City of Austin WATERSHED PROTECTION

# Best Business Practice: Drought-Tolerant Landscapes

# Beneficial Use of Stormwater

February 11, 2015

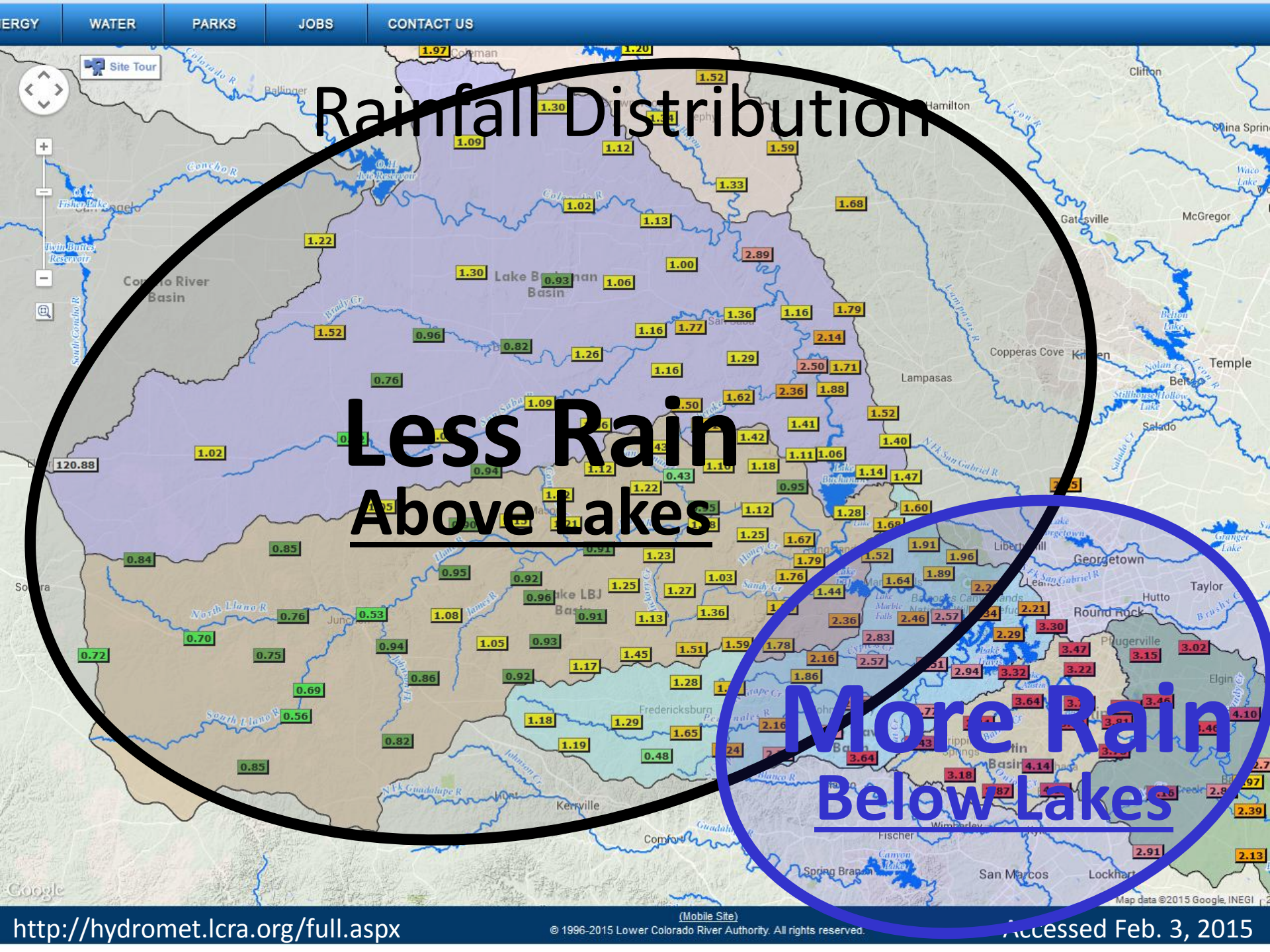
Photo of City of Austin Water Quality Protection Lands during drought.

# Presentation Overview

- We have a problem
- We still get rain
- We need to keep it on the land
- How to get there:
  - ➢ Address implementation challenges
    - Regulatory approach; design; construction; maintenance; urgency
  - ➢ Embrace a culture of water stewardship
- What we're doing / next steps

# Lakes Travis & Buchanan: 35% Full

LCRA video of Lake conditions, March 10, 2014
http://www.youtube.com/watch?v=hmbIt7kzU1U




http://hydromet.lcra.org/full.aspx

(Mobile Site)
© 1996-2015 Lower Colorado River Authority. All rights reserved.

Accessed Feb. 3, 2015

# “Texas drought kills as many as half a billion trees”
## -- Reuters, Dec. 2011

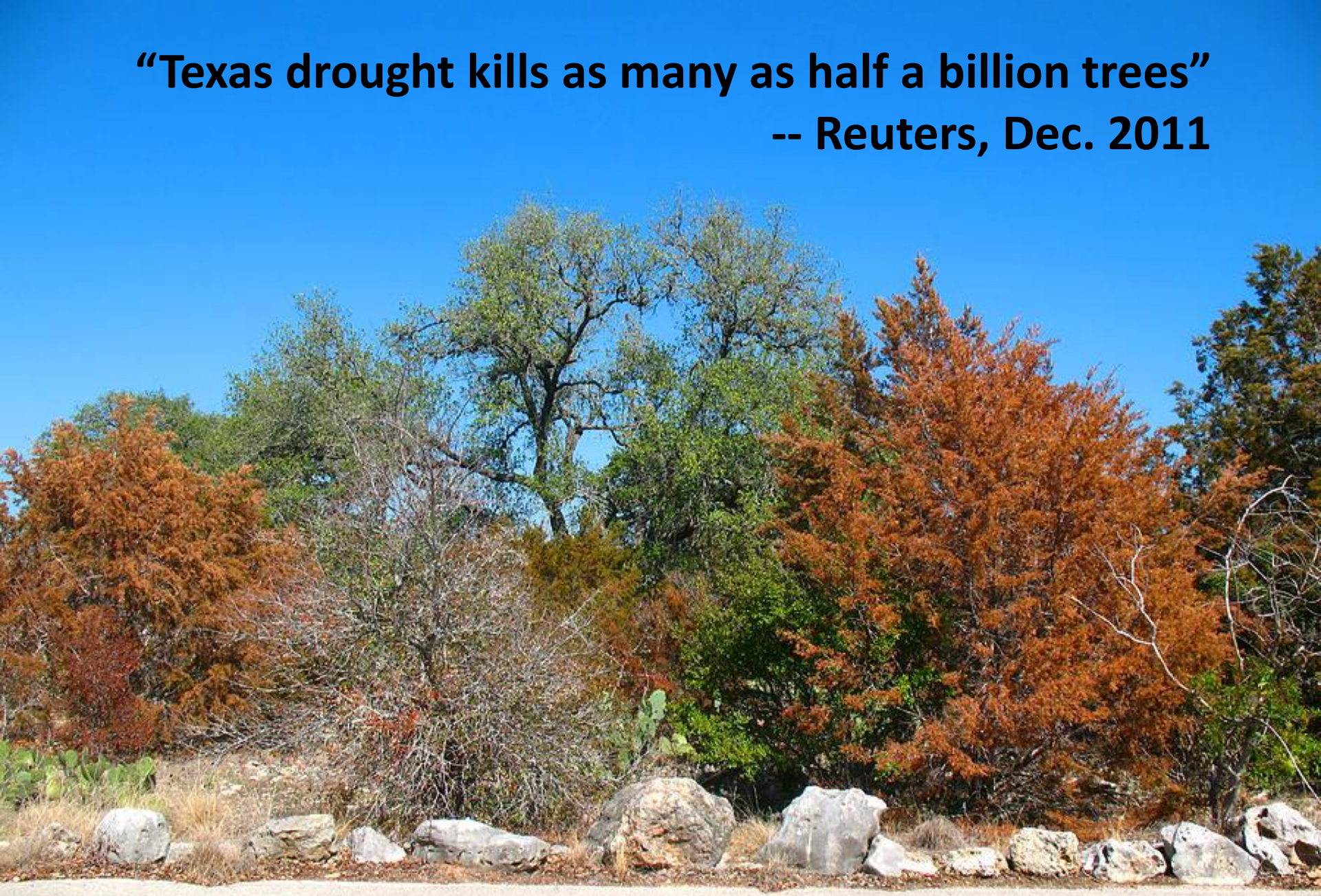


Image: http://images.fineartamerica.com/images-medium-large-5/dying-trees-in-texas-drought-connie-fox.jpg
Article: http://www.reuters.com/article/2011/12/20/us-drought-trees-texas-idUSTRE7BJ20M20111220

# Impervious Cover and Runoff

## Avg. Annual Conversion of Total Rainfall to Runoff

| Imperv. Cover Pct. | Avg. Annual Runoff | Ratio to Undeveloped (5% IC) | Typical Land Use |
|---|---|---|---|
| 5% | 4% | 1.0 | Open/Preserve |
| 20% | 14% | 3.3 | Low-Density SFR |
| 40% | 29% | 7.1 | Single-Family Res. |
| 60% | 48% | 11.4 | Multifamily Res. |
| 80% | 69% | 16.4 | Commercial/Office |

**Source: Derived from Barrett et al., CRWR, 1998. | SFR = Single-Family Residential**

# Austin Water Resource Planning Task Force: Report to City Council (July 2014)

**Developing a Culture of Water Stewardship Innovation**

1. Become the Most Water-Efficient Community in Texas
2. Lead a New Era of Regional Cooperation
3. Tap into the Cityscape as a Water Supply Source

http://austintexas.gov/sites/default/files/files/Water/AustinWaterResourcePlanningTaskForce_ReportToCityCouncil.pdf

# Cityscape as Water Supply: City of Austin Stormwater Initiatives

- 2010 Landscape Ordinance
- Watershed Protection Ordinance Phase 2: Beneficial Use of Stormwater
  - Retain/infiltrate water on-site for baseflow, quality, plants
  - Capture rainfall to reduce potable water use, conserve
  - Consider national examples (e.g., Maryland, Georgia, et al.)
- Imagine Austin Comprehensive Plan / CodeNEXT
  - Green Infrastructure Working Group: integrate nature into the city → continuation of WPO Phase 2
  - Meetings ongoing through early summer 2015

# City of Austin Rain Garden Support

grow green

earth-wise guide to

## Rain Gardens

*Keeping Water on the Land*

### what is a rain garden?

A rain garden is a shallow, vegetated depression designed to absorb and filter runoff from hard (impervious) surfaces like roofs, sidewalks, and driveways. Rain gardens are usually planted with colorful native plants and grasses. They not only provide an attractive addition to the yard, but also help to conserve water and protect our water quality.

### how does a rain garden help?

As Austin becomes increasingly urbanized, native landscapes are replaced with impervious surfaces that prevent rainwater from soaking into the ground. Stormwater quickly runs off these hard surfaces, picking up pollutants from the land and carrying them to our creeks. This rapidly flowing water also increases the chances of flooding and erosion.
The goal of a rain garden is to keep water on the land. Rain gardens, with their shallow depressions, capture stormwater and provide for natural infiltration into the soil. This provides water for the plants and helps maintain a constant flow of water in our streams

Austin Parks and Recreation - 919 West 28½ Street

### Create A Rain Garden in Six Steps

**1 Find the Right Location**

- Observe the flow of water from rooftops, driveways or other hard surfaces and place the rain garden where this water collects
- Select an area on gently sloping or flat land
- Calculate the slope of your lawn (instructions on next page). The slope should be less than 10%
- If possible, pick a spot in full to partial sun. Shady locations will still work, but the options for flowering plants are

- Examples
- Instructions
- Funding help

www.austintexas.gov/raingardens

- Grow Green Education Program

www.austintexas.gov/department/grow-green

http://www.austintexas.gov/sites/default/files/files/Watershed/growgreen/raingarden_factsheet.pdf

STOP
06/28/2012
Shoal Creek: Reese & Grover

Grover & Reese rain garden

www.austintexas.gov/raingardens

www.austintexas.gov/raingardens

High Desert Subdivision, Albuquerque, New Mexico

# How to get there?

1. Address implementation challenges
   - Urgency
   - Regulatory approach
   - Good design
   - Good installation
   - Good maintenance

2. Culture of Water Stewardship

# Next Steps: CodeNEXT Revisions of Austin's Land Development Code

## Green Infrastructure Working Group Schedule

| | |
|---|---|
| Kickoff | Jan. 30 |
| Land Cover & Natural Function | Feb. 20 |
| Landscaping & Green Transitions | Mar. 13 |
| Beneficial Use of Stormwater | Apr. 03 |
| Stormwater Options for Redevelopment & Infill | Apr. 24 |
| Wrap Up | May 15 |

# Contact Information

Matt Hollon
Watershed Protection Department
City of Austin
(512) 974-2212
matt.hollon@austintexas.gov

http://www.austintexas.gov/page/green-infrastructure-working-group