



• August 15-18, 2010 • Dallas, Texas •
• Dallas Convention Center •



Water Resource Management at the DFW Airport – Capture, Reuse and Conservation

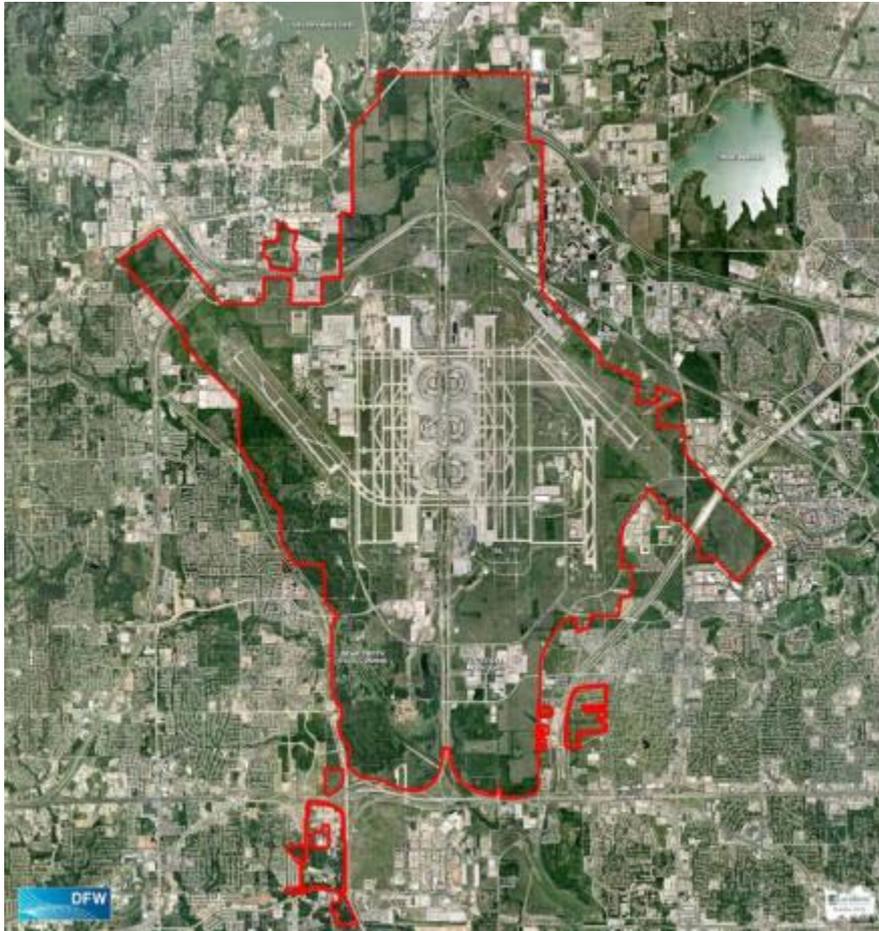
Rusty T. Hodapp, P.E., CEM, LEED AP

Presentation Agenda

- DFW Airport Overview
- Airport/Regional Water Use, Demand, Supplies
- Rainwater Capture/Management at DFW
- Regional/DFW Reclaimed Water System
- Conservation
- Sources and Demands in Context

DFW Airport Overview

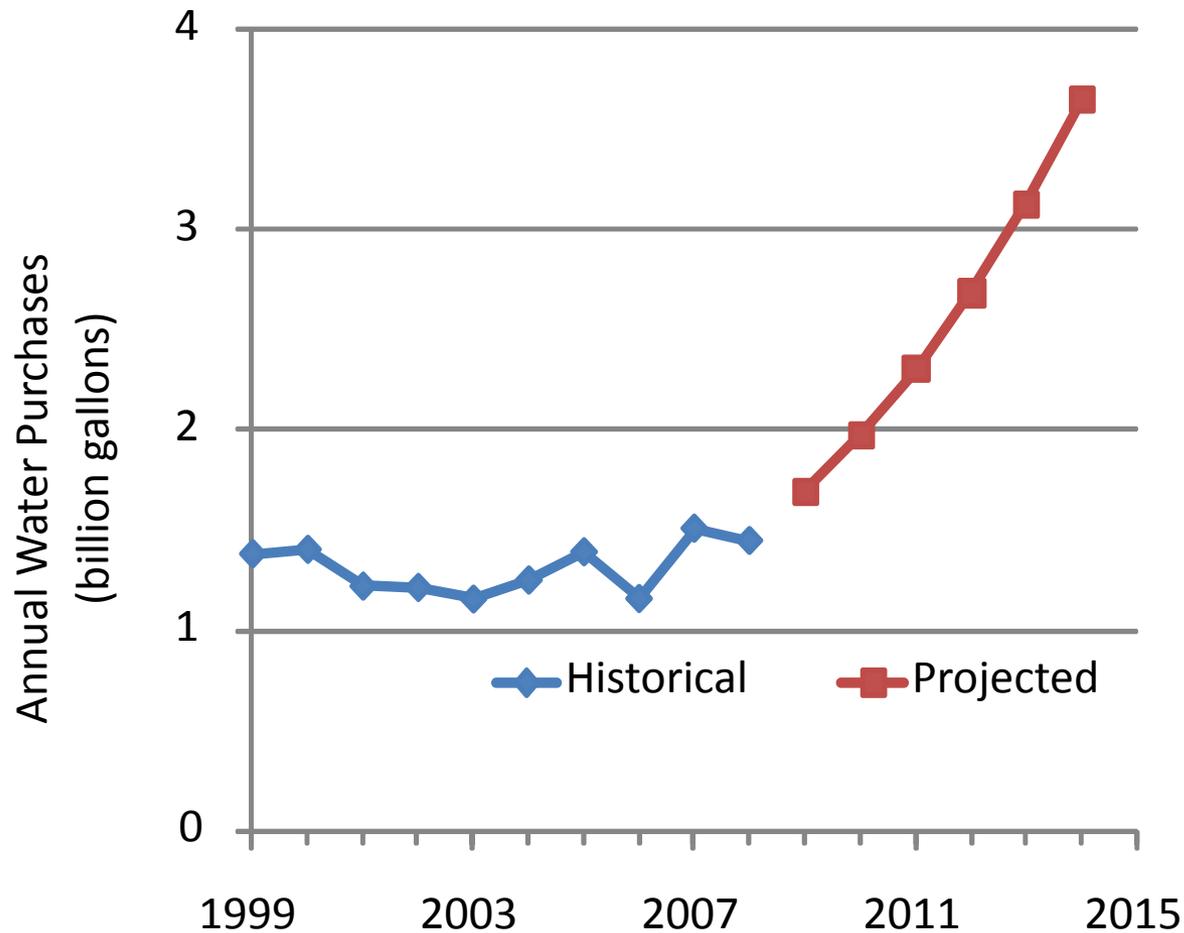
DFW Airport is the highest capacity airport in the world



- 24-hour Operations
- 18,000+ acres
- 7 Runways
 - 4 are 13,400'
- Any aircraft at maximum payload can land at DFW
- 5 Terminals

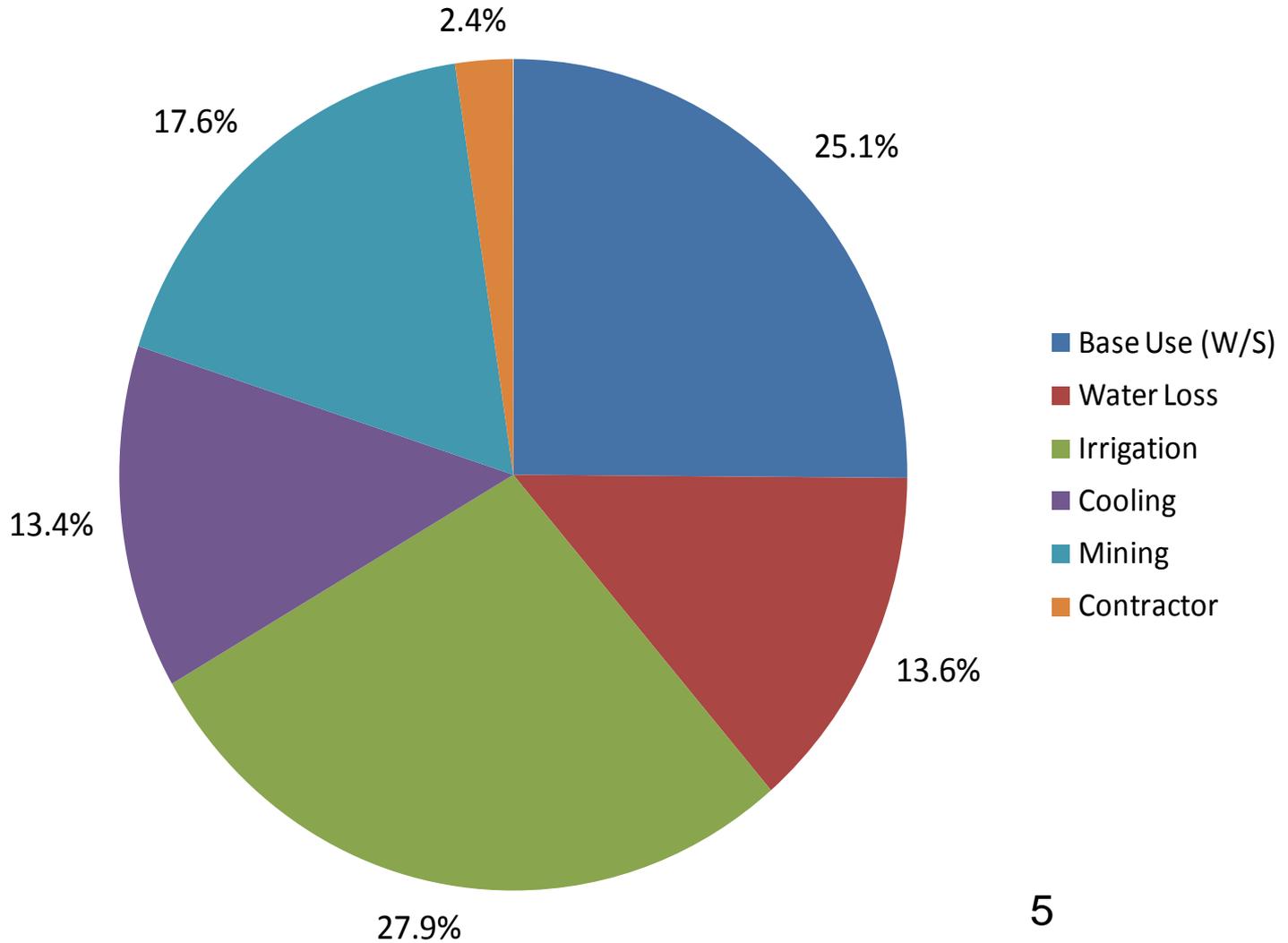
DFW Airport

Historical and Projected Water Purchases

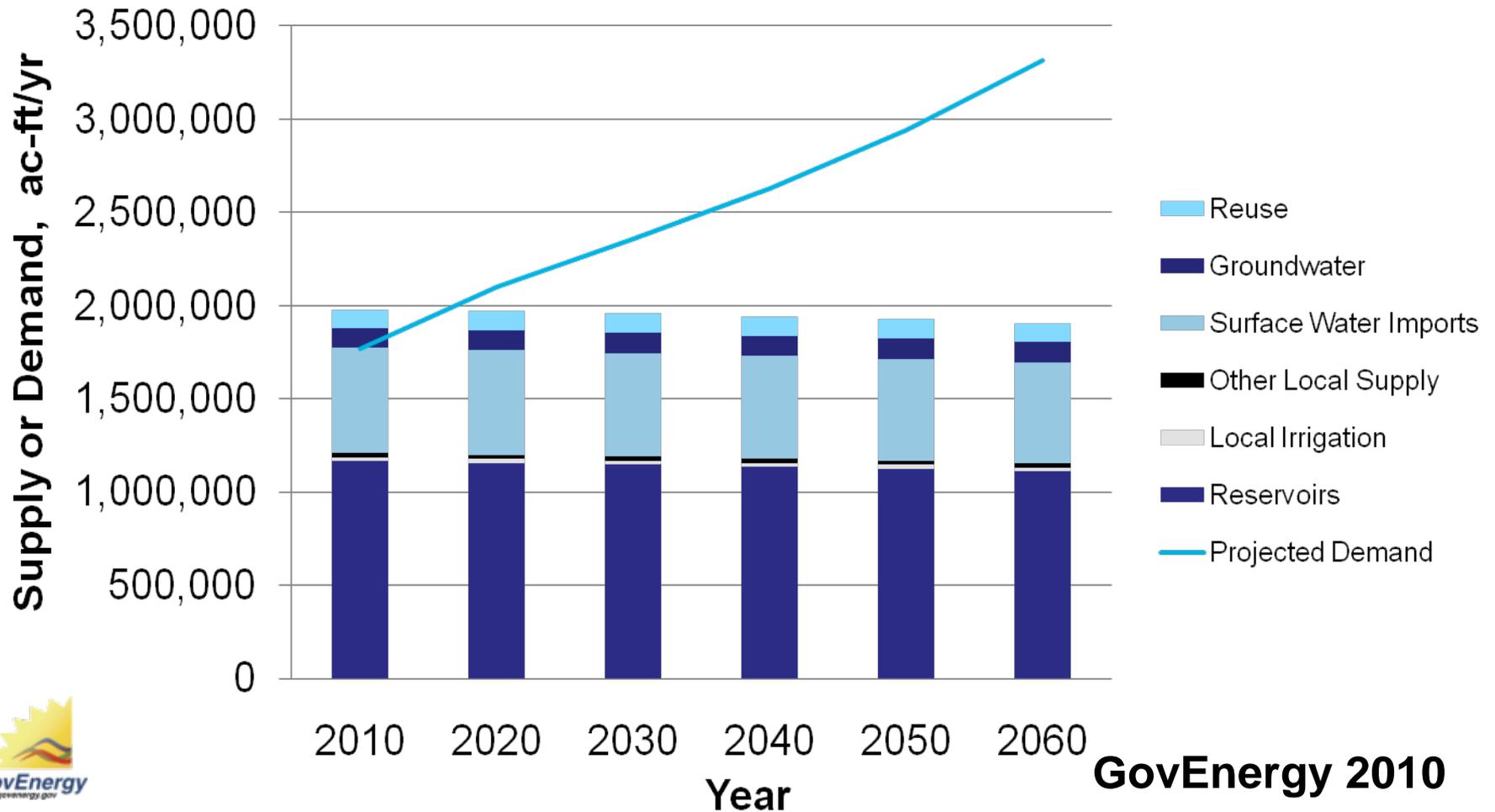


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Annual Water Use by Use Type

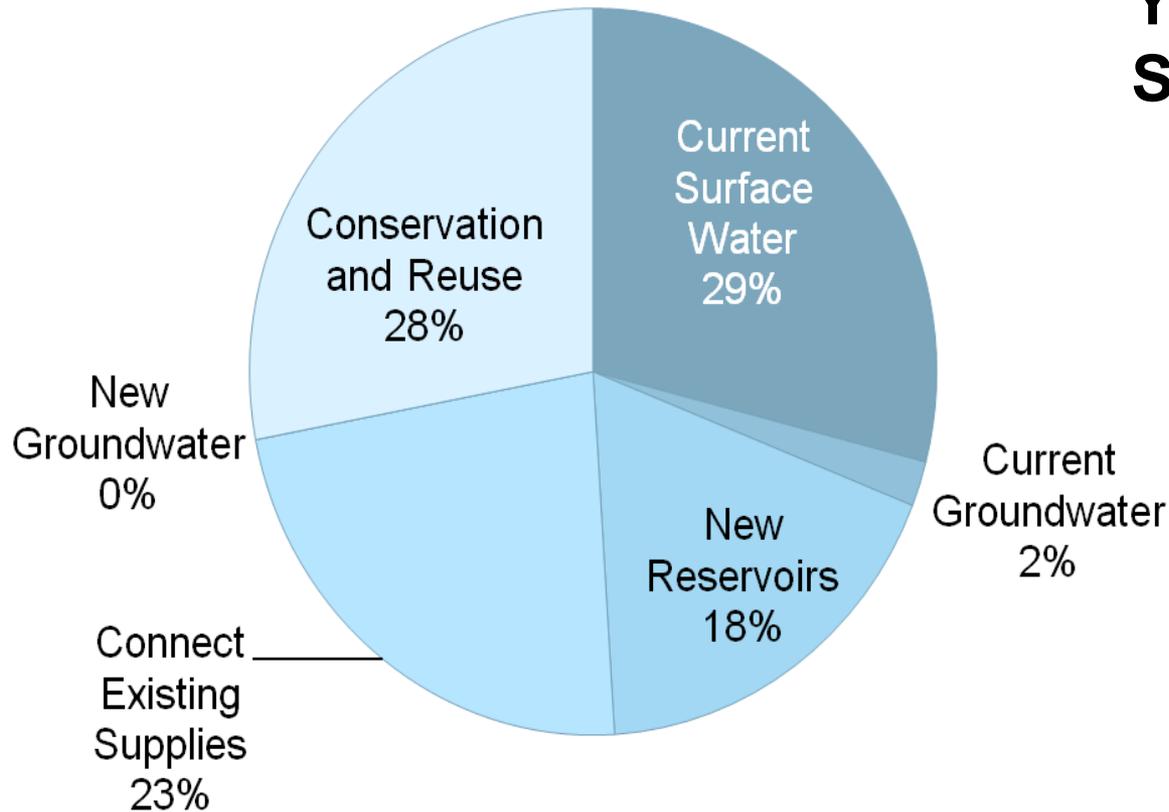


Region C Projected Supply and Demands



Region C Planned Supplies 2006 Water Plan

**Year 2060
Supplies**



DFW Airport

Rainwater Capture

- Trigg Lake - permitted capture of rainwater runoff for dedicated irrigation of Bear Creek Golf Course
- Substitutes for potable water
- Original lake on Airport property reconstructed in 1983.
- Permitted water rights for 610 acre-feet per year (~199 million gallons per year)
- Average production/use is ~400 acre-feet per year (~130 million gallons per year)
- Lake is aerated for enhanced water quality



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Contaminated Rainwater Capture and Treatment

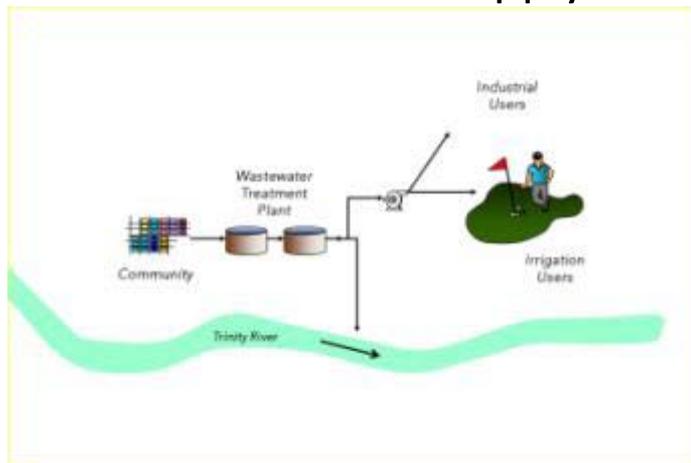
- Terminal ramp area first flush capture, collection and treatment (hydrocarbons)
- Spent Aircraft Deicing Fluid (SADF) contaminated rainwater capture, collection and treatment
- Infrastructure can store 18.6 million gallons and treat 24.8 million gallons per year
- On-site Reverse Osmosis treatment reduces off-site disposal and may create opportunities for recycling of high concentrate brine and reuse of treated effluent



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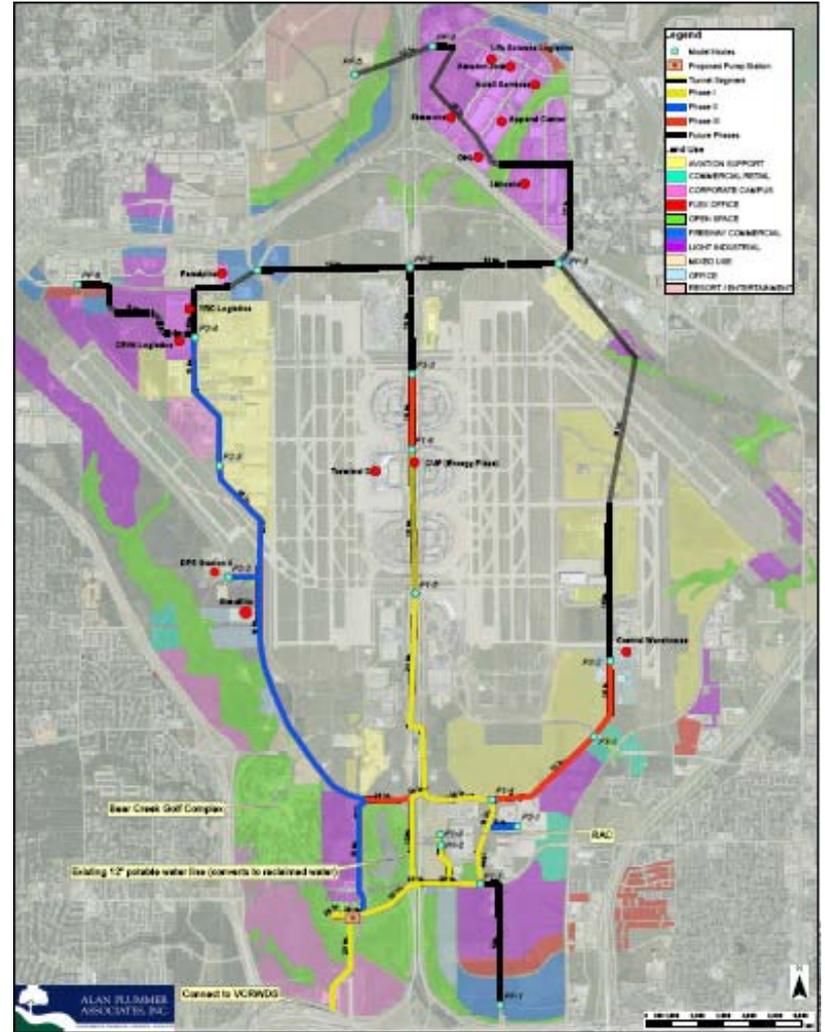
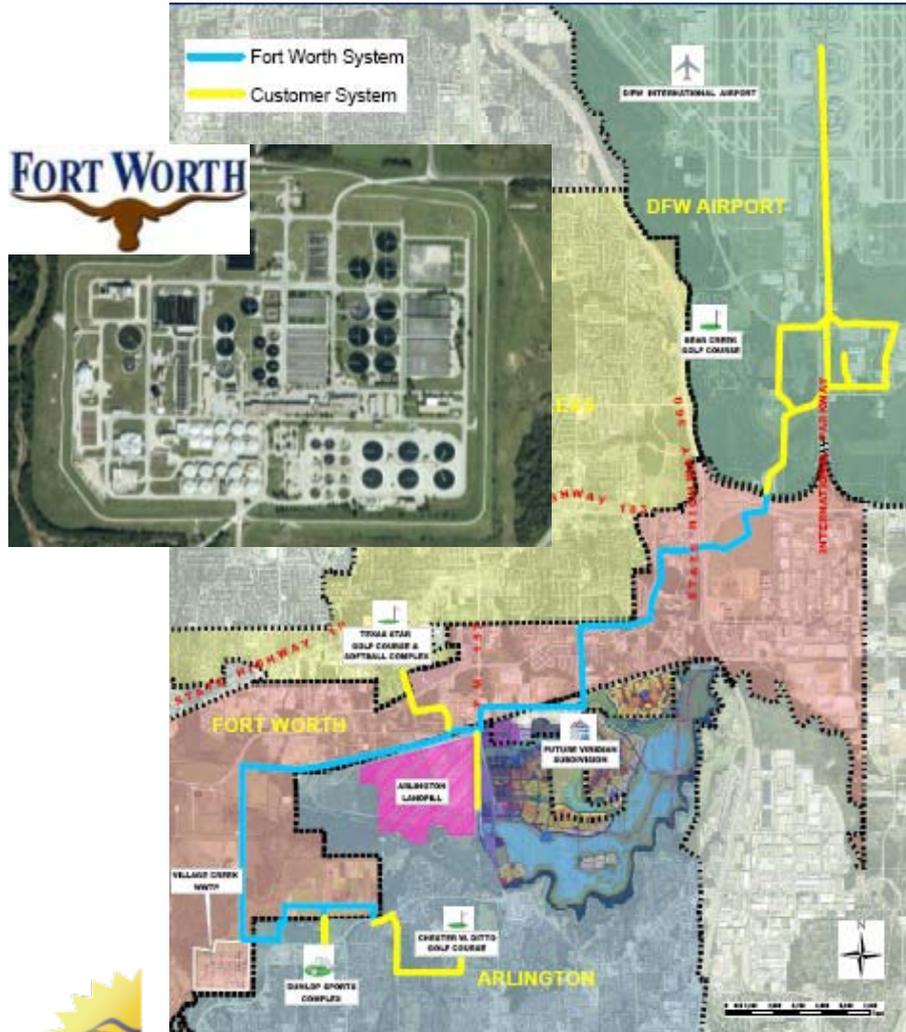
Reuse - Reclaimed Water System

- Reclaimed water is highly treated wastewater effluent that is used for beneficial non-potable purposes
- Reclaimed water must meet strict water quality standards as established by the Texas Commission on Environmental Quality (TCEQ)
- Reclaimed water is an effective and efficient use of water supply



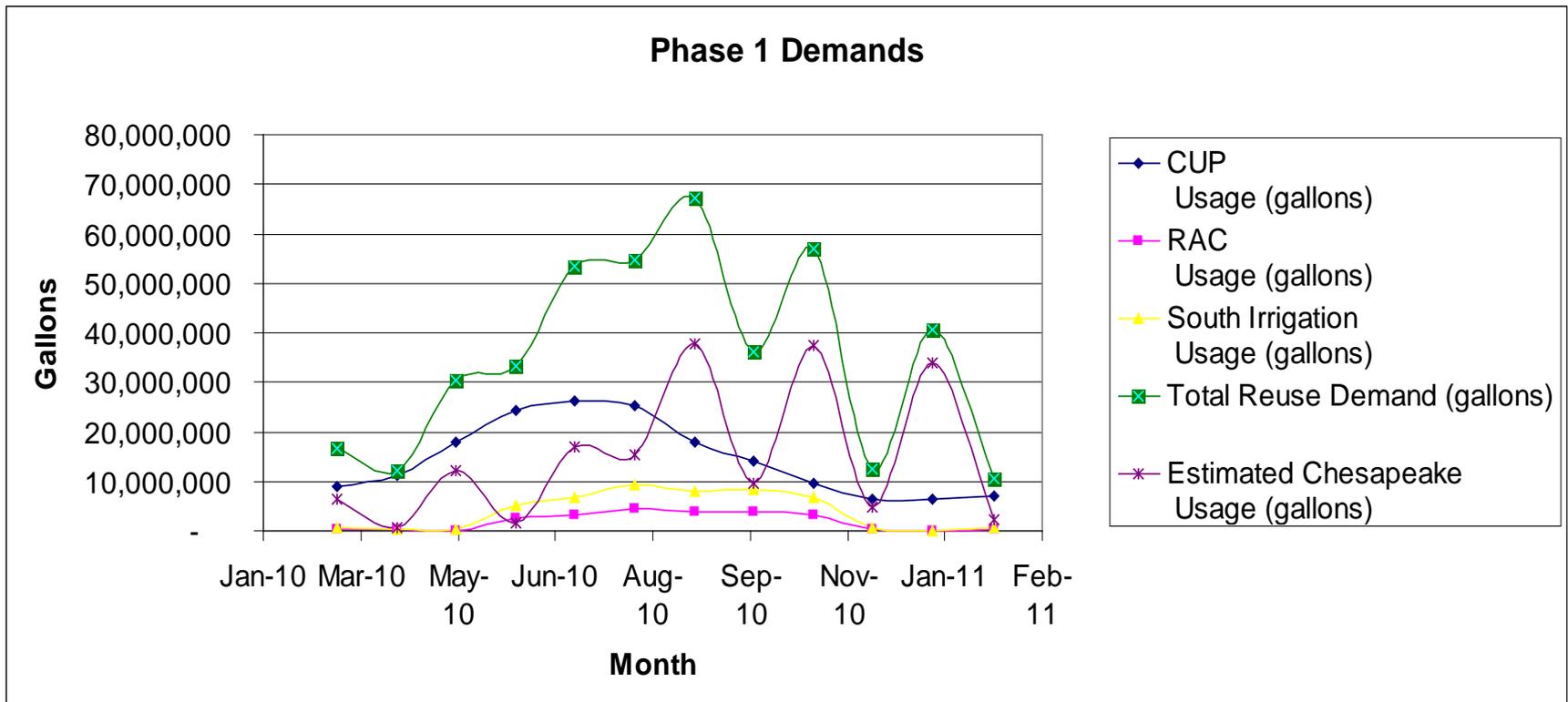
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Reuse - Reclaimed Water System



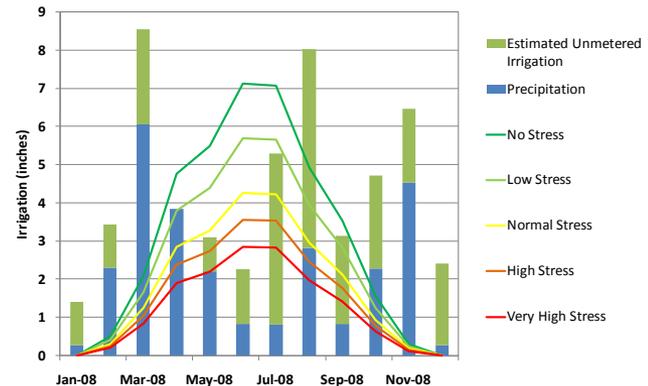
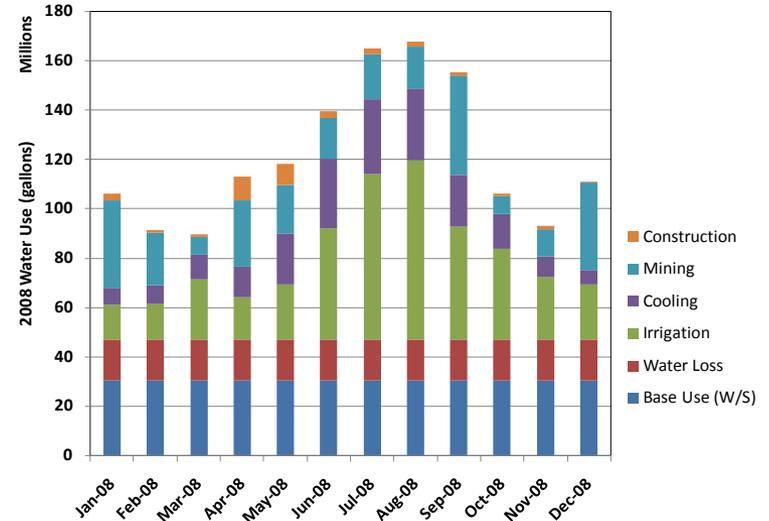
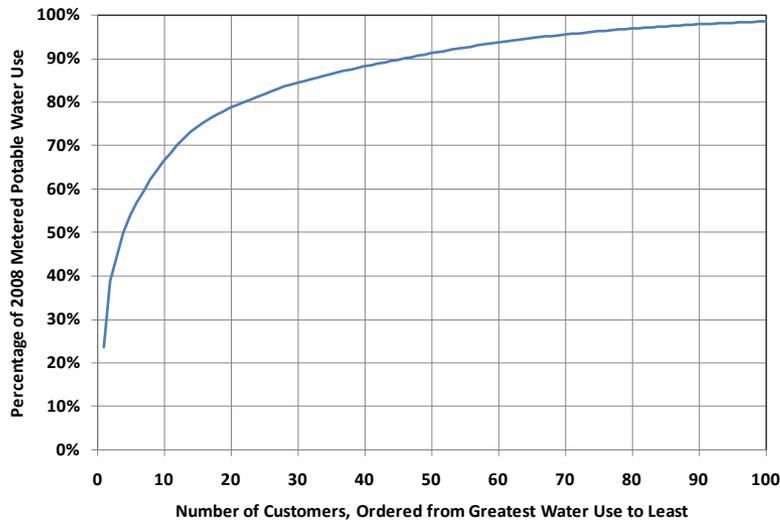
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Reuse - Reclaimed Water System

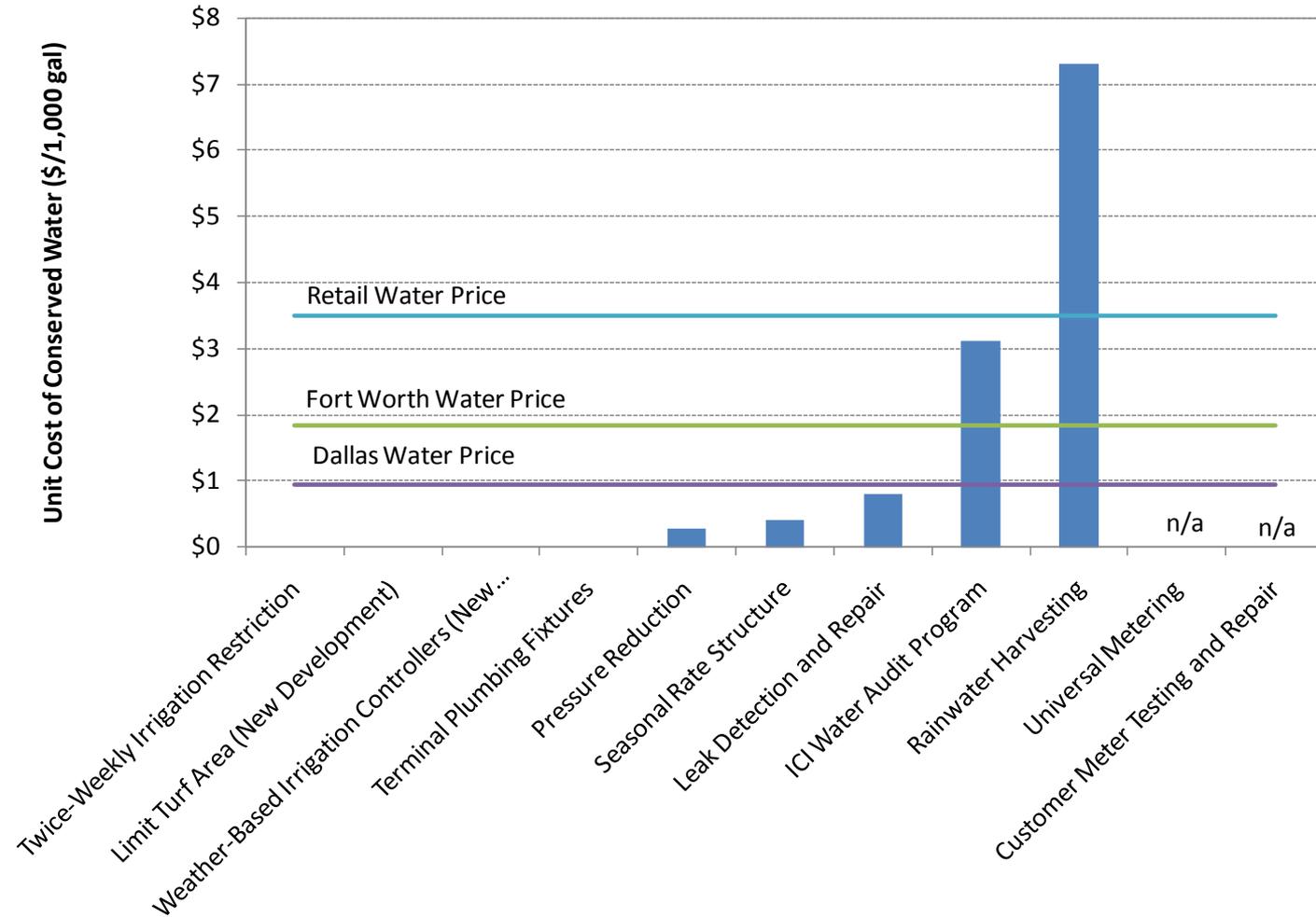


DFW Airport Conservation

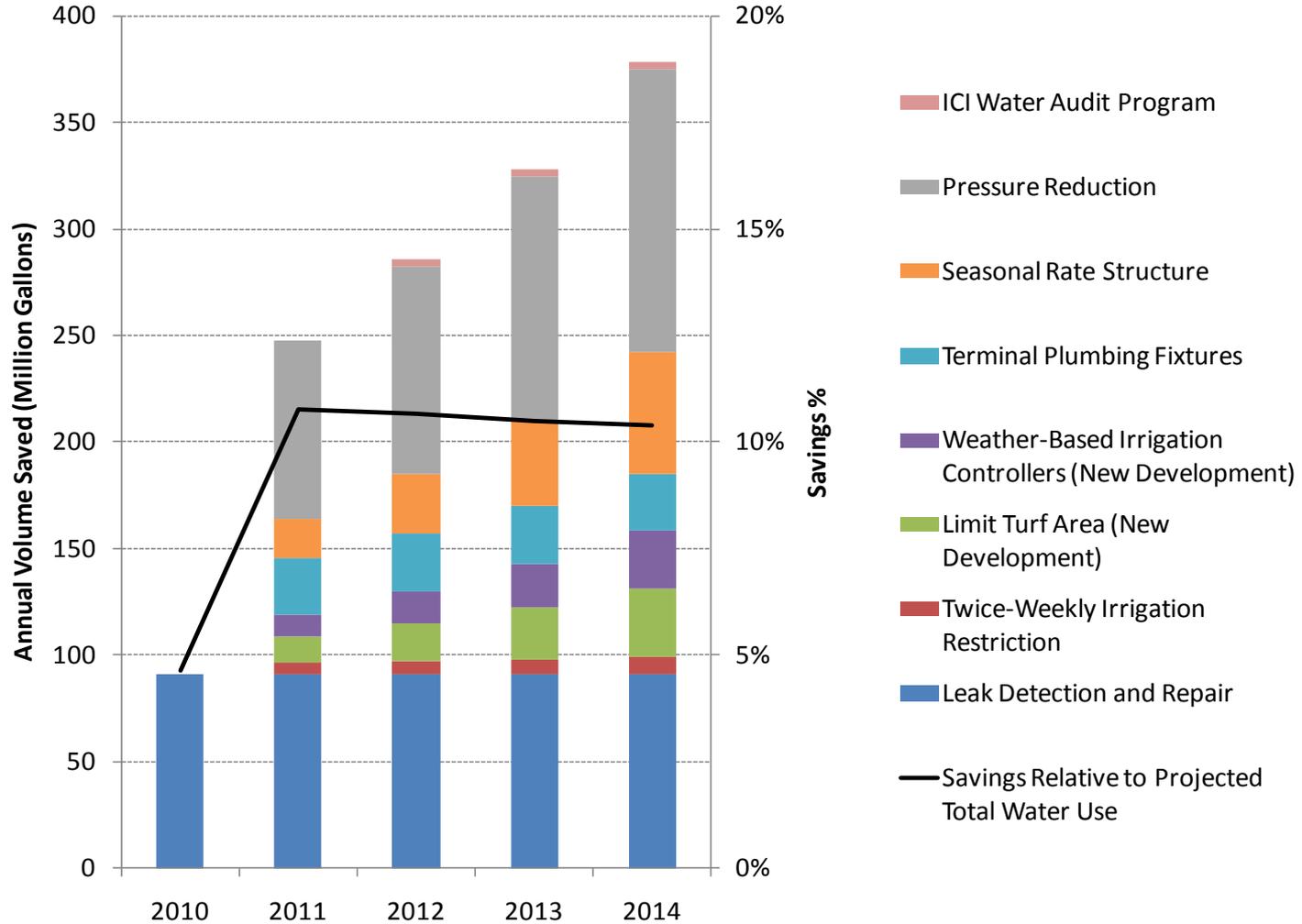
- 2009 Utility Master Plan Study – Water Conservation Strategies and CIP
- Water Use
- Water Loss
- Conservation Measures
- Implementation Plan



DFW Airport Conservation



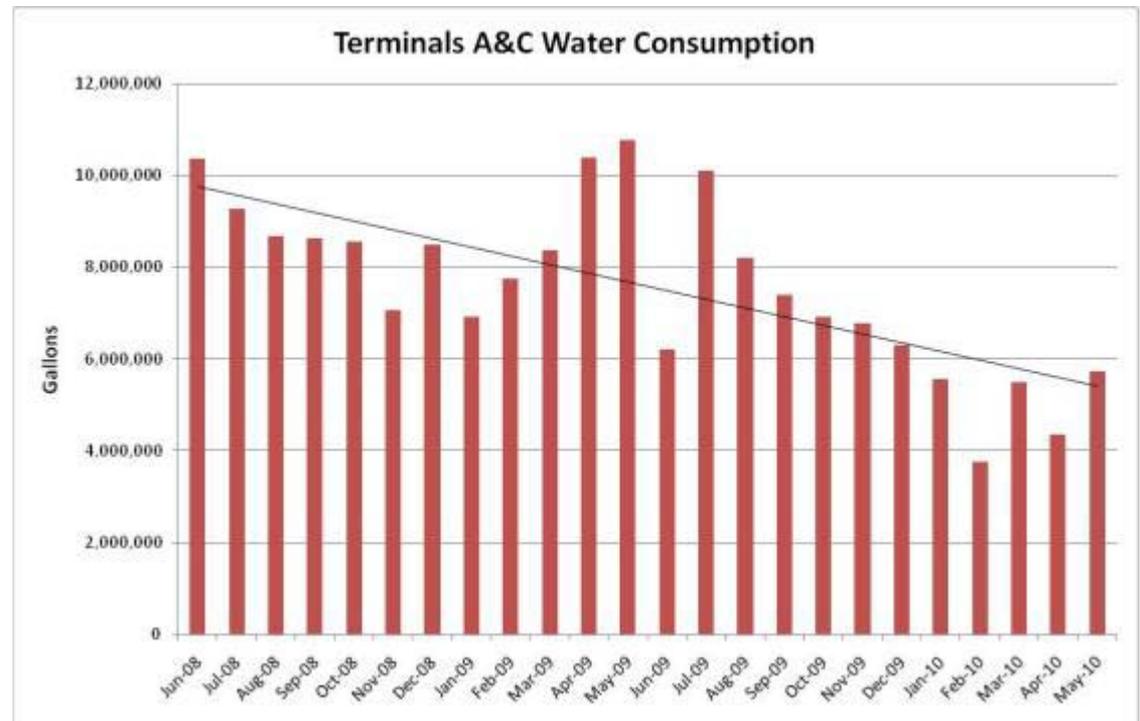
DFW Airport Conservation



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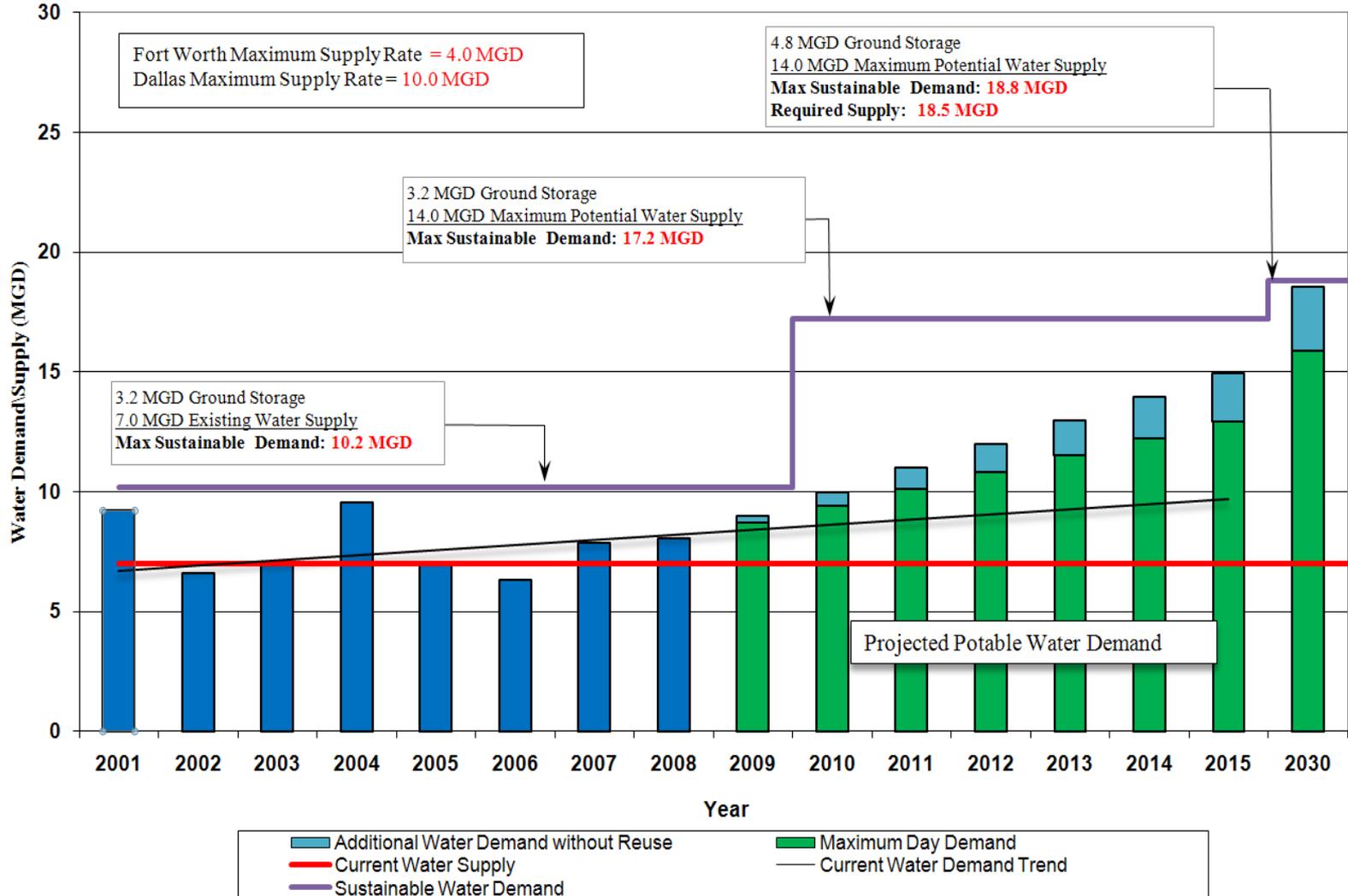
Conservation

- Terminal Restroom Refurbishment
- Anticipated water savings of 1.15 million gallons (52% reduction)
- Anticipated energy savings of 2,240 kWh (pumping energy)
- Low incremental cost of HEU/HET



DFW Airport

Water Sources and Demand Projections



Thank you for your kind attention

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