

# **PLANNING FOR GROWTH**

**Water resource management in high-growth areas prone to droughts and floods**

Catawba-Wateree Water Management Group  
Summit

Oct. 10, 2017



# Floods and Droughts

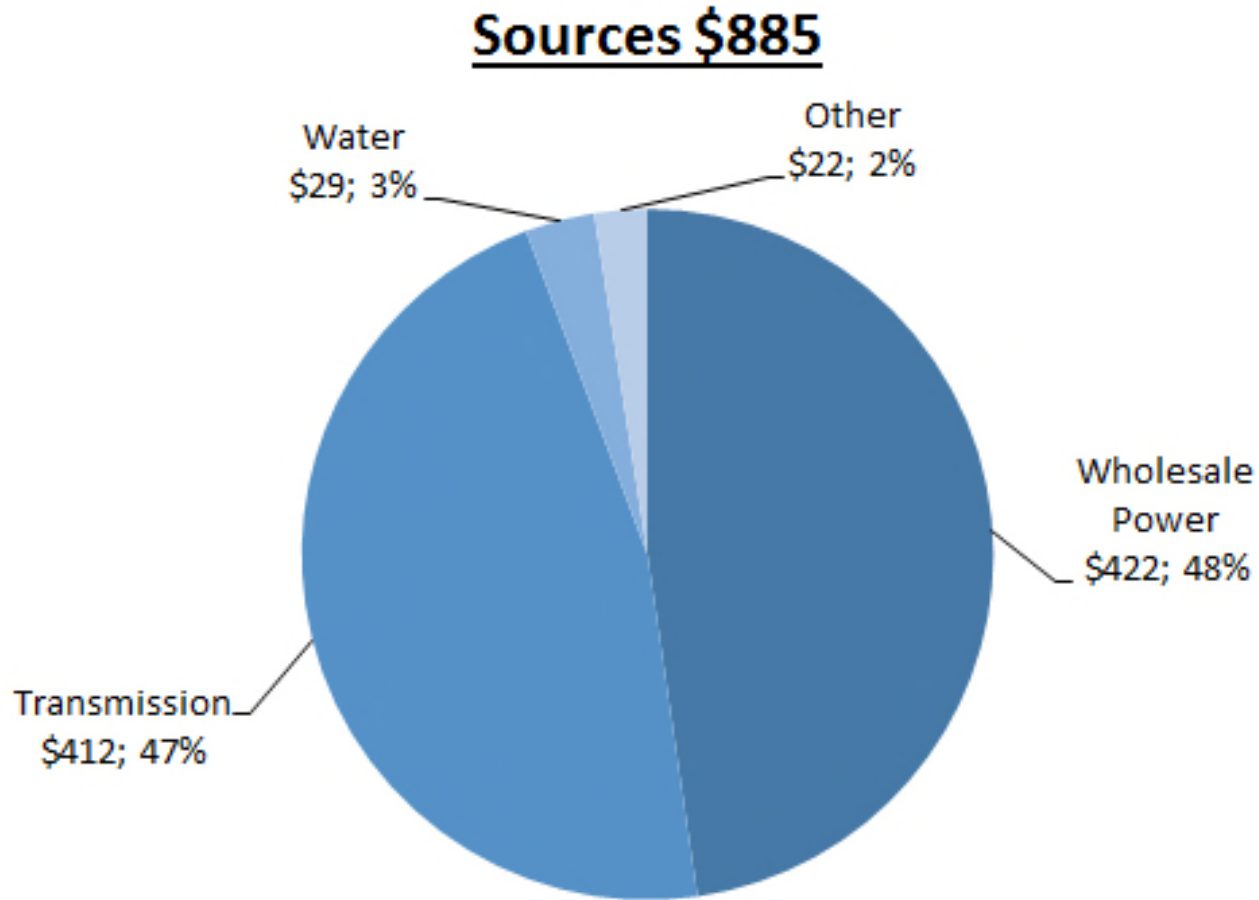


# LCRA Provides Vital Services

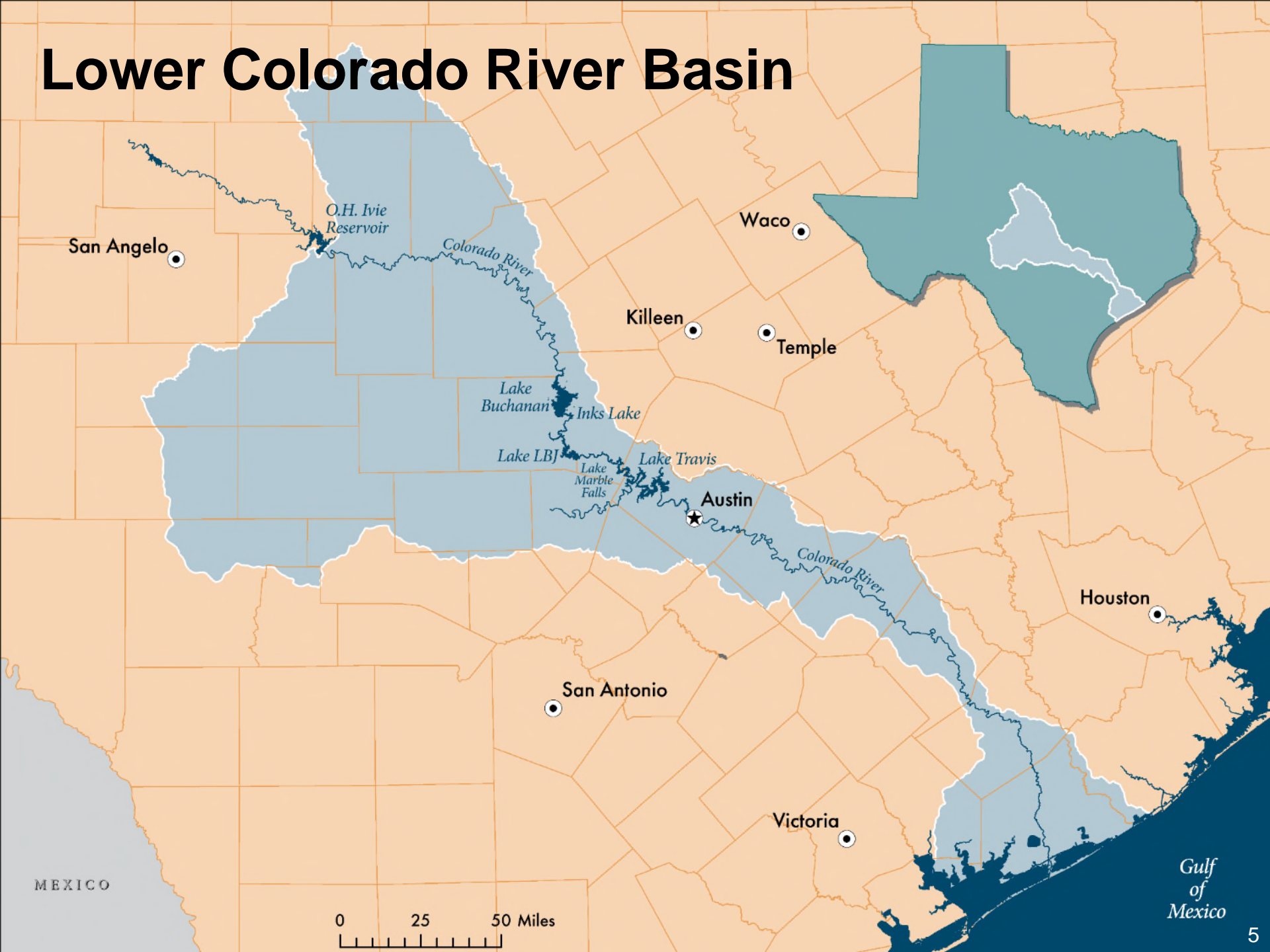


# Projected Fiscal Year 2018 Revenues

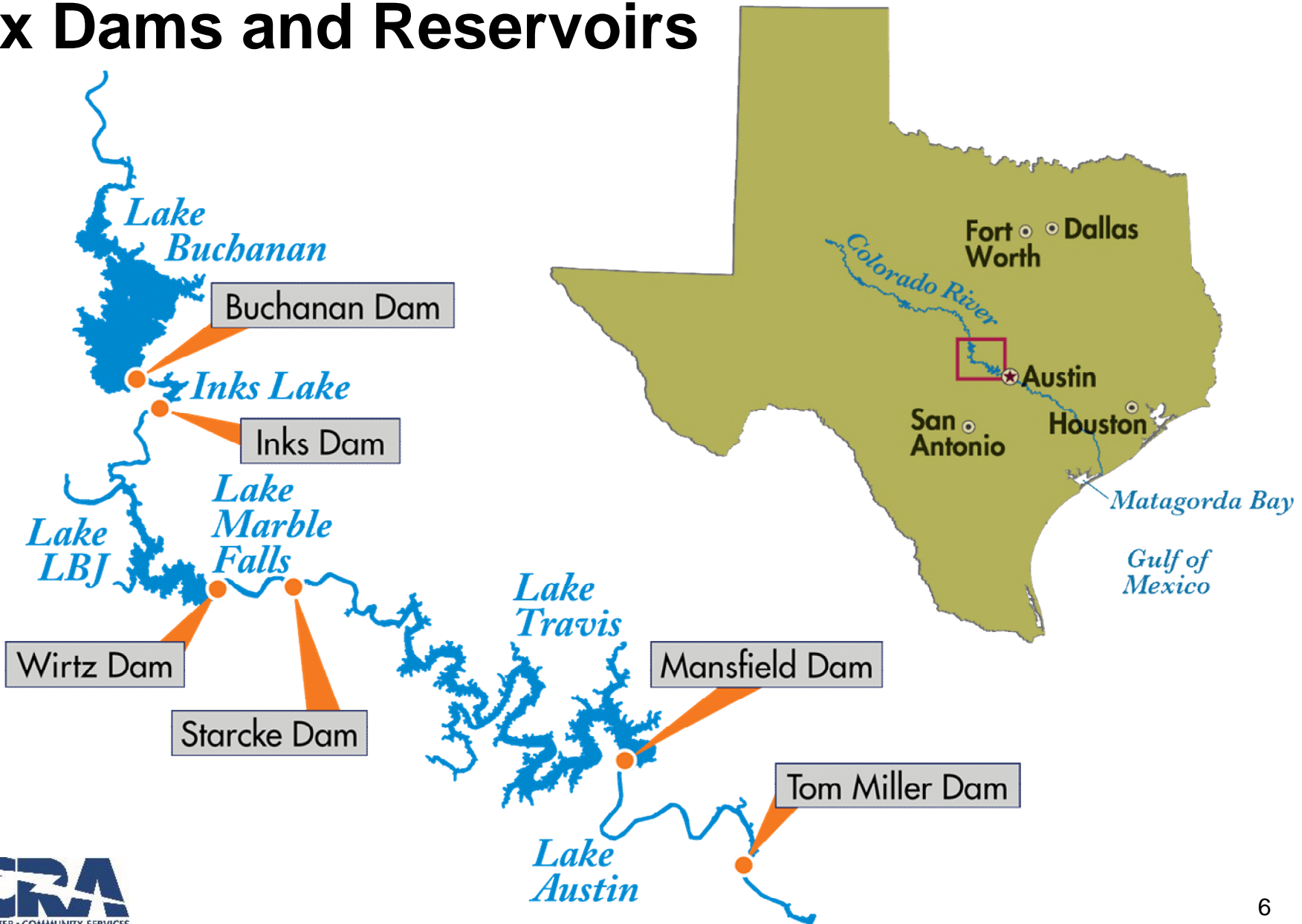
**FY 2018 (dollars in millions)**



# Lower Colorado River Basin



# Six Dams and Reservoirs



# Hydroelectric Generation



# Managing the Region's Water Supply

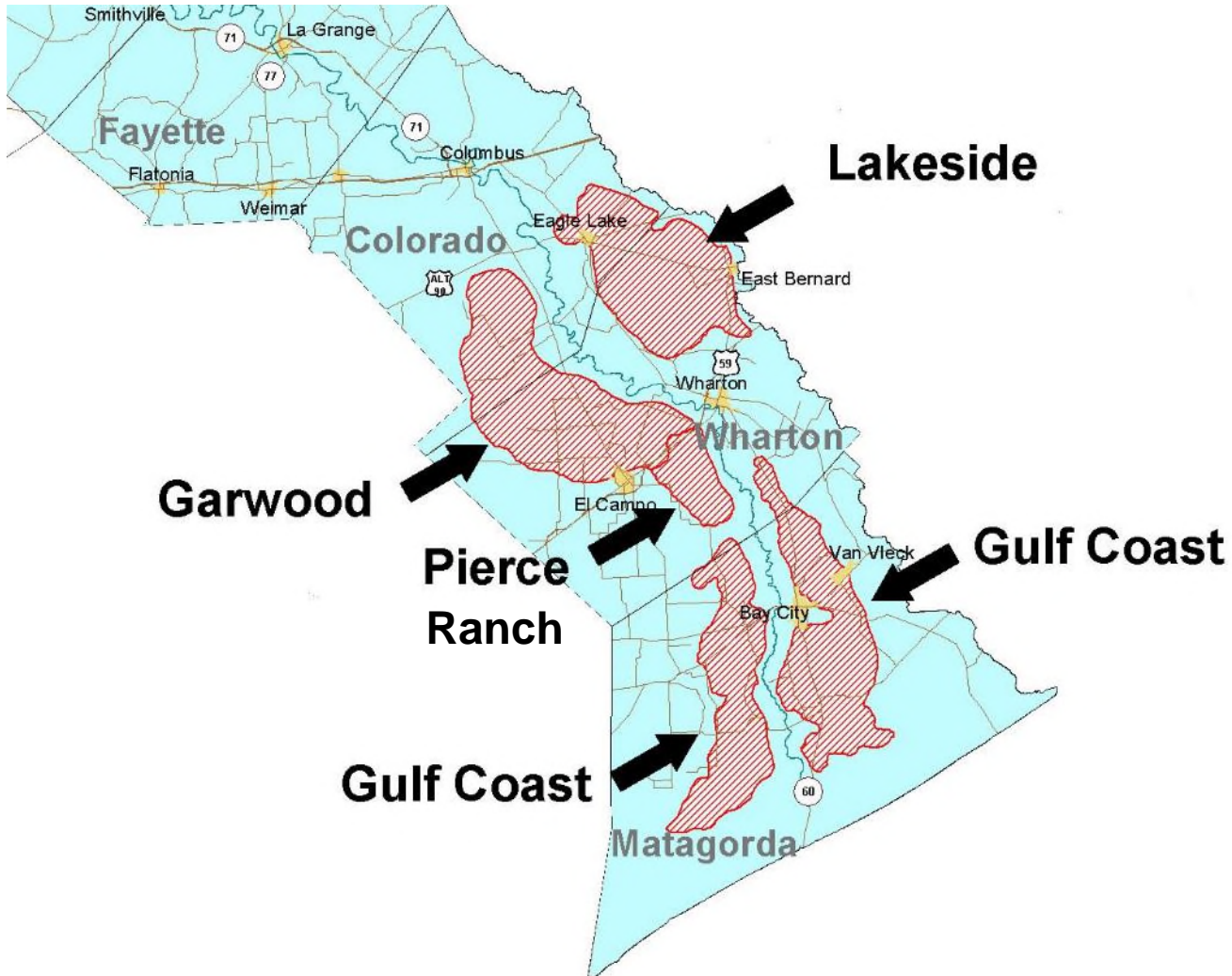
- LCRA provides water supply for:
  - More than a million people
  - Seven power plants capable of providing power to more than 3 million homes
  - Irrigation of up to 91,500 acres in four service areas
  - Environmental health of the Colorado River and Matagorda Bay



# Firm Water Customers



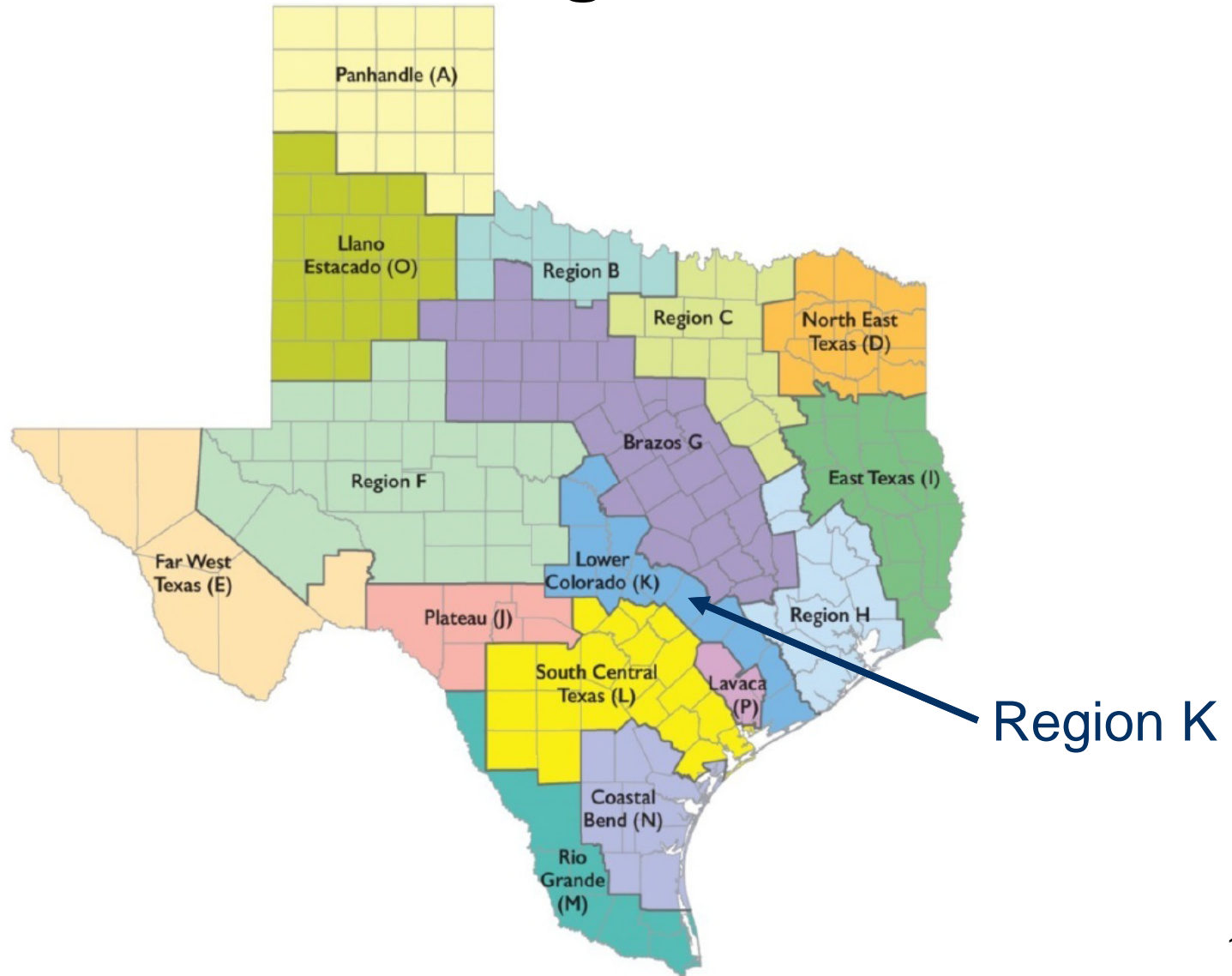
# Irrigation Operations



# Water Management Plan



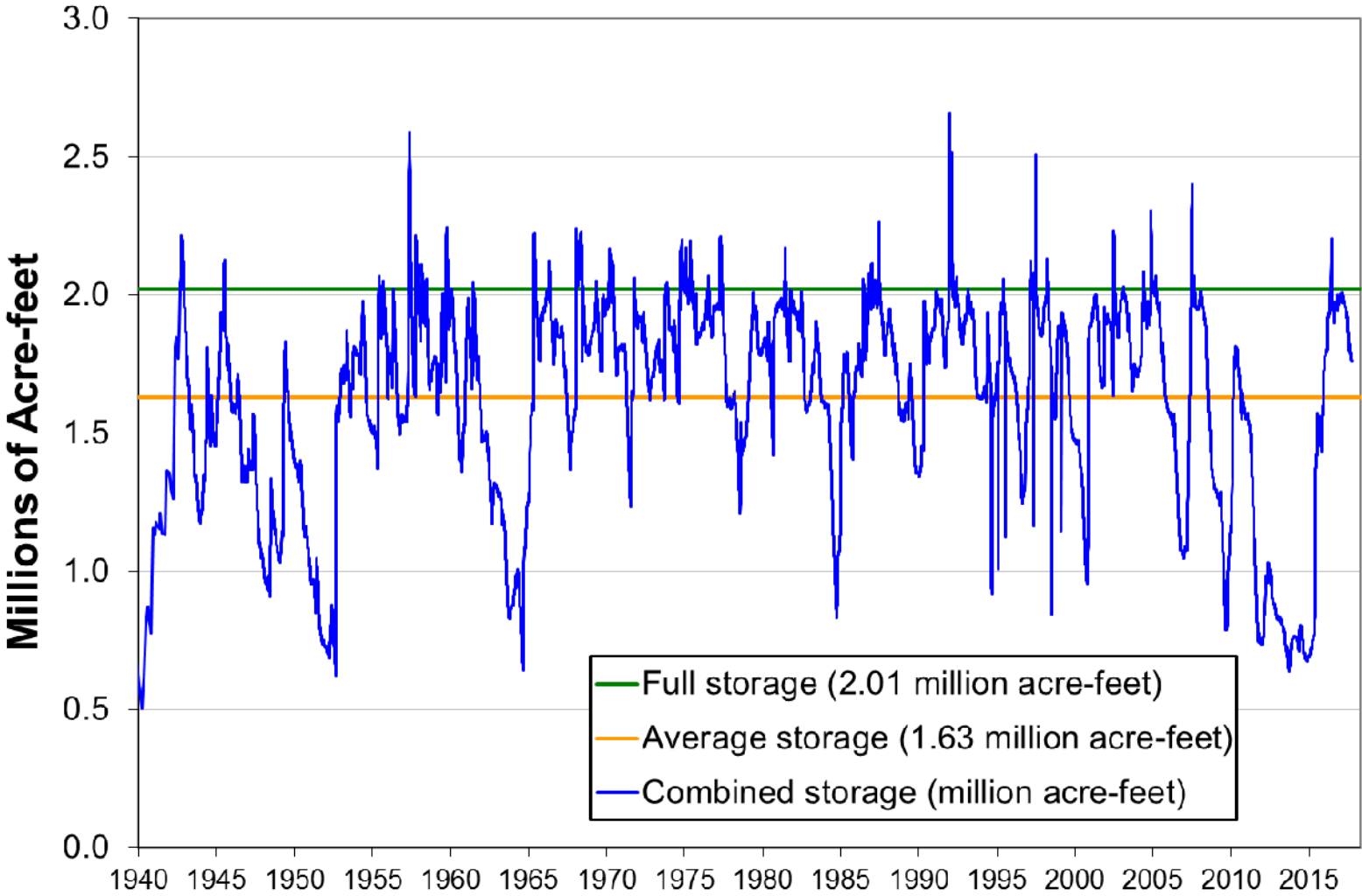
# Texas Water Development Board Regional Water Planning Areas



# Region K Water Planning

- From 2020 to 2070, demands projected to increase 24 percent
  - From 1.2 million to 1.5 million acre-feet per year
- Water supplies projected to decline less than 1 percent
  - From 999,000 to 992,000 a-f
- Potential shortfall of 512,000 a-f by 2070
- Plan's strategies provide 745,000 a-f in additional supplies by 2070

# Total Combined Storage in Lakes Buchanan and Travis



**Sept. 30, 1940, to Sept. 20, 2017**

# Lake Travis – March 2015 to July 2015



Sometimes Island, March 2015



Sometimes Island, July 2015

# Lake Travis During Drought



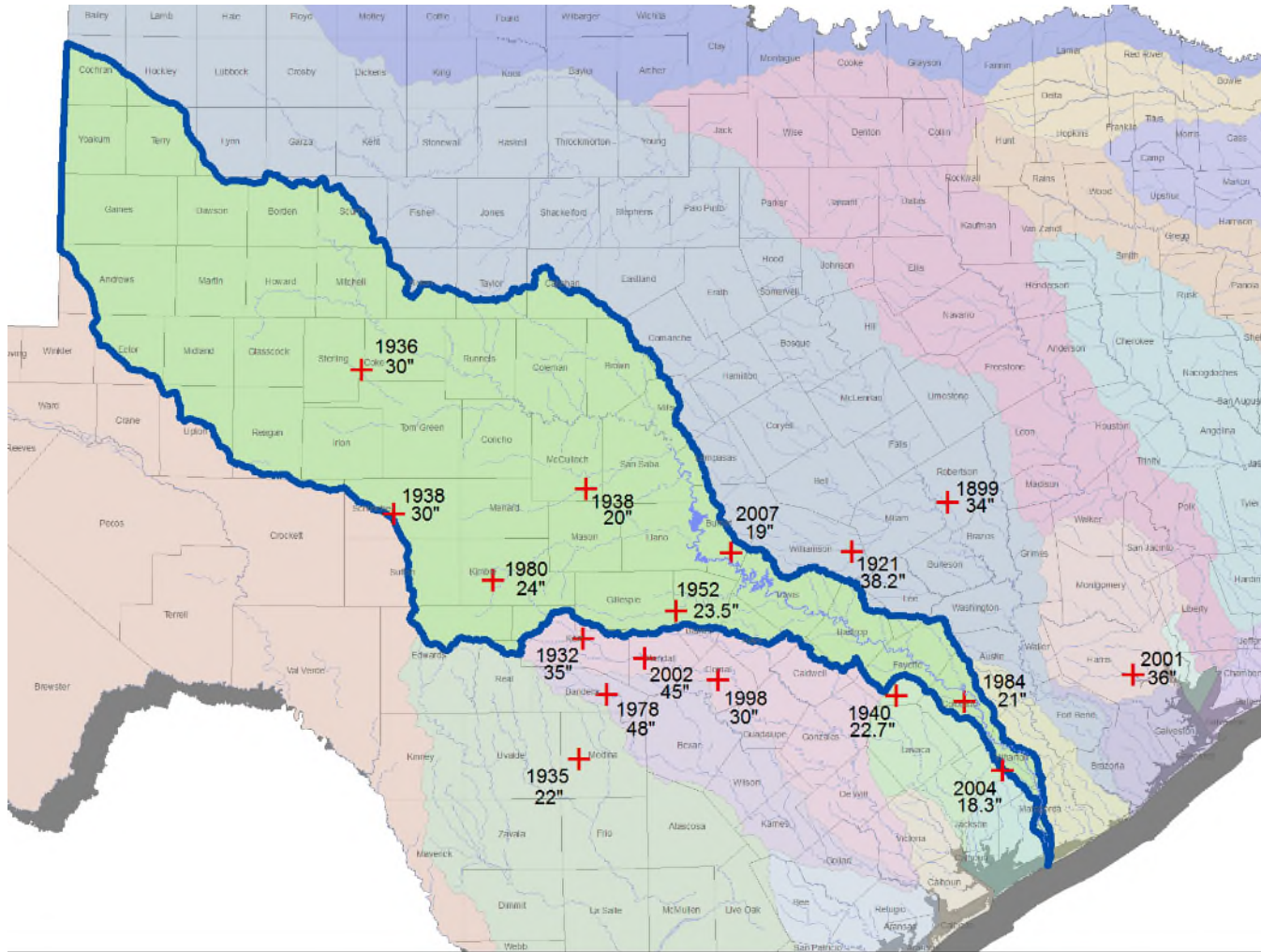
Sometimes Island, March 2014





# FLOOD MANAGEMENT AT LCRA

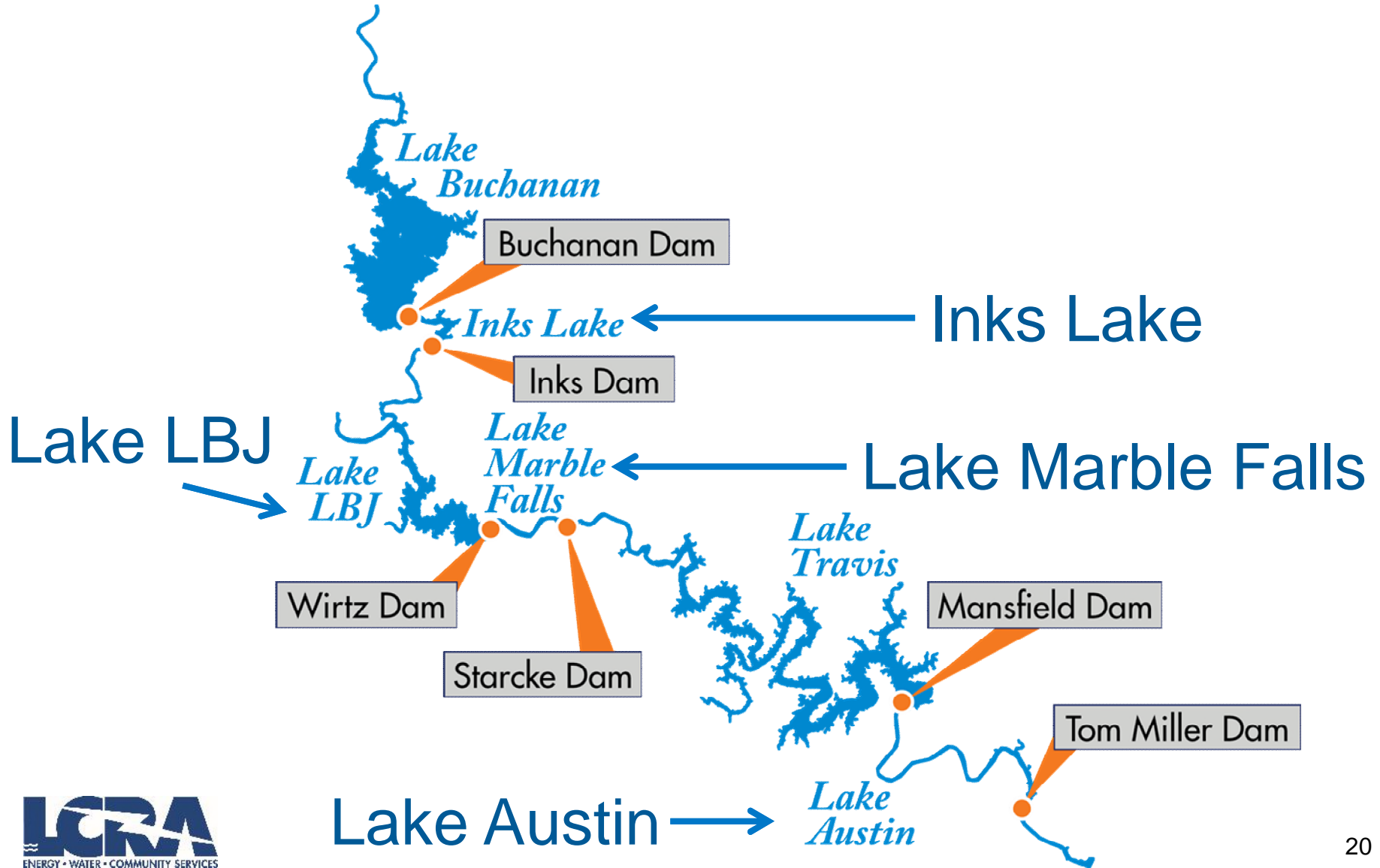
# Flash Flood Alley



# Lake Buchanan



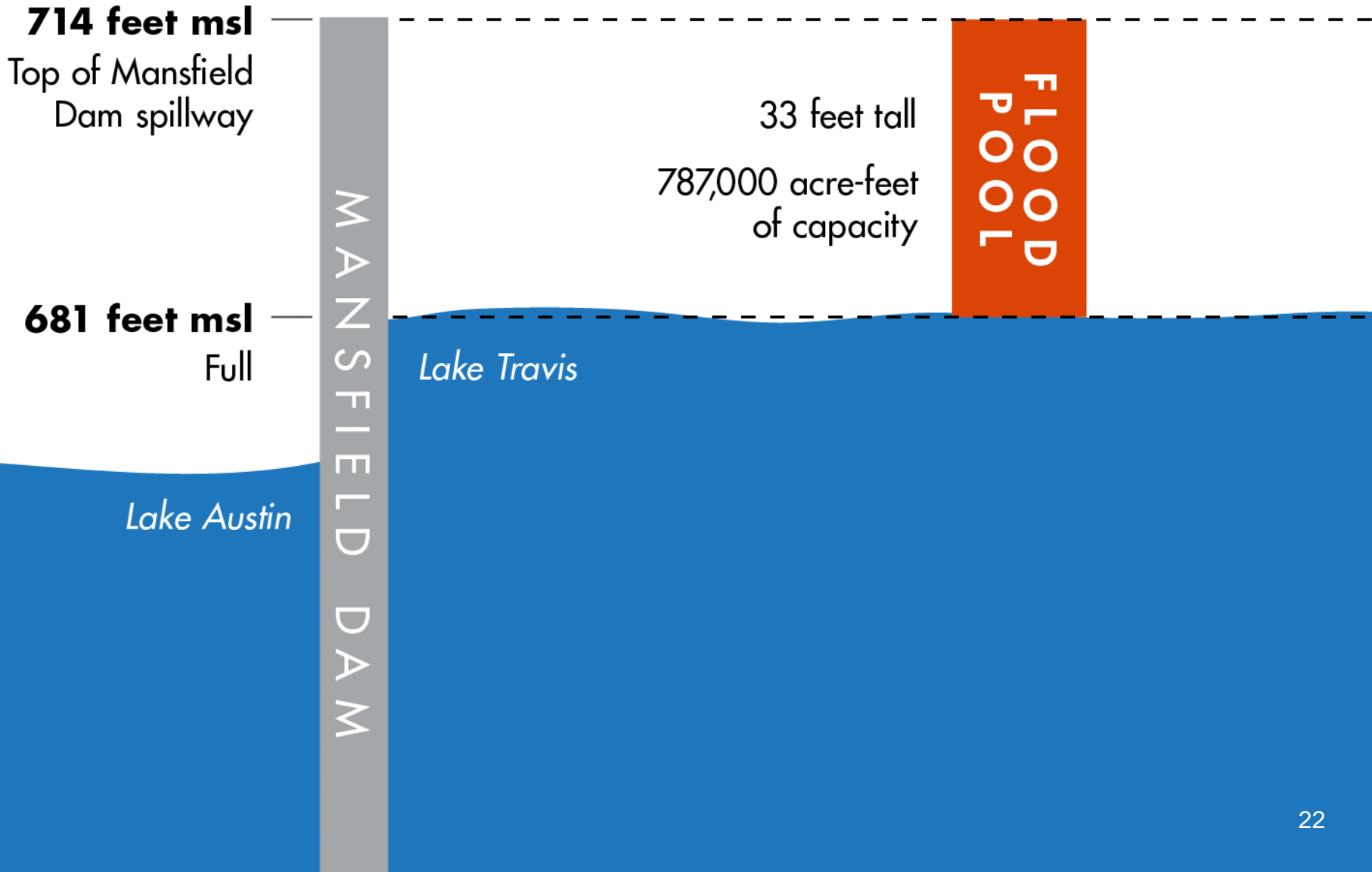
# Pass-Through Lakes



# Lake Travis



# Lake Travis Elevation



# Dam Safety

- We meet or exceed all state regulations
- Plan to spend almost \$40 million on dam maintenance and rehabilitation projects over the next five years
- Safety program includes:
  - Weekly and monthly inspections by LCRA staff
  - Each floodgate tested every 30-42 days
  - Annual inspections by LCRA engineers
  - Regular inspections by third-party consulting engineers

# Flood Operations

- Pass floods as safely as possible through Buchanan, Inks, Wirtz and Starcke dams to Lake Travis
- Buchanan, Inks, Wirtz and Starcke dams
  - Operated following Federal Emergency Management Agency agreement
- Tom Miller Dam
  - Operated consistent with an agreement with City of Austin



# Flood Operations

- Use the flood storage pool in Lake Travis to absorb floods
- Mansfield Dam – creates Lake Travis
  - Designed with extra capacity to temporarily store floodwaters
  - Operated under U.S. Army Corps of Engineers regulations and protocols (Water Control Manual)
  - Control releases from Mansfield Dam to reduce downstream flooding and protect the dam

# Flood Operations at Mansfield Dam



Flood operations at Mansfield Dam in June 2016

We can't capture or manage the rain, or runoff, that occurs downstream of Lake Travis

# Hydromet System

- Provides information vital for flood management
- Includes more than 275 gauges
- Transmits data every 15 minutes
- Uses LCRA's radio system
- Data is shared with other organizations and the public





# INCREASING THE WATER SUPPLY

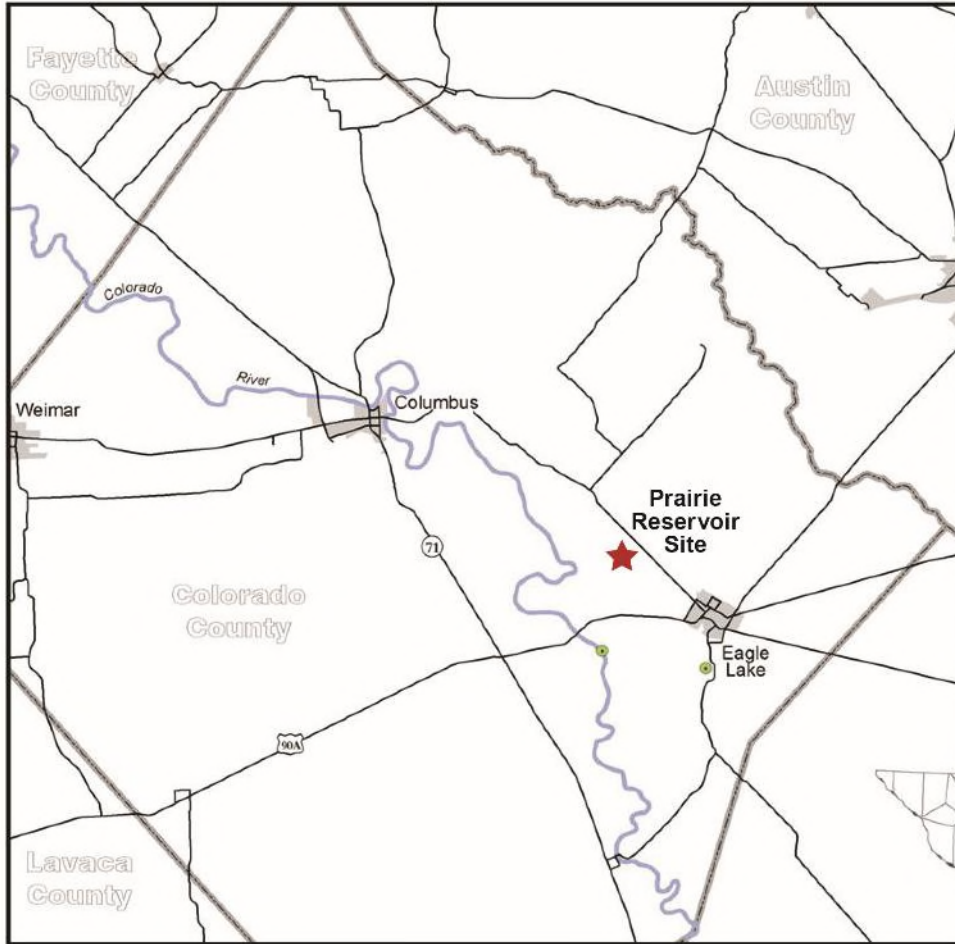
# Water Supply Projects

- Using groundwater in Bastrop County
  - Drilled wells at Lost Pines Power Park
  - Purchased groundwater rights at Boy Scout ranch
- Completing design, permitting and land acquisition for additional water projects
- Building a new downstream reservoir
  - Lane City Reservoir

# Lane City Reservoir Project Components



# Prairie Conservation Reservoir



General Location Map  
Prairie Reservoir Site



# Planning for Growth

- Manage current supplies
- Conserve
- Increase supplies



# Questions?

