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Accounting for Conservation and Growth in Times of Water Shortage

WaterSmart Innovations 2012

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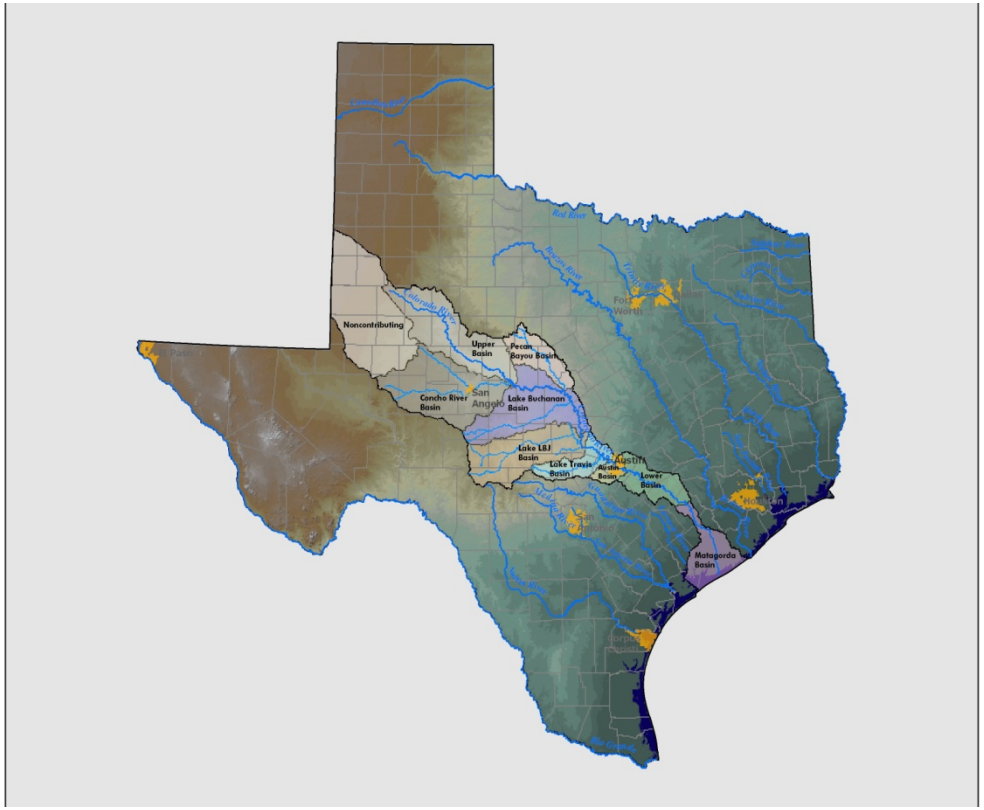
Today's Presentation

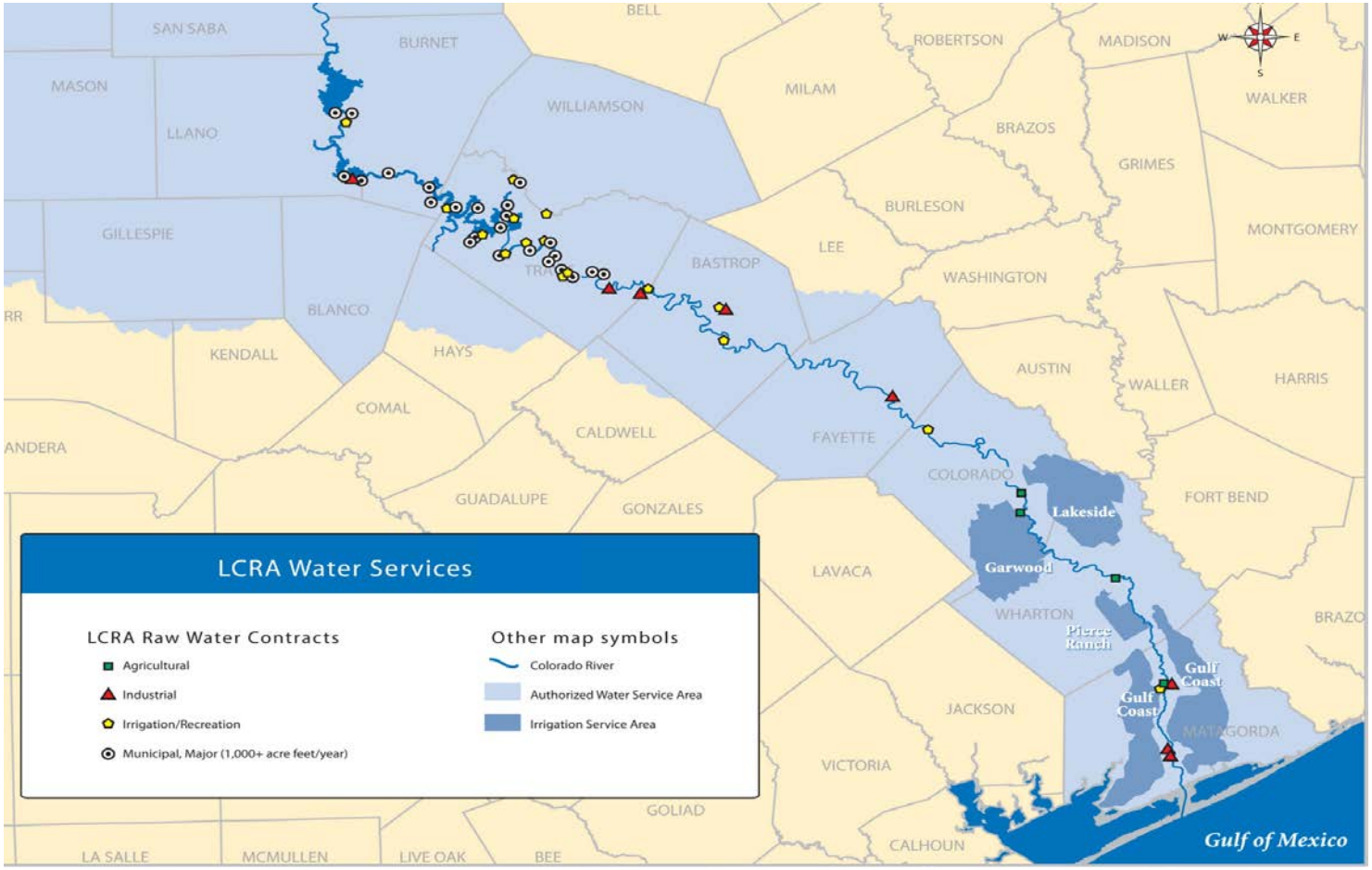
- **Overview of LCRA and 2011 drought**
- **Pro rata curtailment plan review process**
- **Results and recommendations**

The Colorado River of Texas



- **Largest river within Texas**
- **Second largest intrastate watershed in United States**
- **Central portion of watershed covers 15,000 square miles (“Flash Flood Alley”)**
- **Almost 900 miles long (LCRA controls lower two-thirds)**
- **(Mis)named in 1690**
- **Not affiliated with that other Colorado River (which was named in 1776)**
- **Feds originally concluded Texas rivers not worthy of development.**

Lower Colorado River Basin

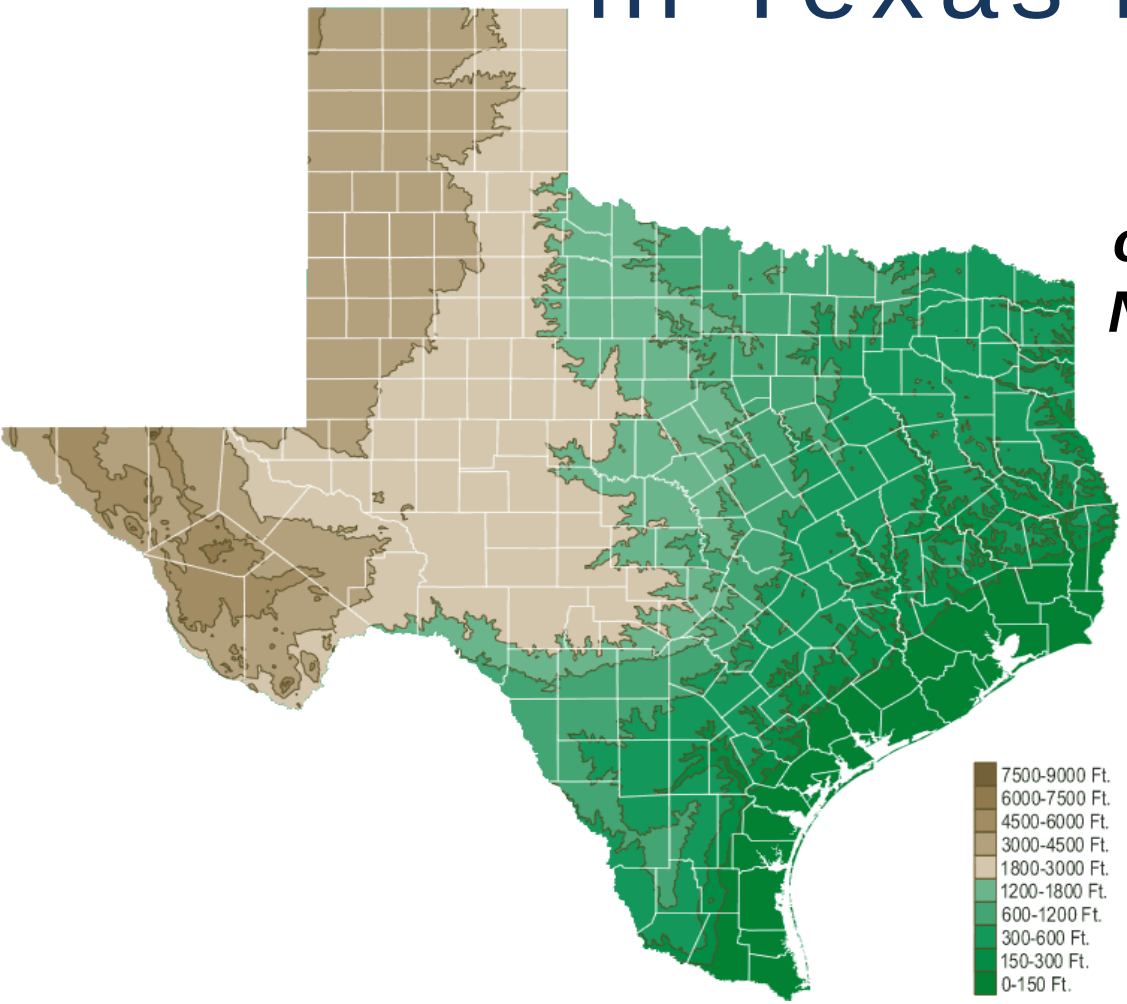


LCRA Water Customers

- **67 municipal customers**
- **58 irrigation and recreation customers, includes golf courses**
- **11 industrial customers, includes power plants**
- **Total firm water contracts, minus domestic users: 136**

- **4 Agricultural Irrigation Divisions**

Worst Short Term Drought in Texas History



Texas
Driest October-September on record with 11.18 inches. Normal is 29.11. Record low was 13.91 inches Oct 1955-Sep 1956.

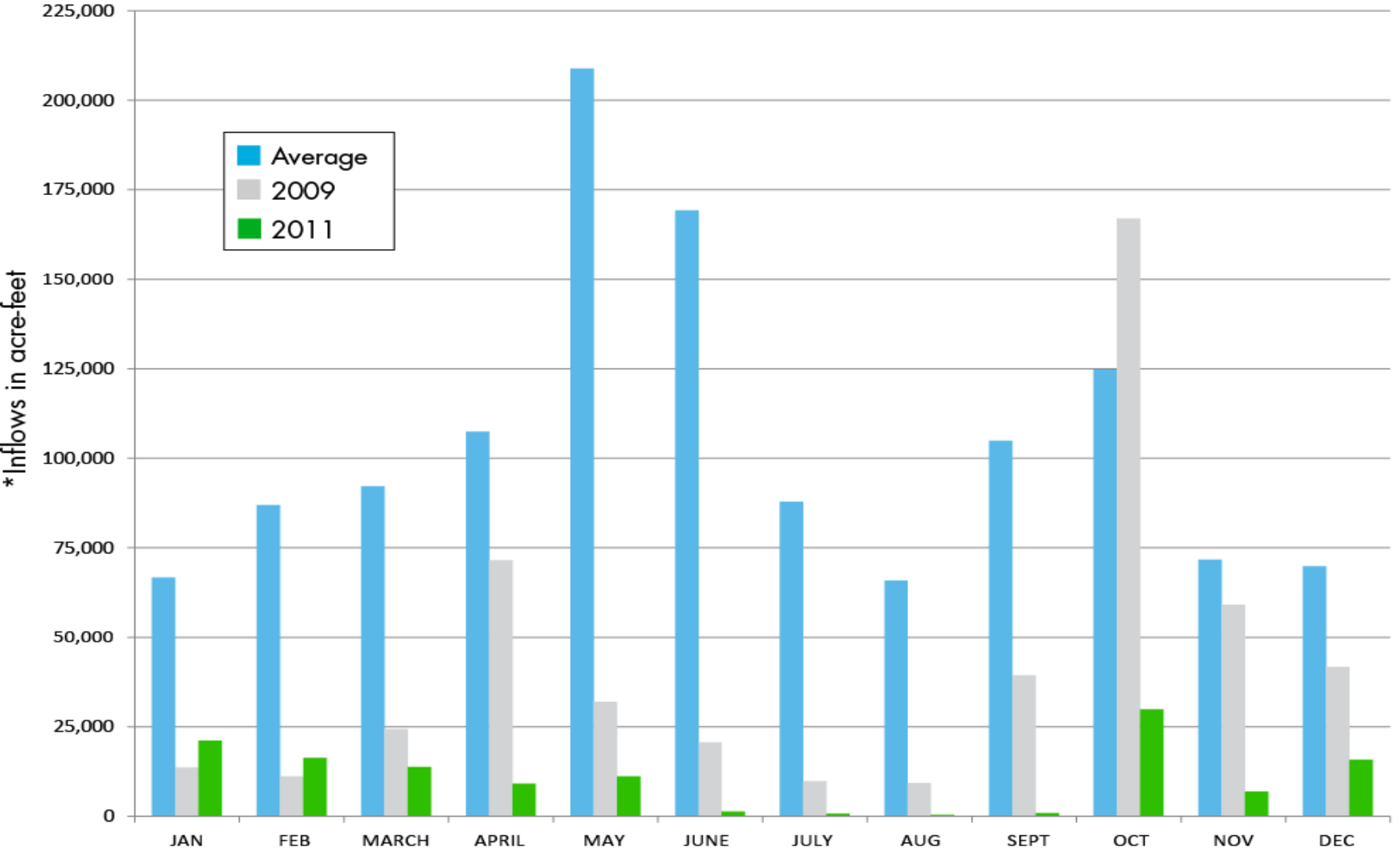
Central Texas
Driest October-September on record with 11.42 inches. Normal is 35.66. Record low was 15.91 inches Oct 1955-Sep 1956.

Austin's Hottest Year on Record

- **Average temperature 72.6 degrees. *Previous record 71.6 degrees in 2006.***
- **Hottest April, July, August and September on record. Second hottest June.**
- **Hottest summer ever recorded.**
- **90 days at or above 100 degrees.**

Water flowing into the Highland Lakes

Rivers and streams are drying up



*Inflows: the estimated amount of water flowing into the Highland Lakes from rivers and streams. Data for 2011are preliminary and subject to change.

January - December totals (in acre-feet)

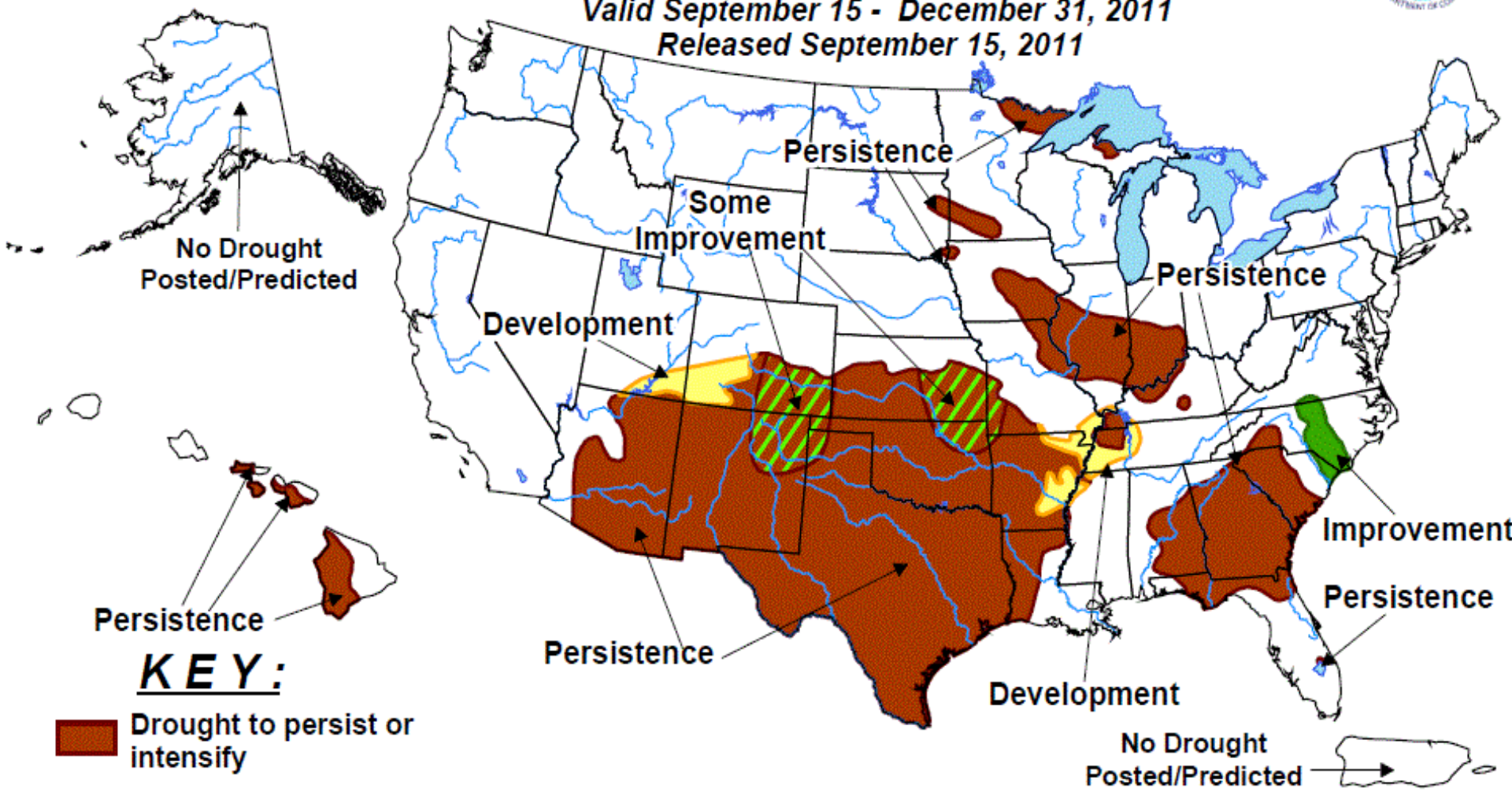
Average:	1,256,710
2009:	499,732
2011:	127,699

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid September 15 - December 31, 2011

Released September 15, 2011

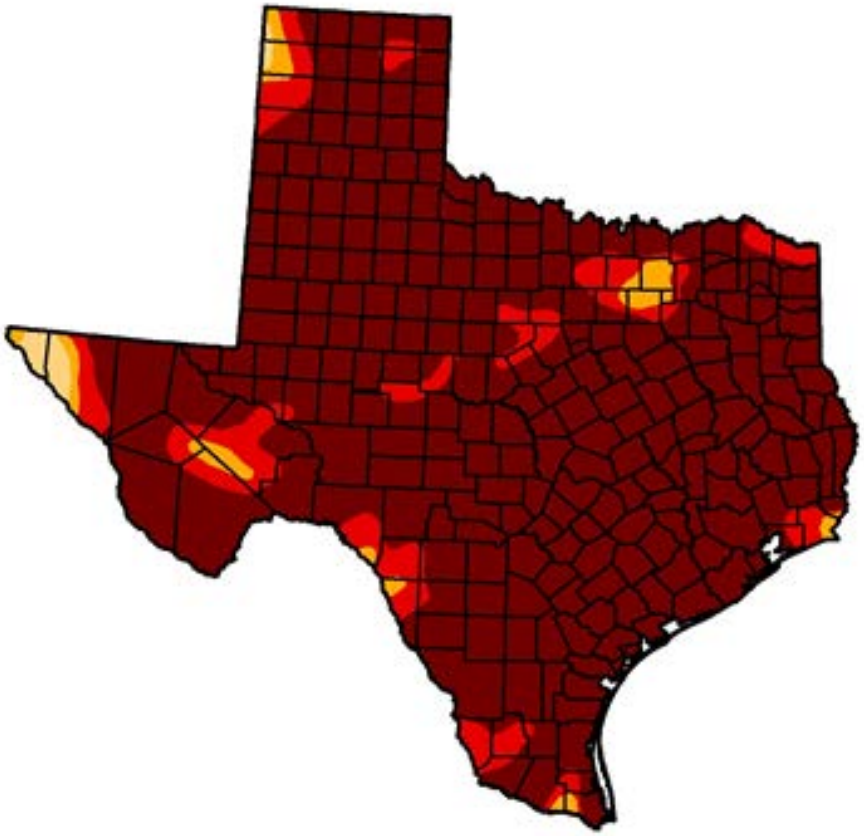


K E Y :

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels,

Drought status: Oct 4, 2011



-Projections to reach DWDR by March 2012.

-LCRA Drought Plan requires staff to begin preparing for pro rata curtailment if likelihood of reaching DWDR within six months.

-Drought projected to continue into 2012.

Pro Rata Curtailment

- **Included in all LCRA Drought Contingency Plans, beginning in 1989**
- **Texas Water Code – used in times of shortages**
- **Only in a drought worse than Drought of Record**
- **Rules drafted in 2009-2010, with input gathered at customer meetings**
- **LCRA Board approved rules in June, 2010**

Pro rata concepts

- Baseline Amount: Customer's projected reasonable demand which is subject to pro rata curtailment.
- Annual allotment: A customer's final water allotment, by month, with 20% less than baseline amount at end of 12-month pro rata period.
- Surcharges: Fees assessed for using more than water allotted.
- Allotment Plan: includes the annual allotment, a designated drought coordinator and drought response measures.

Possible Modification to Baseline due to

- Disruption in water use
- Alternative water supply no longer available
- Growth
- Whether the customer is implementing its water conservation or drought contingency measures

Modification to the Baseline Amount – how it worked

- ***Customer A*** baseline amount = 90 acre-ft
- 20% reduction to baseline amount = 18 acre-ft

- ***Annual allotment = 90-18 = 72 acre-ft***

- ***Customer B*** baseline amount = 90 ac-ft + 10 ac-ft conservation savings = **100** ac-ft
- 20% reduction to ***modified*** baseline amount of **100** ac-ft = 20 ac-ft

- ***Annual allotment = 100 – 20 = 80 ac-ft***

Modification: Conservation

- Must have occurred in reference year
- Limited to programs implemented over the past 10 years
- Demonstrated savings
  - Permanent equipment or process change
  - Other measures – statistical analysis
- Definition included wastewater reuse.

Implementing Pro Rata

- Customer meetings: Oct. 2011, Jan. 2012; plus numerous individual.
- Review process: Nov. 2011 – June 2012
  - Staff review, discussions/meetings with customers
  - Oversight Committee
  - LCRA External Affairs Manager
- Results
  - 84 customers submitted plans
  - Of those, more than ½ requested modifications
  - Wide range of reduction levels, from 0% to 20%

Modification Growth Results

- **The most common request**
- **Issues**
  - Based on past, does not always represent future
  - New developments - uncertainties
  - Only good through 2012
  - Because earliest DWDR will not happen in 2012, all growth modification requests would have to be resubmitted

Growth recommendations

- Growth would still be considered.
- Evaluate *after* the first year pro rata curtailment is actually in place.
- Only need to evaluate if customer exceeded annual allotment *and* growth caused it.
- LCRA will develop more detailed guidelines for how to document growth.

Conservation Results

- Conservation savings difficult to prove:
  - Most customers do not track savings
- Reuse results:
  - Some customers would not have to decrease reference year use.

Conservation recommendations

- Continue limiting programs implemented to 10 years before reference year.
- Continue with the need for demonstrated savings.

Customer DCP Plan Rules: Proposed Additions *under DWDR*

- Ornamental landscape:
  - Restrict daytime water use.
  - Limit spray irrigation to no more than once per week.

- Ornamental fountains must be turned off.

- Revegetation allowed, but must comply with local NPS pollution regulations.

Why the proposed changes?

- Make this an easier, less time-intensive process.
- Move closer to the actual meaning of pro rata curtailment.
- Provide more assurance that additional water will be conserved in DWDR.

Thank You!