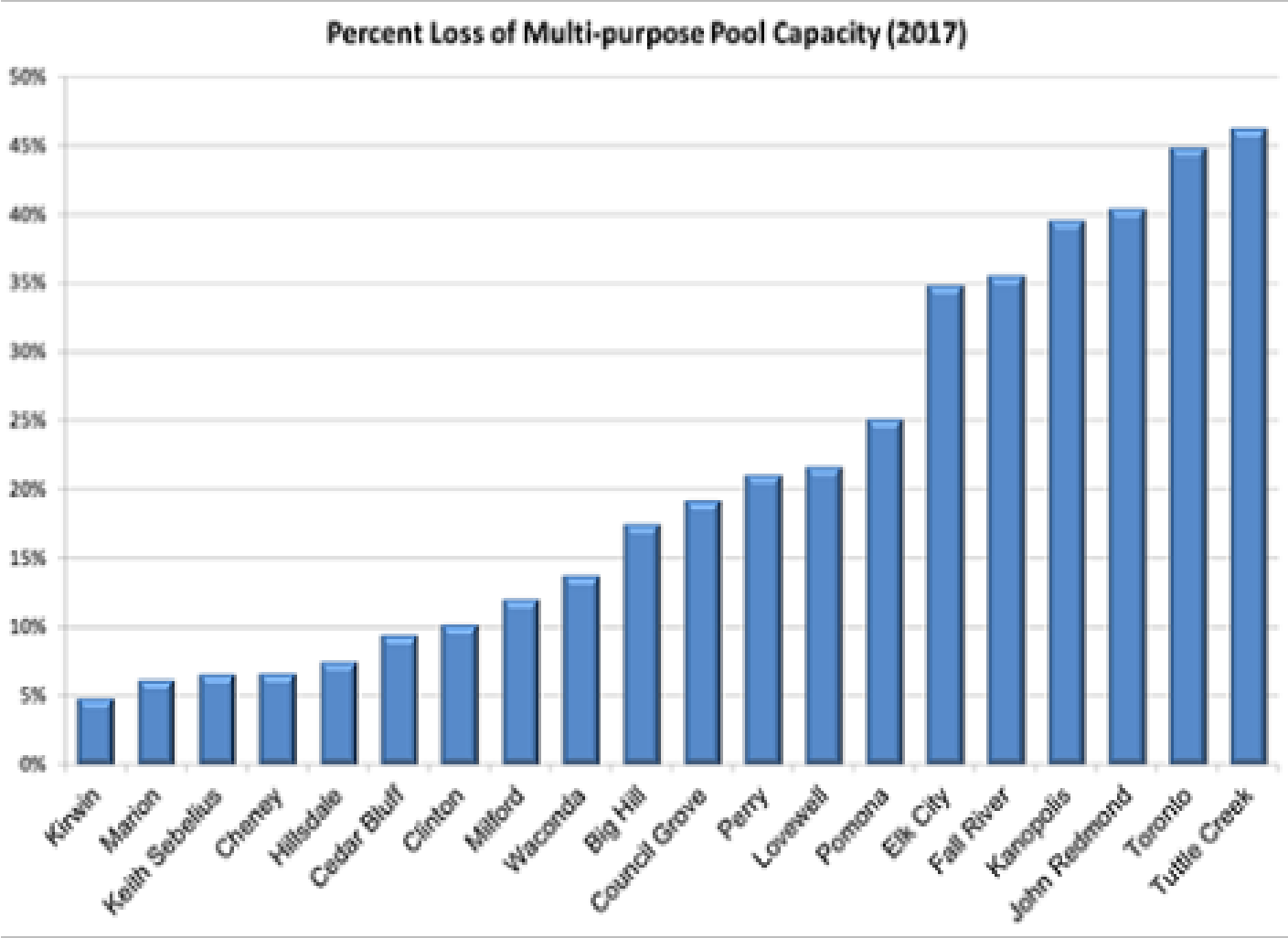


November 2024:

- Water level remains at at historic low, near 8 feet below normal pool
- If drought continues, Stage 3 of Drought Response Plan is projected for November 2025

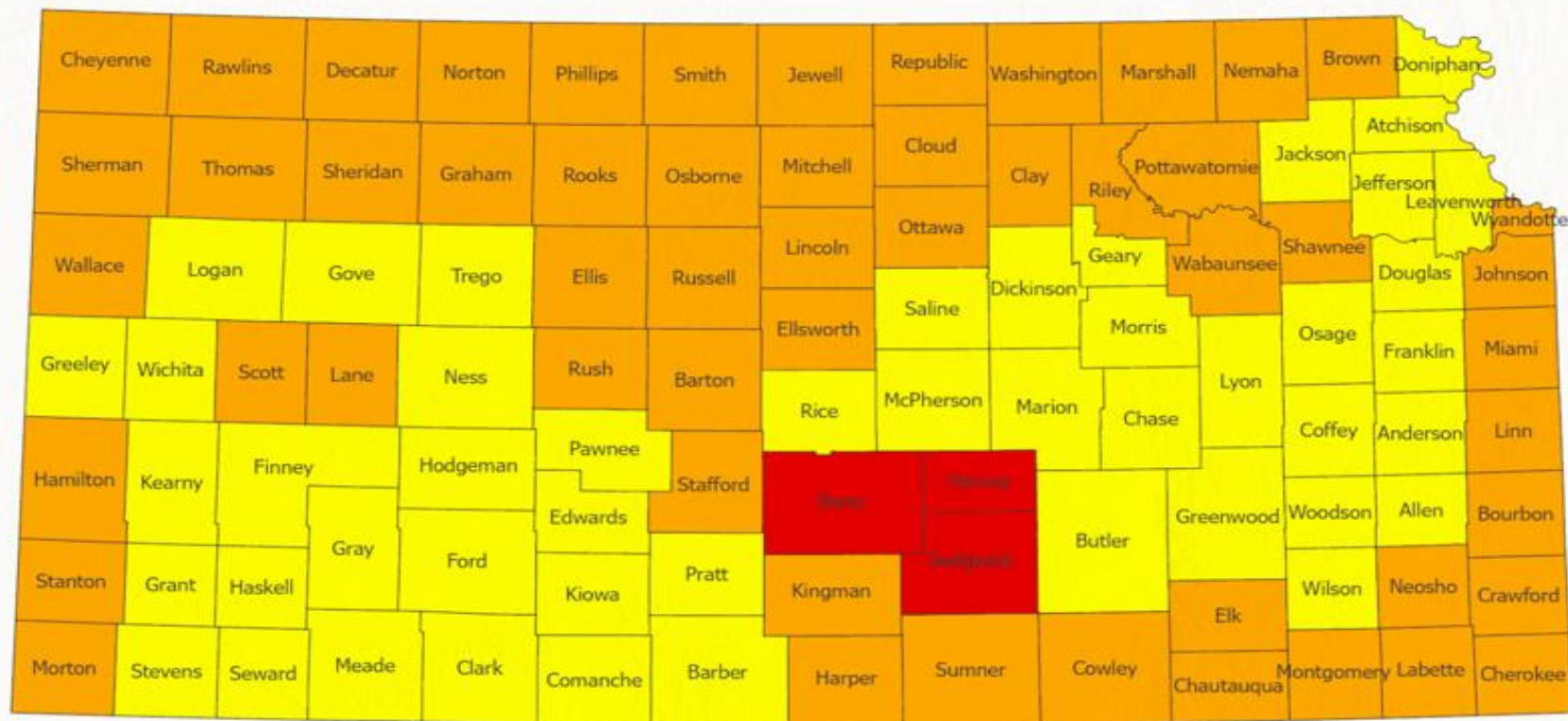


# Cheney Sediment/Dam Repair



# Governor's Drought Declaration

Governor Declares Drought Emergency, Warnings and Watches  
for Kansas Counties  
October 11, 2024



■ Emergency ■ Warning ■ Watch

# Drought Response Plan

## Stage 1 Activated in January 2023

Triggered when the 12-month moving average is **between 70% and 89%**

- Voluntary water conservation measures
- Incentives or rebates to encourage indoor and outdoor water conservation
- City of Wichita Internal Conservation Plan enacted

## Stage 2 Activated on August 5, 2024

Triggered when the 12-month moving average is **between 50% and 69%**.

- **Mandatory water conservation:**
  - Restricting outdoor water usage to one day per week
  - Prohibiting all customers from using outdoor water from 10am-8pm\*

\* Some exemptions apply

### Stage 2 Penalties/Fines

- 1st violation written warning
- 2nd violation \$50 administrative fee
- Subsequent violation \$100 per violation

## Stage 3

Triggered when the 12-month moving average is **between 35% and 50%**

- All usage of outdoor water prohibited\*
- \* Some exemptions apply

### Stage 3 Penalties/Fines

- 1st violation written warning
- 2nd violation \$250 administrative fee
- Subsequent violation \$500 per violation

## Stage 4

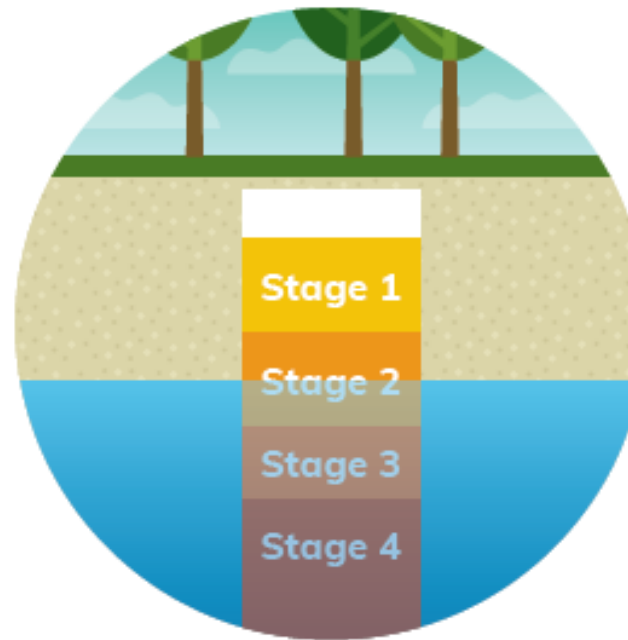
Triggered when the 12-month moving average is **between 0% and 34%**

- Mandatory water conservation measures for all customers, including prohibition of usage of outdoor water. **No exemptions.**
- All customers are required to reduce their water usage by 15% from their Average Winter Consumption\*

\* Some exemptions apply

### Stage 4 Penalties/Fines

- 1st violation written warning
- 2nd violation \$250 administrative fee
- Subsequent violation \$500 per violation and installation of a water flow restrictor.



# Drought Resources and Outreach



GOVERNMENTDEPARTMENTSBUSINESSCOMMUNITYHOW DO I...

- Drought Update
- Irrigation Education
- How You Can Save Water
- Internal Conservation Plan
- Lawn Care
- Managing Supply
- Water Conservation Rebate Program

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City of Wichita Drought Stage

Stage 2

Current Cheney Lake Level (11/4/24)

56.24% Full

Cheney Level (12 Month Avg) 11/1/24

65.1% Full

- Well Sign
- H2-NO Flier 1 (PDF)
- Well Water Yard Sign 1 (PDF)
- Well Water Yard Sign 2 (PDF)
- Watering Schedule Cards 1 (PDF)
- FAQs on Drought Stage 2 (PDF)
- FAQs for SaveWichita Water SPANISH al (PDF)
- H2-NO FLIER Espanol (PDF)
- Se ha determinado que esta violando la Ordenanza de la Ciudad de Respuesta a la Sequia de la Etapa (PDF)
- Wichita Escalando a la Etapa 2 de Respuesta a la Sequia (PDF)

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# Strategic Planning for the Future



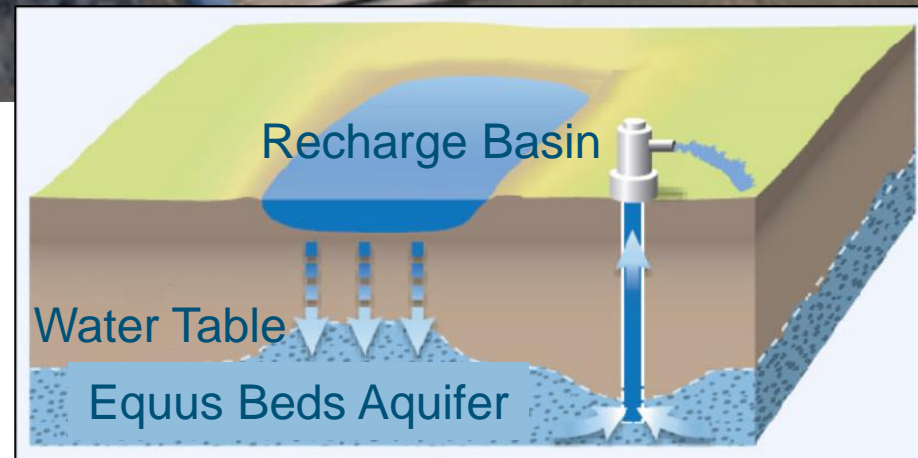
# Aquifer Storage and Recovery (ASR)



# Equus Beds Projects Underway

Additional basins in locations where the water table is lower will enable more efficient infiltration of recharge water.

- Local Wellfield Improvements provide additional water supply
- Additional ASR recharge basins speed post-drought recovery of Equus Beds



# Wichita Water Works

- Enables flexibility in water supply choices during drought
- Will allow increased use of groundwater
- On-line April 2025



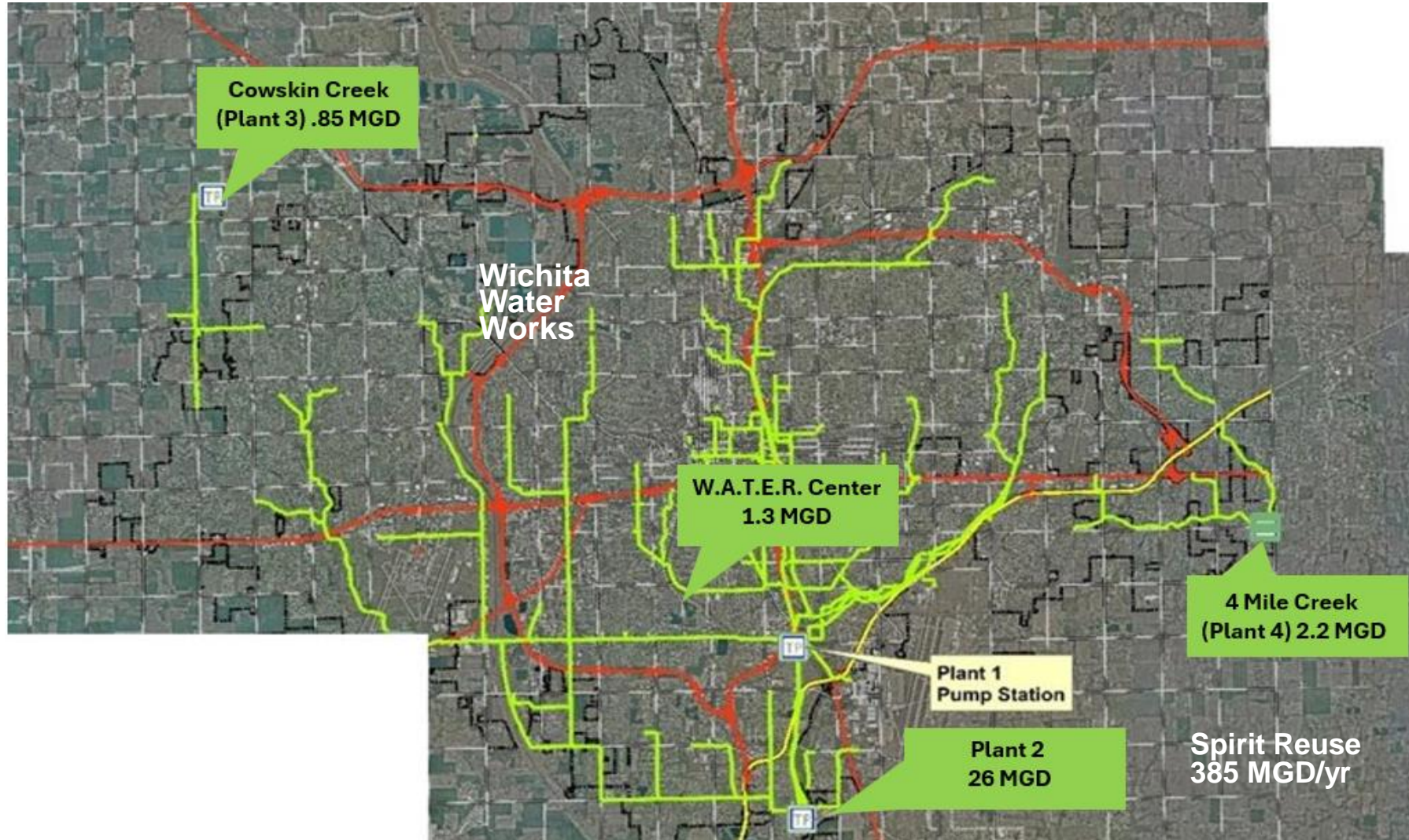
# Planning Efforts



- Reuse Feasibility study will be underway early 2025 – direct potable reuse; industrial; irrigation
- Legacy landscaping and development practices being evaluated with building and development community



# Reuse Feasibility Study



# Conservation Efforts - Hays



## What You Should Know:

- From **June 1st - September 30th**, outdoor water use is prohibited from noon to 7:00 PM ([including private wells](#)).
- The washing down of hard surfaces is not allowed (i.e. driveways, parking lots, windows, etc.) **YEAR ROUND!**
- Water is not to escape your property if at all possible (i.e. water running down the sidewalk from an irrigation sprinkler) **YEAR ROUND!**
- Worsening drought conditions may lead to changes in water restriction times, etc.



# Conservation Efforts - OKC

## WATER CONSERVATION MEASURES

TEXT SIZE:    [SHARE & BOOKMARK](#) [FEEDBACK](#)  [PRINT](#)

### Watering schedules are now in place.

Oklahoma City and surrounding communities have implemented Progressive Water Conservation Stages. Mandatory odd/even watering (Stage 1) is now permanently in effect. If the drought worsens, additional conservation measures will take effect.

[Self-guided Sprinkler Checkup](#)

#### How does odd/even watering work? It's simple.

- If your address ends in an even number, you can water on even-numbered calendar days.
- If your address ends in an odd number, you can water on odd-numbered calendar days.

For example:

- If your address is 1400, you can water on the 2nd, 4th, 6th of the month and so on.
- If your address is 1401, you can water on the 1st, 3rd, 5th, etc.



# City of Wichita Drought Response & Water Supply Resiliency



## Questions?

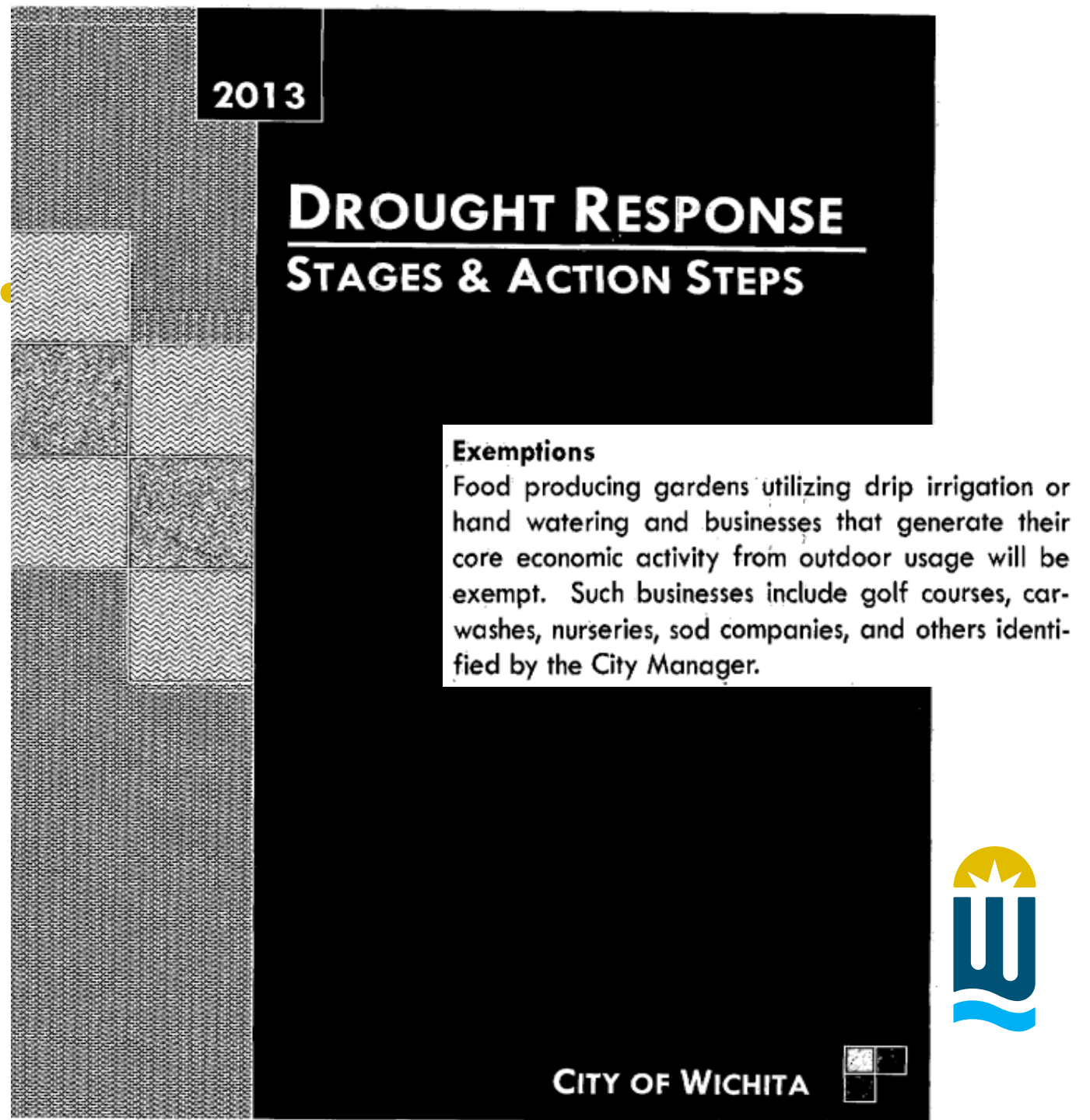
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# Drought Response Plan

- Codified by City Council post 2011-2013 drought
- Four progressive stages for response to Dust Bowl-style drought



# Drought Response – Stage 2

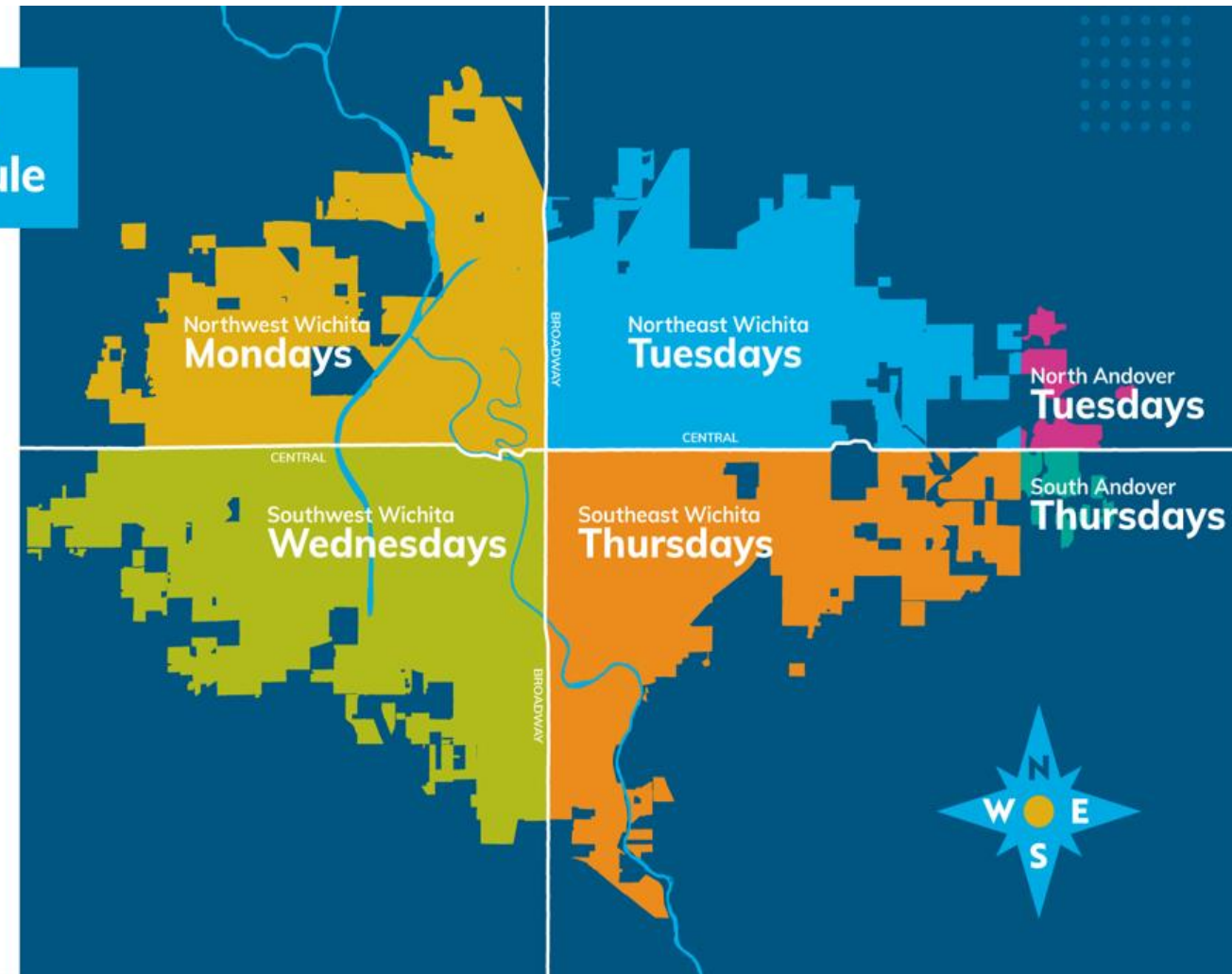
## Mandatory Water Restrictions

- Once-weekly restrictions were implemented August 5

### Stage 2 Drought Watering Schedule

- Customers at real properties **northwest of Central & Broadway** may use outdoor water on **Mondays**.
- Customers at real properties **northeast of Central & Broadway** may use outdoor water on **Tuesdays**.
- Customers at real properties **southwest of Central & Broadway** may use outdoor water on **Wednesdays**.
- Customers at real properties **southeast of Central & Broadway** may use outdoor water on **Thursdays**.

No residential watering on Friday/Saturday/Sunday.  
No watering from 10am-8pm any day.



# Wichita Public Water Supply Protection Plan

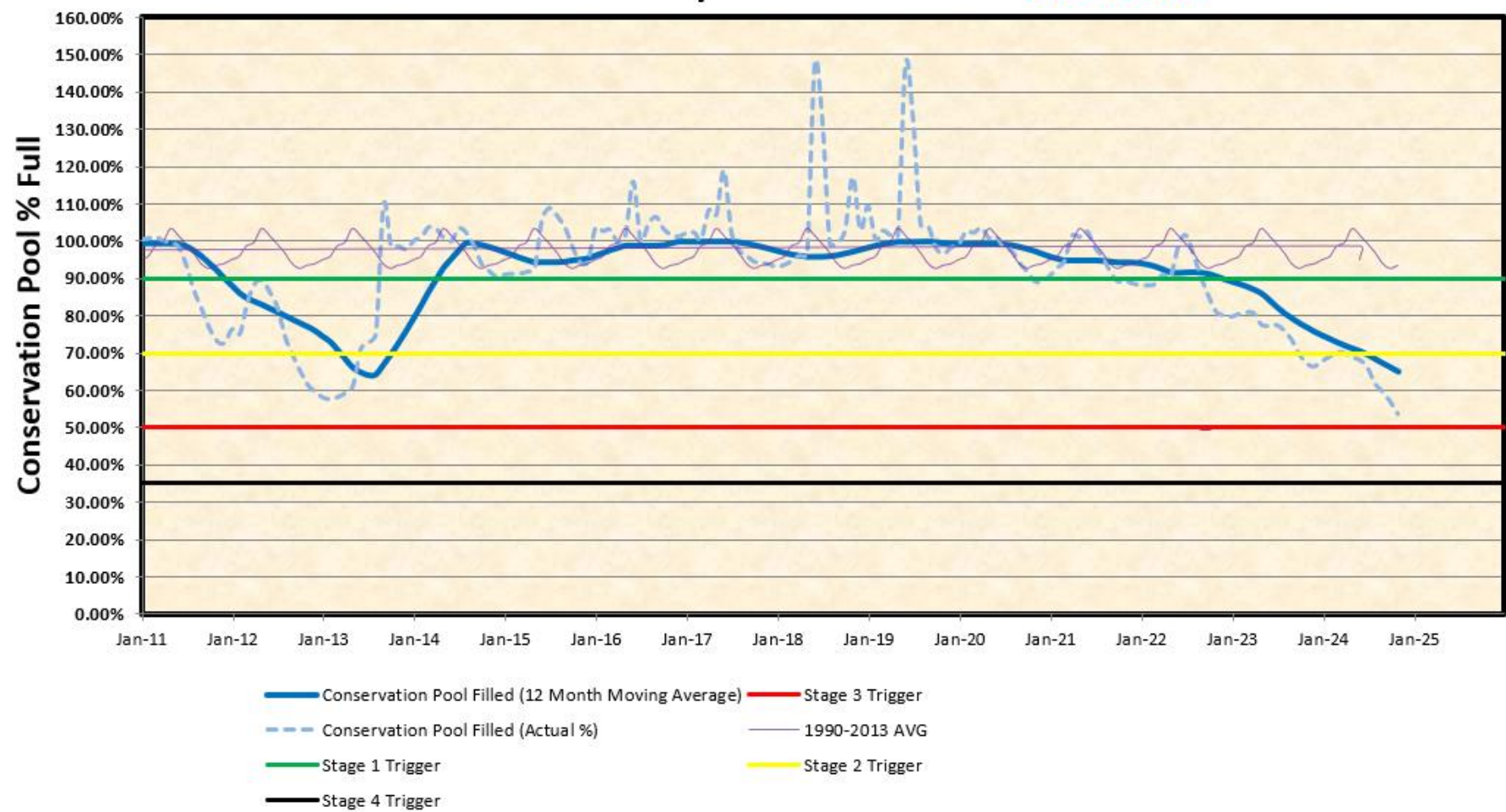


- Tiered rate structure with escalating price to encourage conservation
- Aquifer Storage and Recovery (ASR) - keep Equus beds aquifer healthy, protect water quality, provide additional rights (credits) for drought and emergencies
- Phased capital planning for drought resiliency – ASR recharge basins and local well field improvements
- Wichita Water Works Treatment Plant
- Industrial **reuse** – Spirit (385 million gallons per year)
  - Feasibility study underway early 2025 for industrial and direct potable reuse



# Cheney Pool Condition

Volume in Cheney Conservation Pool 2024-11-01



Cheney Elevation

Date	Elevation
7-Oct	1413.38
14-Oct	1413.19
21-Oct	1412.98
28-Oct	1412.84
4-Nov	1413.44

Conservation pool = **53.9%** full; Drought Trigger (12-month moving average) = **65.1%**

