Drought in Texas

How the State Prepares for and Responds to Drought

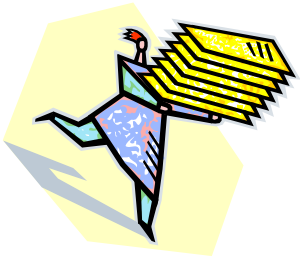
Brenner Brown

Texas Water Development Board

Water Forum III

“Joe, looks like rain, don’t you think?”
“Sam, long as you’ve lived in West Texas you ought to know better’n that .”
“But Joe, just look at those big clouds over there.”
“Hell Sam, they’re just empties coming back from Florida.”

From Fine Wool and Clippings SGR 1953



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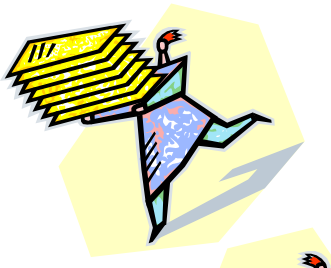
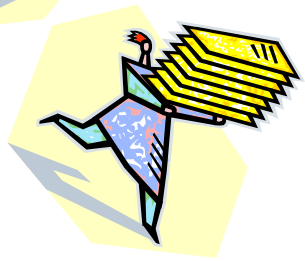
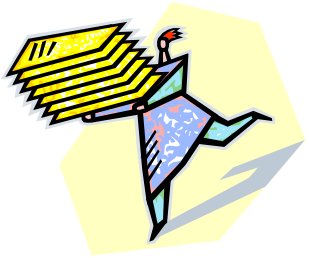
- Regional water plans
  regional water planning groups
- State water plan
  texas water development board
- Water conservation plans
  certain retail public water providers



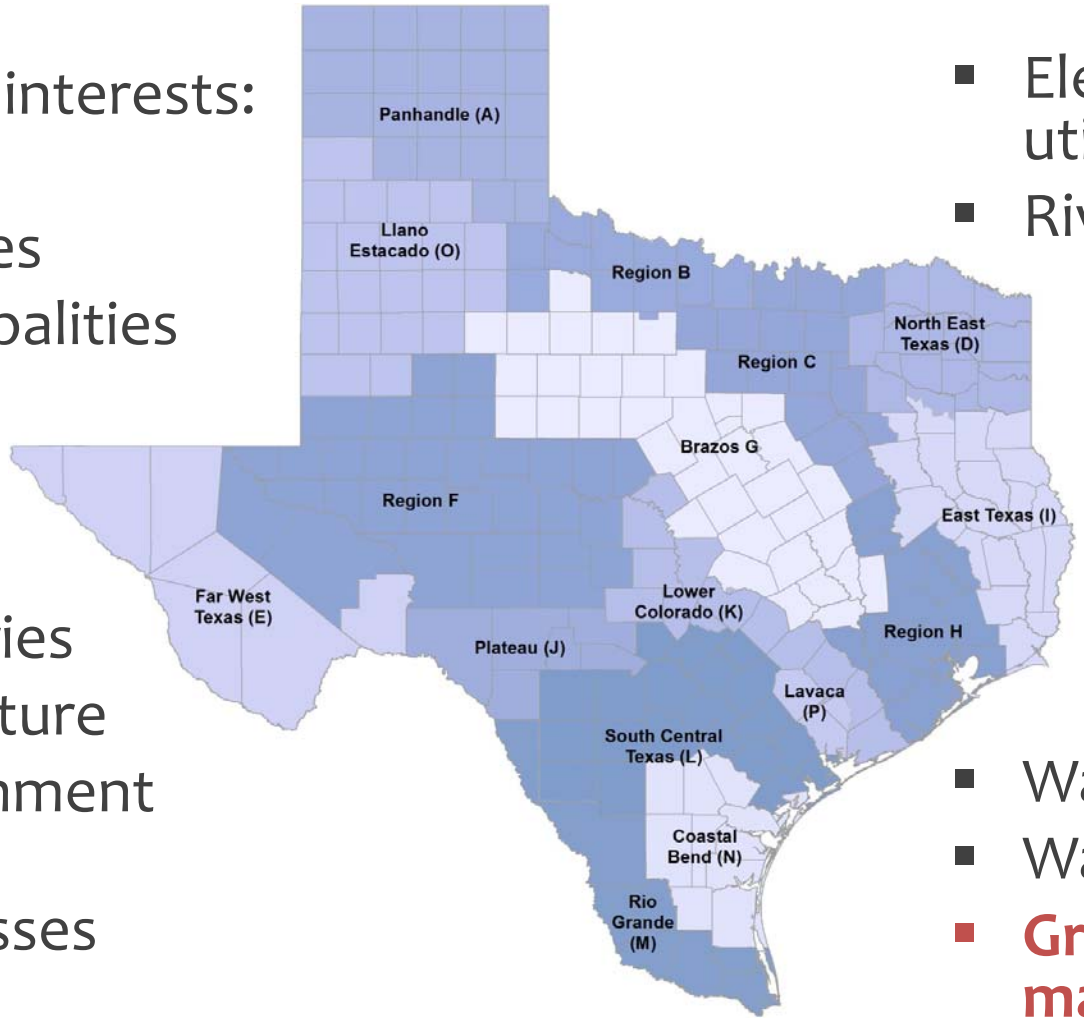




Regional Water Planning

Statutory interests:

- Public
- Counties
- Municipalities



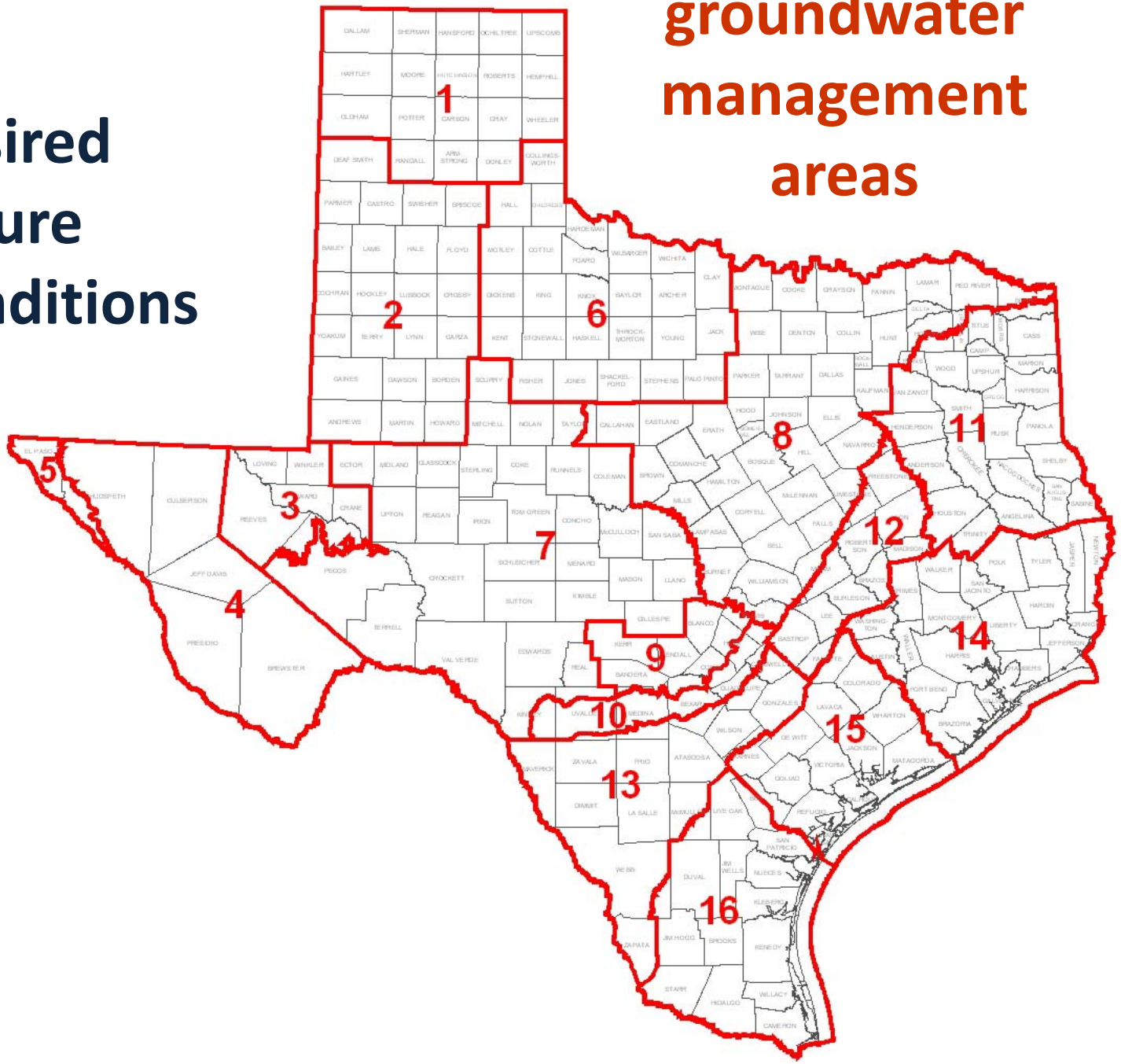
- Industries
- Agriculture
- Environment
- Small businesses

- Electric-generating utilities
- River authorities

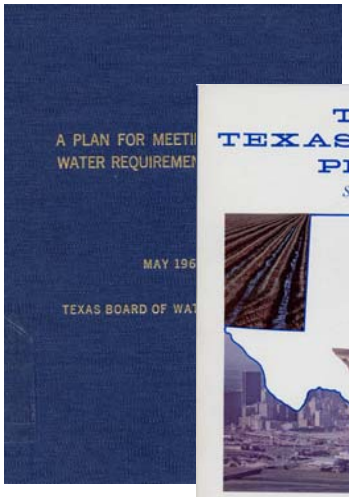
- Water districts
- Water utilities
- **Groundwater management areas**

Desired Future Conditions

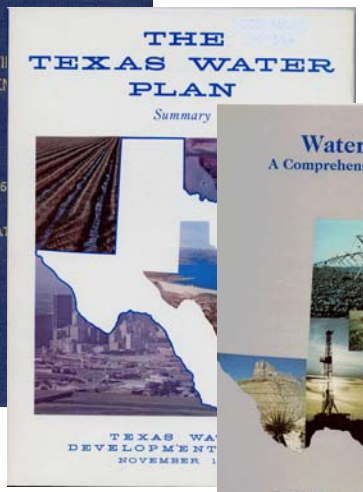
groundwater management areas



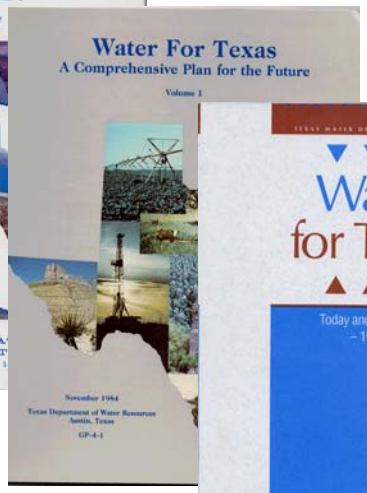
State Water Plans



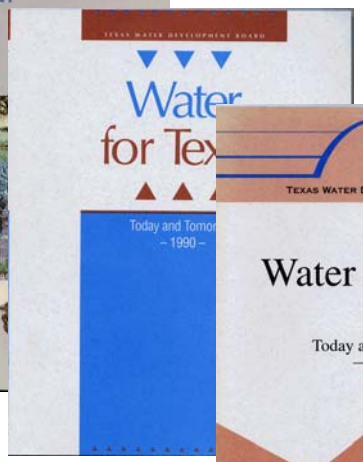
1961



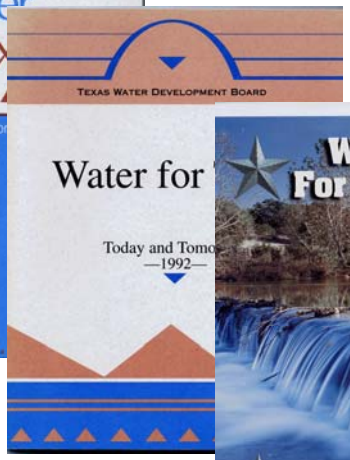
1968



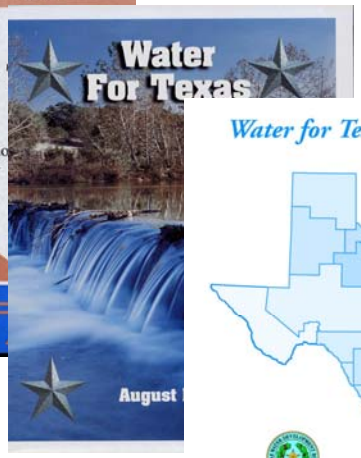
1984



1990



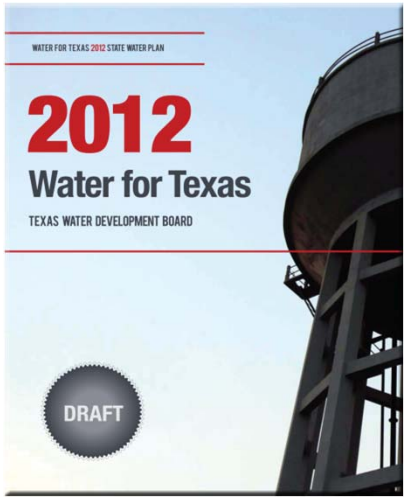
1992



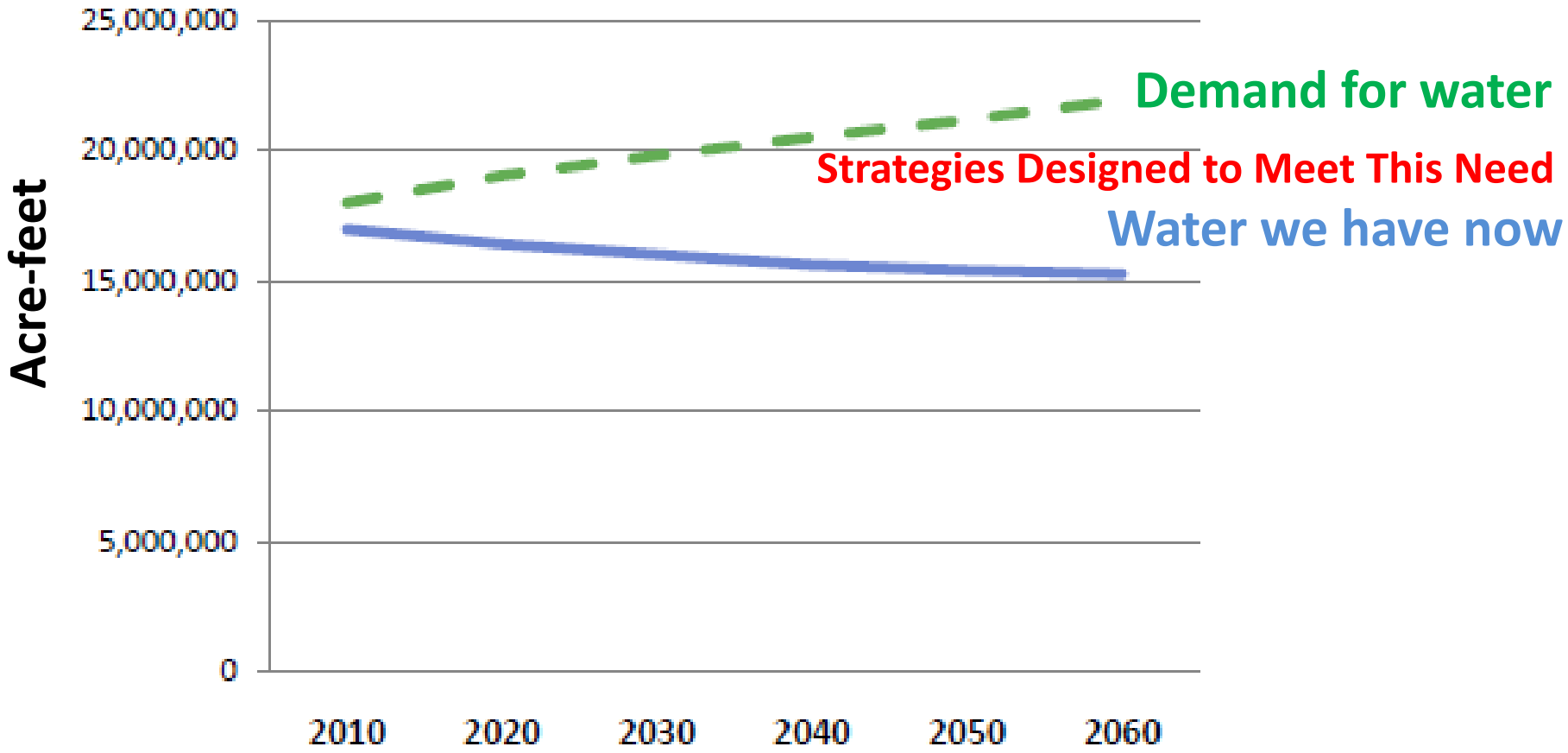
1997

2002

2007

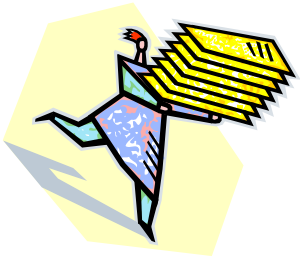


Are we ready for the next drought?



WATER CONSERVATION PLAN (WCP)

- Is a strategy for:
  - Reducing the consumption of water
  - Reducing the loss of water
  - Improving the efficiency of the use of water
  - Increasing the reuse of water
- Contains Best Management Practices (BMPs)to meet identified targets and goals.
- Should be reviewed and updated every 5 years.



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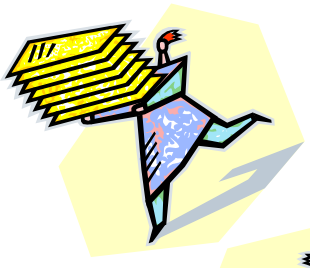
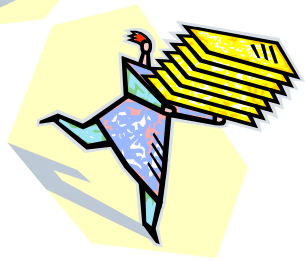
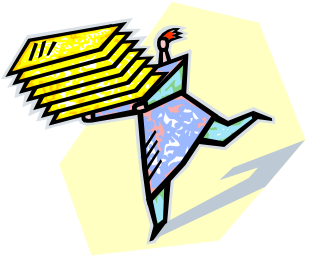
- **Drought contingency plans**
  certain wholesale, all retail public water providers
- **Drought preparedness plan**
  drought preparedness council
- **Annex A Emergency Drinking Water**
  emergency drinking water task force







DROUGHT CONTINGENCY PLAN (DCP)

- Is a strategy for responding to temporary water supply shortages.
- Must include quantified and specific targets for water reduction during a water shortage.
  - Drought response stages
  - Triggers to begin and end each stage

HB 3604

- Should be reviewed and updated every 5 years.
- Can be part of your WCP.

Drought Preparedness Plan

- integrated approach to minimize the impacts of drought
- Identifies the local, state, federal and private sector entities
- Defines a process to be followed in addressing drought-related activities
- Disaster Proclamation for Drought Recommendation

Annex A Emergency Drinking Water

- This Annex is a supplement to the State Drought Preparedness Plan focusing specifically on developing procedures to enable public water systems to provide adequate potable water for drinking and sanitation to ensure public health and safety.
- Emergency Drinking Water Task Force

Rewritten in 2012 as a result of drought of 2011

Emergency Drinking Water Task Force

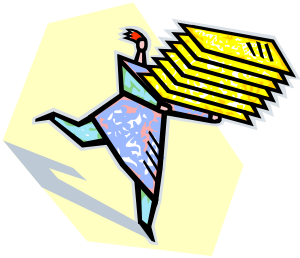
- High priority 180 day list
- Identify Strategies from State Water Plan
- Outreach in coordination with funding agencies

Priority Calls

San Saba (D & L)	Between July 5 and July 12, TCEQ received five calls in the San Saba Basin from the following individuals: Robert Davee; Nick Singleton; Griff Thomas; Jan N. Hughes, Jack O'Donnell. Staff is evaluating the calls to determine the appropriate response.
Guadalupe Basin (South Texas WM)	On July 9, 2013, the South Texas Watermaster staff received one D&L Call from a land owner on the Guadalupe River near Spring Branch in Comal County. Water right holders have been on a curtailment schedule and due to the call the curtailment schedule has been escalated. No new temporary permits are being approved.
Concho Basin (Concho WM Area)	On July 9, 2013, Concho Watermaster staff received one D & L priority call on Spring Creek in Irion County. Upstream water right holders have been on a curtailment schedule, and no new declarations of intent will be approved at this time.
Brazos River (Dow)	Received a senior call from Dow on June 26, 2013. On July 2, 2013, letters were sent to suspend water rights below Lake Possum Kingdom, junior to Feb. 14, 1942.

TCEQ High Priority Water System List (180 Day List)

- **36 entities on the 180 day list**
  - **serving 185,333 connections**
  - **population of 533,722**
- **23 have identified groundwater as their emergency solution**



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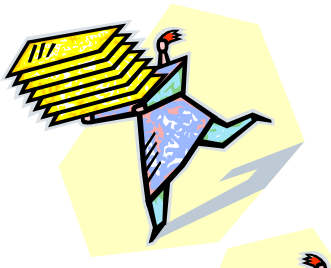
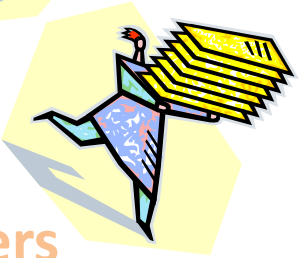
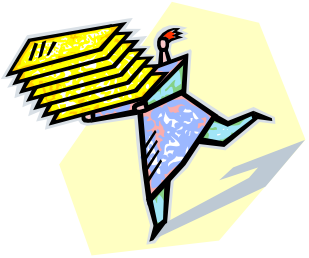
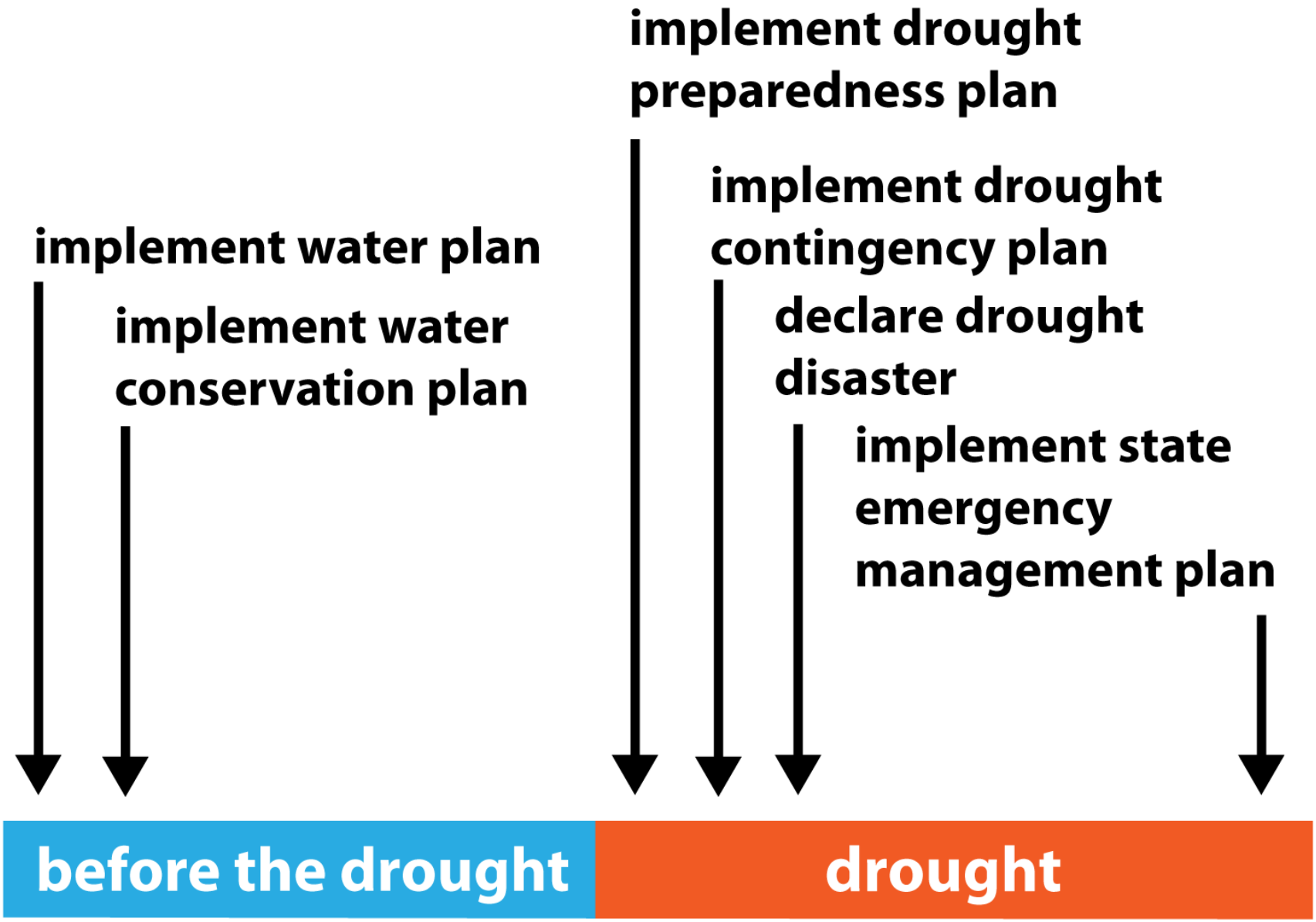
  texas division of emergency management








implement drought preparedness plan
implement drought contingency plan
declare drought disaster
implement state emergency management plan
implement water plan
implement water conservation plan
before the drought
drought

the greatest single cause of water shortages in the cities was the desire of citizens to preserve water loving plants imported from humid regions.

some of the largest of these cities have been humiliated by having to ration the use water for domestic purposes such as watering gardens and washing cars.

Water for Texas
Walter Prescott Webb

The farm population branch of the united states department of agriculture and the Texas agricultural Experiment Station…made estimates of the effects of drought on the farm ranch population changes between 1950 and 1957. Their findings indicate that in regions of severe and prolonged drought the agricultural population fell by about 35% in areas of intermediate seriousness the decline was 27% and in the least severe drought areas the decline was 15%.

Kimble was one of 143 counties in Texas that encountered population losses between 1950 and 1960.—4,619---3,943…the average decline among all Texas counties losing population was 13.3%.

Mr. Charles K. Foster, now Chief Engineer of Water Supply of the Texas State Department of Health, was a member of the Dallas County Health Board for the entire drought period and believes the **truth of the Dallas water crisis of the 1950's will never be known** as closed sessions of the City Council and clever **manipulation of data leaves largely obscured much of the direct evidence that might induce industries to place their investments elsewhere**

By the winter of 1952-53, Dallas municipal water levels had been reduced by drought to only a few months' supply at best

Plans were proposed to tap the Red River and the West Fork of the Trinity

Trigg Twichell, hydraulic engineer for the United State Geologic Survey, delivered a public address in Dallas emphasizing that the ultimate cost of Red River water to the city would be incalculably great. Twichell stated that the "raw water" of the Red River contained "ten times more dissolved minerals than the raw water of Lake Dallas."

by far the most dramatic event of the 1953 water supply season was the introduction of Red River water into the city mains. By August the six 800-horsepower pumps were in place ready to hurl almost 10,000 gallons of water per minute through a main with a four foot diameter on the first phase of the trip to Dallas

November of 1956 became the biggest month in history for Dallas automobile radiator repairmen, as brackish water broke down cooling systems.

The city of Dallas and the Sabine River Authority signed an agreement in July, 1956. Dallas would pay the $20 million cost of the dam and receive 80 percent of the water, an estimated 160 MGD.—Iron Bridge Dam agreement

"the greatest outrage to City Hall was the Cotton Bowl, that emporium of gladiator pride, having to drill its own well within the stadium in order to water the turf because the Dallas water works could not furnish the means for such lavish irrigation…. Good strike made at a depth of only 35 feet just 27 yards south of the goal posts."

Hatfield, T.M., 1964, The Texas drought of 1950–1956, The University of Texas, 81 p.

Brenner Brown
(512)475-1128
Brenner.brown@twdb.texas.gov
www.twdb.texas.gov

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