


Texas Water Reuse

Government Accountability Office
Municipal Water Technology Workshop

January 29, 2015

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Texas Water 
Development Board



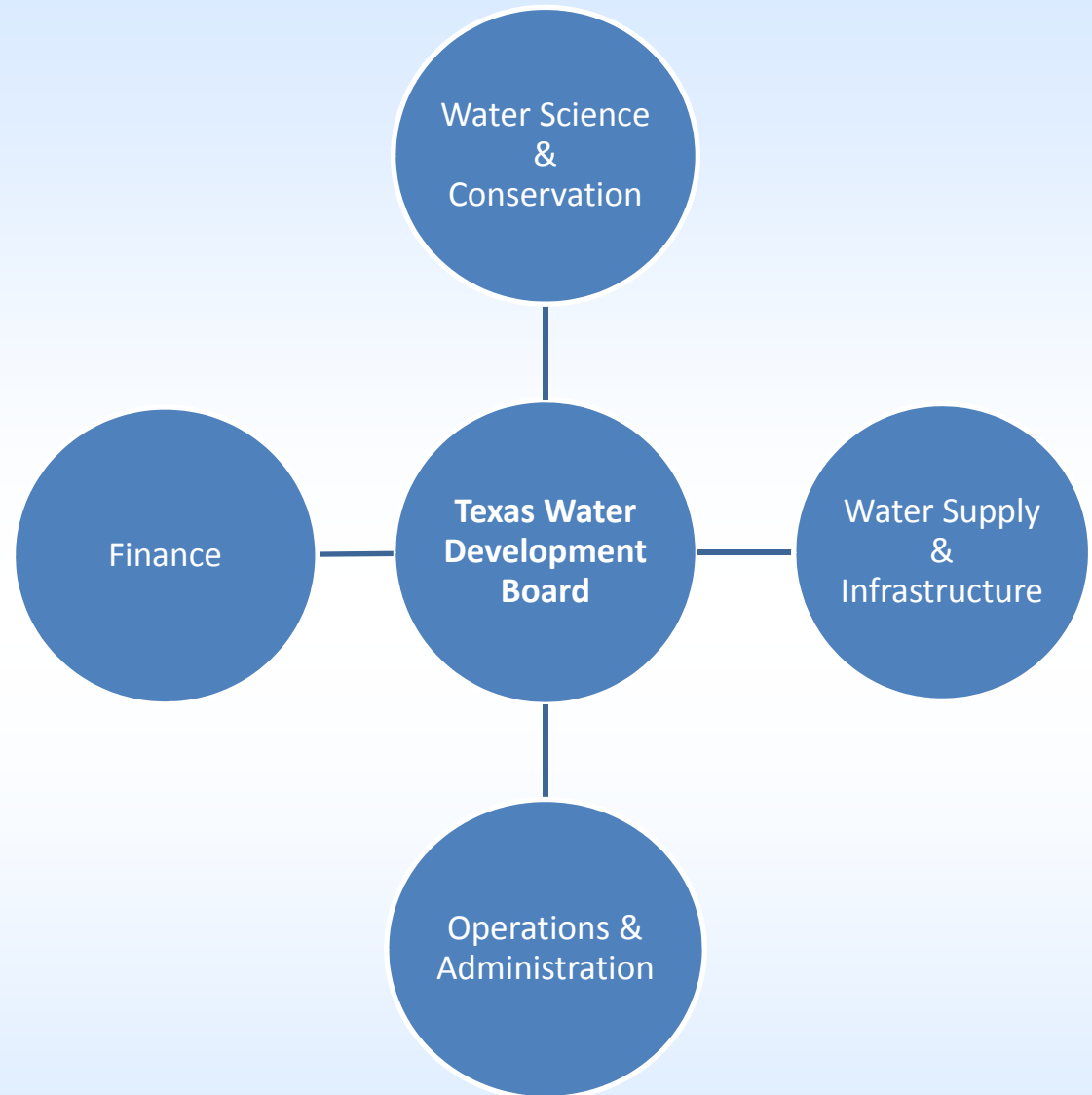
The following presentation is based upon professional research and analysis within the scope of the Texas Water Development Board's statutory responsibilities and priorities but, unless specifically noted, does not necessarily reflect official Board positions or decisions.

Mission

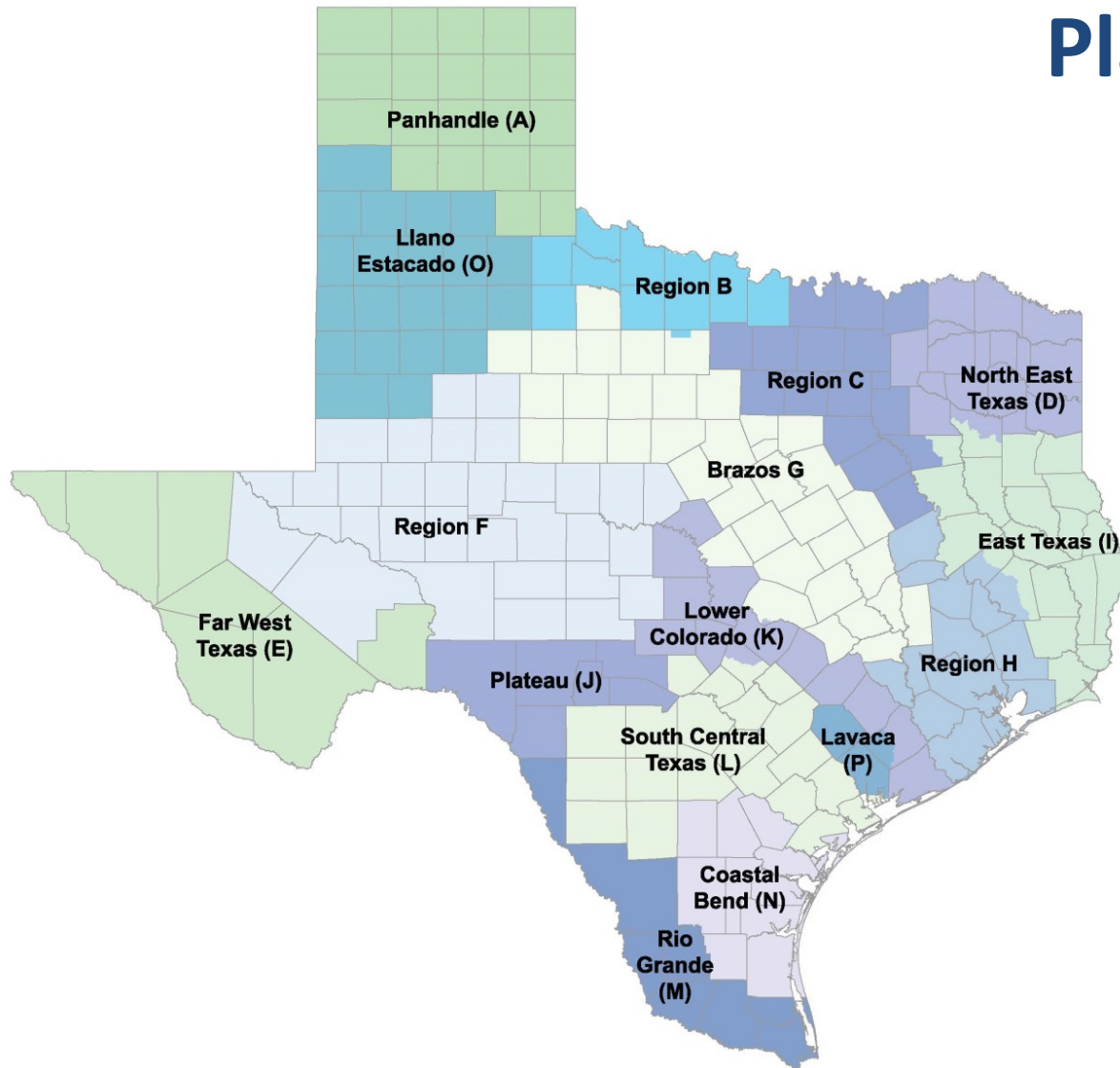
To provide

- Leadership,
- Information,
- Education, and
- Support for planning, financial assistance, and outreach

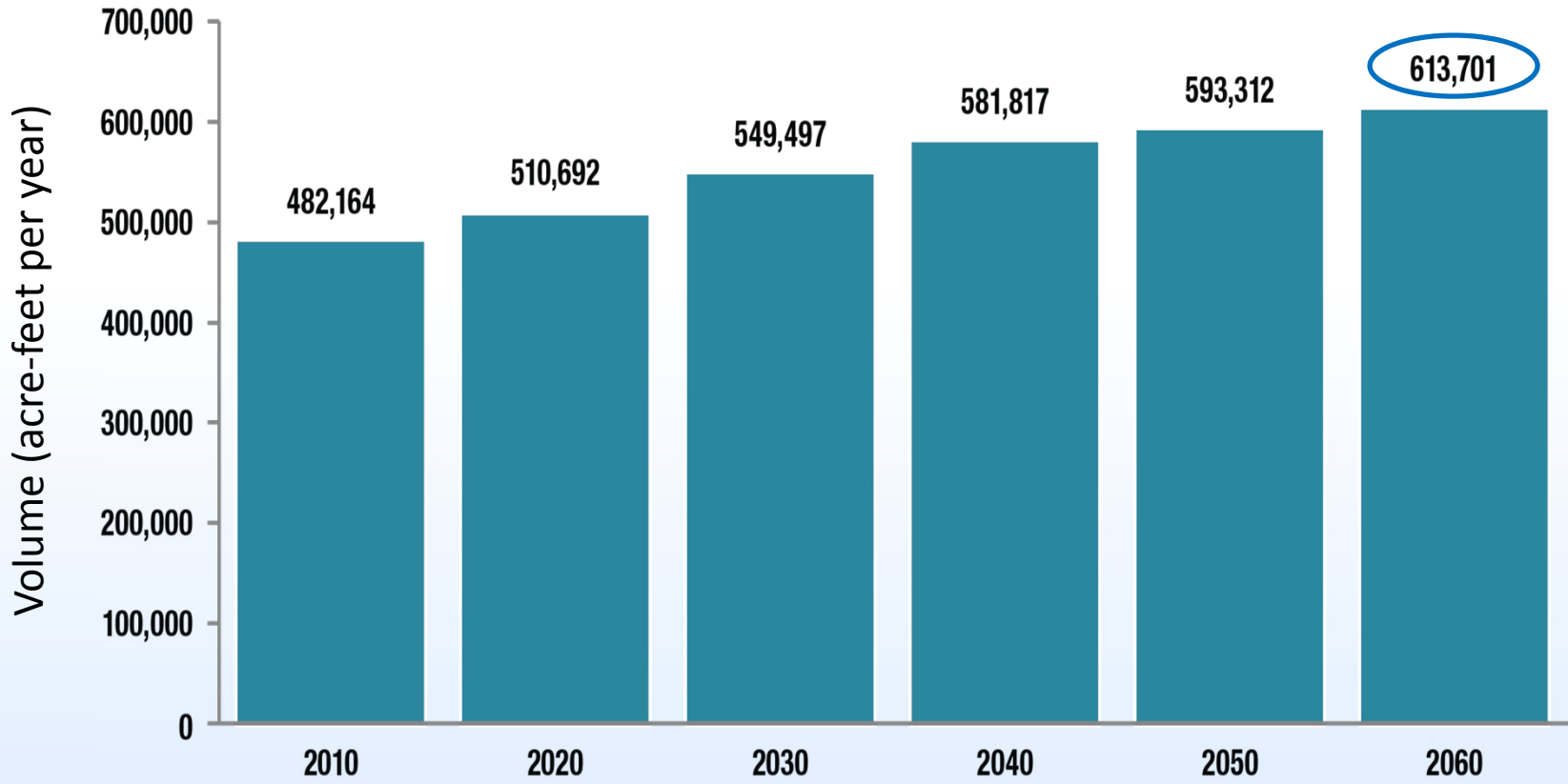
for the conservation and responsible development of water for Texas.



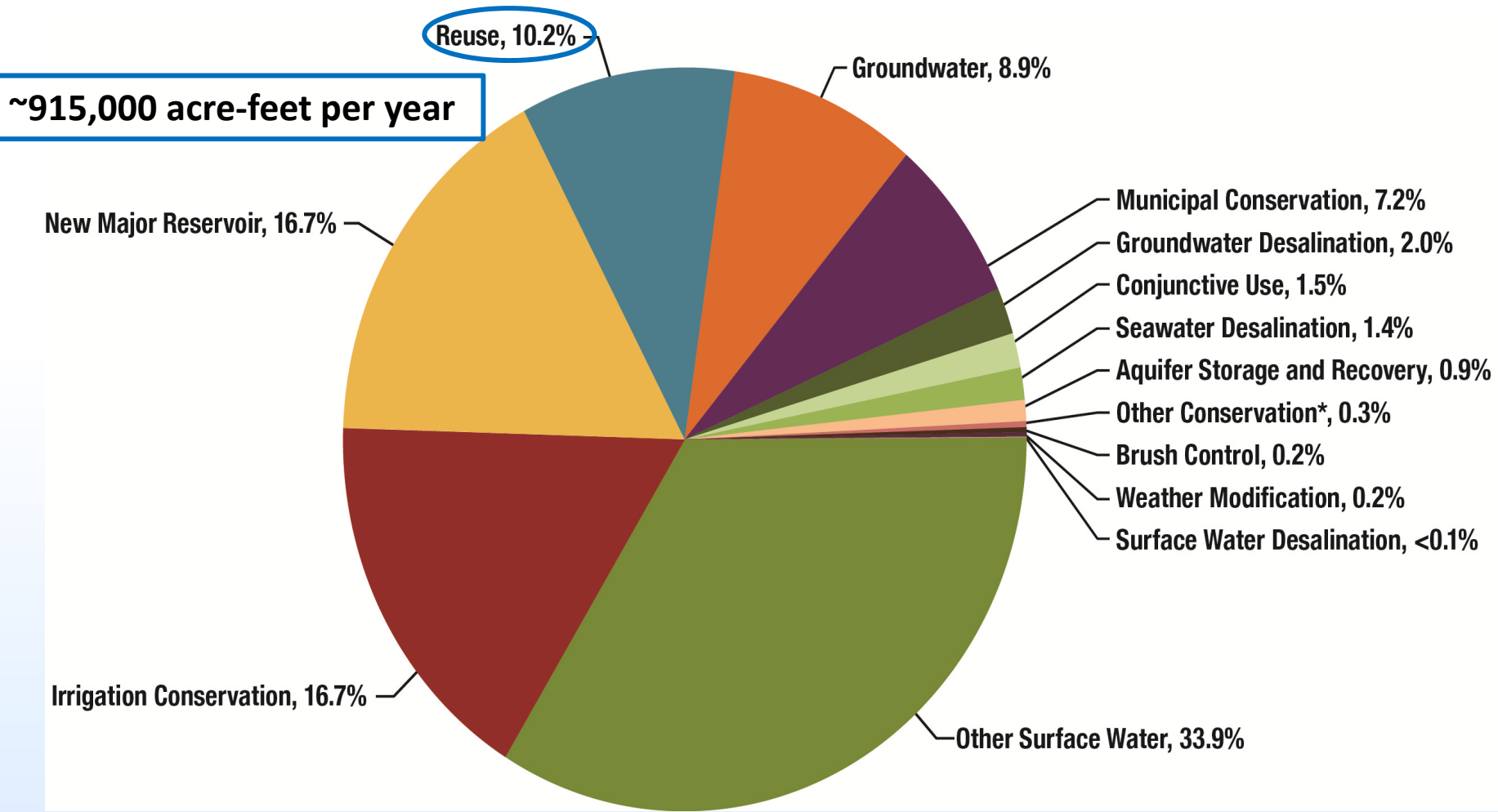
Regional Water Planning Areas



Projected Existing Water Supplies by 2060



Recommended Water Management Strategies by 2060

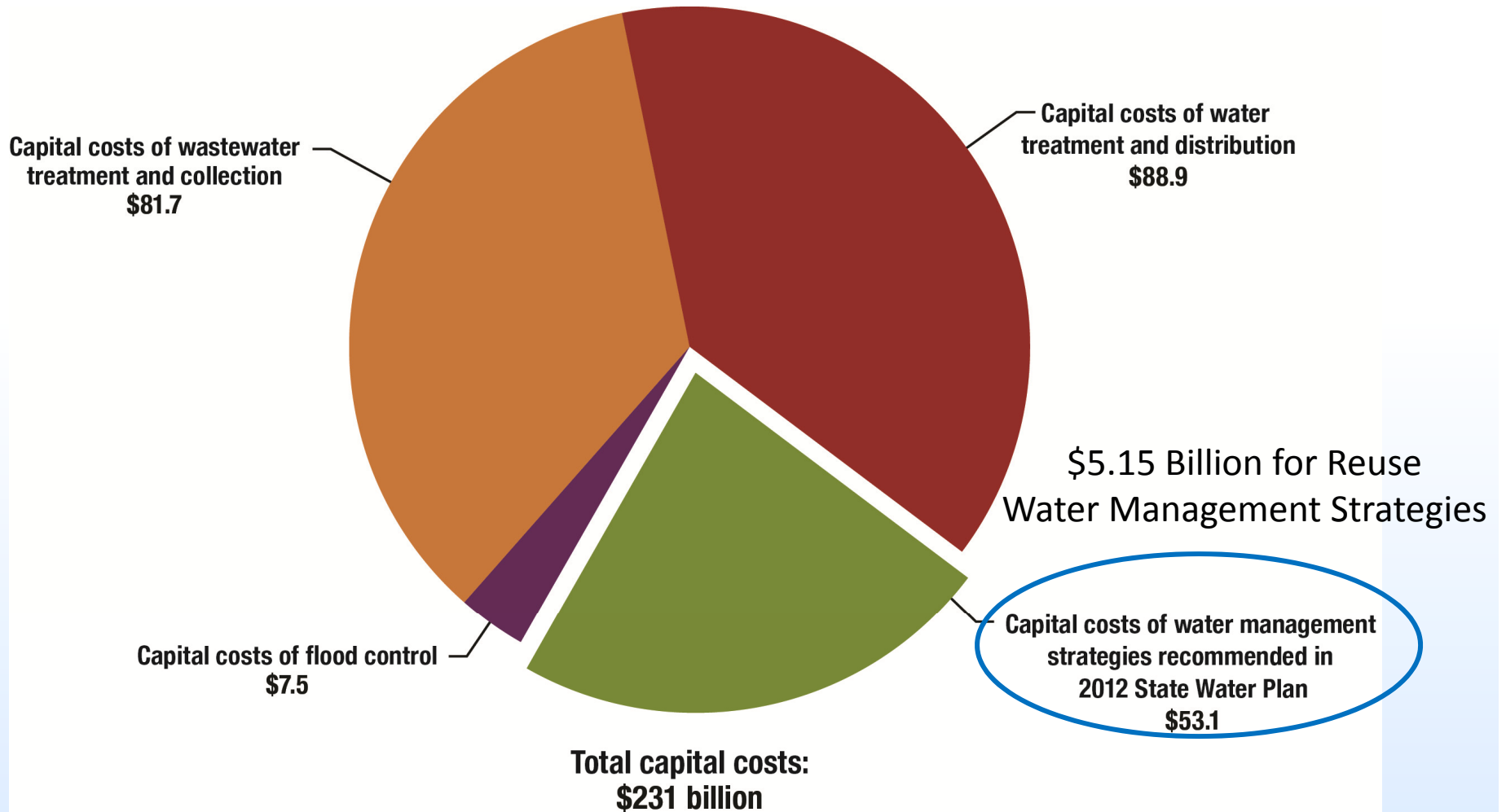




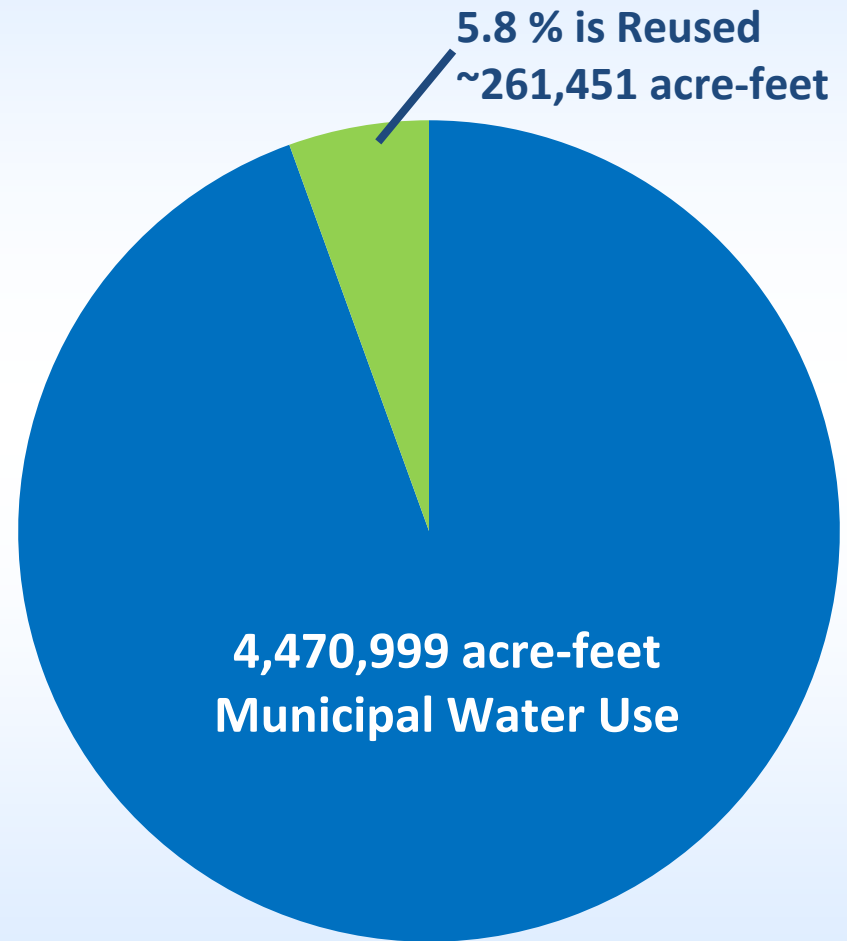
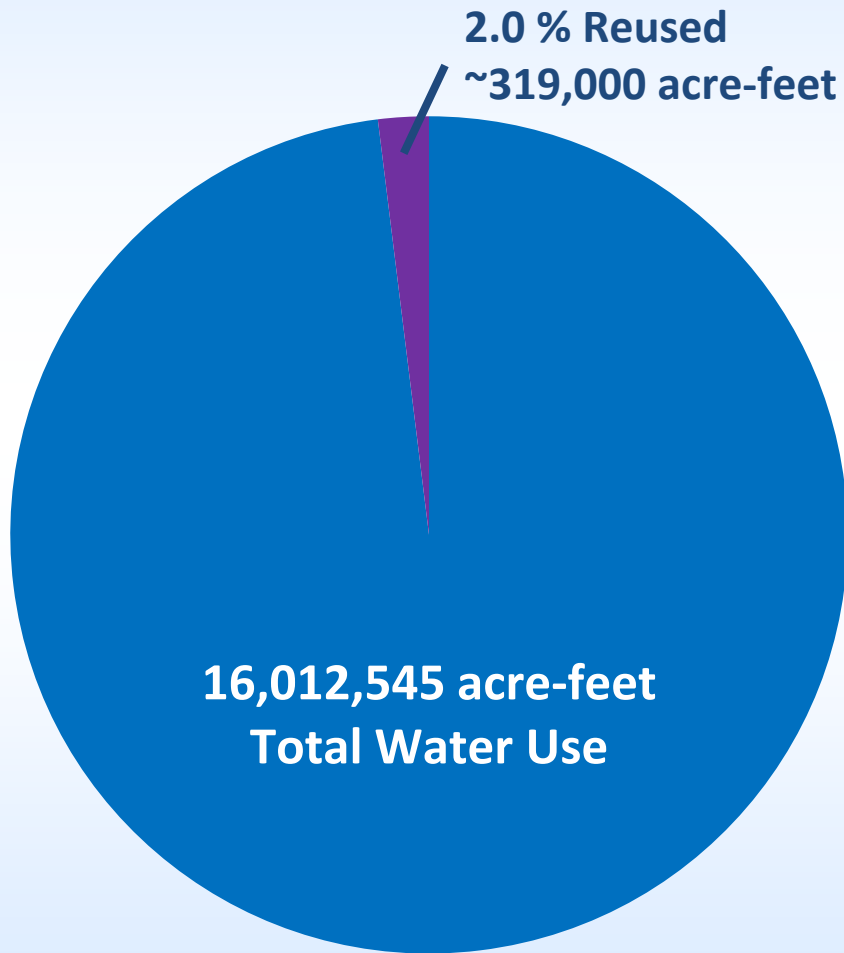
Reuse - Recommended Water Management Strategy

- ~1.5 million acre-feet of reuse water in 2060
- Reuse as water management strategy
 - 13 regional water planning groups (except A, J, and P)
- Recommended water management strategy
 - 12 regional water planning groups (except A,D, J, and P)
- Alternative water management strategy
 - 4 regional water planning groups (includes B,C,D, F)

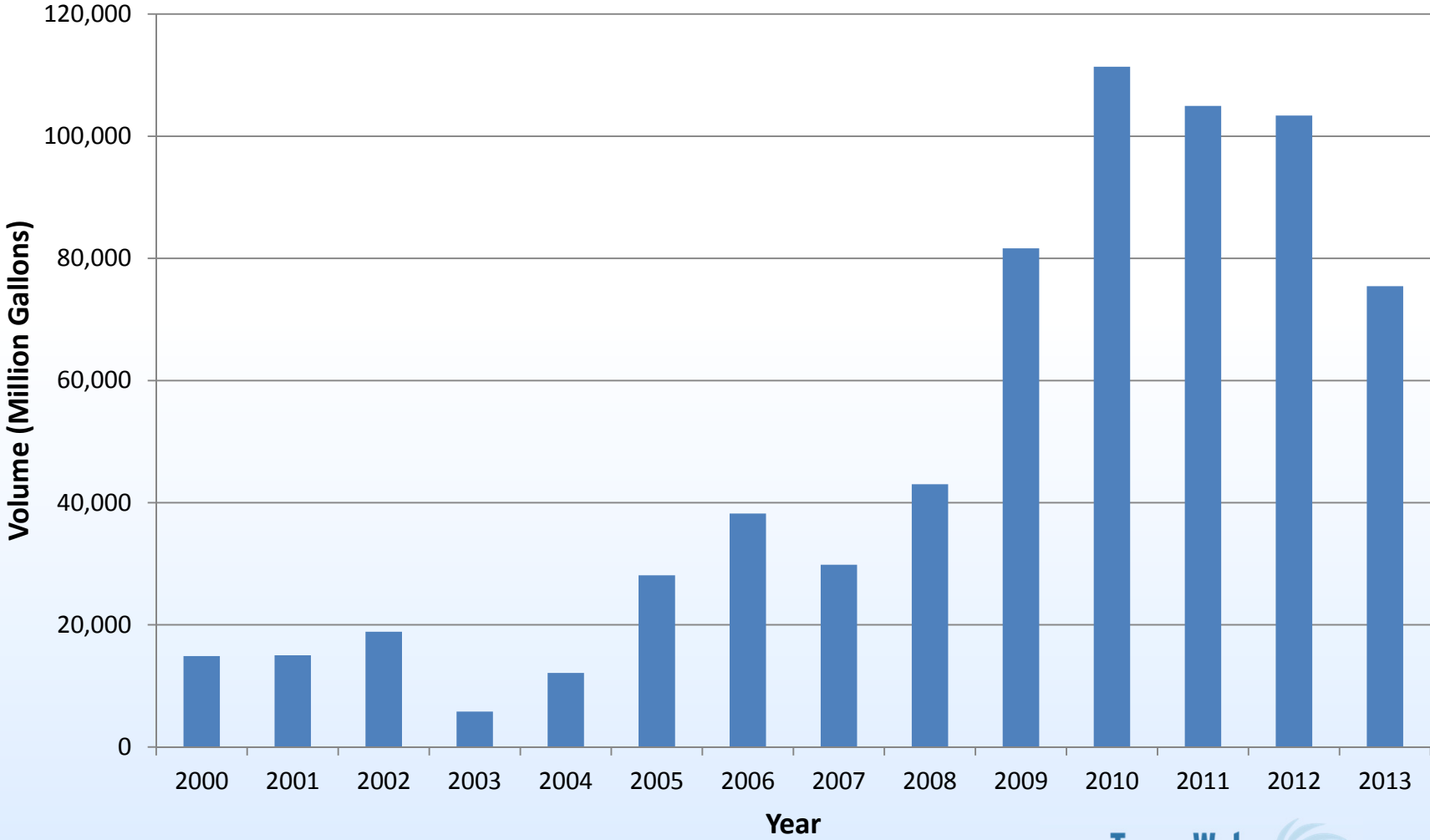
Capital Costs



2012 Water Usage in Texas

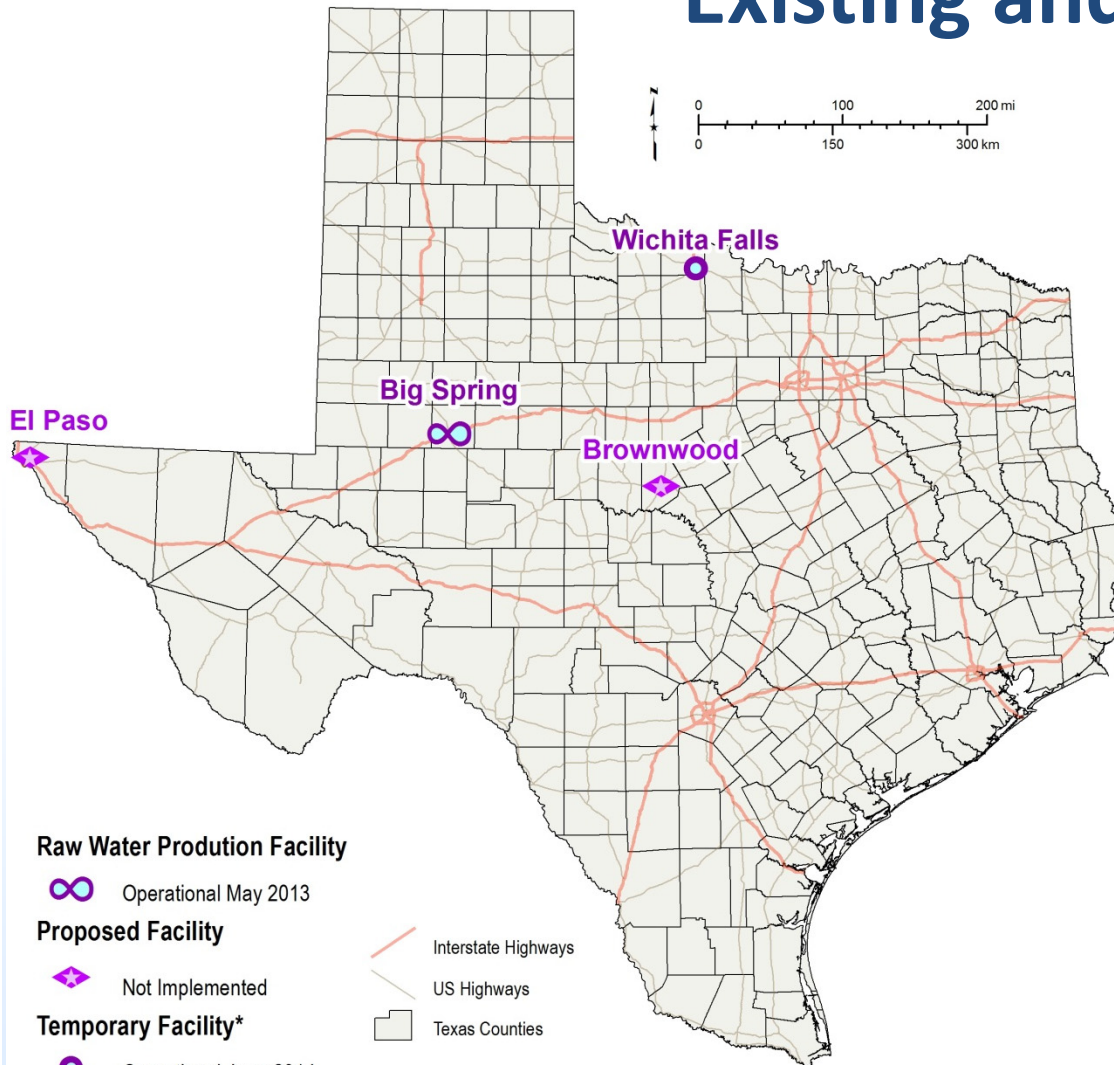


Reuse in Texas



2013 Water Use Survey

Direct Potable Water Reuse Existing and Proposed Facilities



*Direct Potable Reuse Water Treatment Plant permitted for a period of 6 months

- Raw Water Production Facility
 - Operating since May 2013
- Direct Potable Reuse Project
 - Operating since July 2014 (emergency project)
- Advanced Purified Water Treatment
 - Completed piloting protocol
- Direct potable reuse project
 - Awaiting city council approval

Water Reuse Research

Evaluating the Potential for Direct Potable Reuse

- Contaminants of Concern
- Water quality performance targets
- Water quality characterization
- Source control
- Treatment technologies
- Environmental buffers
- Quantitative relative risk assessment
- Pilot protocols
- Regulatory summary
- Public awareness and outreach



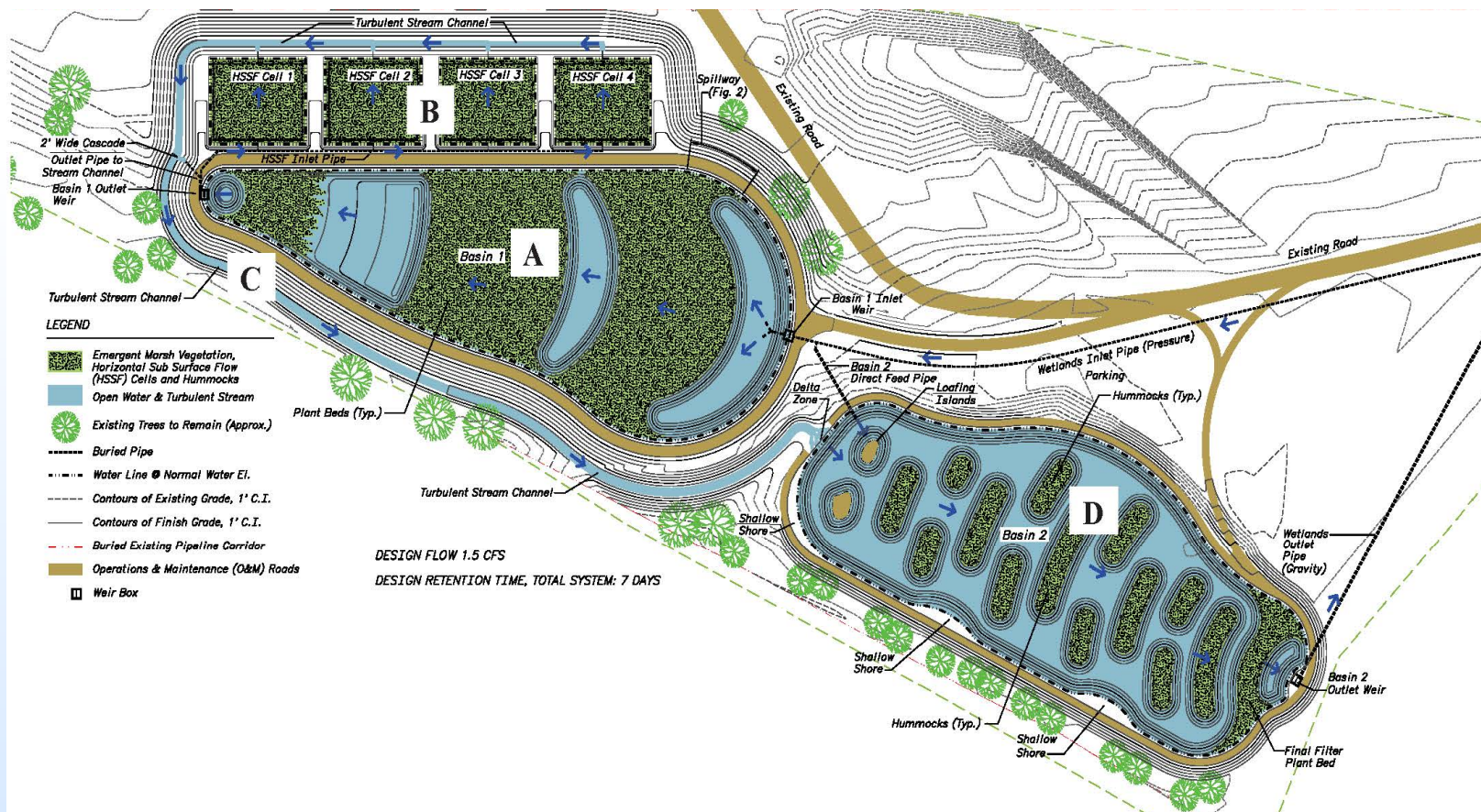
Testing Water Quality in a Municipal Wastewater Effluent Treated to Drinking Water Standards

- Quarterly sampling
 - Chemicals of Emerging Concern
 - Microbial pathogens
- Develop correlations for surrogates compounds
- Guidance document for monitoring at direct potable reuse facilities



Brazos River Demonstration Wetland

- Engineered wetland constructed in Waco, Texas to evaluate how endocrine disrupting compounds can be reduced from treated wastewater effluent.



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Innovative Water Technologies

<http://www.twdb.texas.gov/innovativewater/reuse/index.asp>

Texas Water Development Board

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