

REGION H

Water Planning Group

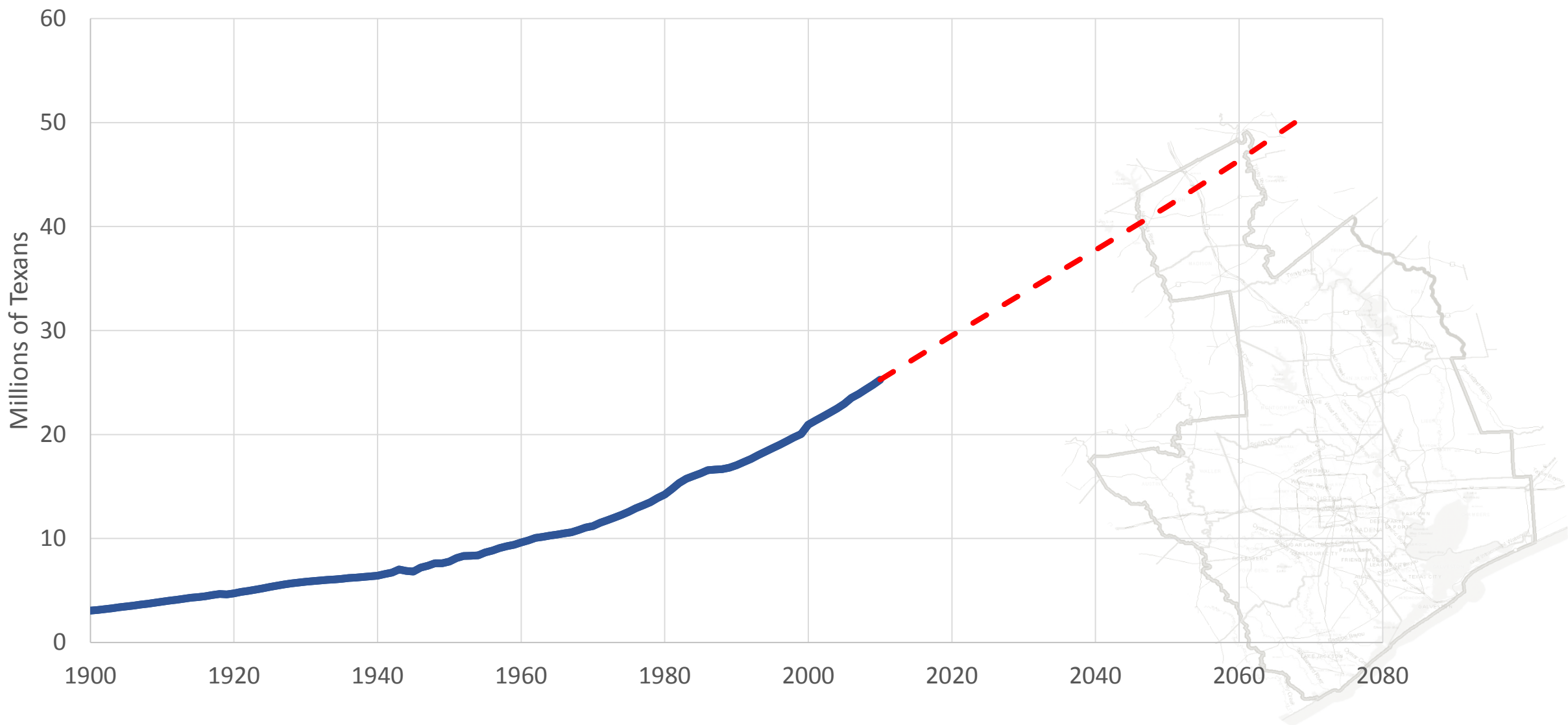
PLANNING FOR REGIONAL WATER SOLUTIONS

Water Efficiency Network
Houston, TX

25 August 2016

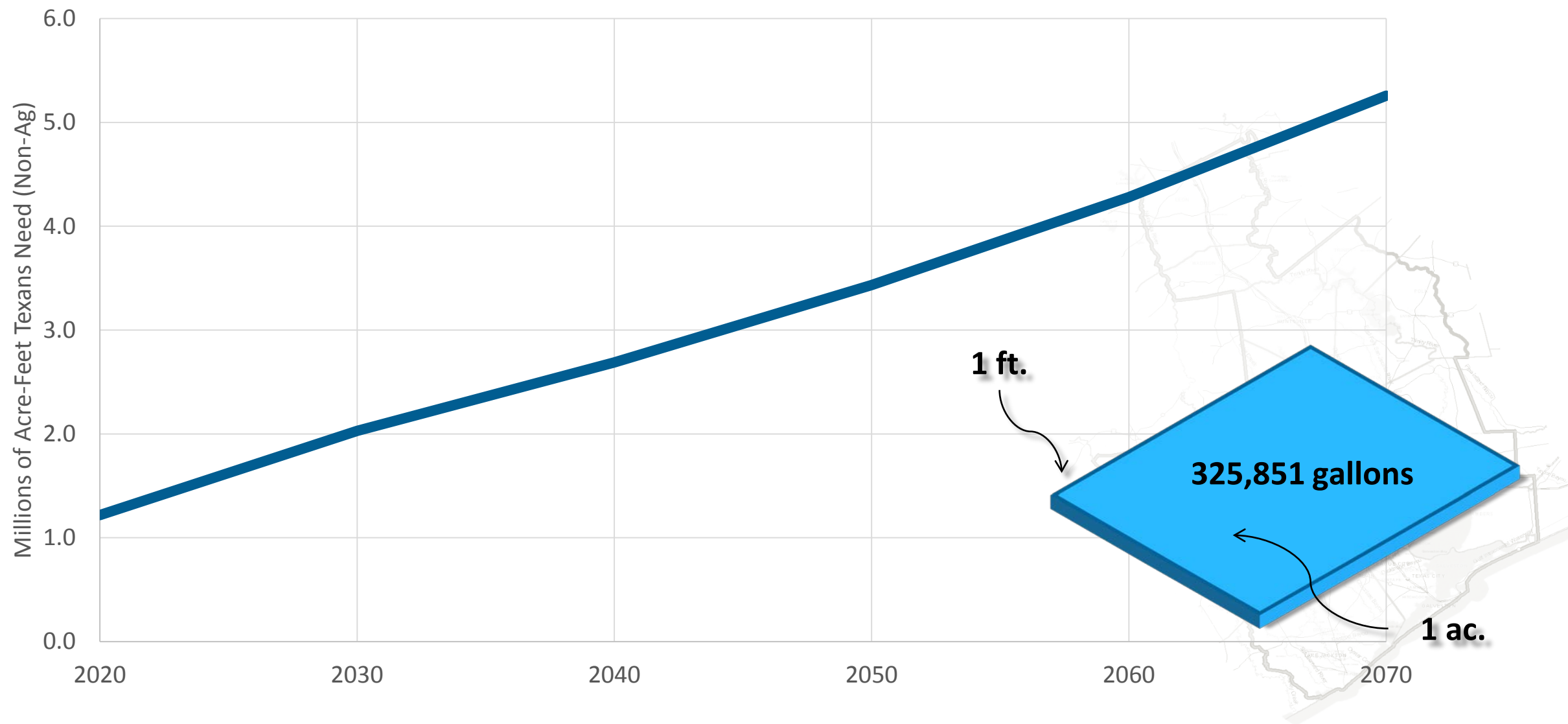


Growth of Texas



~~Growth~~ of Texas

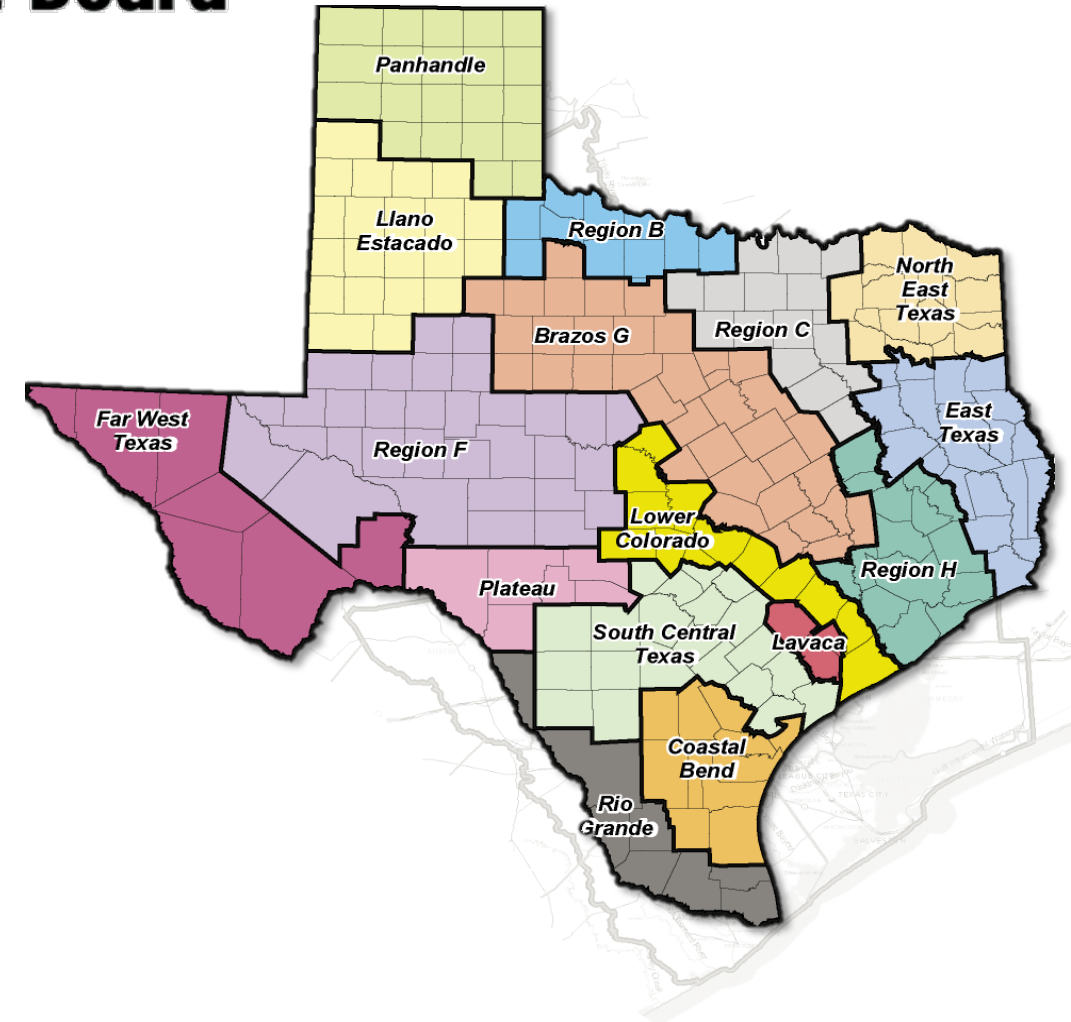
THIRST



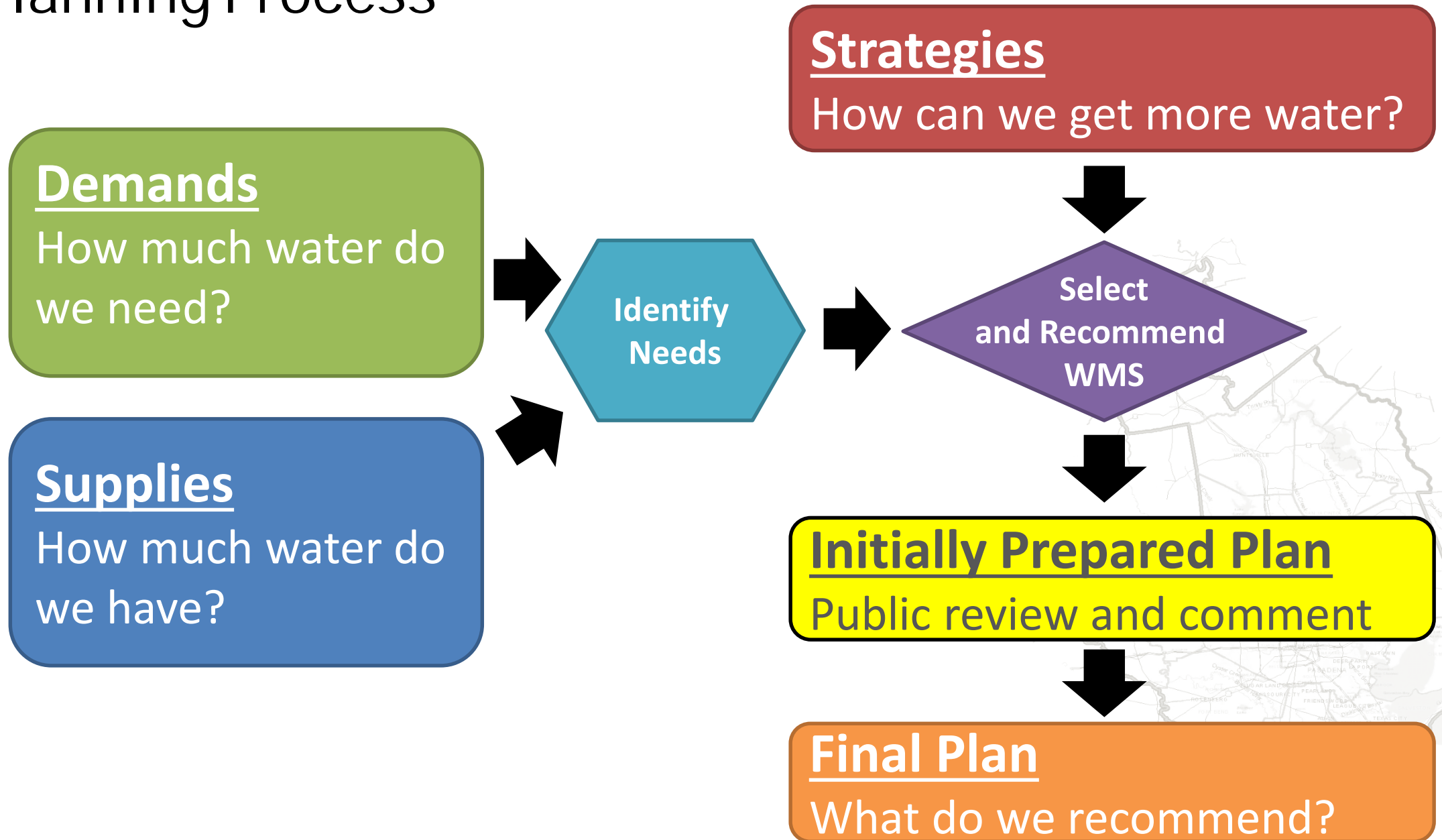
Regional Water Plans

- 16 regions based on natural and political boundaries
- Volunteer planning groups of diverse interests
- Five-year cycle
- Regional Water Plans (RWPs) compile into State Water Plan (SWP)

Texas Water Development Board



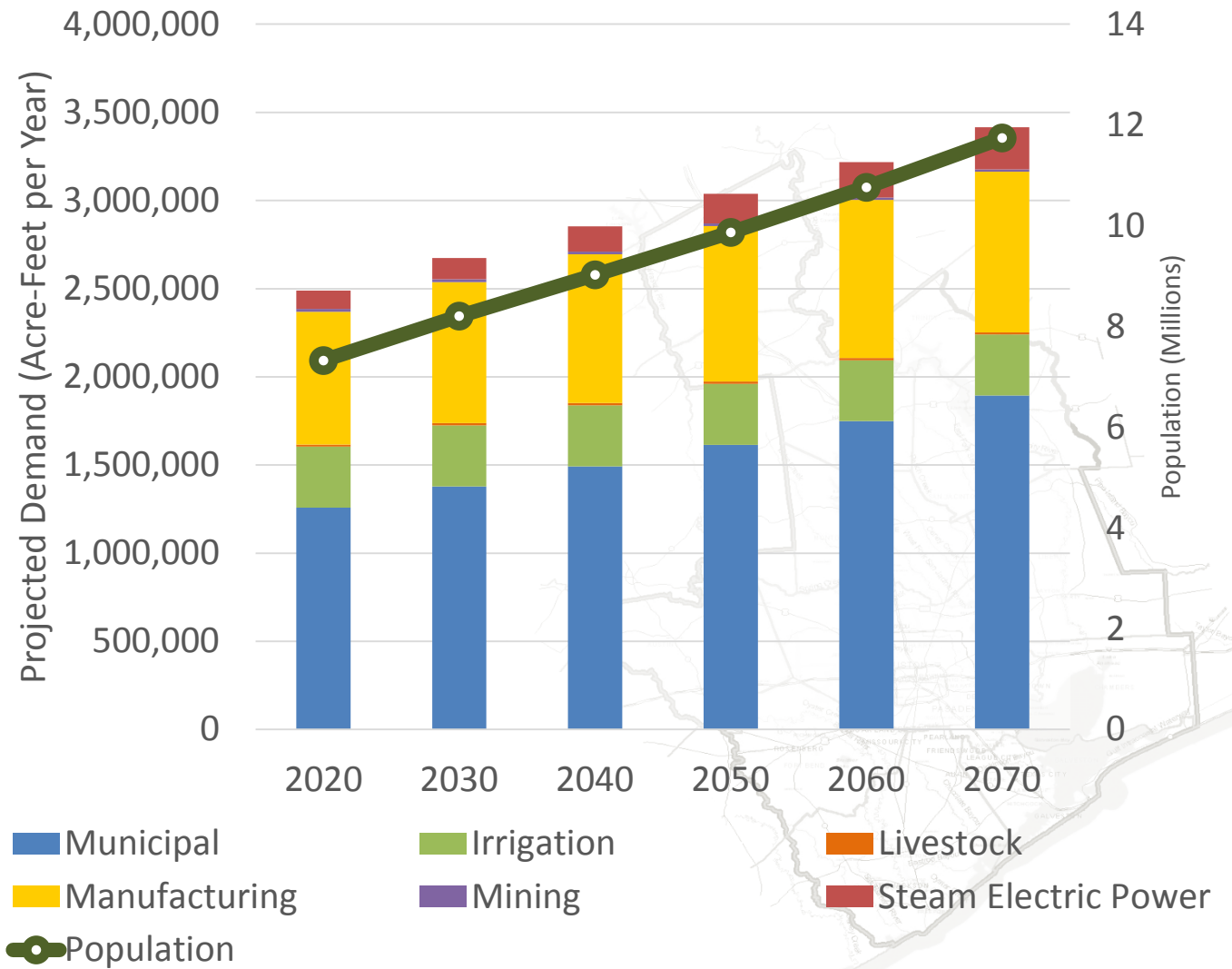
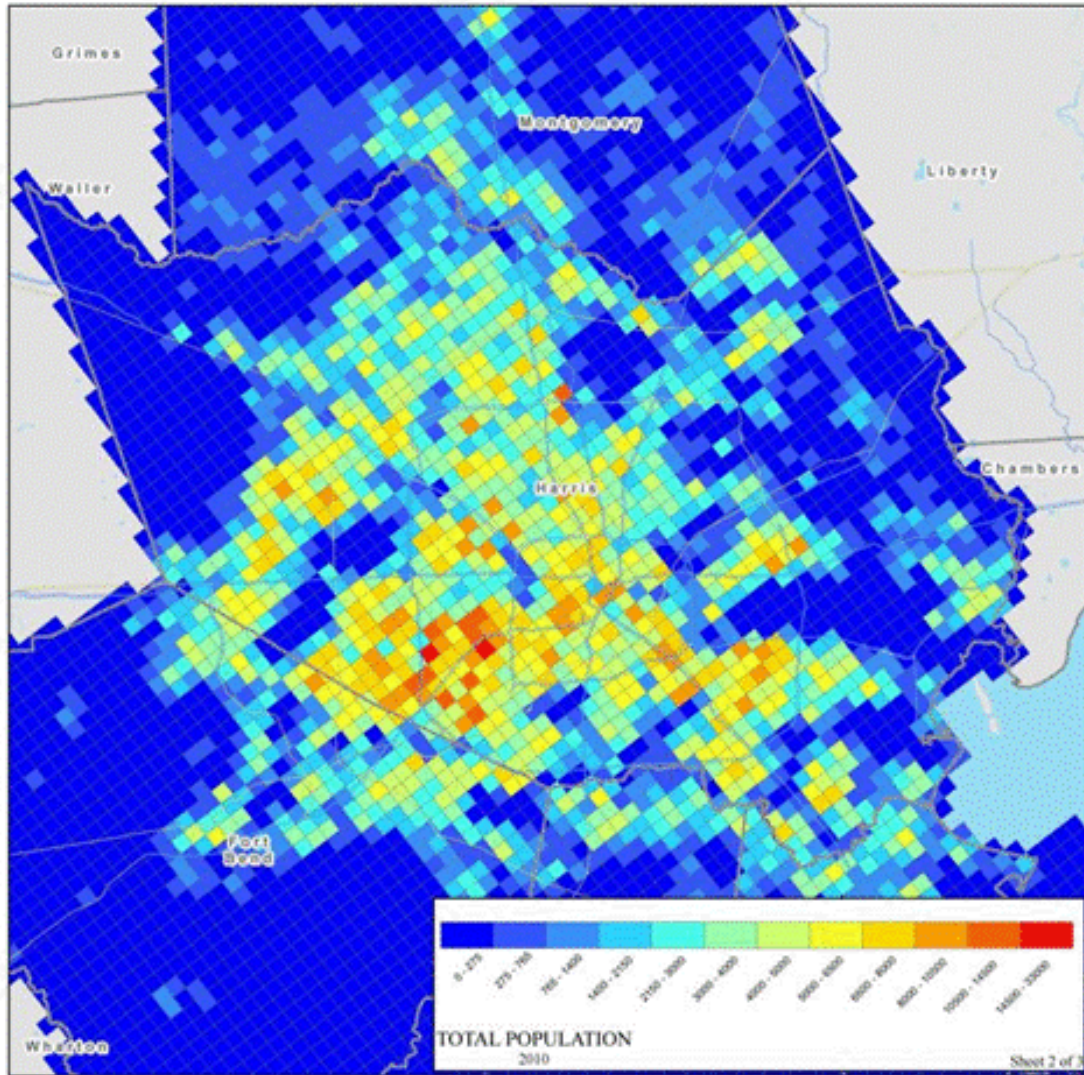
The Planning Process



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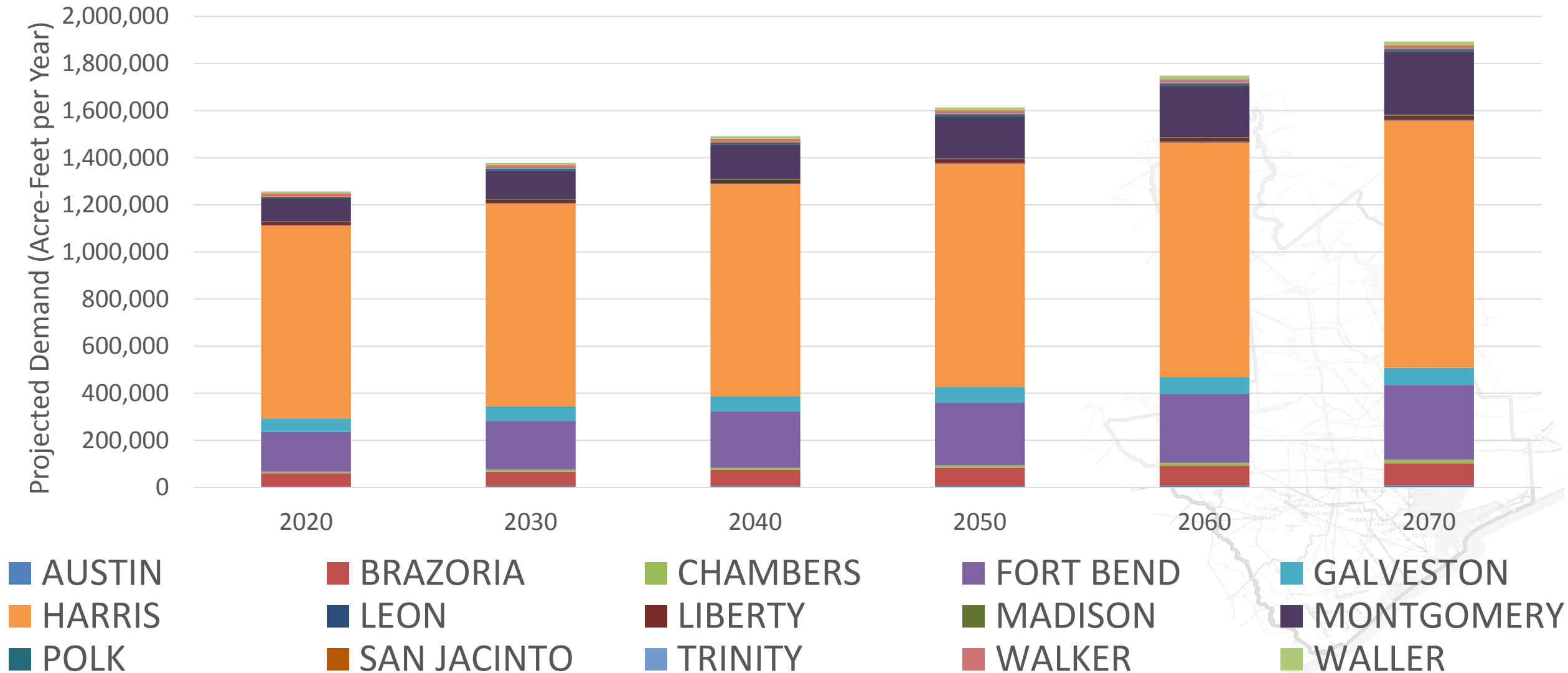
Region H 2016 Regional Water Plan

■ Population and Water Demands



Region H 2016 Regional Water Plan

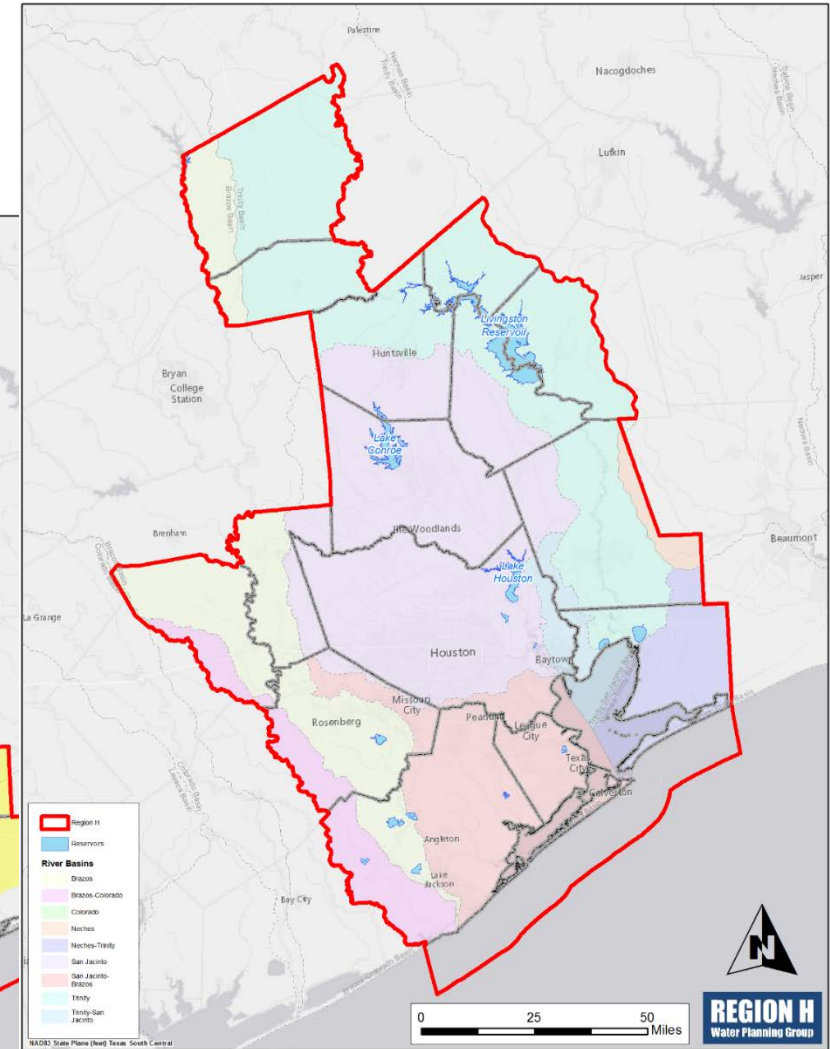
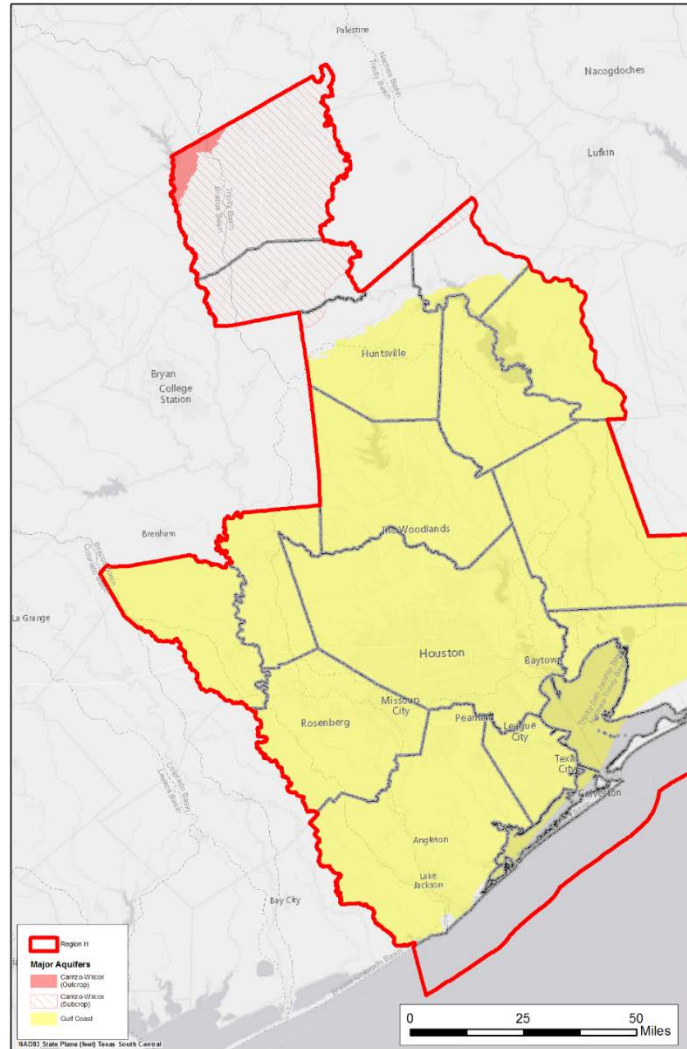
Population and Water Demands



Region H 2016 Regional Water Plan

■ Available Water Supplies

- Surface Water
 - Three river basins
 - Three major reservoirs
- Groundwater
 - Two major aquifers
 - Four minor aquifers
- Other supplies
 - Reuse
 - Local



Region H 2016 Regional Water Plan

■ Available Water Supplies

■ Surface Water

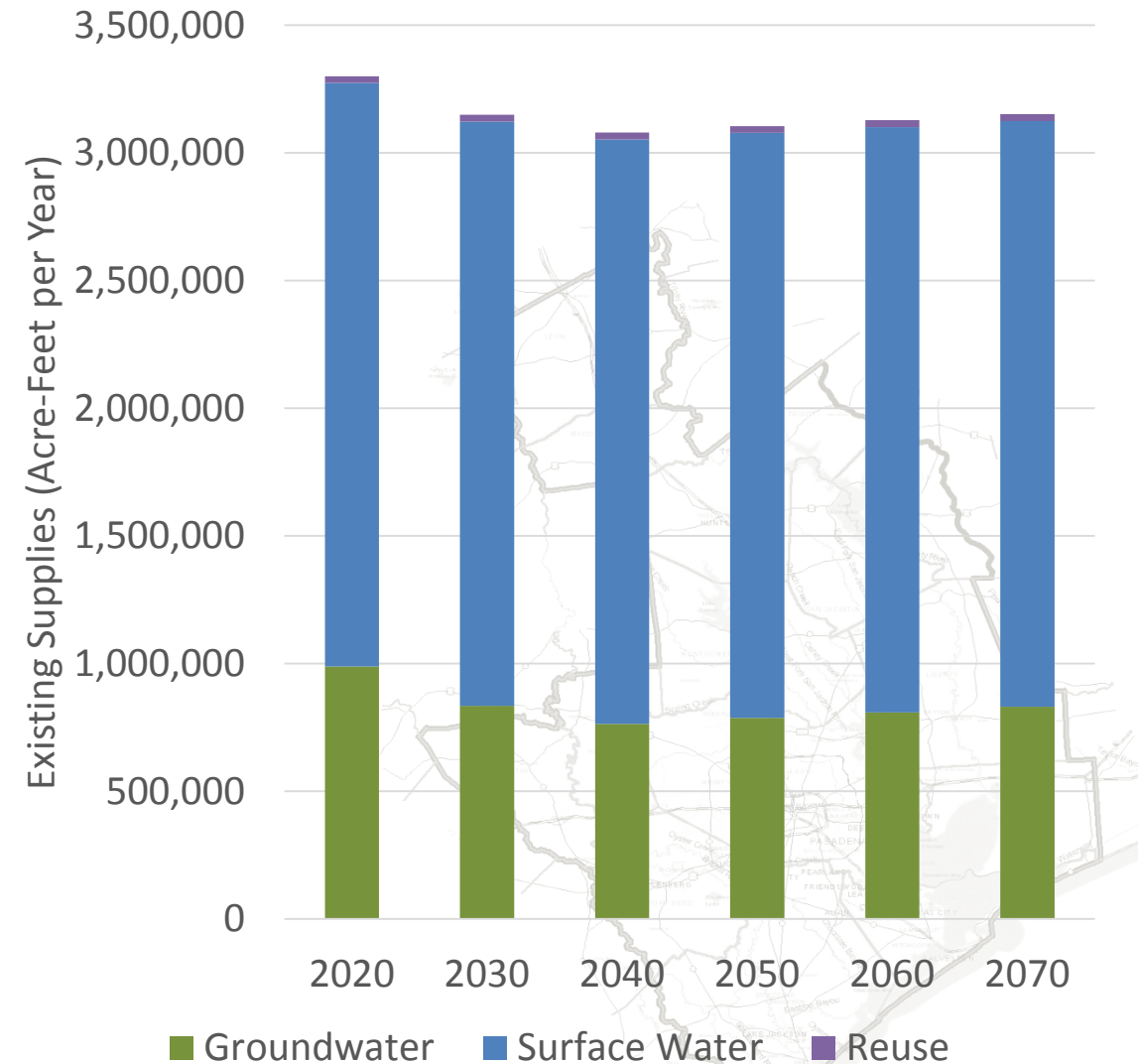
- Drought-of-record
- Texas Commission on Environmental Quality (TCEQ) Water Availability Model (WAM)

■ Groundwater

- Groundwater Management Area Process
- GMAs 11, 12, and 14

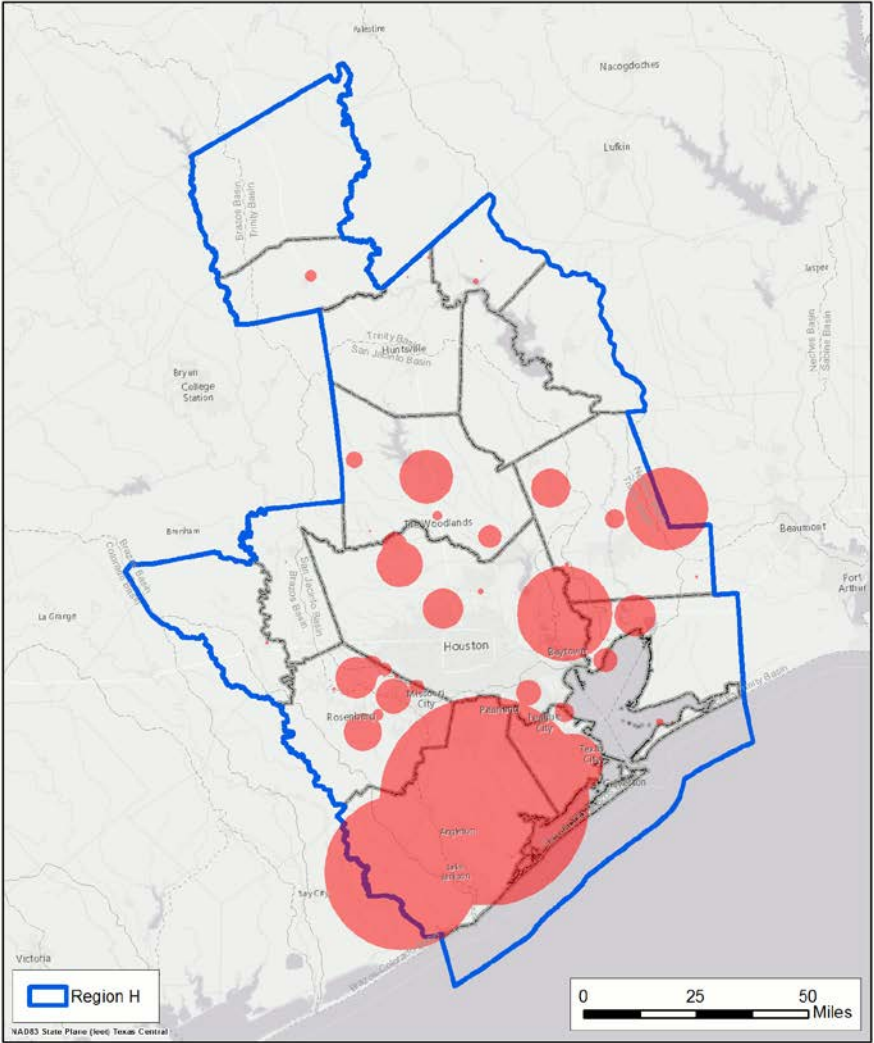
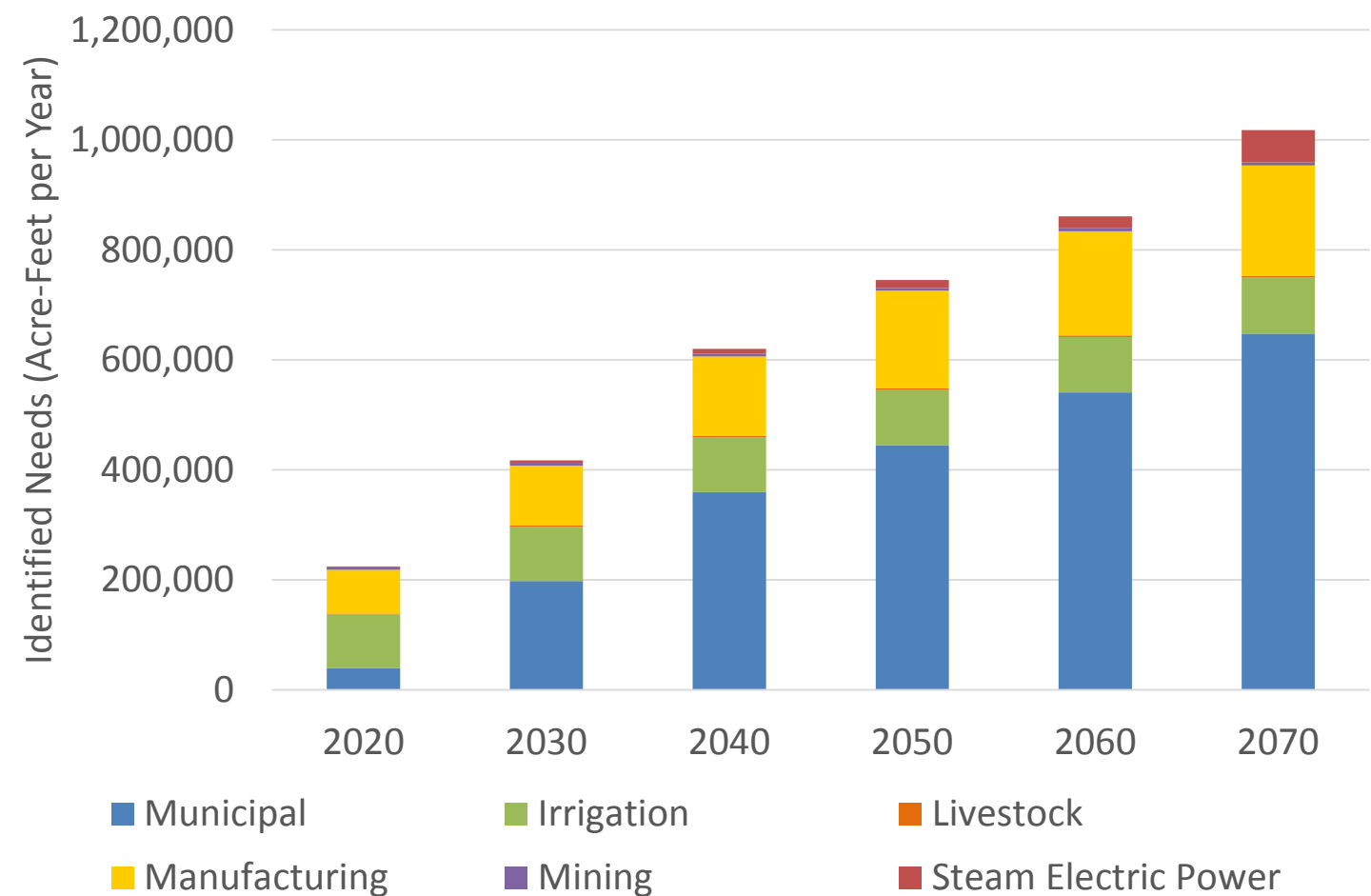
■ Reuse

- Direct and indirect sources



Region H 2016 Regional Water Plan

Needs (Shortages)



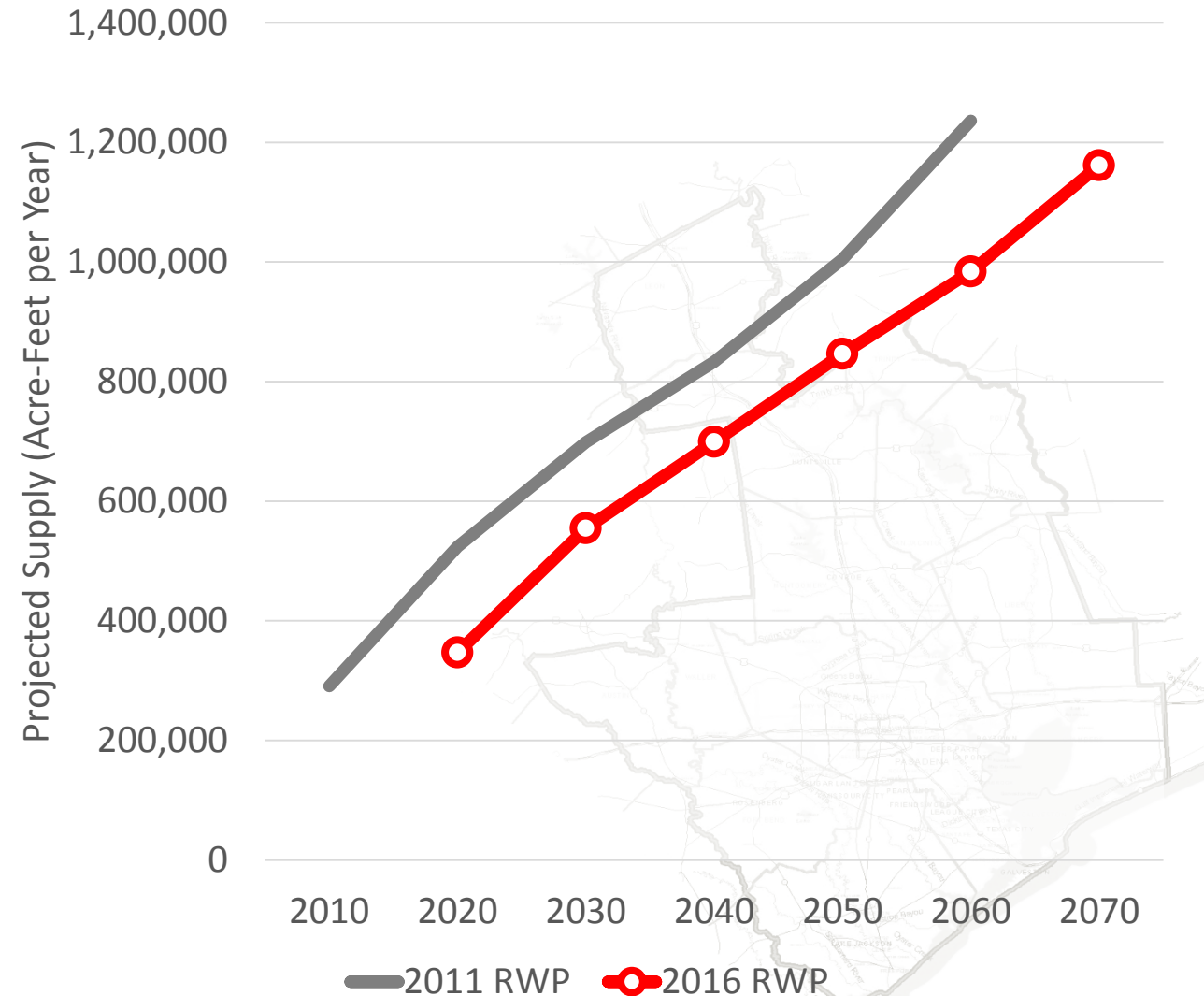
Identified WUG Needs
2020 Decade



Texas

Region H 2016 Regional Water Plan

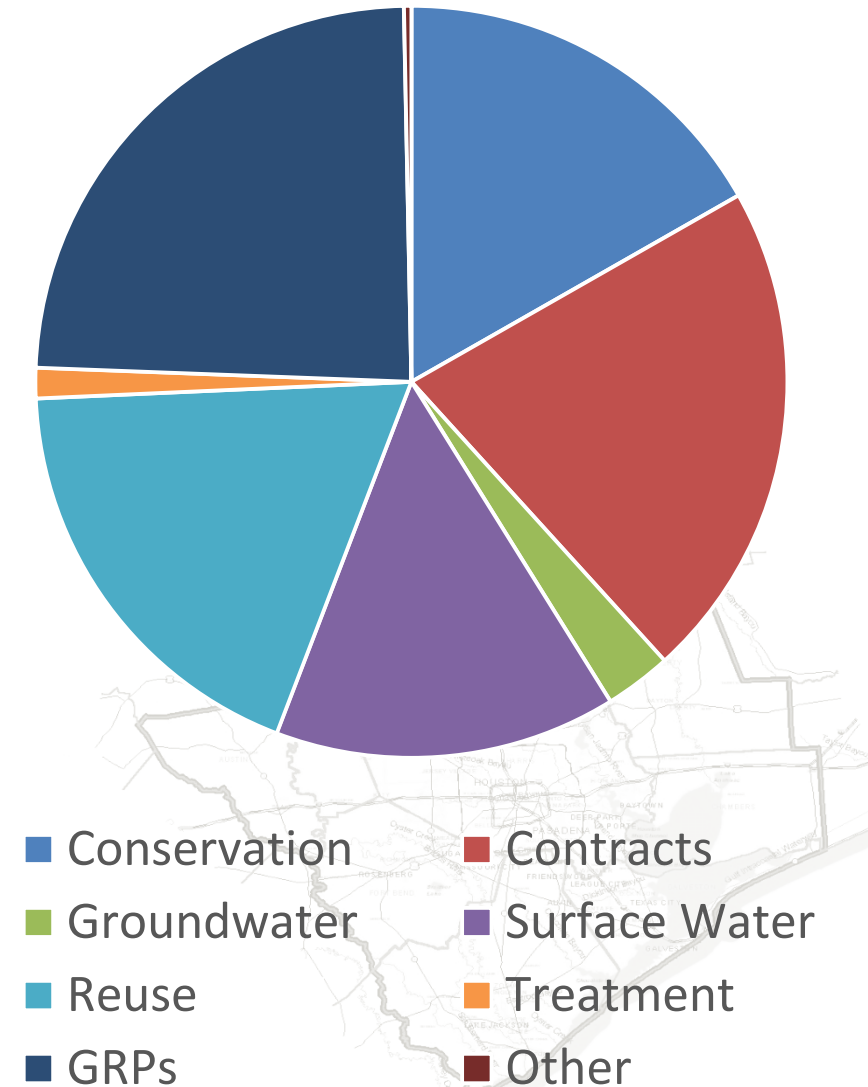
- Significant Reduction in Needs
 - Reduced non-municipal demands
 - Primarily irrigation
- Implementation of projects
 - Groundwater Reduction Plans
 - Transmission
 - Treatment



Region H 2016 Regional Water Plan

- Water Management Strategies and Projects
 - 70 Water Management Strategies (WMS)
 - 705 Projects
 - Key Projects by category

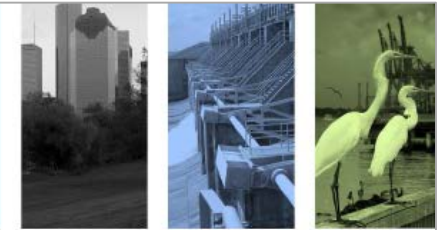
2070 Projects



Region H 2016 Regional Water Plan



REGION H Water Planning Group



2016 REGIONAL WATER PLAN

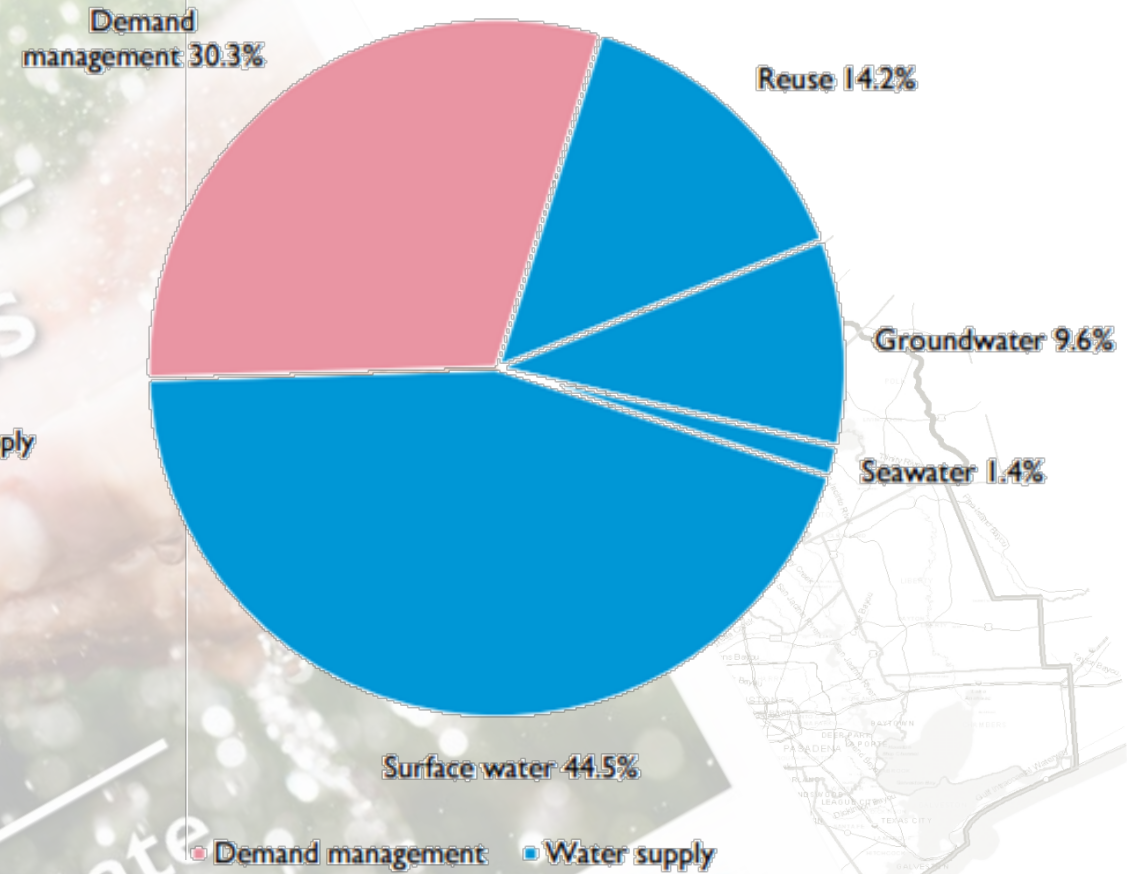
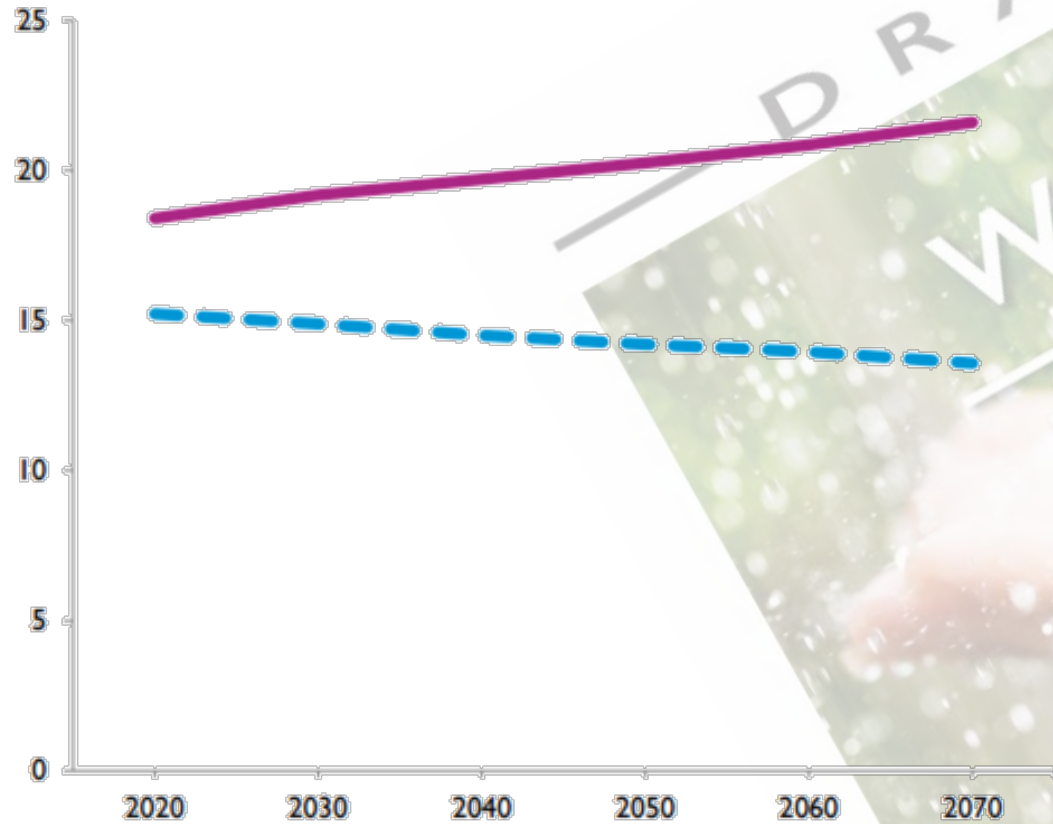
Prepared by:
Region H Water Planning Group

Prepared for:
Texas Water Development Board

with assistance from:
Freese and Nichols, Inc.
LBG-Guyton Associates
Ekistics Corporation

November 2015

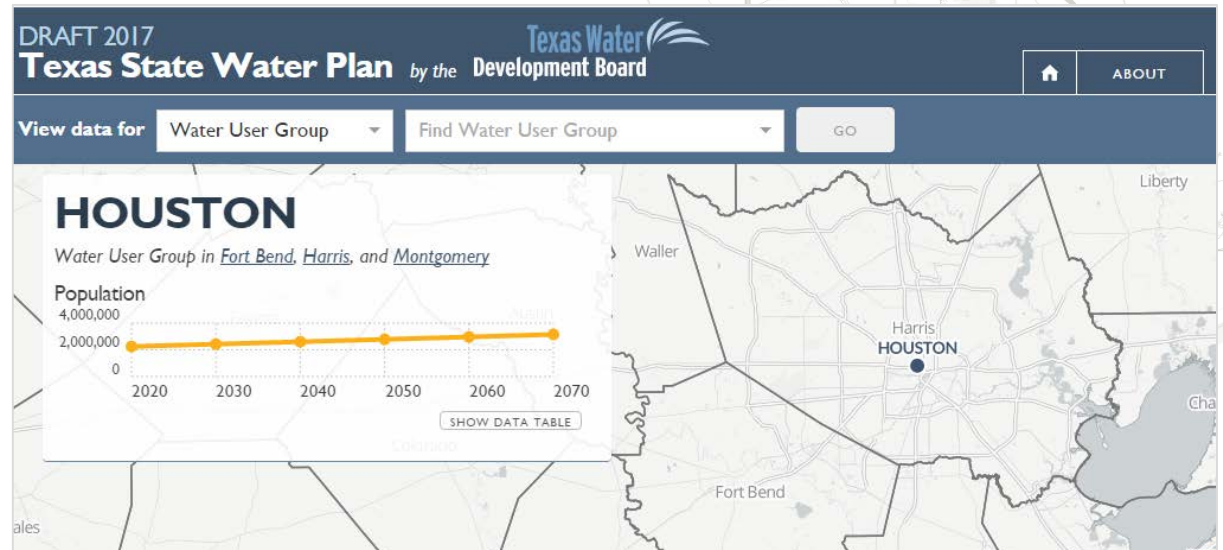
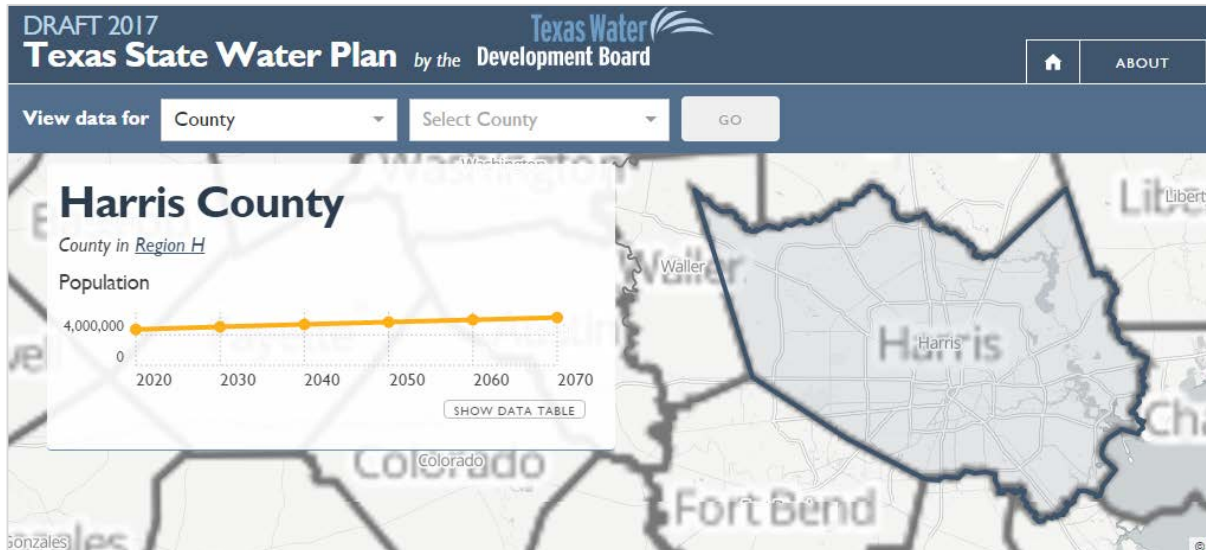
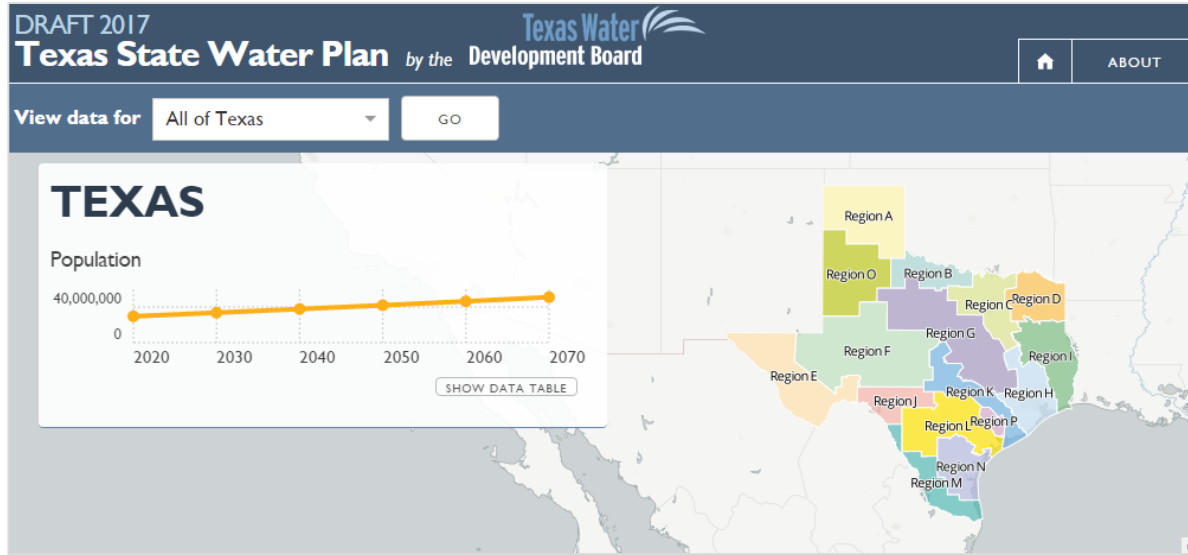
2017 State Water Plan



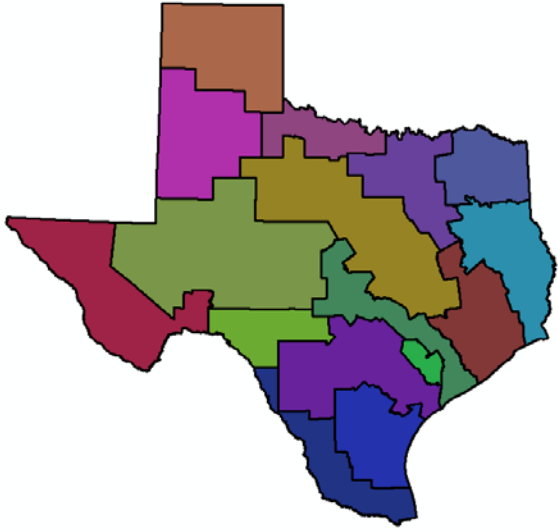
2017 State
Water Plan

Texas Water
Board

2017 Interactive State Water Plan



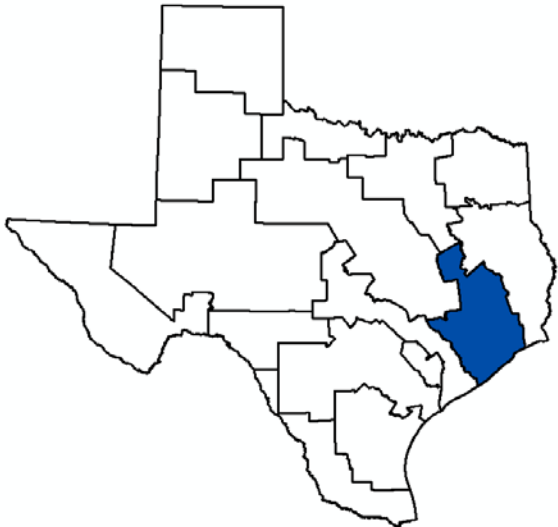
Paying the Cost for Resource Security



\$62.6 billion

plan implementation

*\$73 - \$151 billion lost annually
424,000 – 1.3 million jobs lost*



\$10.9 billion

plan implementation

*\$16 - \$33 billion lost annually
77,300 – 251,000 jobs lost*

Proposition 6

- 2013 legislatively referred constitutional amendment
- \$2 billion from Texas Economic Stabilization Fund

SWIFT

- State Water Implementation Fund for Texas
- Political subdivision or nonprofit water supply
- Projects in State Water Plan
- Low interest and deferred loans, board participation

2015

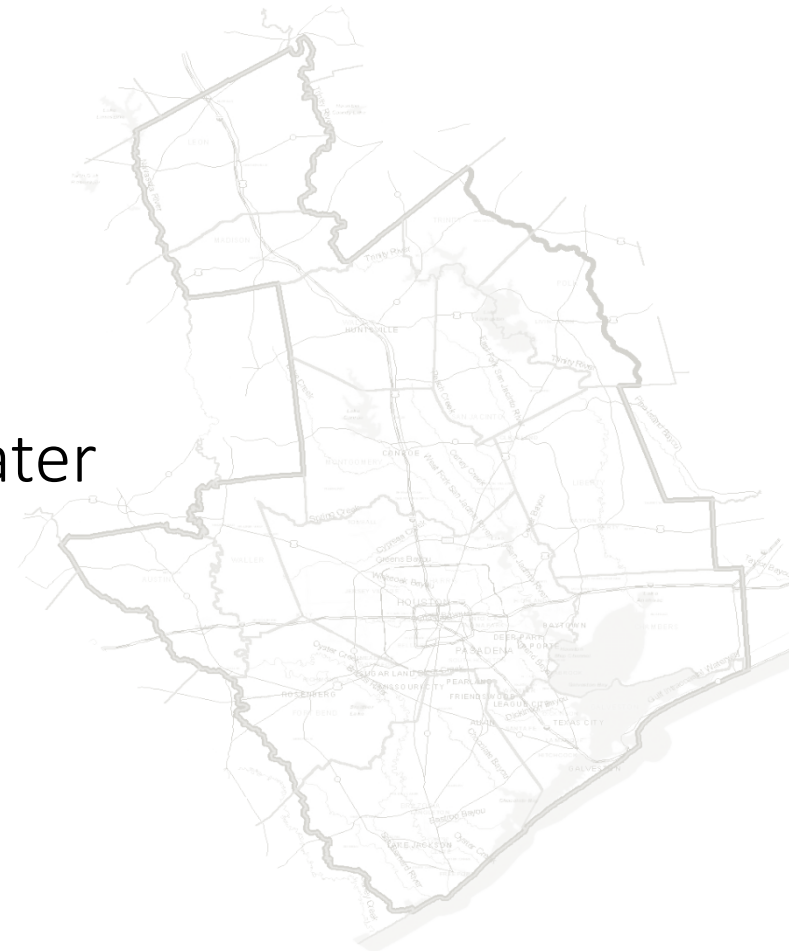
- \$3.8 billion committed
- \$3.0 billion in Region H
- Northeast Water Plant, GRP transmission, brackish groundwater

2016

- \$759.3 million committed
- \$241.2 million in Region H
- GRP transmission and distribution

The 2021 Plan

- Non-Population Demands Committee
 - Revised demand projections for some categories
- Population Demands Committee
 - Utility-based planning
- Groundwater Supply Committee
 - Updated estimates of Modeled Available Groundwater
- Surface Water Supply Committee
- Water Management Strategies Committee

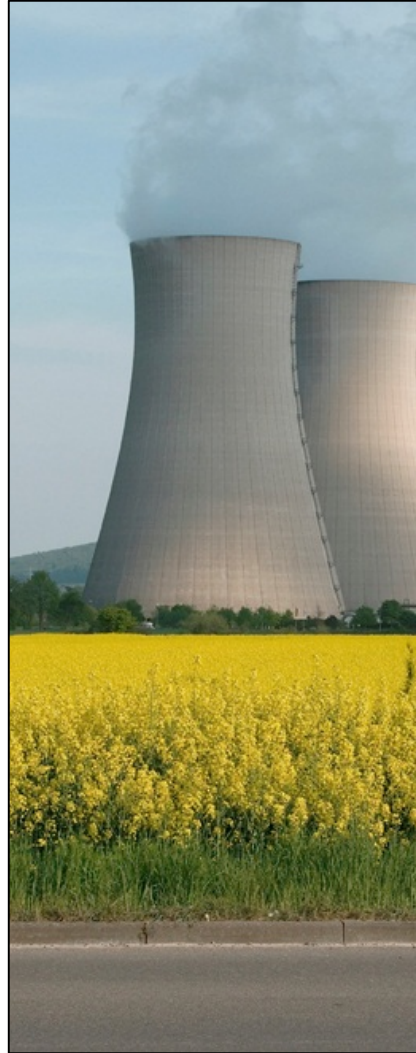


Non-Municipal Demand Projections



Manufacturing

- Updated projection methodology in 2006 Plan
- Region H revisions in 2016 Plan
- 30% of Region H demand



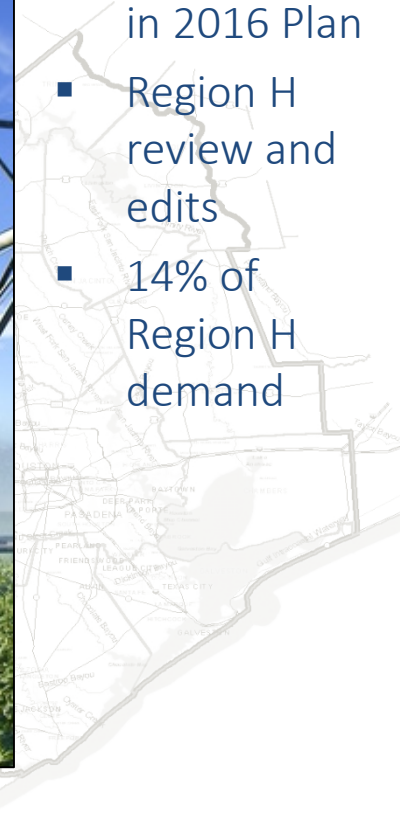
Steam-Electric Power

- Fresh look at methodology in 2011 Plan
- Region H revisions in 2016 Plan
- 4% of Region H demand



Irrigation

- Updated projections in 2016 Plan
- Region H review and edits
- 14% of Region H demand



Utility-Based Planning

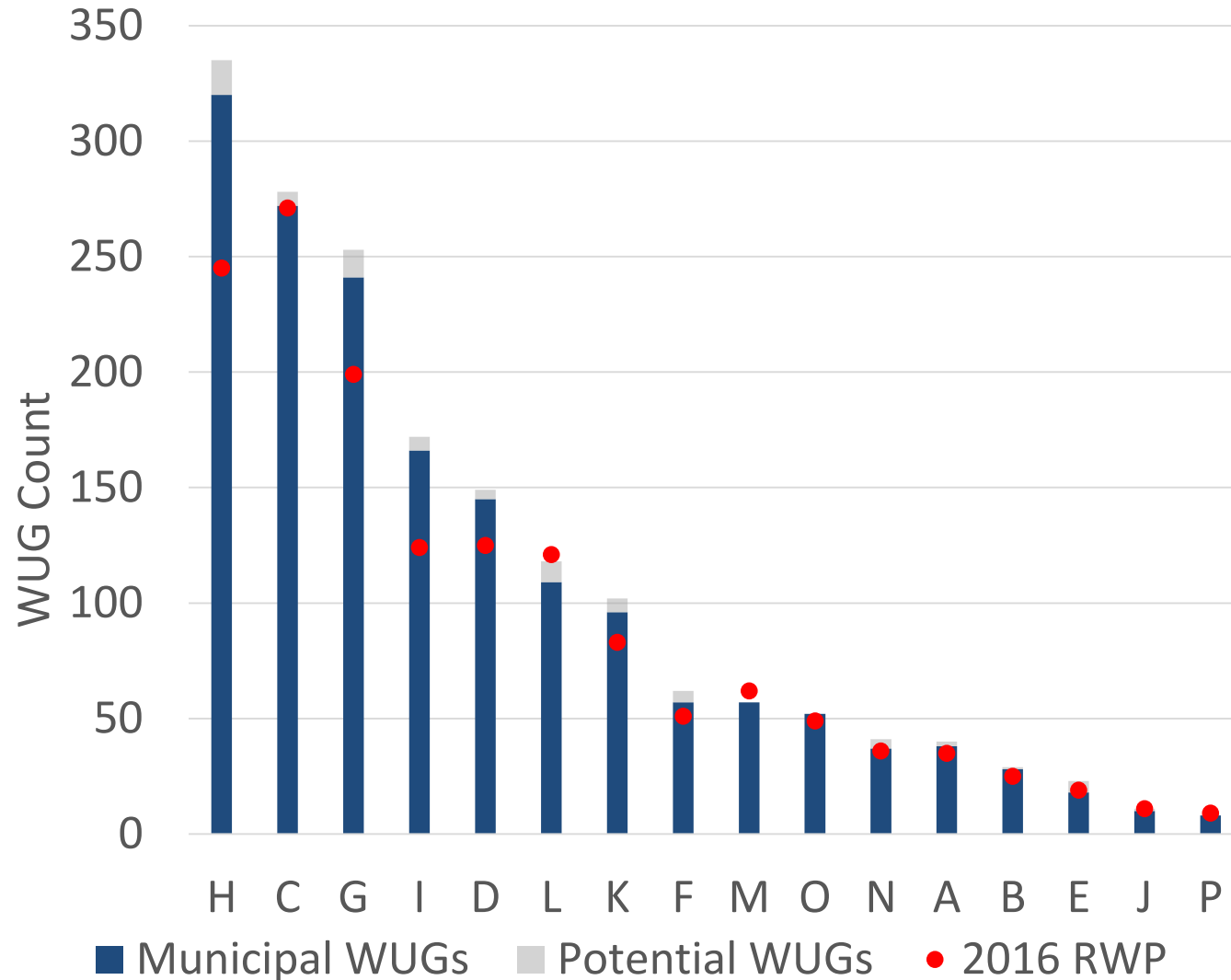
2016 Water Utility Groups

- Census place with population >500
- Census Designated Place
- Retail utilities providing >280 ac-ft/yr

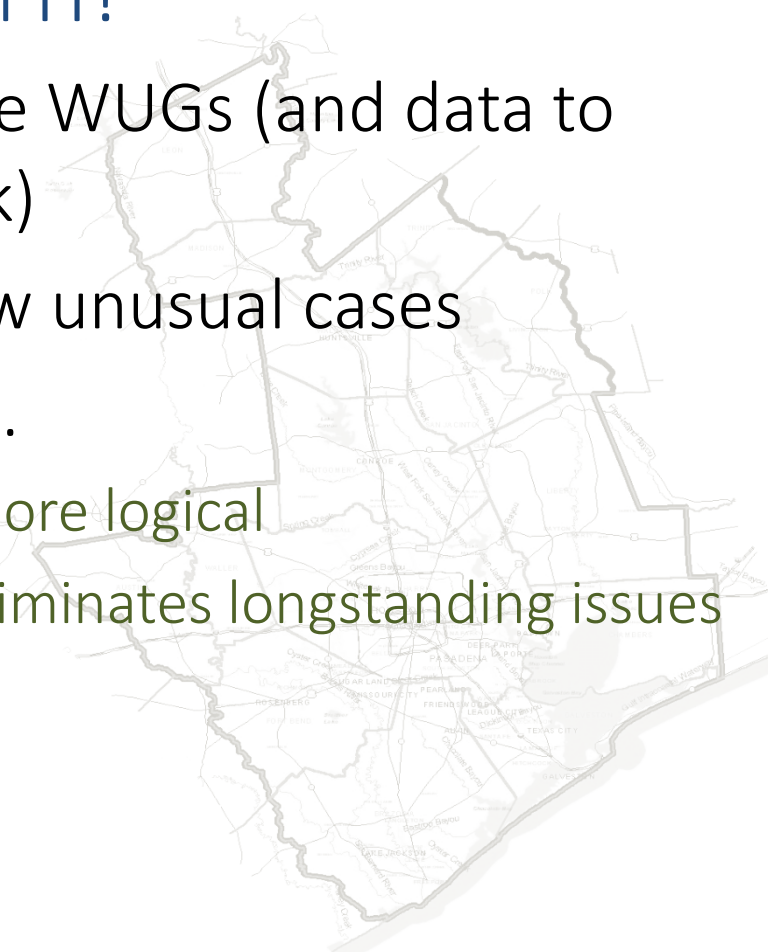
2021 Water Utility Groups

- Municipal system providing >100 ac-ft/yr
- Retail public utilities owned by political subdivision
- By RWPG or utility request

Utility-Based Planning

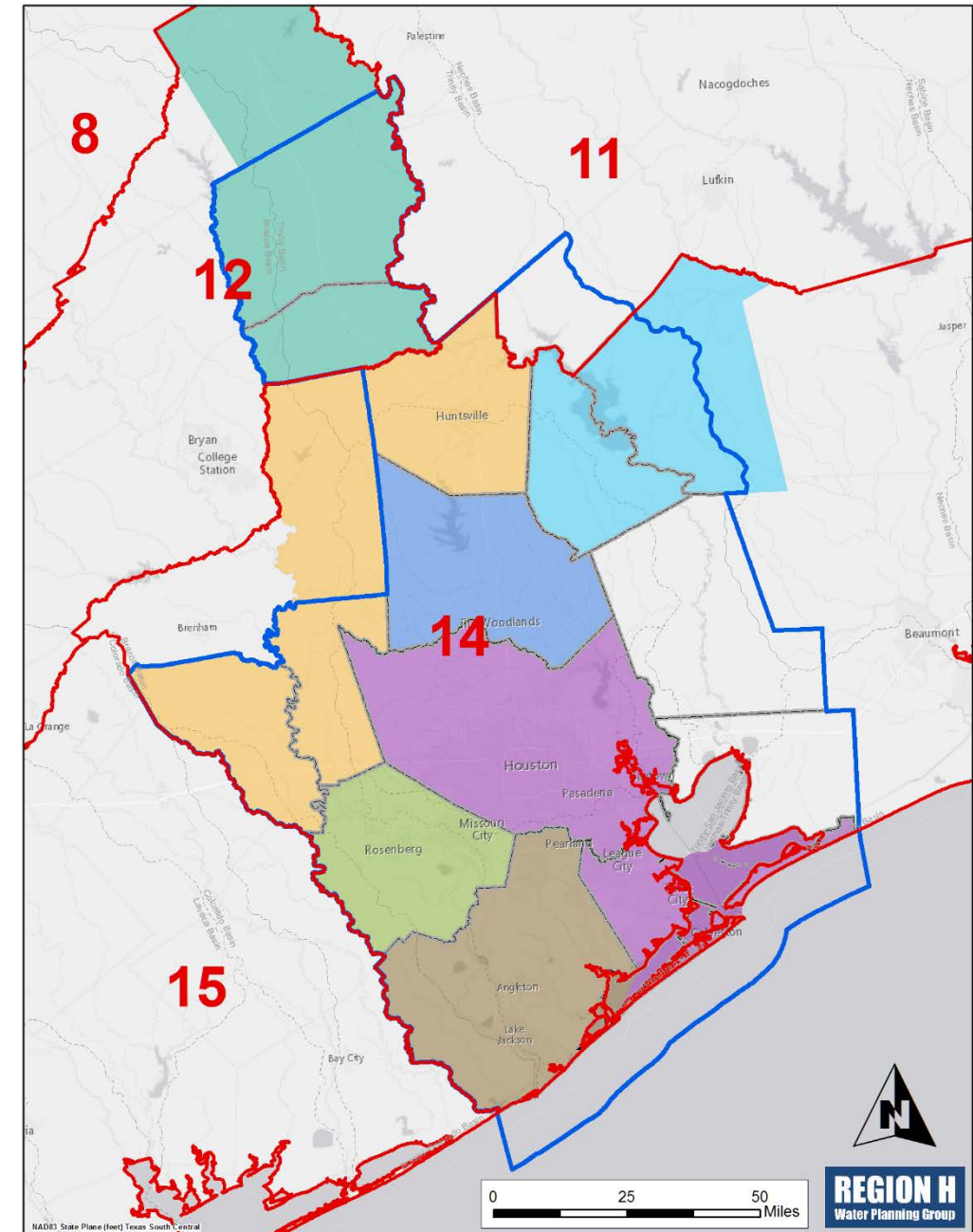


- What does this mean to Region H?
 - More WUGs (and data to track)
 - A few unusual cases
 - But...
 - More logical
 - Eliminates longstanding issues

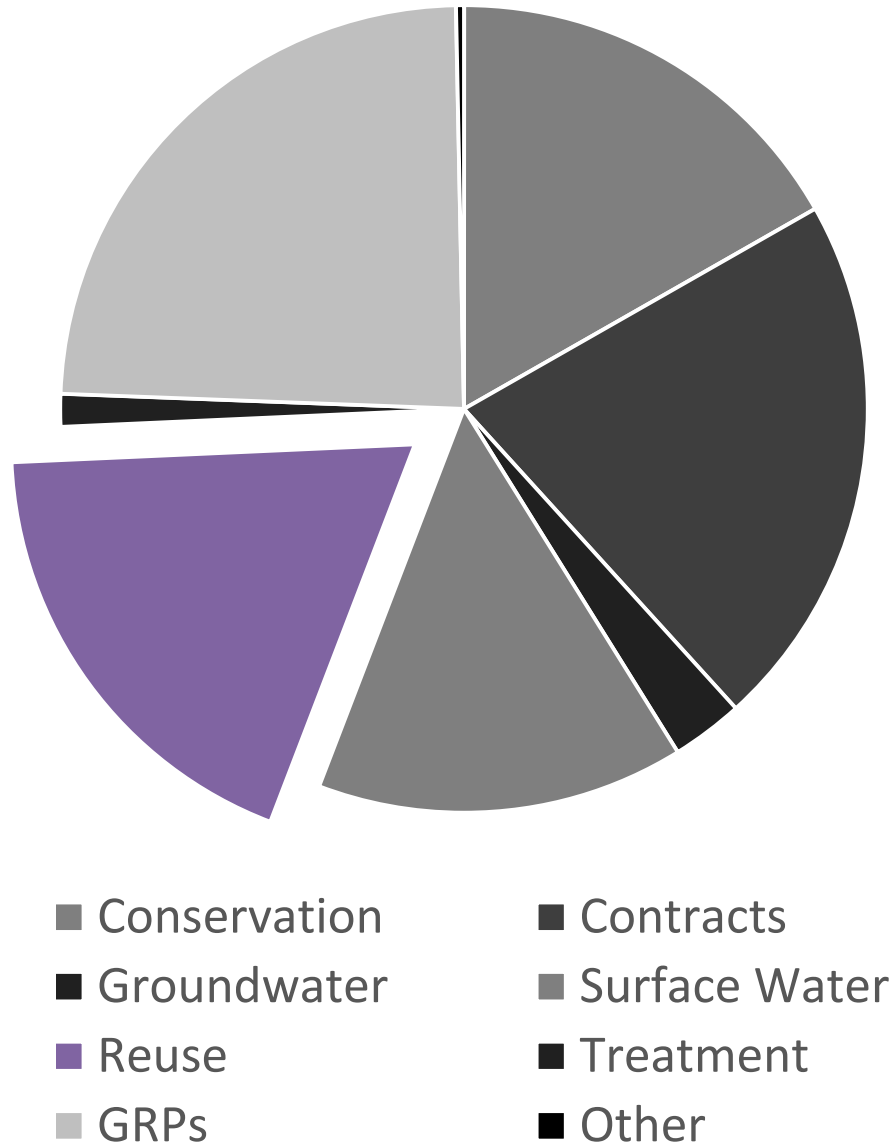


Groundwater Availability

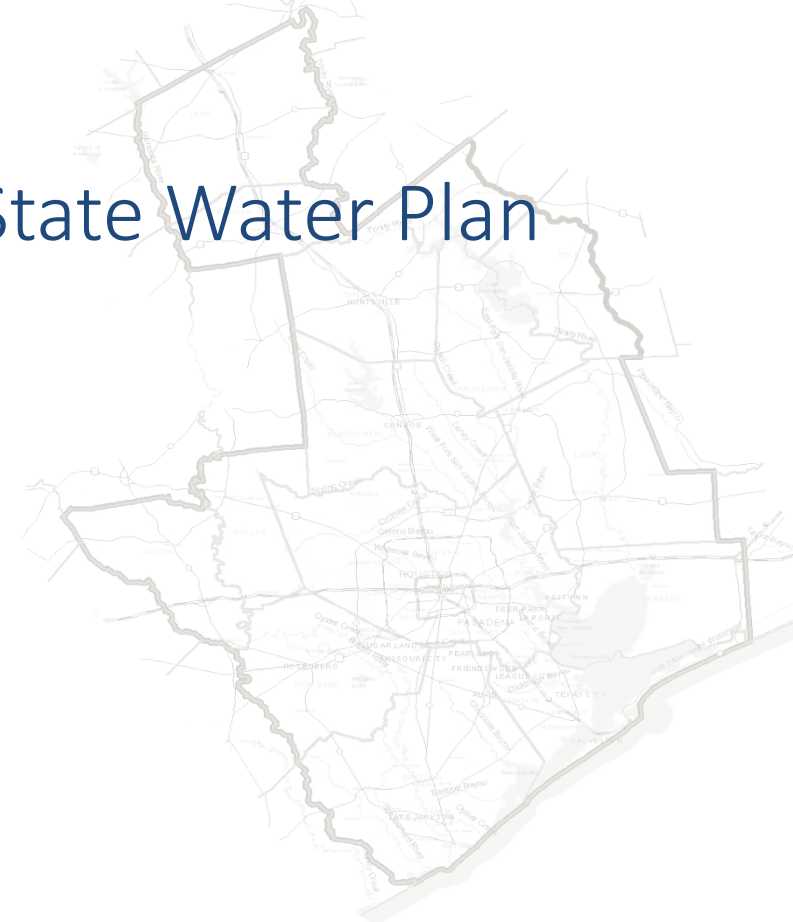
- Newly submitted Desired Future Conditions (DFCs)
- Revised Modeled Available Groundwater (MAGs)
- Potential flexibility in correlating short-term and long-term management



Focus on Reuse

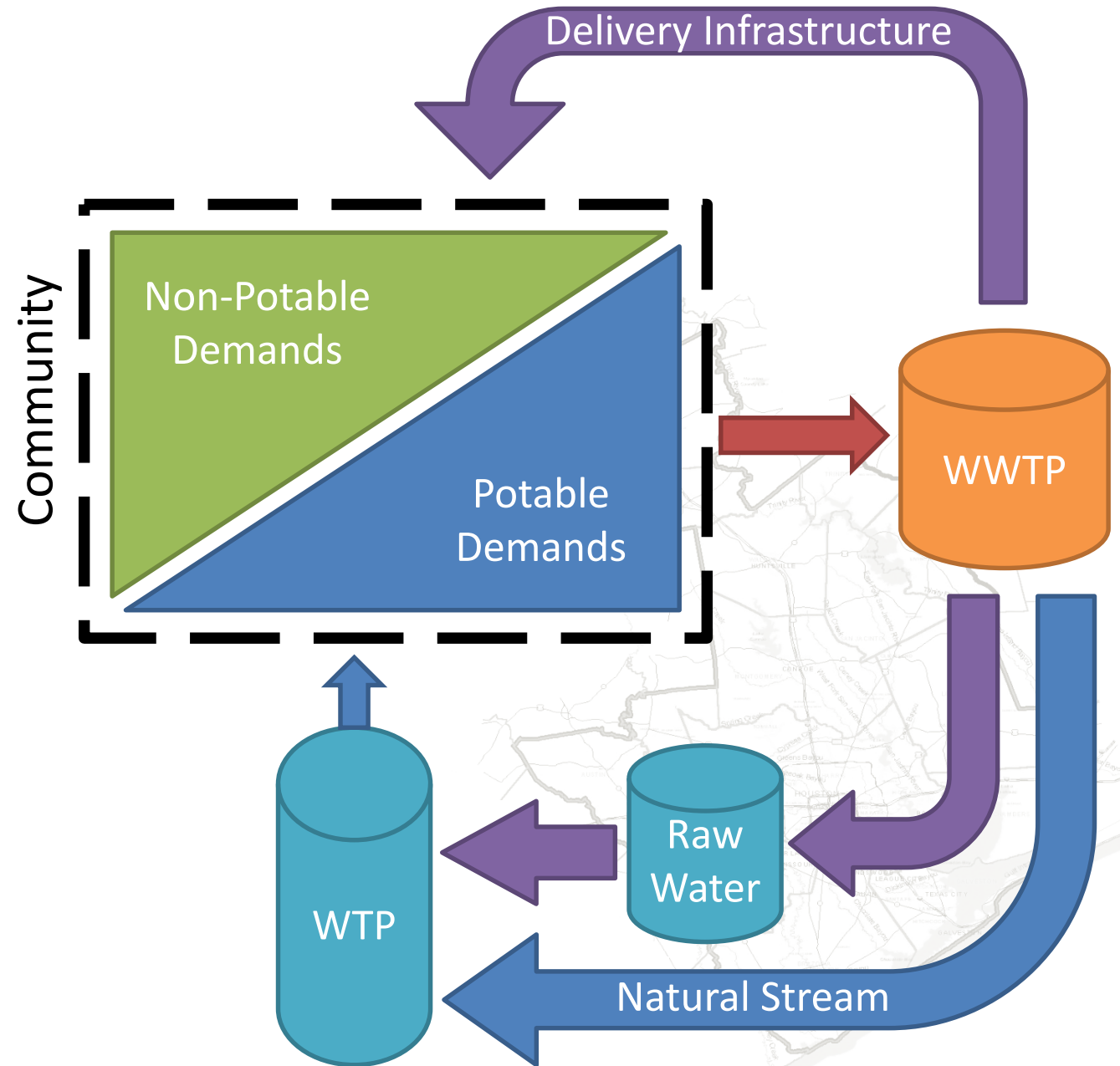


- Key component of Region H Regional Water Plan
- 14.2% of State Water Plan



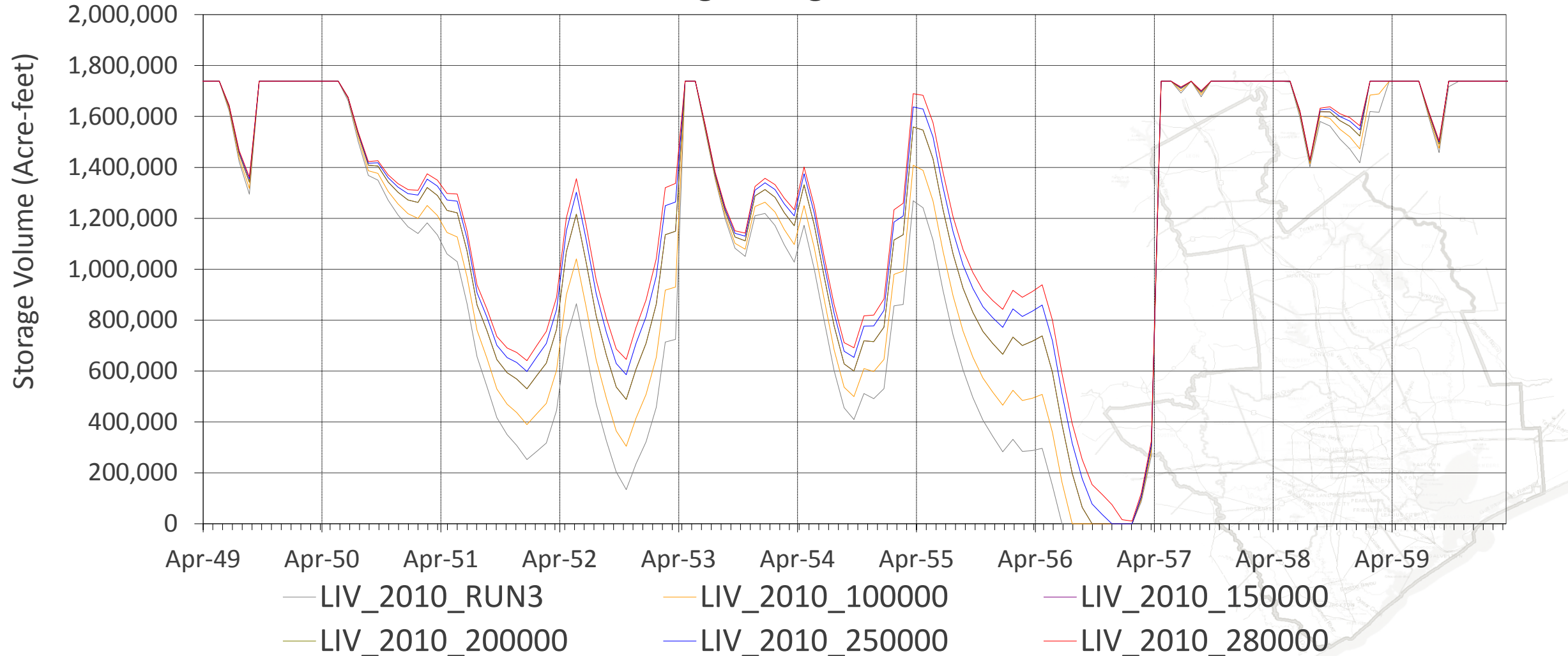
Focus on Reuse: The Basics

	Potable	Non-potable
Direct	X	In Region H RWP
Indirect	In Region H RWP	In Region H RWP



Reuse as a Supply

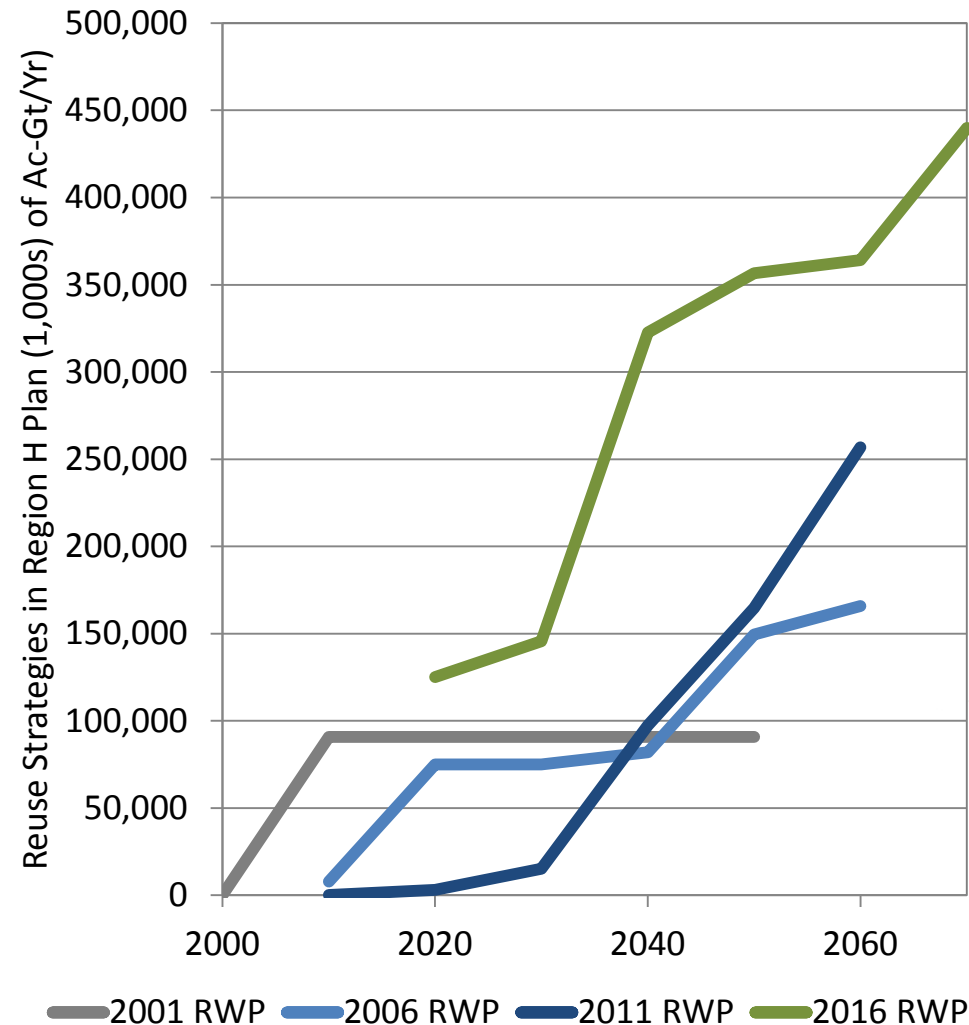
Lake Livingston Storage
During Drought of Record



Reuse as a Strategy Over Time

2001 Region H Plan

- WW Reclamation for Industry (2010 Strategy)



2016 Region H Plan

- Conroe/SJRA Reuse (2020 Strategy)
- GCWA/Houston Reuse (2020 Strategy)
- Regional Return Flows (2020 Strategy)
- Montgomery MUD 8/9 Indirect (2020 Strategy)
- Community Projects (2020+ Strategy)
- City of Houston Indirect (2040 Strategy)

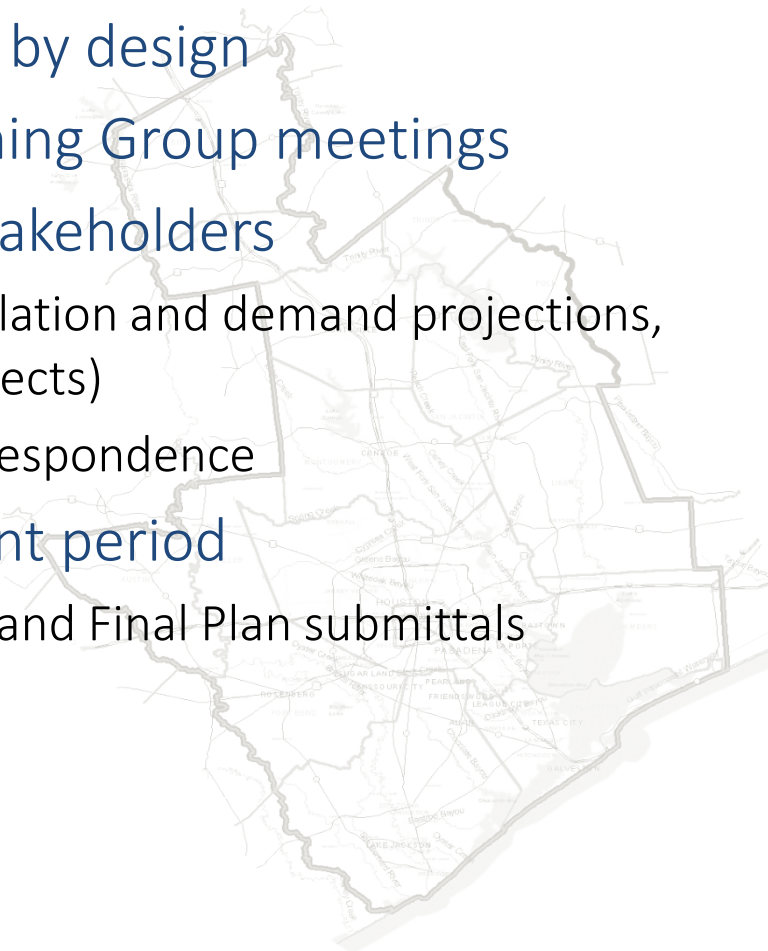
Getting Involved in the Process

Why Get Involved?

- State funding
 - Identify regional need for infrastructure
 - Eligible for State programs
- Build upon local planning efforts
 - Enhanced tools from region, state
- Identify gaps in long-term planning
 - Finding regional opportunities
- TWDB-funded
 - No cost to participate

How to Get Involved

- Public process by design
- Regional Planning Group meetings
- Outreach to stakeholders
 - Survey (population and demand projections, supplies, projects)
 - Directed correspondence
- Public comment period
 - Between IPP and Final Plan submittals



REGION H

Water Planning Group

PLANNING FOR REGIONAL WATER SOLUTIONS

Water Efficiency Network
Houston, TX

25 August 2016

