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

[Image: Flooded Congress Avenue in South Austin, June 15, 1925]
LCRA Provides Vital Services
Projected Fiscal Year 2018 Revenues

FY 2018 (dollars in millions)

Sources $885

- Wholesale Power $422; 48%
- Transmission $412; 47%
- Water $29; 3%
- Other $22; 2%
Six Dams and Reservoirs

- Lake Buchanan
  - Buchanan Dam
- Inks Lake
  - Inks Dam
- Lake Marble Falls
  - Wirtz Dam
  - Starcke Dam
- Lake Travis
  - Mansfield Dam
  - Tom Miller Dam
- Lake Austin
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

- Fayette
- Wharton
- Garwood
- Pierce Ranch
- Gulf Coast
- Lakeside
- Colorado
Water Management Plan
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
Lake Travis
Lake Travis Elevation

714 feet msl
Top of Mansfield Dam spillway

681 feet msl
Full

33 feet tall
787,000 acre-feet of capacity

Lake Travis

Lake Austin
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

- Expand and Line Canal
- New Relift Pump Station and Outlet
- River Pump Station and Intake
- Canal Flow Return to River
- New Outfall Structure Return to River
- Lane City Dam
- Jarvis Creek
- Spillway

Reservoir
40,000
acre-feet
Prairie Conservation Reservoir
Planning for Growth

• Manage current supplies

• Conserve

• Increase supplies
Questions?