Austin Water
Drought Update

June 21, 2015

Drema Gross
Austin Water Utility
Water Conservation Division Manager
About Austin Water

• 100% surface water from Lower Colorado River
  – Firm water rights backed by stored water contract up to 325,000 acre-feet
  – Prepayment agreement up to 201,000 acre-feet
  – 2014 withdrawal ~ 136,000 acre-feet

• Large metropolitan utility
  – 538 sq miles
  – 200,000+ connections
  – 900,000 customers
  – Nearly 1,100 employees
Is The Drought Over?

• 2015 rainfall totals for January-June
  – Not highest…
  – Not even top 10…
  – 2015 ranks 33rd

• Current drought (2008-?) has surpassed historic 1947-1957 drought in intensity
  – 6 of 10 lowest inflow years
Cumulative Inflow to Lakes Buchanan and Travis

Cumulative Inflow, Million acre-feet

Months Since Start of Drought

1950s Cumulative Inflow, June 1947 through May 1957

Current Drought Cumulative Inflow, March 2008 through June 2015

1.394 M ac-ft less cumulative inflow in the current drought after 88 months
Monthly Inflows to Lakes Travis and Buchanan
Data through June 30, 2015

Calendar Year Totals, ac-ft
- Average: 1,216,274
- 2011: 127,802
- 2012: 393,163
- 2013: 215,138
- 2014: 207,626

June YTD Inflows, ac-ft
- Average: 707,349
- 2011: 72,972
- 2012: 338,171
- 2013: 80,650
- 2014: 134,027
- 2015: 574,737

Monthly averages correspond to the historical period of record, 1942 through present.

*Inflow data for 2015 are preliminary and subject to revision.
Combined Storage of Lakes Buchanan and Travis
January 1, 2005 through July 1, 2015

Interruptible stored water for non-Garwood districts not provided 2012 through 2015.
Combined Storage of Lakes Buchanan and Travis
January 1, 1989 through July 1, 2015

2,010,544 ac-ft
Full Storage
900,000 ac-ft
600,000 ac-ft
600,000 ac-ft

Storage, acre-feet

1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017
Combined Storage of Lakes Buchanan and Travis
January 31, 1942 through July 1, 2015

Storage, acre-feet

600,000 ac-ft
900,000 ac-ft
2,010,544 ac-ft

Full Storage

0 300,000 600,000 900,000 1,200,000 1,500,000 1,800,000 2,100,000 2,400,000 2,700,000


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Proceed with Caution

• Rainfall is not translating into inflows
• Revised LCRA Water Management Plan still pending – 4 years of emergency relief
• Typical pattern, or changing climate?
• LCRA reduced firm yield by 100,000 AF
Highland Lakes Storage

Where we’ve been

- Lakes Buchanan and Travis full at 2.01 million acre-feet (a-f)

What could happen

2010 Water Management Plan trigger points

- 1.9 million a-f - On Jan. 1 or July 1 - Interruptible
  - 94% Total Combined Capacity - Interruptible supplies ceased for all customers except four major irrigation operations.

- 1.7 million a-f - On Jan. 1 - Bay and Estuary
  - Reduce bay and estuary releases to meet 150 percent of critical needs (limited by Storable Inflows).

- 1.4 million a-f - Any time - Firm Demands
  - Request firm customers to implement voluntary water use reduction measures to achieve a 5 percent reduction in use.

- 1.4 million a-f - On Jan. 1 - Interruptible
  - Begin gradual curtailment of interruptible supply to four major irrigation operations. Curtailment increases with lower storage levels. Environmental releases for instream flows are reduced to meet critical needs.

- 1.1 million a-f - On Jan. 1 - Bay and Estuary
  - Environmental releases for bay and estuaries are reduced to meet critical needs.

- 900,000 a-f - Any time - Firm Demands
  - Request firm customers to implement mandatory water use restrictions to achieve a 10-20 percent reduction in use. Meet with customers to develop a curtailment plan should drought worsen.

- 600,000 a-f - "Drought Worse Than Drought of Record" declaration - Cease Interruptible and Curtail Firm
  - If the Board issues a "Drought Worse Than Drought of Record" declaration under the 2010 Water Management Plan, begin curtailment of firm supply after ceasing interruptible supply (timing based on duration of drought).

Note: One acre-foot equals 325,851 gallons.

Projections assume Texas Commission on Environmental Quality (TCEQ) will approve emergency orders in 2015 that are similar to the emergency orders approved by TCEQ in 2014, which suspended releases of interruptible stored water for customers in the Gulf Coast, Lakeside and Pierce Ranch irrigation divisions through the 2014 irrigation season and reduced instream flow requirements during the 2014 blue sucker spawning season.
Managing through Drought

- Reservoirs between 30-36% for last 5 years
- Reclaimed water – drought-proof supply
- Consumer interest in rainwater, graywater
- Willingness to sacrifice lawns for trees
- Move to administrative enforcement
- Estimated 76,000 AF saved since 2011
  - Already achieving 104,000 AF through ongoing conservation & leak reduction
Key Program Elements

• Incentives
  – Gradually decreasing focus

• Education
  – Capitalizing on drought awareness

• Regulation
  – Increasing importance over time

• Pricing
  – Effective, but with consequences

• Reuse
  – 1.5 BG/yr growing to 5.5 BG/yr

• Operations
  – Loss & leakage controls
Landscape Conversion Rebate

Designs
- Child Friendly
- Classic
- Contemporary
- Deer Resistant
- Drainage Solutions
- Low Maintenance Shade
- Pool Friendly
- Sun and Color
- Wildlife Habitat
- Creekside

Low water use alternative landscapes.

Included tips for plant selection and layout

Demonstrated at City of Austin facilities
New Development Regulations

• Plumbing code requires efficient household and commercial equipment and irrigation systems

• Working with City departments to refine landscaping requirements and implement low-impact design

• Commercial development near reclaimed water mains must connect for non-potable uses

• Mandatory A/C condensate recapture (in progress)
Water Use Restrictions

- Mandatory, year-round watering restrictions (2x/week)
- Water waste prohibited
- Additional restrictions triggered by supply or demand conditions
  - 1x week since 2011 due to drought
  - No home car washing, fountains
- Biennial irrigation inspections for properties over 1 acre
- Car wash certification required
- Fines from $50-$500 per violation
Violations assessed only after a warning is issued

- Citizen reports generate a postcard alert
- Fines on water bills

- 2036 warnings
- 328 properties fined
- 89 appeals filed
- 0 appeals overturned
Next Steps

• Austin will remain in Stage 2 restrictions through summer

• Considering whether once-per-week watering should be a permanent condition

• Anticipated for September agenda of Public Utilities Committee

• PUC feedback will determine timeline for additional public involvement process (similar to 2011-12 rewrite)

• Integrated Water Resource Plan in progress, scope includes climate studies
Water Rates

• Austin has one of the most steeply tiered inverted block rates in the nation for residential customers
• Commercial customers have seasonal rates
• City Council policies have focused on rate increases by percentage, resulting in steeper tiers and low-use subsidies
• Conservation has reduced high use
• ~ 67% of customer usage is below cost-of service
• Drought rates added in 2015 for Stages 3 and 4
Austin's Water Demand and Population

- Total Treated Water Pumpage (MG)
- Population

- FY 1990 to FY 2014

Pumpage: Blue line
Population: Red line
Questions?
How many bottles of water could you replace with just $1.00 worth of Austin’s drinking water?

Answer: About 2,000!

Drema Gross
Water Conservation Division Manager
drema.gross@austintexas.gov
(512) 974-2787