

Summary of policies, practices, and outcomes for managing rivers and lakes in the face of drought in states and provinces: Region 3

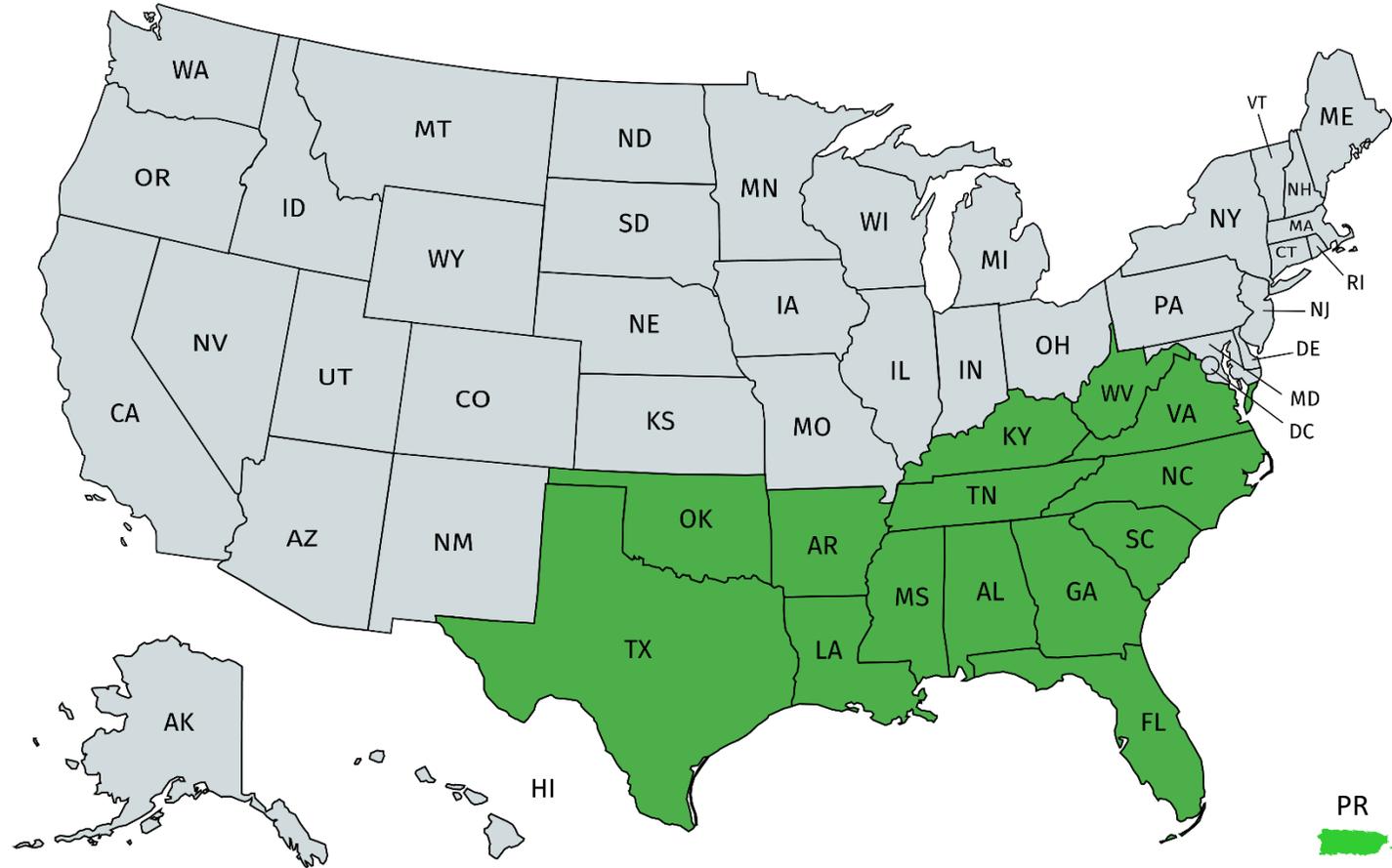
Clint Robertson - Texas Parks and Wildlife Dept.

The logo for Texas Parks & Wildlife is a green square with a white border. It contains the text "TEXAS" at the top, "PARKS &" in the middle, and "WILDLIFE" at the bottom, all in white, uppercase, sans-serif font. Horizontal white lines separate the three lines of text.

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Instream Flow Council – Region 3



Summary of Drought Planning in IFC Region 3

- Respondent IFC state representatives drought plans placed into three general categories:
 - No formal statewide drought coordination
 - Mississippi
 - Some formal statewide drought coordination
 - Oklahoma, Louisiana, Texas, Arkansas, Virginia, and Tennessee
 - Statewide drought coordination
 - Georgia, Florida, North Carolina, and West Virginia

No Formal Statewide Drought Coordination

Mississippi

- No formal drought plan.
- Mississippi Department of Environmental Quality (MDEQ) responsible for issuing permits for surface water withdrawals
- Default flow standard is minimum flows set at 7Q10 levels and MDEQ has authority to set minimum lake levels
- MDEQ notifies surface water users to cease withdrawals when flows reach 7Q10 levels



Some Formal Statewide Drought Coordination

Oklahoma, Louisiana, Texas, Arkansas, Virginia, and Tennessee

- Drought plans developed as part of statewide water planning process or through water permitting processes.
- Implementation of drought plans usually solely through the state water regulatory agency with little to no formal coordination with other agencies.

Some Formal Statewide Drought Coordination

Louisiana

- Water Resources Commission formed in 2000
 - Main focus on groundwater resources
 - Drought planning for surface waters not presently on the agenda



Some Formal Statewide Drought Coordination

Arkansas

- Arkansas Department of Emergency Management
 - All Hazards Mitigation Plan included minor amount on drought planning
- Arkansas Natural Resources Commission
 - In the beginning stages of developing drought plan



Some Formal Statewide Drought Coordination

Oklahoma and Texas

- Some drought planning through statewide water planning process.

Oklahoma

- Has a state Drought Management Team
- Developed “Tool for Planning Temporary Water Supply Response in Drought Emergencies” to assist in planning for water shortages.



Some Formal Statewide Drought Coordination

Virginia and Tennessee -

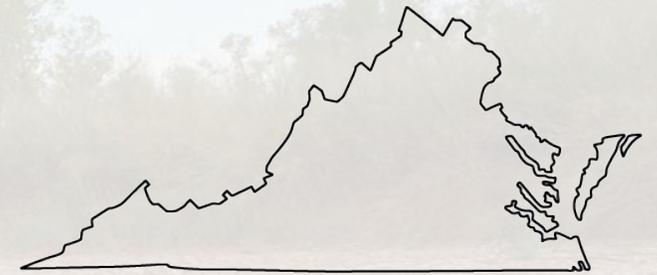
- State department of environmental quality developed and enforced drought plans.

Virginia

- Domestic consumption prioritized, but fish and wildlife resources equally important as other beneficial uses during droughts

Tennessee

- Georgia proposes redrawing Tennessee state line to gain access to the Tennessee River claiming the current boundary was drawn by surveyors overcome by Tennessee whiskey.



Statewide Drought Coordination

Georgia, Florida, North Carolina, and West Virginia

- Well defined drought management plans developed with specified coordination with other state/federal agencies.

Statewide Drought Coordination

Georgia

- Georgia Department of Natural Resources responsible for implementing state drought management plan with coordination with other state and federal agencies to implement portions of the plan as appropriate.
- Drought Response Committee may be convened and is comprised of state/federal agencies, NGOs, business and agriculture representatives



Statewide Drought Coordination

Florida

- Multi-agency development of the Florida Drought Action Plan administered by the Florida DEP to provide guidance to the Water Management Districts across the state.
- Protection of natural resources included the plan.



Statewide Drought Coordination

West Virginia

- Statewide multi-agency drought plan administered by the West Virginia Office of Emergency Services
 - Two drought categories:
 1. Agricultural Drought – moisture deficiency seriously injurious to crops, livestock, or other agricultural commodities.
 2. Hydrological Drought – reductions in streamflow and in lake and reservoir levels, depletion of soil moisture, lowering of ground water table, decrease in ground water discharge to streams and lakes.



Statewide Drought Coordination

North Carolina

- Statewide Drought Management Advisory Council
- Several river basins with drought management advisory groups (DMAGs)
 - Composed of representatives from state and federal agencies, local governments, and other water users.
 - DMAGs typically originate as outcomes of the FERC hydropower relicensing.

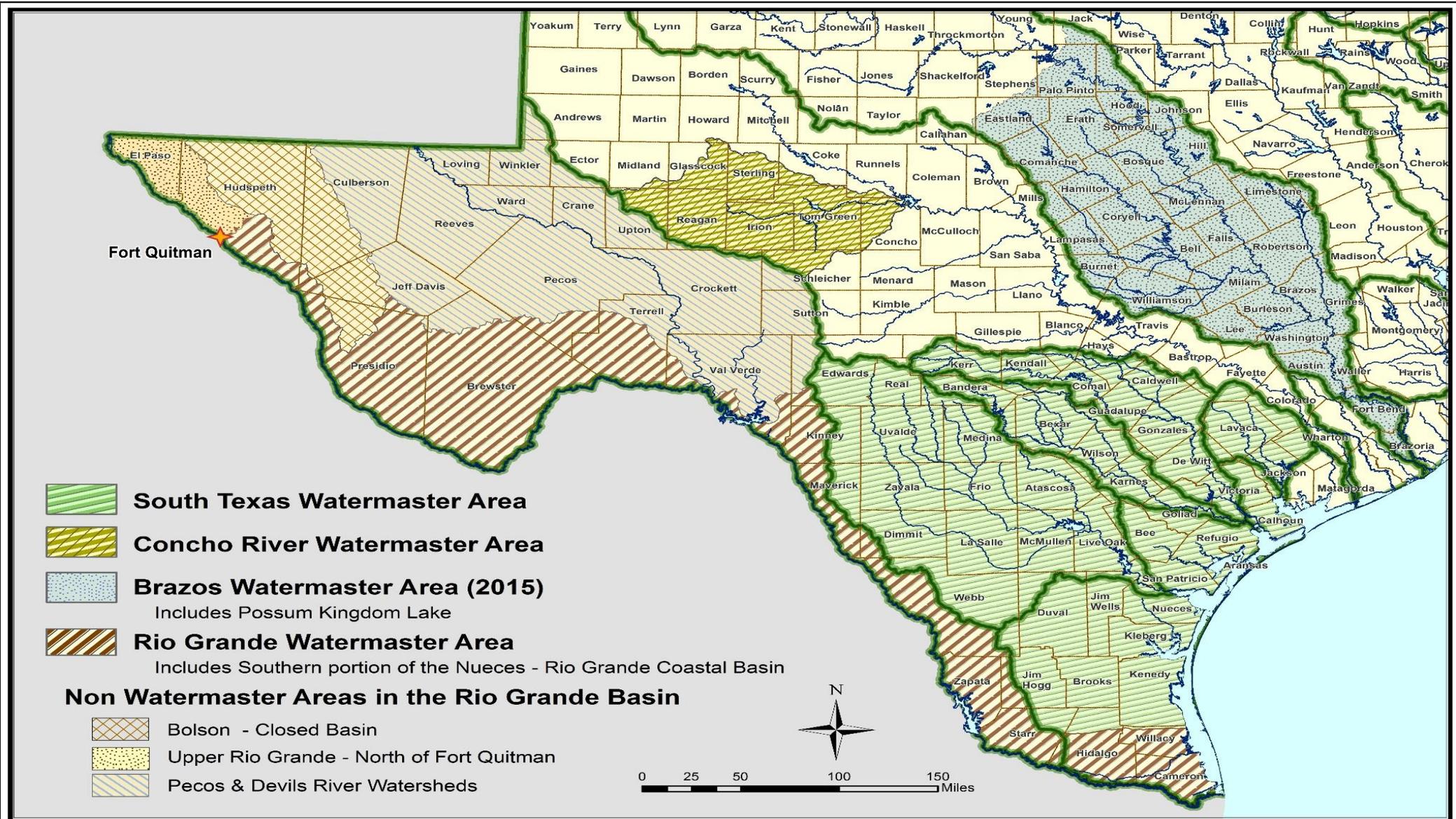


Texas Drought Planning

- Legislation requires water suppliers to create and implement “drought contingency plans” to ensure critical water needs are met during a dry period, minimizing the economic, social, and environmental impacts of droughts.
- Plans are an essential part of the state’s water planning process and updated every five years.
 - Water planning is done at the regional level in Texas
- Most plans are based on trigger levels (e.g. reservoir storage level, aquifer level, or spring flow) that municipalities or water suppliers must take steps to cut back on demand.

Texas Drought Response

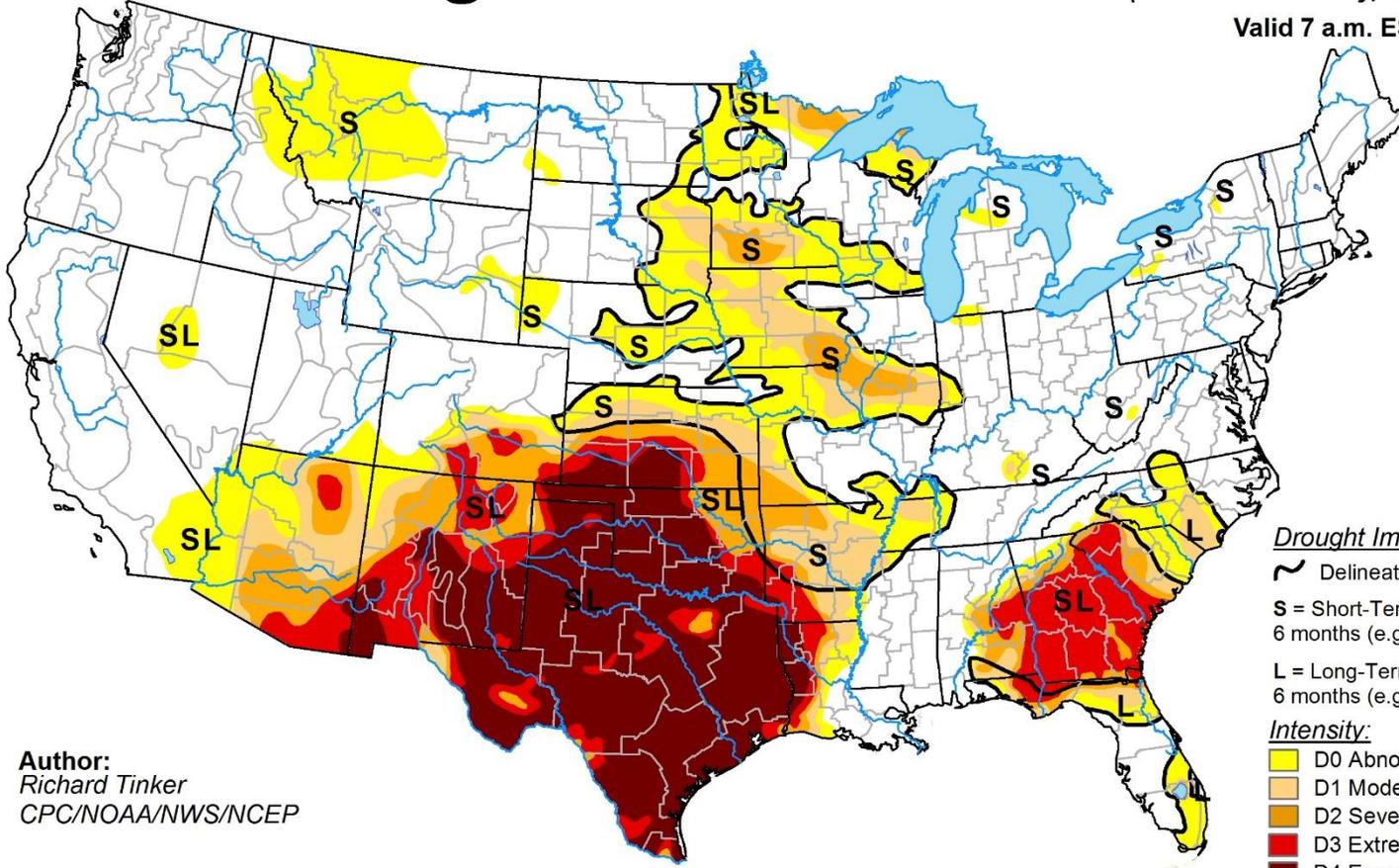
- Drought Preparedness Council established in 1999
 - Drought Monitoring and Response Committee
 - Texas Division of Emergency Management is the state drought manager and responsible for managing and coordinating drought response component of the state water plan.
- Texas Commission of Environmental Quality
 - Coordinates with water suppliers on implementation of drought contingency plans
 - Oversees Texas Watermaster Program



Texas Watermaster Areas

U.S. Drought Monitor

October 4, 2011
(Released Thursday, Oct. 6, 2011)
Valid 7 a.m. EST



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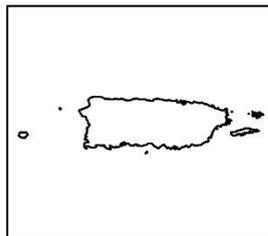
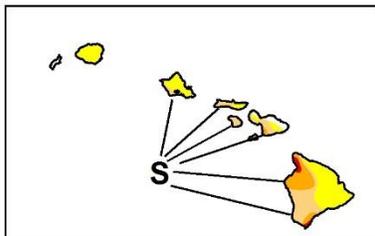
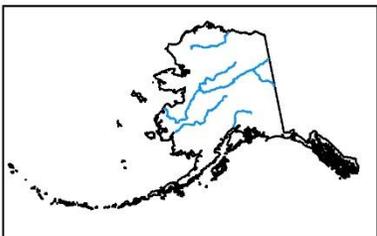
Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

Texas Drought of 2011

- Driest year on record.
- At the peak of the drought, over 80% of the state was in Exceptional Drought conditions

Texas Drought of 2011

- Drought Impacts:

AGRICULTURAL LOSSES 2011

\$7.62
BILLION

CATTLE SECTOR LOSSES 2011

\$3.23
BILLION

COTTON PRODUCTION LOSSES 2011

\$2.2
BILLION

Double Mountain Fork of the Brazos River

- Home to two endemic minnows
- Ceased flowing during the drought of 2011
- Listed as endangered by the U.S. Fish and Wildlife Service in 2014



Smalleye Shiner *Notropis buccula*



Sharpnose Shiner *Notropis oxyrhynchus*







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