LCRA – Then and Now

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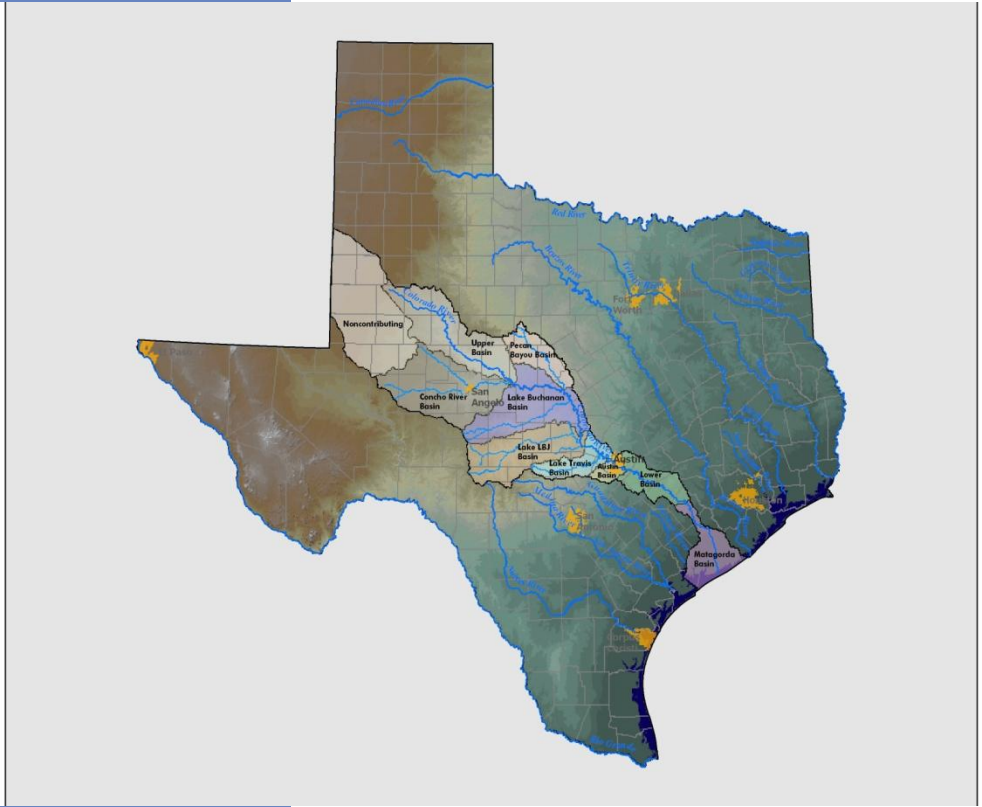
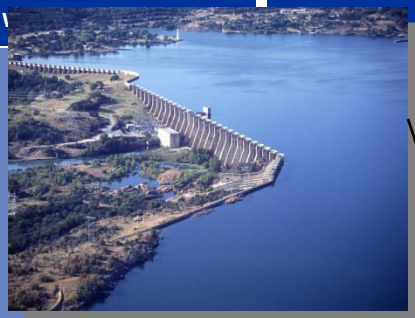
The Colorado River of Texas

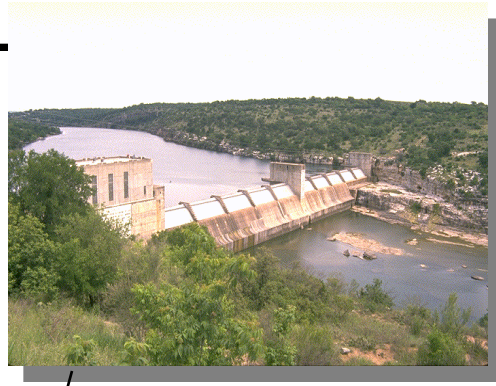


- **Largest river within Texas**
- **Second largest intrastate watershed in United States**
- **Central portion of watershed covers 15,000 square miles (“Flash Flood Alley”)**
- **Almost 900 miles long (LCRA controls lower two-thirds)**
- **Not affiliated with that other Colorado River (which was named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

The Highland Lakes and Dams



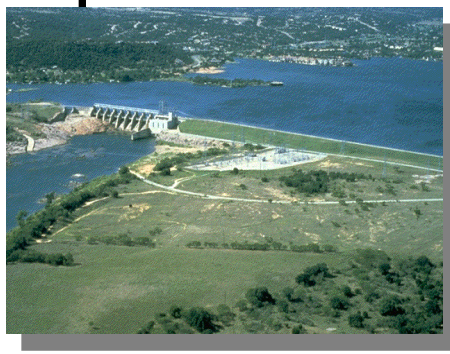
Buchanan Dam



Starcke Dam

Mansfield Dam

Inks Dam



Wirtz Dam

Tom Miller Dam

Lake Buchanan

Inks Lake

Lake LBJ

Lake Marble Falls

Lake Travis

Lake Austin

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The Old Austin Dam

In the 1890s, the City of Austin began building a dam across the Colorado River.

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The Old Austin Dam

The dam was considered a marvel for its time.

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The Old Austin Dam

But floods from heavy rains destroyed the dam in April 1900.

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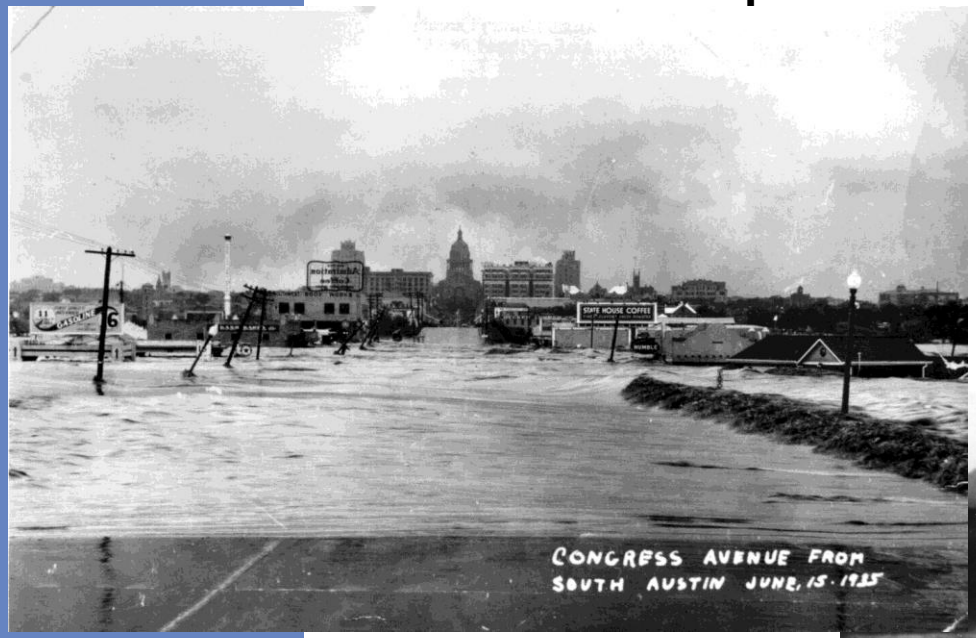
The Old Austin Dam

The city tried to rebuild the dam.
But it was heavily damaged by floods in 1915.

Catastrophic Flooding

- **Austin was unprotected from the effects of heavy rains.**



1935 Flood: Downtown Austin…

…houseboat over Austin Dam

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Drought

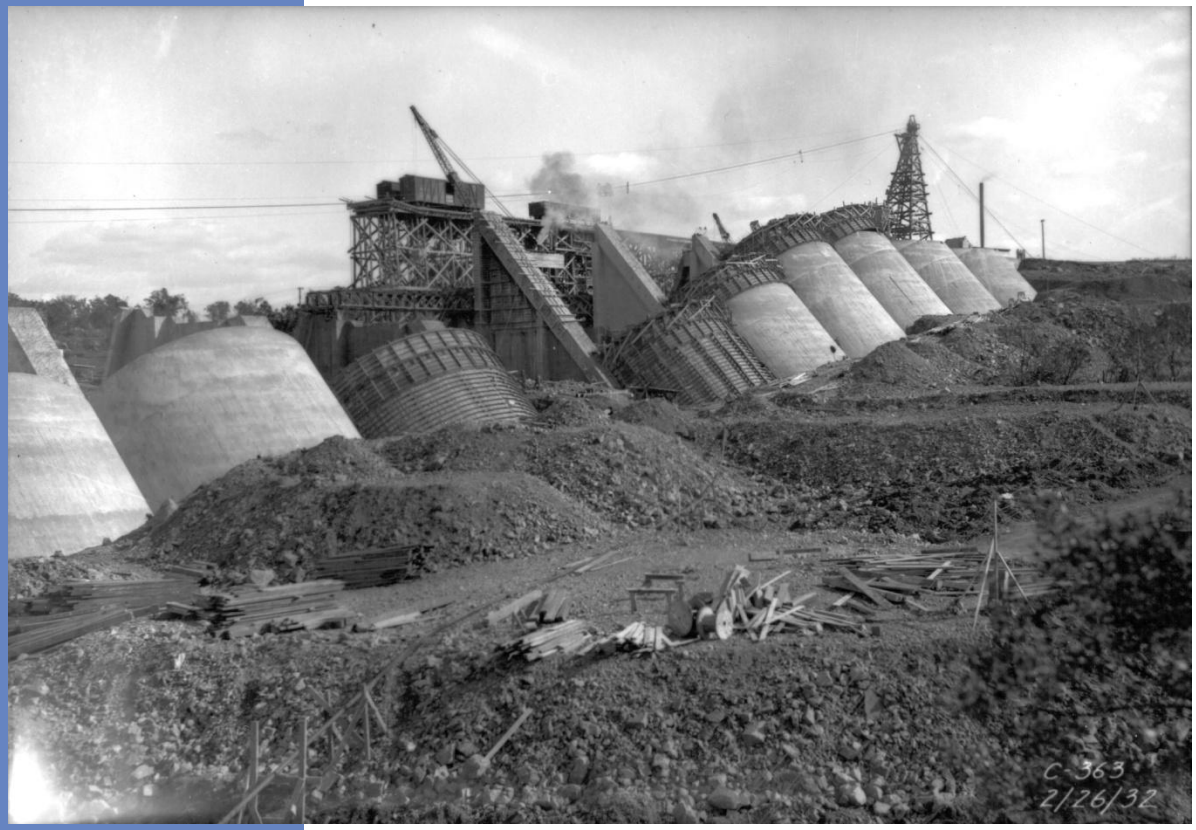
- **Drought could reduce the Colorado to a trickle.**

  This is Lake Austin in the 1910s during a prolonged drought.

No Reliable, Affordable Power

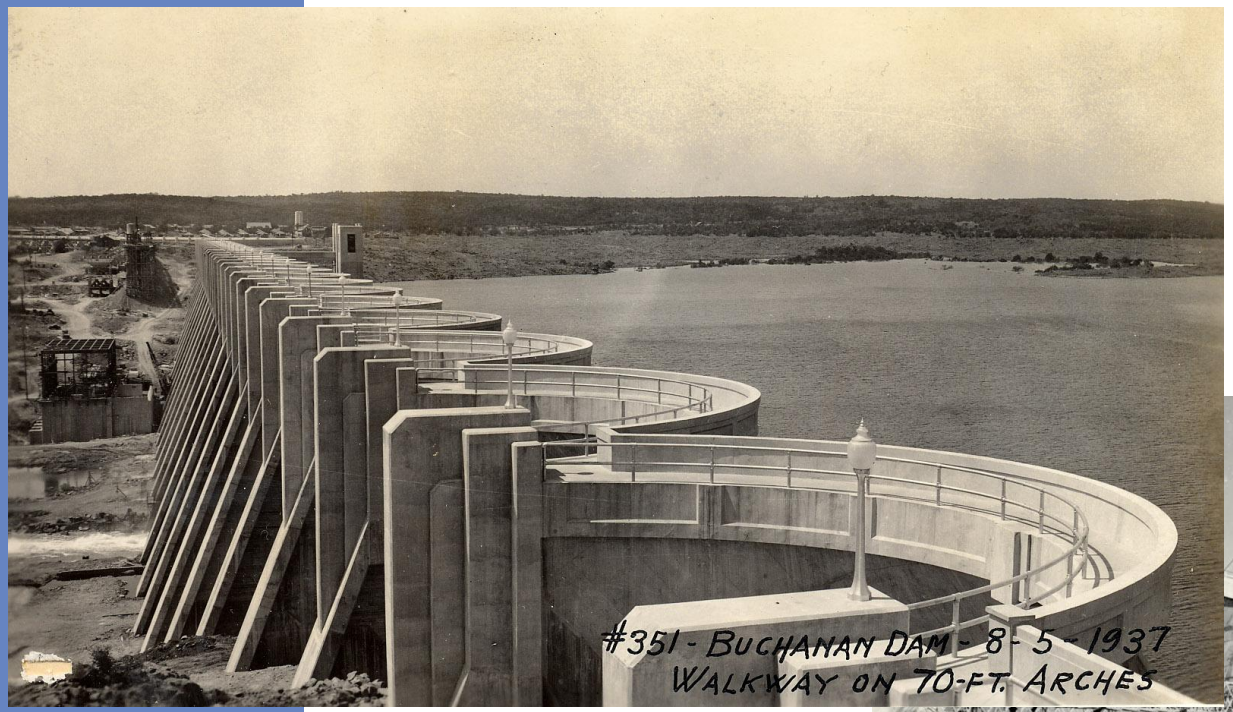
- **Rural Central Texas was one of the most primitive areas in the nation.**

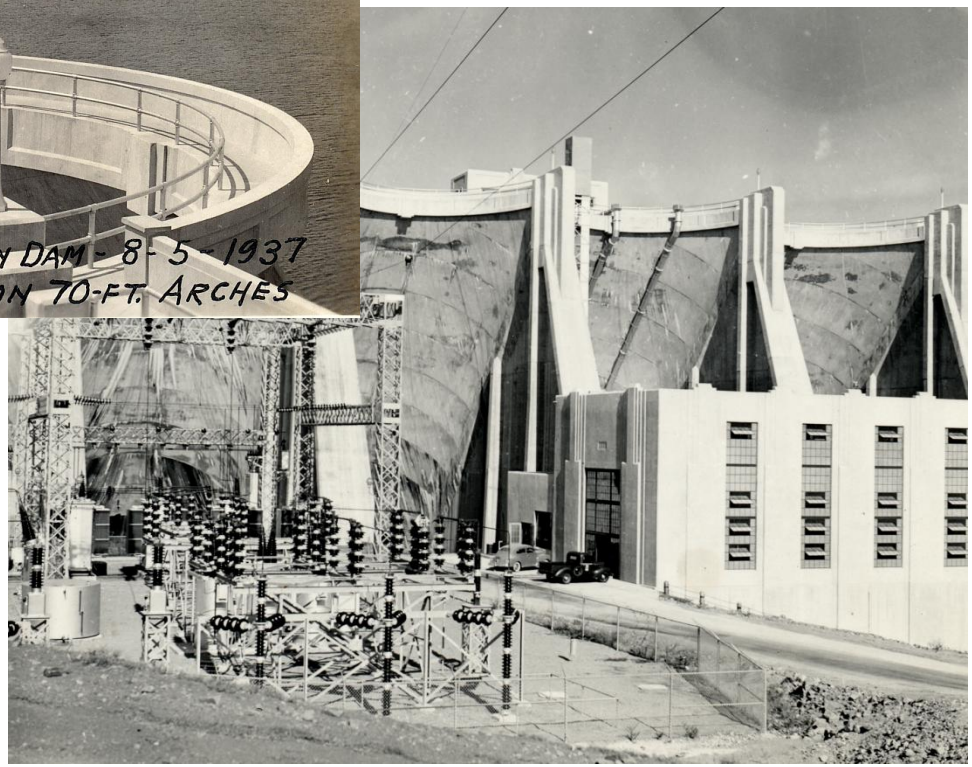
LCRA Is Created



- **Created in 1934 by the State of Texas.**
- **Modeled after Tennessee Valley Authority.**
- **Challenge: Make the Colorado River basin more productive, but first of all…**
- **Finish a half-built dam.**

Building Buchanan Dam



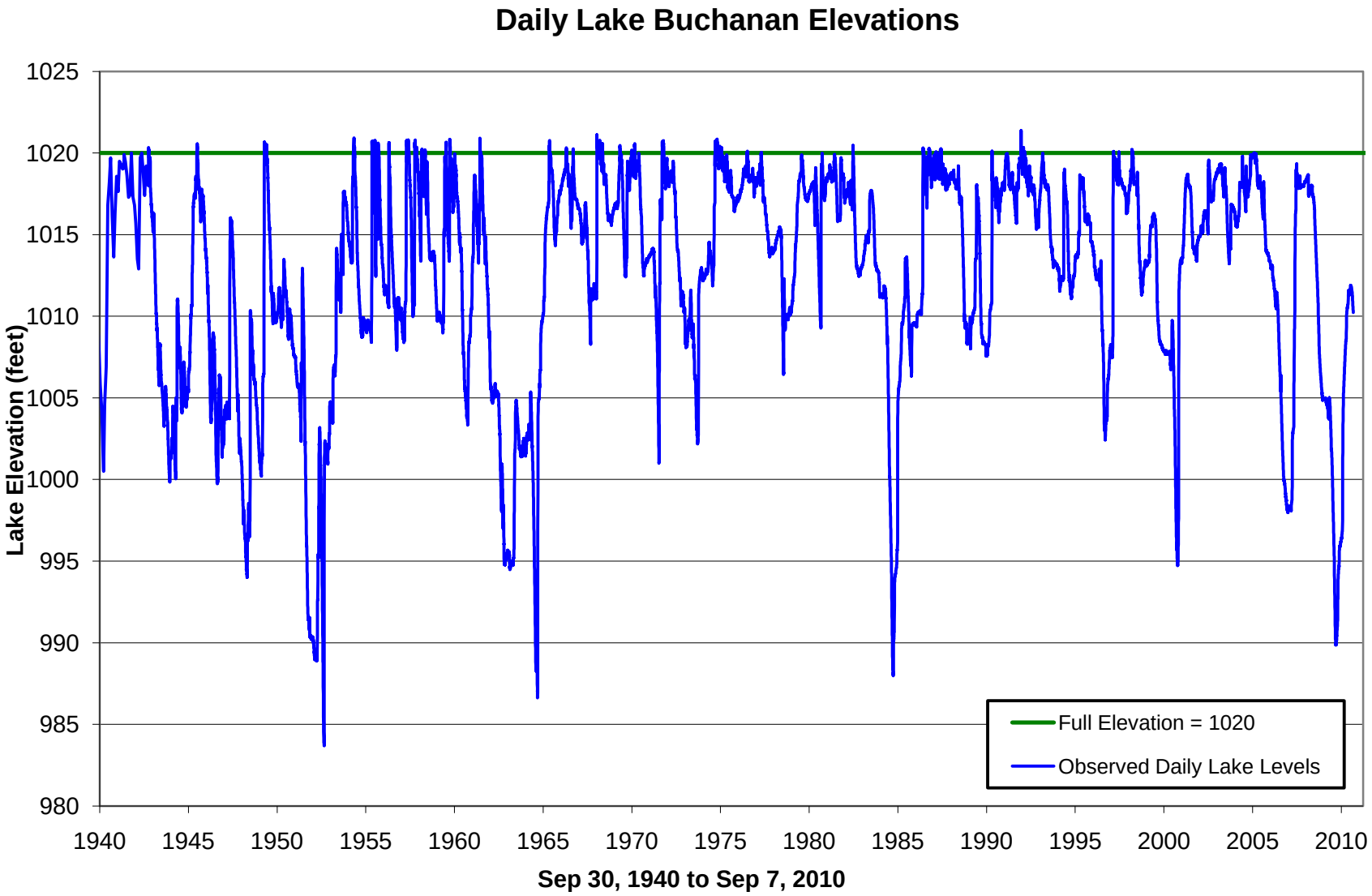


Building the longest multiple-arch dam in the world.

Buchanan Dam Completed

"…And I said after I saw that dam completed, that I believed it when they said they'd go to the moon. Because to us then, that was as fantastic as when in later years they went to the moon."

-- Lila Walters, Buchanan Dam construction camp resident


Daily Lake Buchanan Elevations
Lake Elevation (feet)
1025
1020
1015
1010
1005
1000
995
990
985
980
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Sep 30, 1940 to Sep 7, 2010
Full Elevation = 1020
Observed Daily Lake Levels

Inks and Tom Miller Dams

Inks (1938): Captured Buchanan releases for electric generation

Tom Miller (1940): Built atop two earlier dams destroyed by floods

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Mansfield Dam (1942)

In 1937 construction began on Marshall Ford (later Mansfield) Dam, designed to store floodwaters to protect Austin and other downstream communities.

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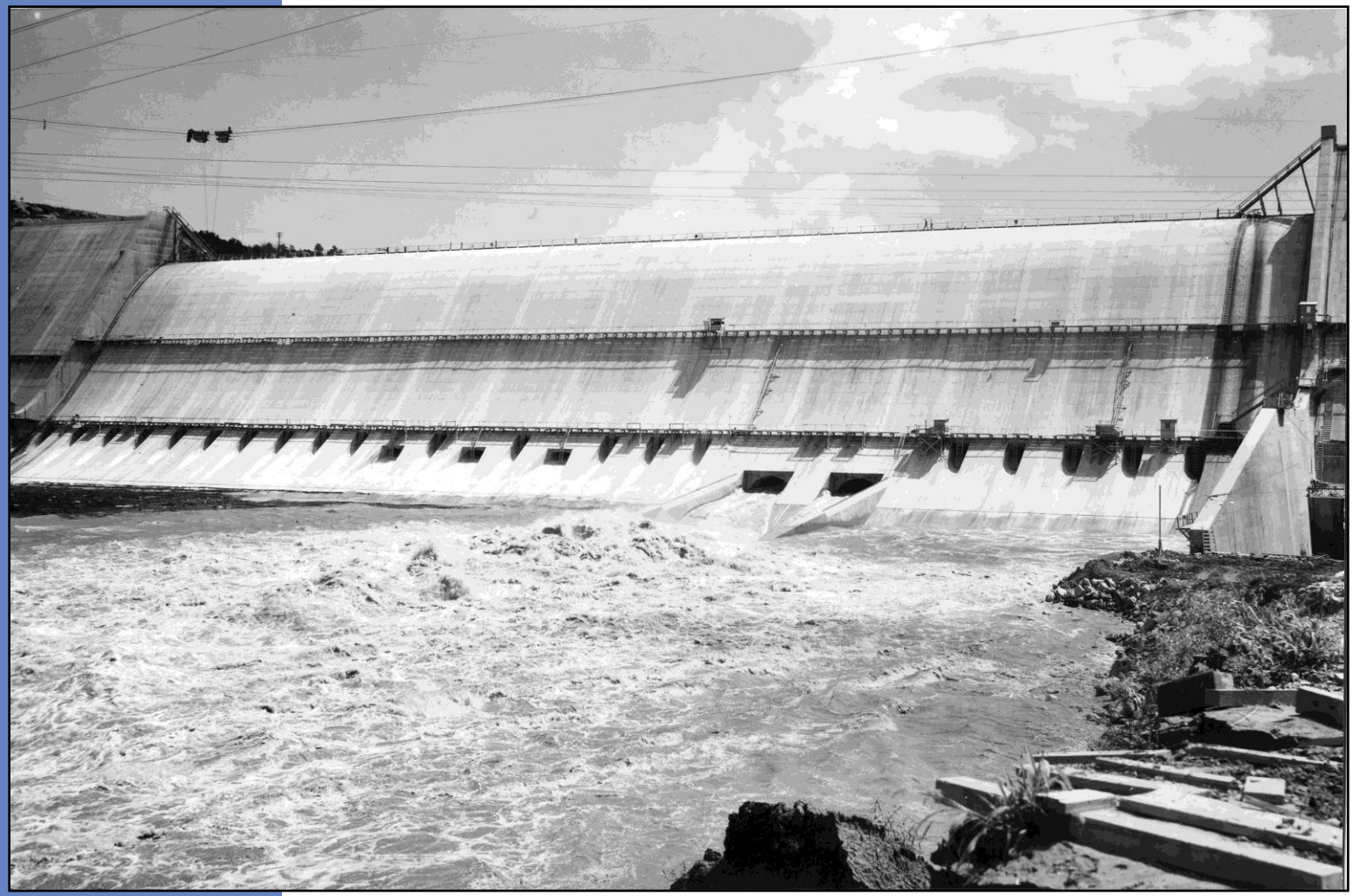
Mansfield Dam



Originally Mansfield Dam was built at a lower height.

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Mansfield Dam

The 1938 flood showed the need for greater storage capacity at Mansfield Dam.

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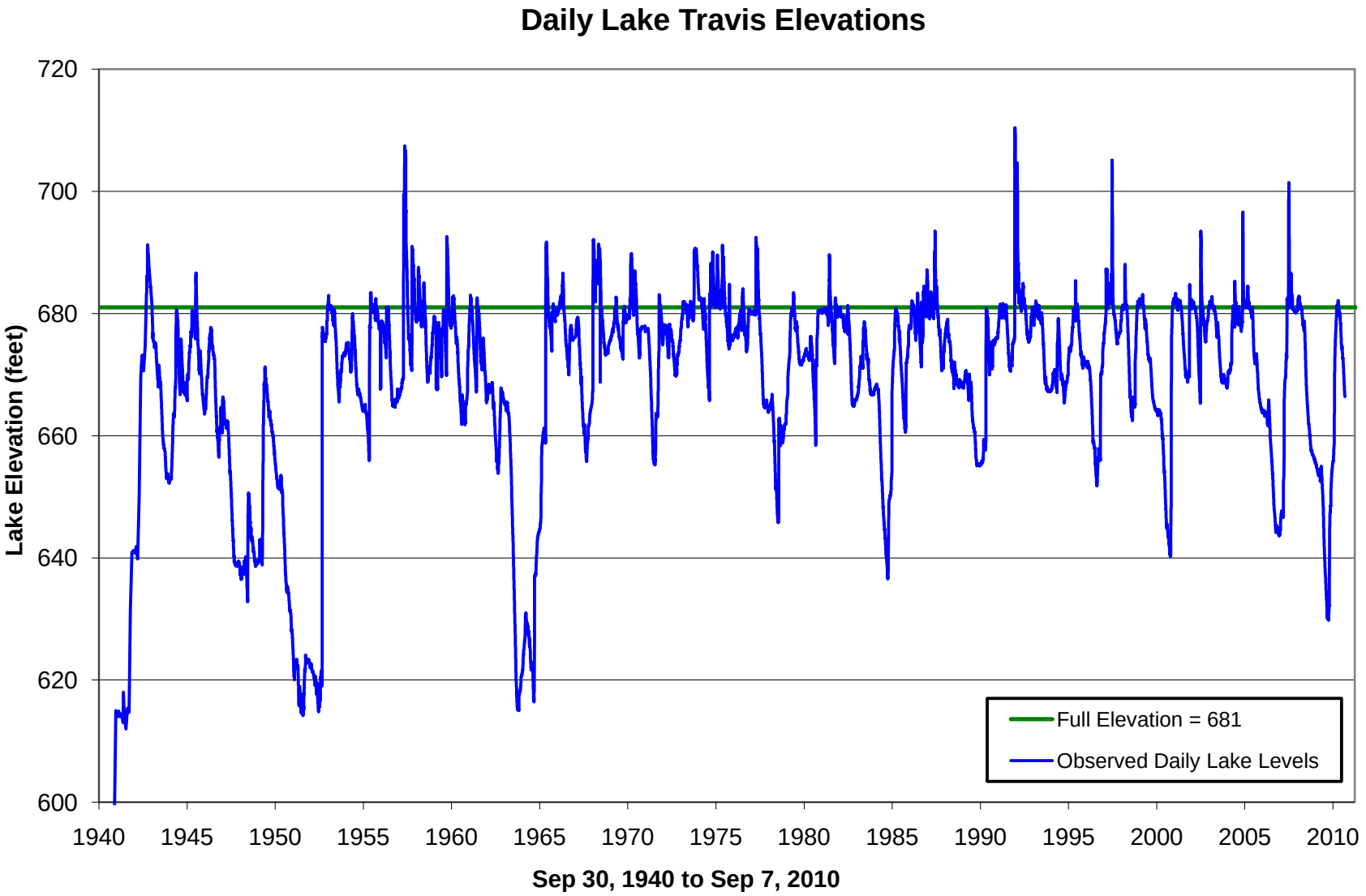
Mansfield Dam

As a result of the 1938 flood, LCRA added 78 feet to Mansfield Dam's height.


Daily Lake Travis Elevations
Lake Elevation (feet)
720
700
680
660
640
620
600
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Full Elevation = 681
Observed Daily Lake Levels
Sep 30, 1940 to Sep 7, 2010

1951: Final Dams Completed

In 1948 LCRA began building what are today Wirtz and Starcke Dams.

Located in the middle of the chain, the dams were built to provide additional hydroelectric generation.

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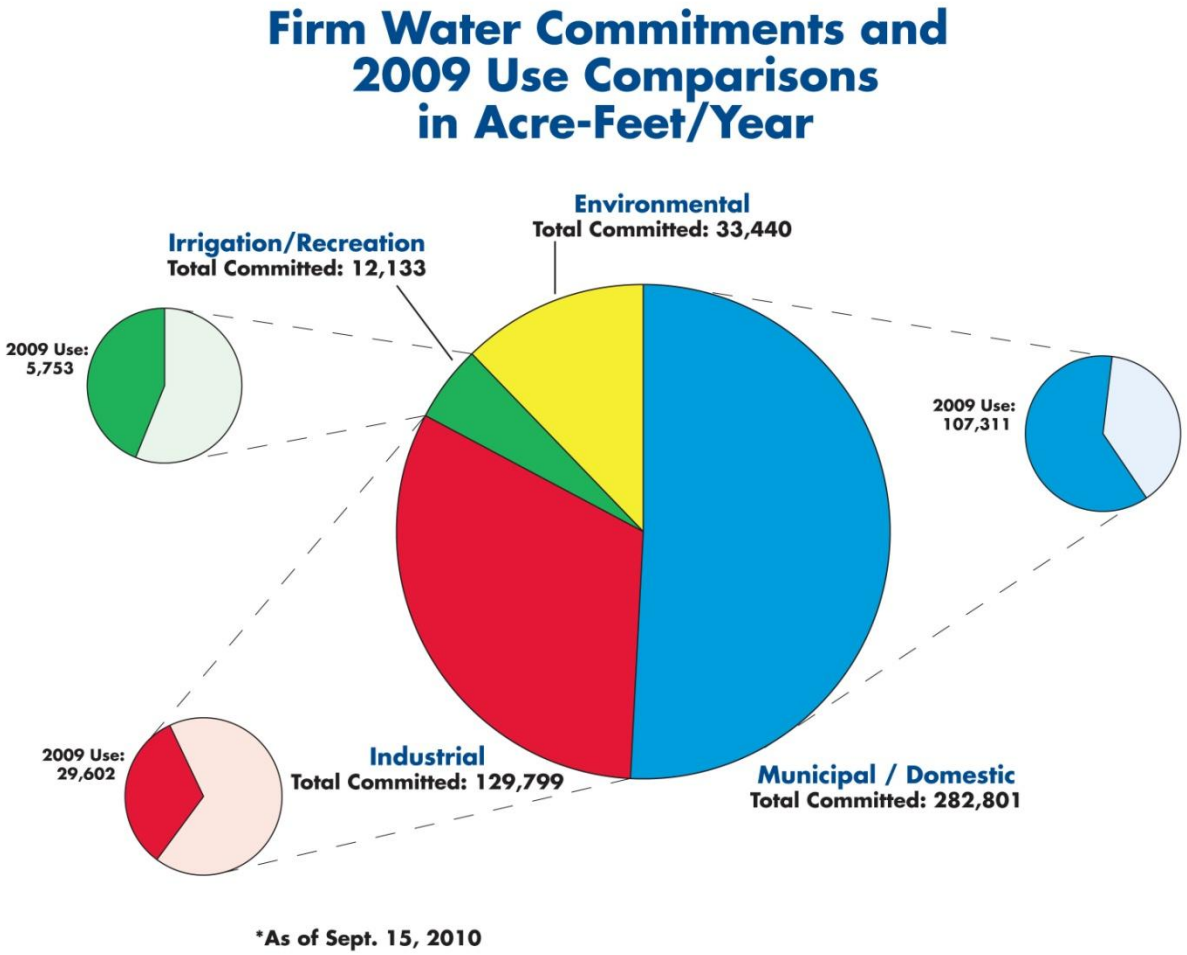
LCRA Today

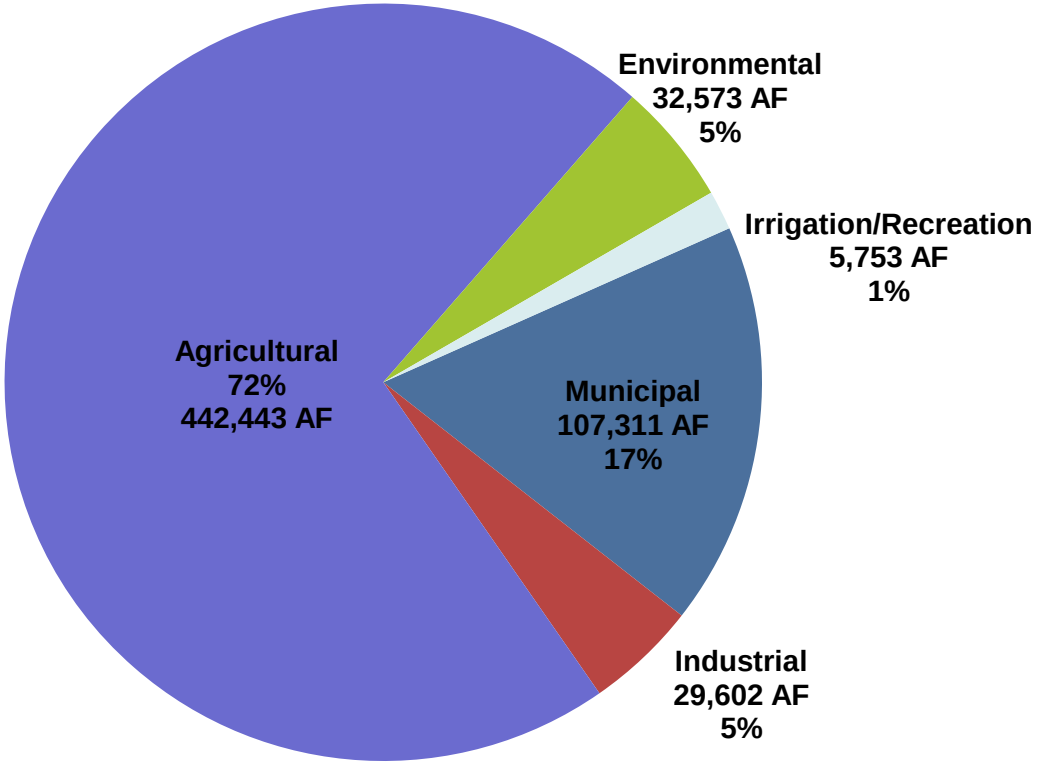
- Primary water supply for Austin and other basin communities
- Coastal agribusiness economy
- Recreational economy
- Highland Lakes are operated for water supply and flood control
- More than 75 years later, the dams are still doing their job of protecting people, property and the environment

Firm Water Committed

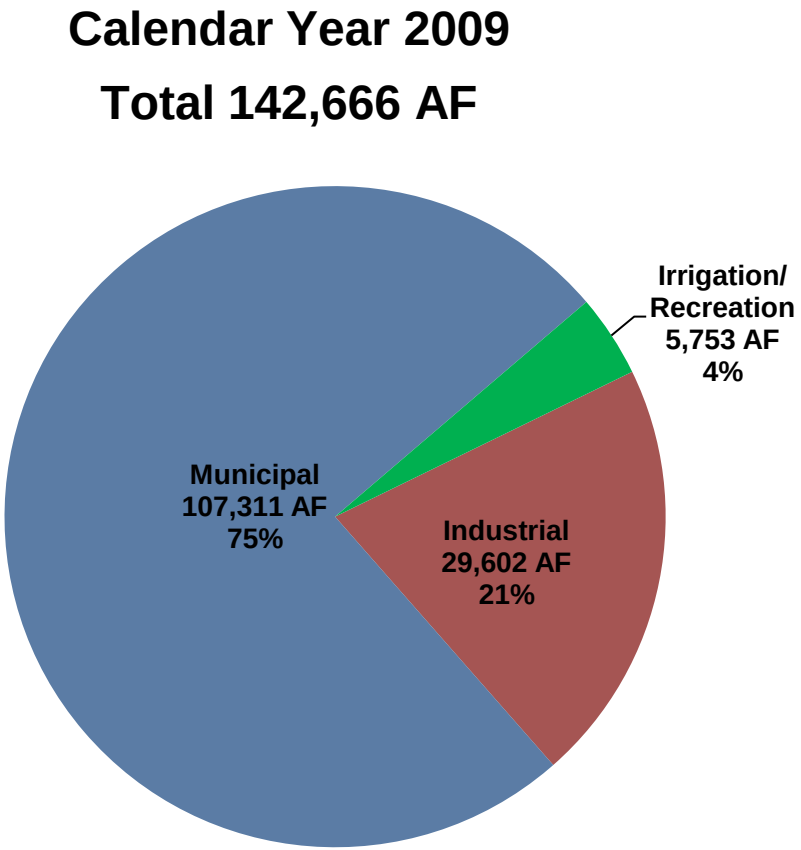


LCRA Water Use

Calendar Year 2009
Total 617,682 AF



Firm Water Use by LCRA Customers*



*Municipal includes Domestic use of 5,000 AF. Does not include water use under the City of Austin's and STP's own water rights.

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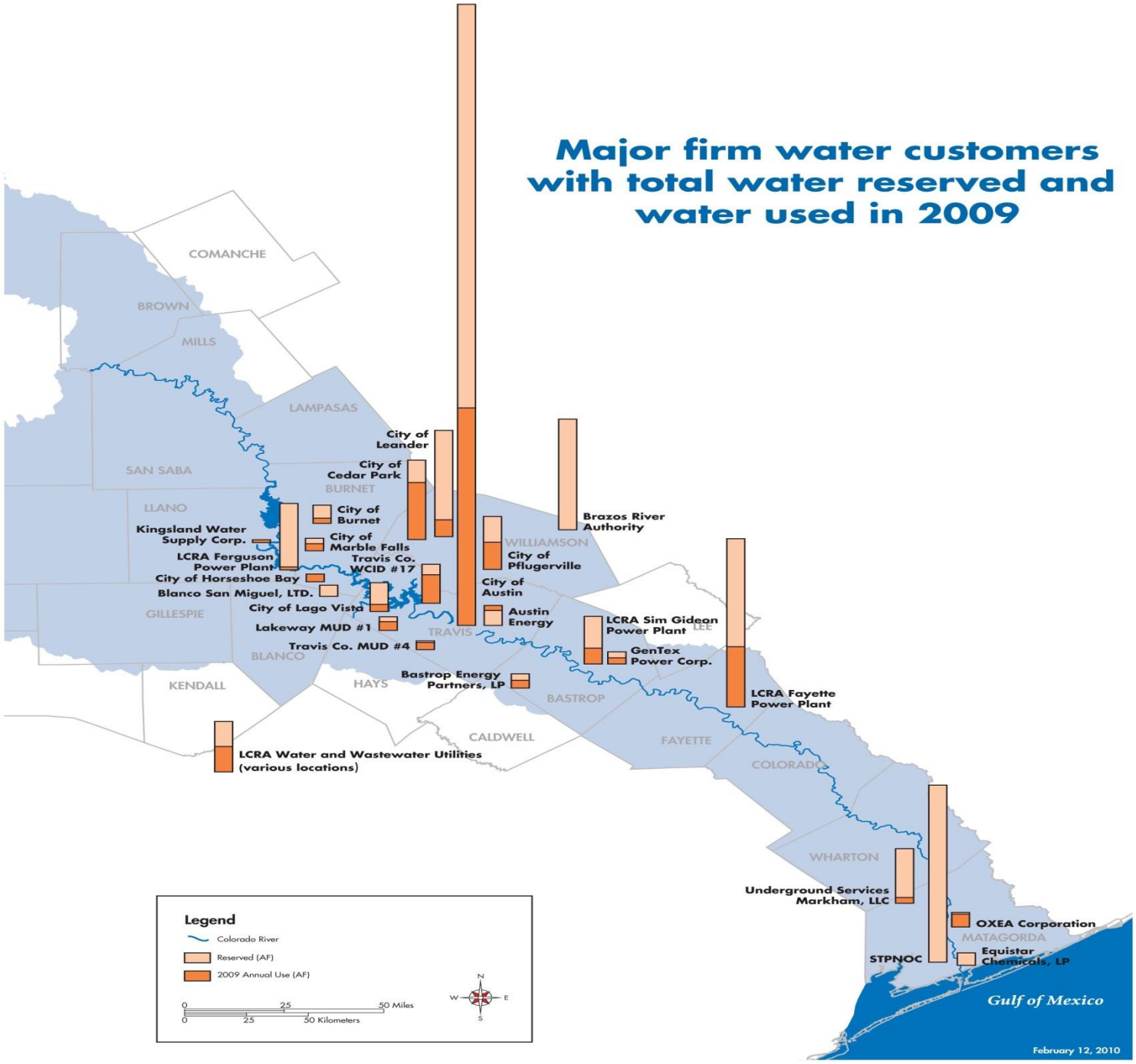
Major firm water customers with total water reserved and water used in 2009



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Raw water rate pays for:

- Daily River Management
- Water Conservation
- Water Supply Planning
- Water Quality Protection
- Flood Management
- Dam Safety
- Aging Infrastructure

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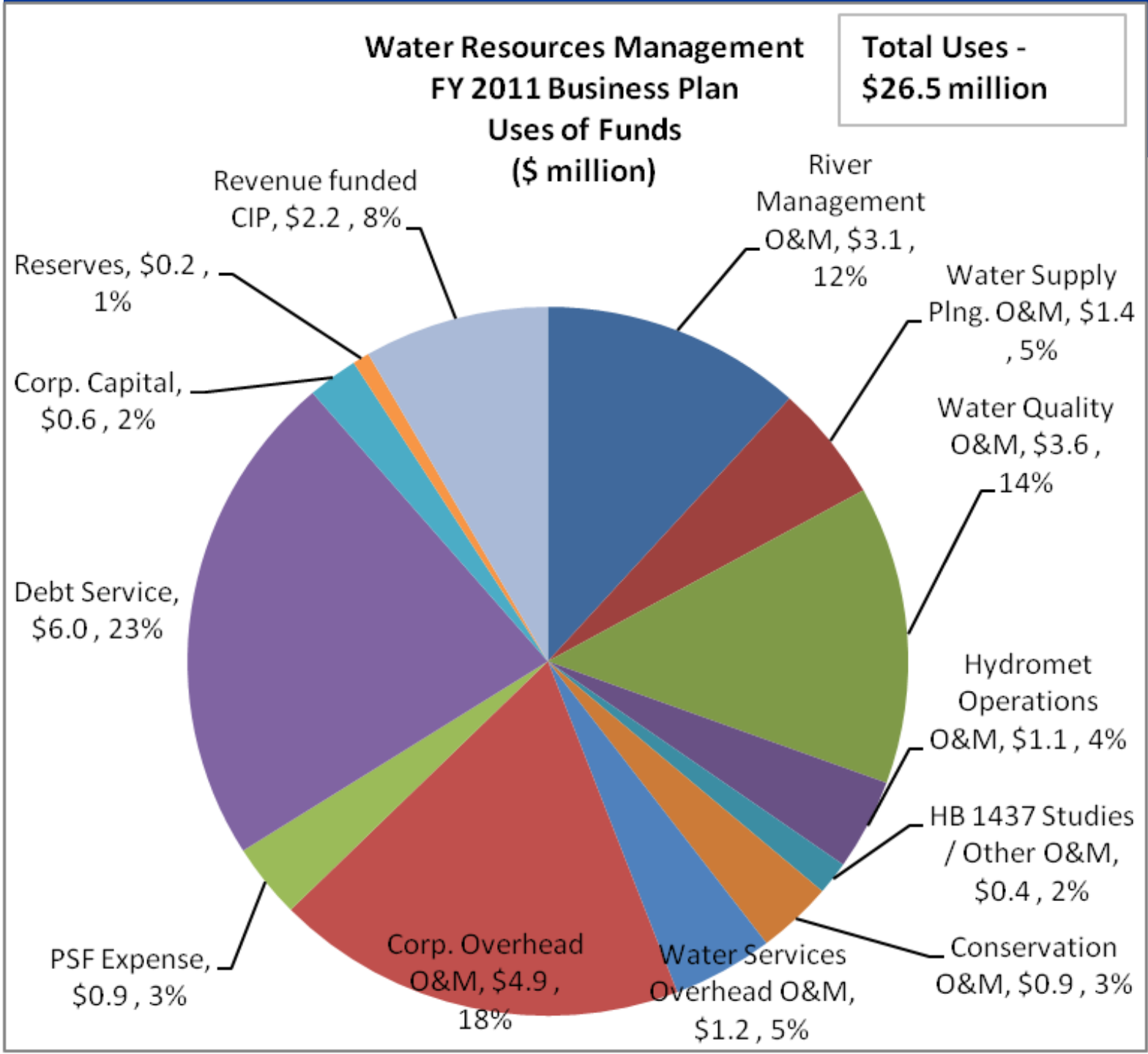
Current Firm Water Rate

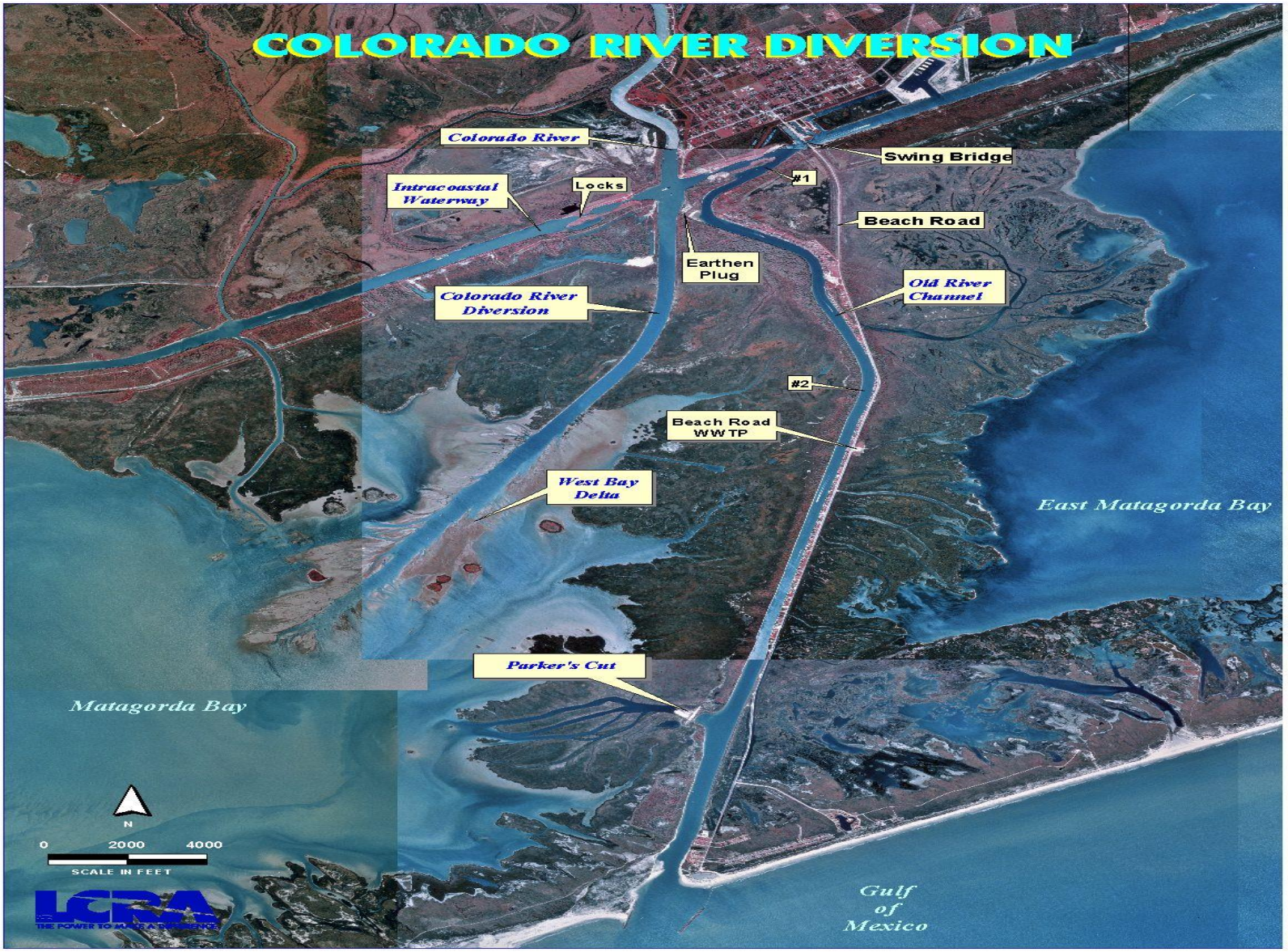
$151/acre-feet in January

$0.43/1000 gallons



Environmental Protection

- Instream Flows for Riverine Ecosystem of Lower Colorado River
- Freshwater Inflows for Maintaining Estuarine Ecosystem in Matagorda Bay


COLORADO RIVER DIVERSION
Colorado River
Swing Bridge
Intracoastal Waterway
Locks
#1
Beach Road
Earthen Plug
Old River Channel
Colorado River Diversion
#2
Beach Road WWTP
West Bay Delta
East Matagorda Bay
Parker's Cut
Matagorda Bay
N
0
2000
4000
SCALE IN FEET
Gulf of Mexico

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Water Quality Core Programs

- Water Quality Monitoring Programs
- Clean Rivers Program
- Regulatory Programs
- Pollution Complaint Hotline
- Application Review and Response
- Colorado River Watch Network

Reservoir & Stream Sampling

Over 70 Sites Monitored (every other month)

Physical/Chemical

Above Lake Buchanan to Bay City

Biological Monitoring

7 Sites

Twice a year

Characterize Biological Community

Comprehensive Assessment of Water Quality

Matagorda Bay Monitoring

10 Continuous Monitoring Sites

Marine Constituents

East and West Matagorda Bay

Clean Rivers Program

Water Quality Monitoring & Assessment

Public Outreach & Steering Committee

Clean Rivers Program Partners

On-site Sewage Facilities Program

Program Started
1971

Authorized Agent for TCEQ

20,000 septic systems
around the Highland Lakes

Watershed Management

Water Quality Volume

Buffer Zones

Erosion and Sedimentation Control

Dredge & Fill Performance Standards

Water Quality Pollution Complaints

24-Hour Water Quality
Pollution Hotline

800/776-5272, Ext. 6843
512/469-6843

Application Review and Response Program

Review TCEQ Water Quality Applications

Protection of Colorado River and tributaries

Work with Applicants/TCEQ

Colorado River Watch Network

Volunteer Network

Water Quality Index

Colorado River Basin Water Quality Data Website (waterquality.lcra.org)

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Thank You!