

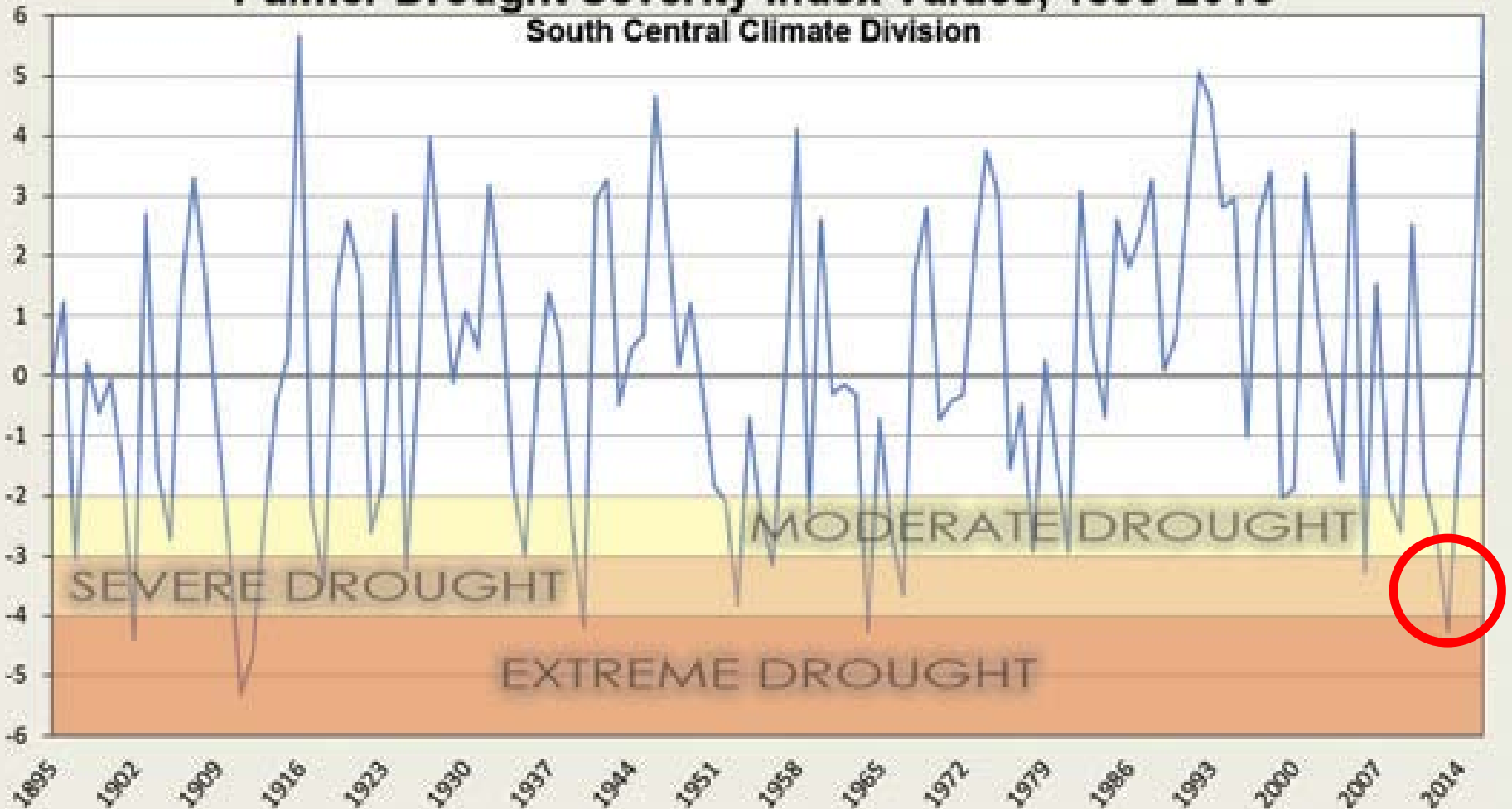


Arbuckle-Simpson Aquifer
Drought Contingency Plan

The Chickasaw Nation

Recent Drought in Oklahoma

Palmer Drought Severity Index Values, 1895-2016
South Central Climate Division





— BUREAU OF —
RECLAMATION

WaterSMART

Drought Response Program

- How will we recognize the next drought in the early stages?
- How will drought affect us?
- How can we protect ourselves from the next drought?

<https://www.usbr.gov/drought/>

Choctaw & Chickasaw Nations Tribal Water Planning The Essentials”



“As stewards of their collective Territories, the Choctaw and Chickasaw Nations consider it their ethical duty to protect and sustain the land and water resources of their homeland...”

In 2011 Tribal leadership initiated development of Oklahoma’s first sustainability-based water plan—the Choctaw-Chickasaw Regional Water Plan—and established seven basic “Essential” points that serve as a foundational guide to the plan.



GARVIN

PONTOTOC

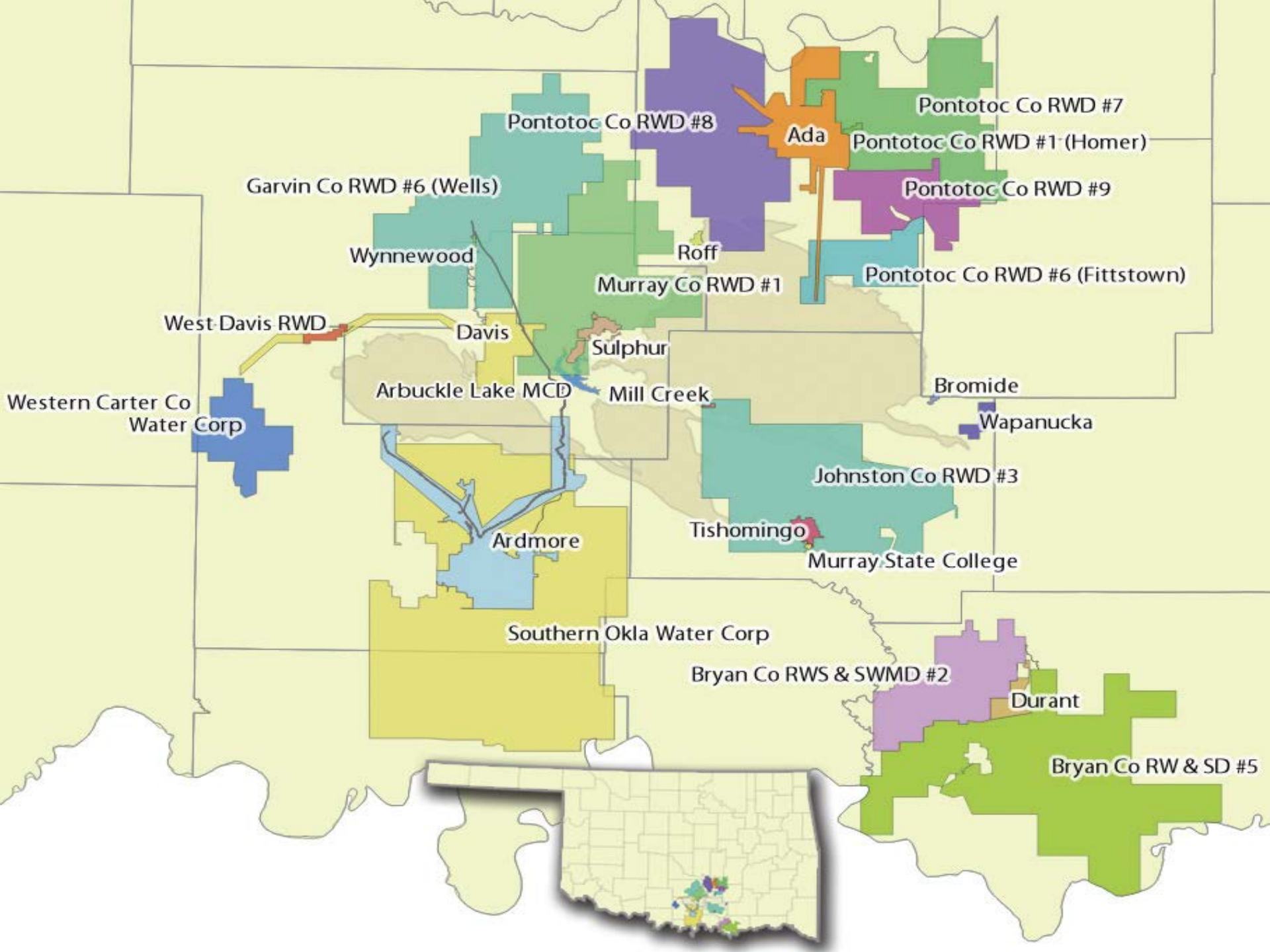
COAL

Arbuckle-Simpson
Aquifer DCP
Planning Region

JOHNSTON

CARTER

Planning
Region



Major Components of the DCP

Sector Vulnerabilities (Water Use,
Economic Considerations, Infrastructure)

Regional Climate Variability Assessment

Drought Monitoring System
(Recommended Triggers/Phases)

Drought Mitigation/Response Strategies

Implementation Schedule (Near-, Mid-,
Long-Term Actions)

Participants in the ASA DCP

DCP TASK FORCE

Arbuckle Master
Conservancy District

Durant

Sulphur

Tishomingo

Ada

Murray County Rural
Water District #1

Mill Creek

Roff

ADVISORY GROUP

Bureau of Reclamation

National Park Service
(Chickasaw National
Recreation Area)

Nature Conservancy

Oklahoma Department of
Environmental Quality

Oklahoma Water
Resources Board

Oka' Institute

Oklahoma Conservation
Commission

Rural Development

South Central Climate
Center

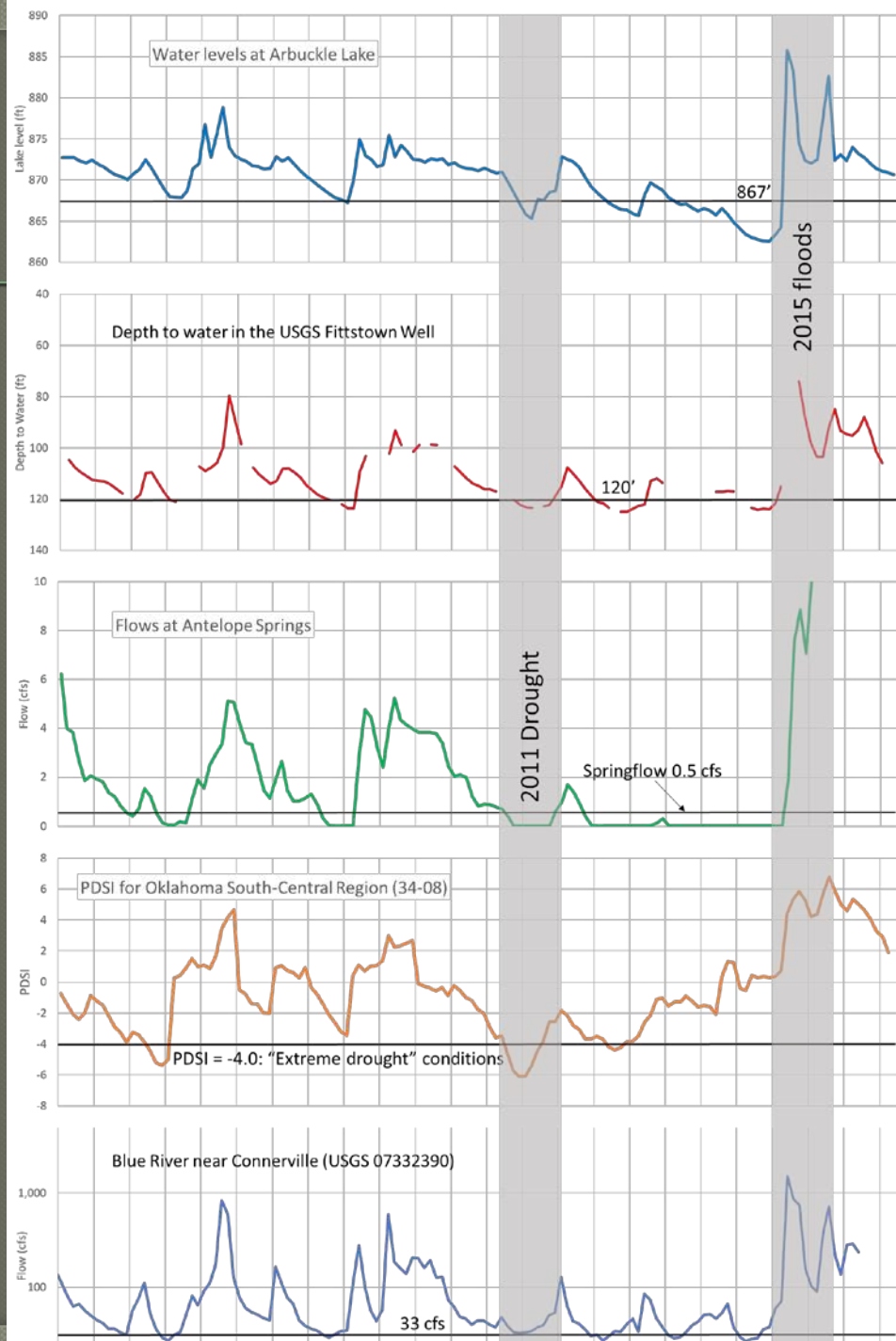
Southern Climate Impacts
Planning Program

USDA Climate Hub

Noble Foundation

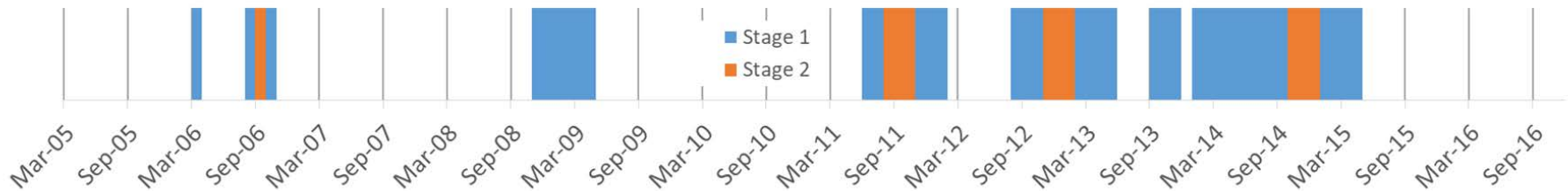
Drought Triggers

- Arbuckle Lake < 867'
- Fittstown < 120'
- Antelope Springs < 0.5 cfs
- Blue River Connerville < 33 cfs
- PDSI Climate Region 8 < -4.0



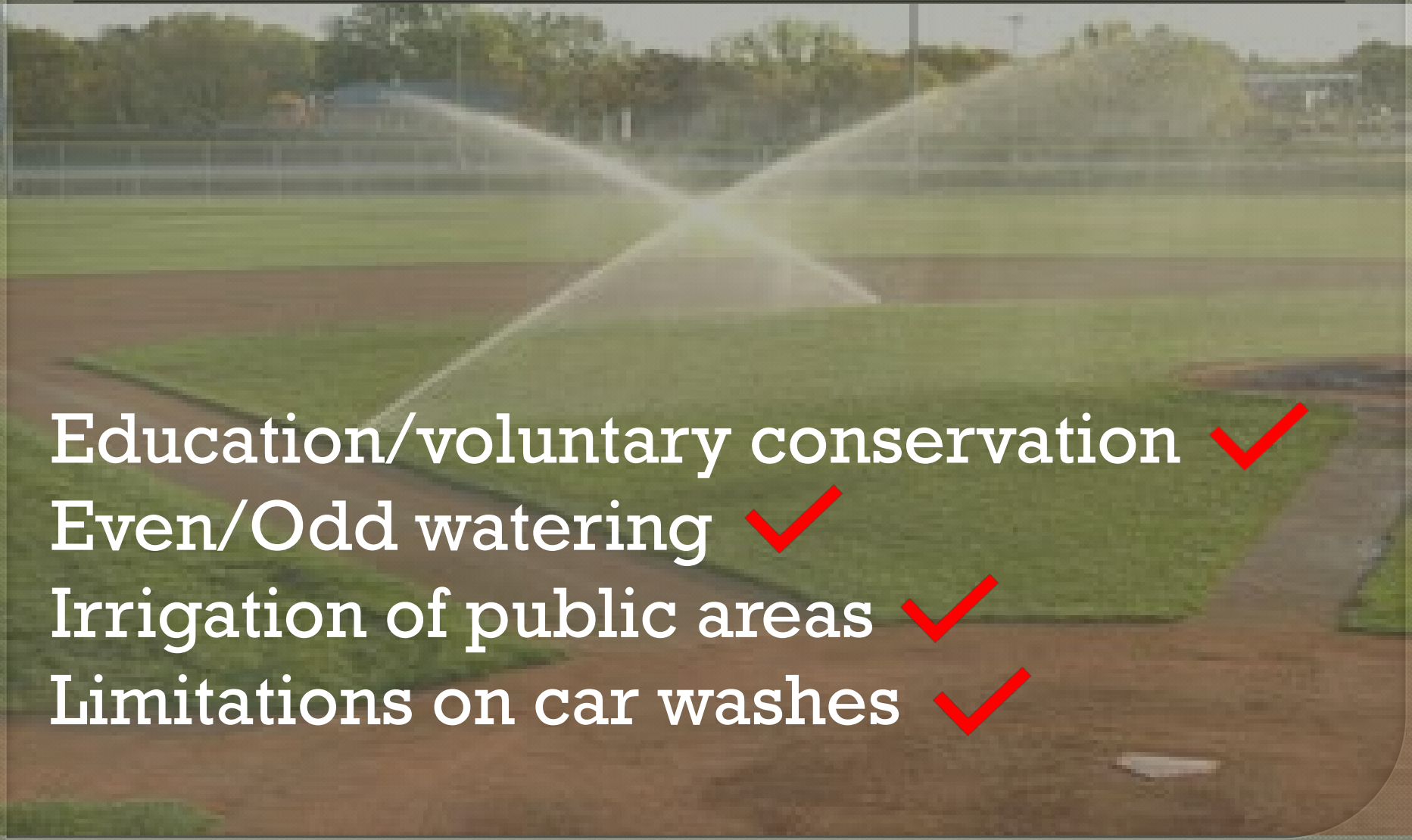
Triggering of Drought Stages

Stage 1 – Any of these thresholds reached
Stage 2 – Any 4 of these thresholds reached



Implementation of Proposed Drought Stages Based on Historical Data

Example Response Actions

- 
- A photograph of a baseball field with several large sprinklers watering the grass. The field is green with brown dirt bases and a pitcher's mound. The background shows a chain-link fence and trees.
- Education/voluntary conservation ✓
 - Even/Odd watering ✓
 - Irrigation of public areas ✓
 - Limitations on car washes ✓

Example Drought Mitigation

Water supply monitoring ✓

Distribution system inter-connects ✓

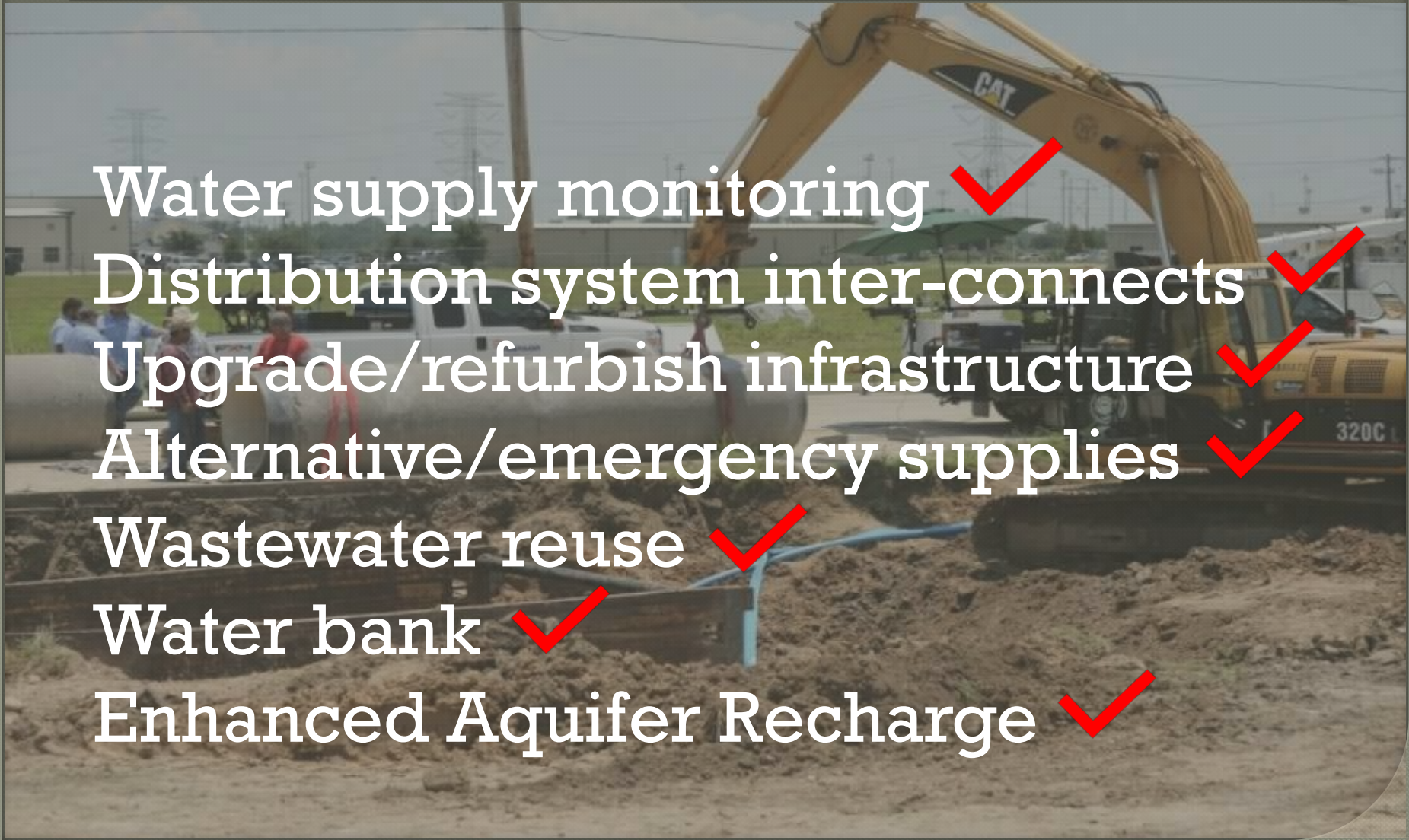
Upgrade/refurbish infrastructure ✓

Alternative/emergency supplies ✓

Wastewater reuse ✓

Water bank ✓

Enhanced Aquifer Recharge ✓



Challenges

We are not regulatory!

Lost revenue is an issue

Implementation of Response Actions
may be cheaper than developing
new supplies

ECU OKA Institute Drought Monitoring Web Site

- Monitoring : Drought stages
- Funding opportunities
- Meetings/info for water providers
- Workshops/conferences of interest

<https://www.okainstitute.org/drought-contingency>

Thank You!

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Water Planning, Science & Engineering

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