State Water Planning: Updated and Interactive

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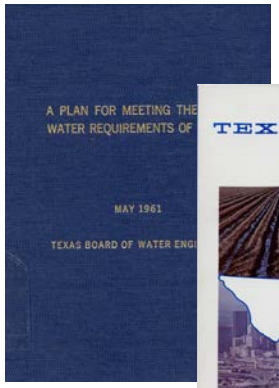
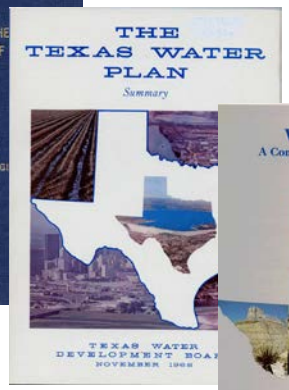
The following presentation is based upon professional research and analysis within the scope of the Texas Water Development Board's statutory responsibilities and priorities but, unless specifically noted, does not necessarily reflect official Board positions or decisions.

Texas Water Development Board

State water planning



1961



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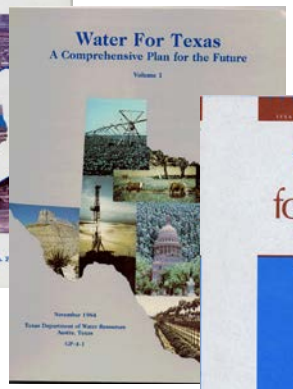

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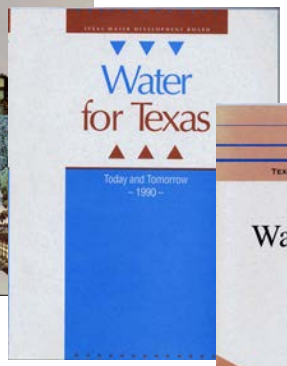
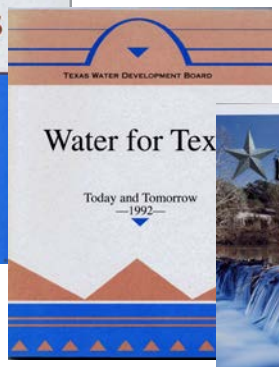


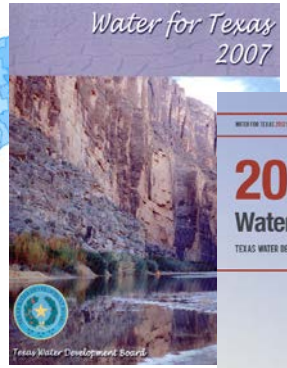
1990



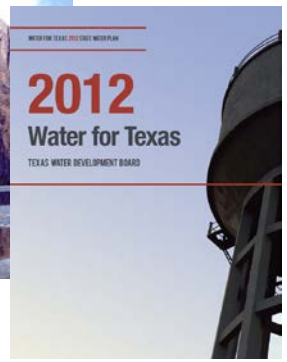
1992

1997

2002



2007



2012

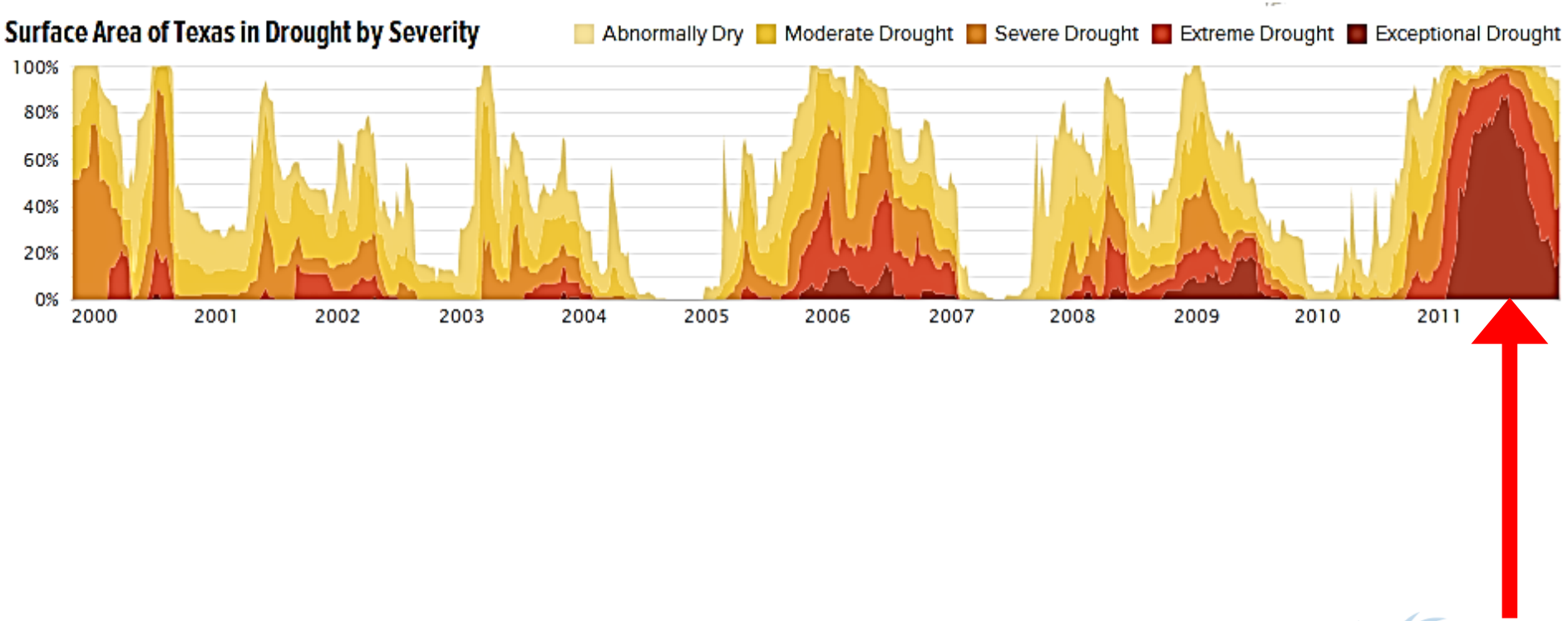
"top down"

"bottom up"

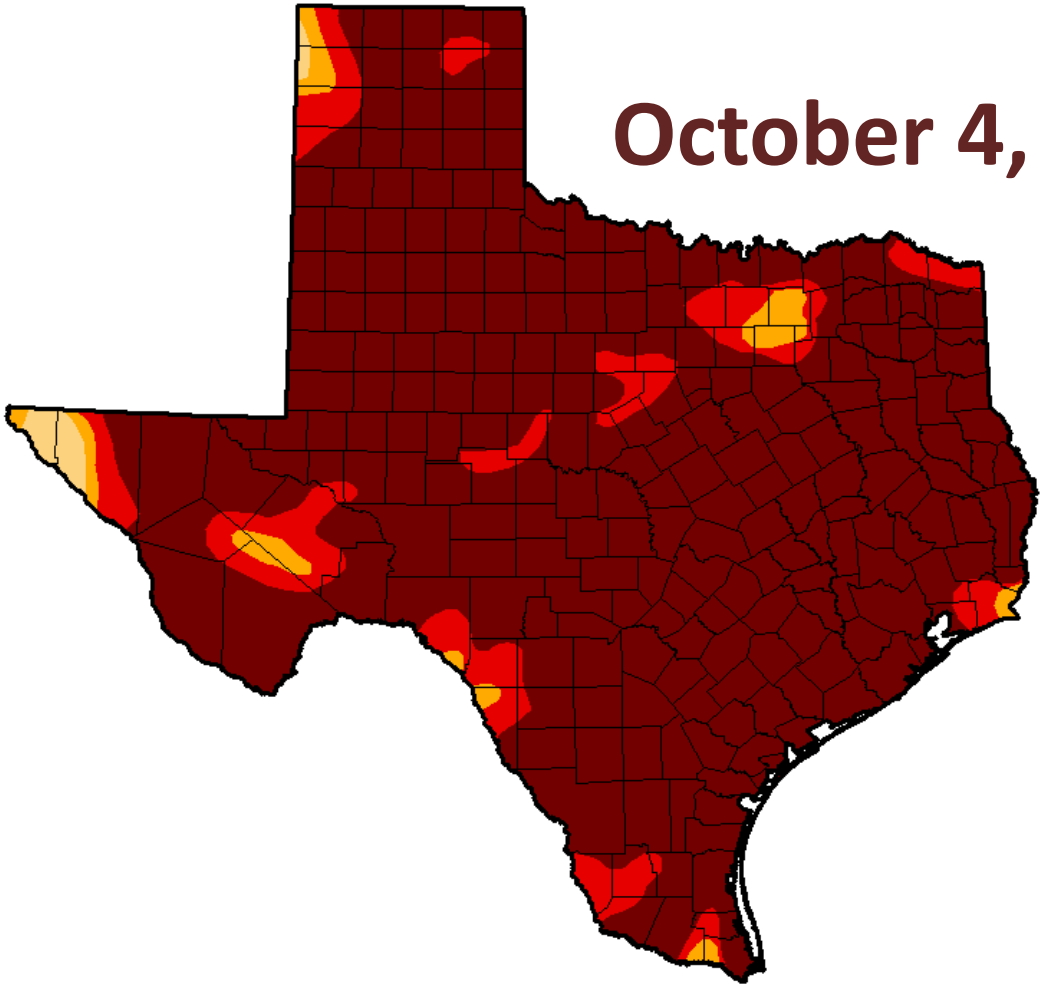
Planning (in a nutshell)

- How much are we going to need?
- How much do we have now?
- Do we have enough?
- If we don't, what do we need to do to get more?
- How much will it cost?

Why do we plan?



October 4, 2011



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

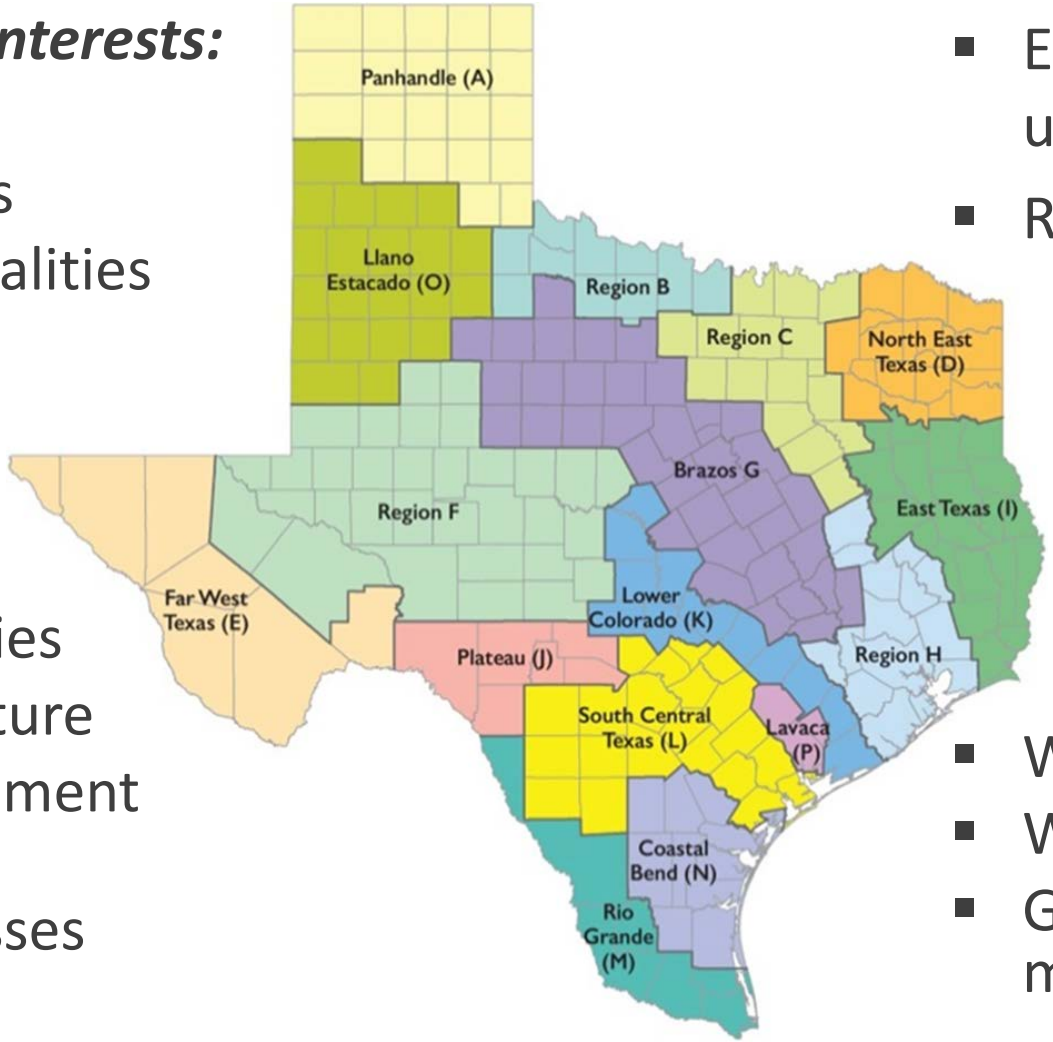
USDA

National Drought Mitigation Center

Regional water planning process

Statutory interests:

- Public
- Counties
- Municipalities



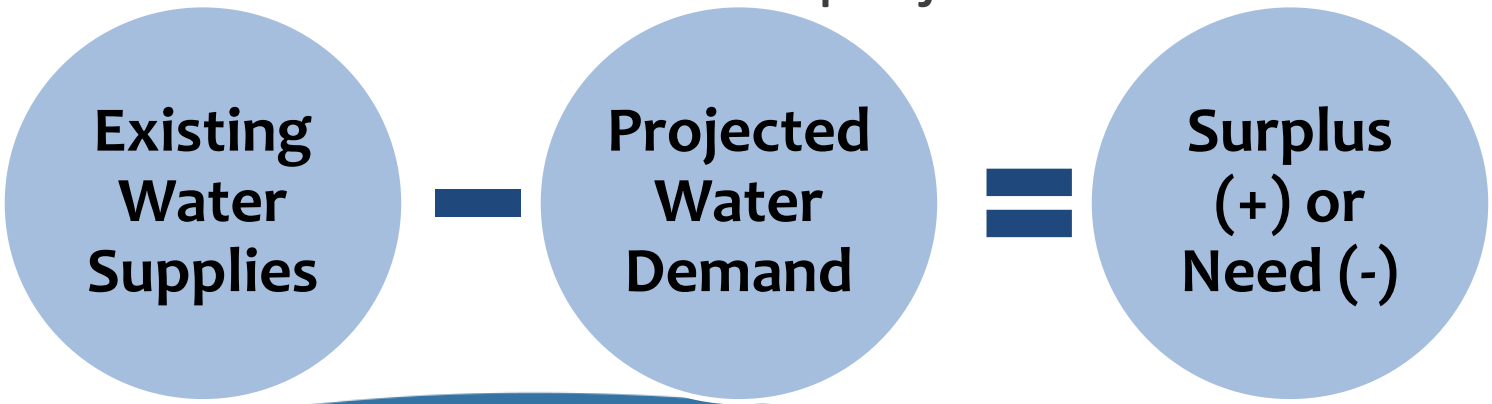
- Electric-generating utilities
- River authorities

- Industries
- Agriculture
- Environment
- Small businesses

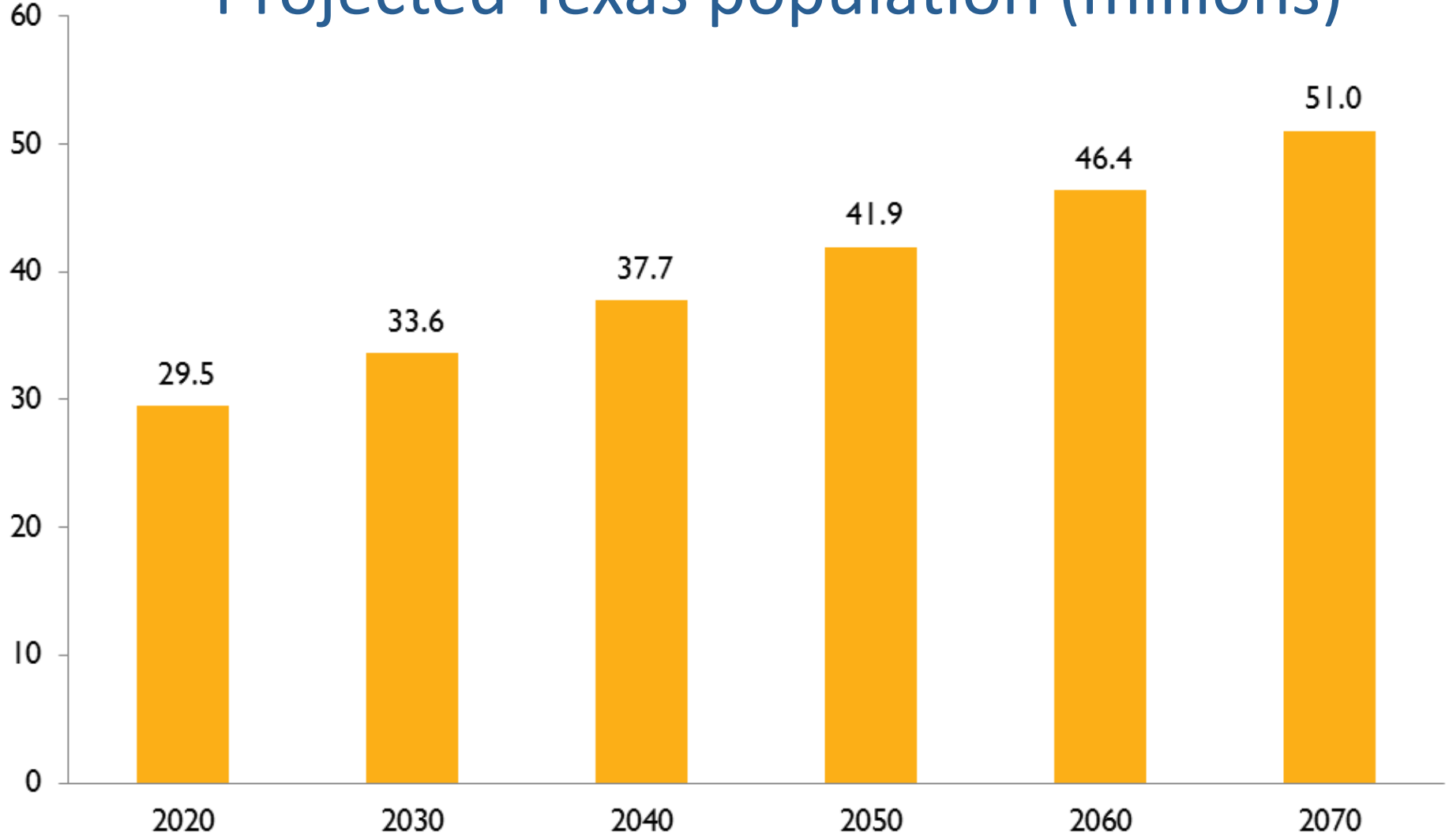
- Water districts
- Water utilities
- Groundwater management areas

How do we plan?

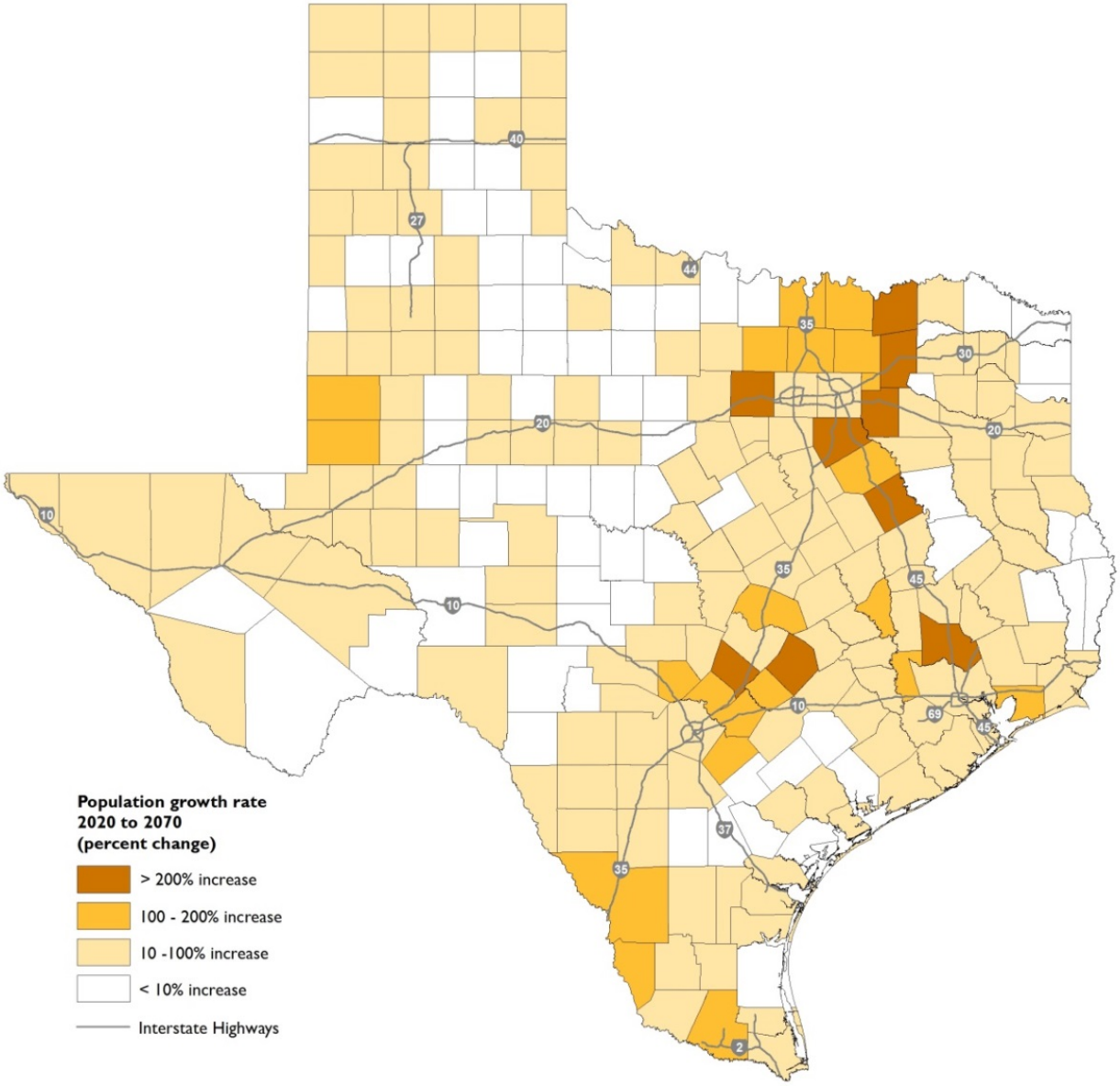
- Project future population and water demand
- Quantify existing water supplies
- Identify surpluses and needs (potential shortages)
- Evaluate and recommend water management strategies
- Make policy recommendations
- Adopt the plan
- Prioritize recommended projects



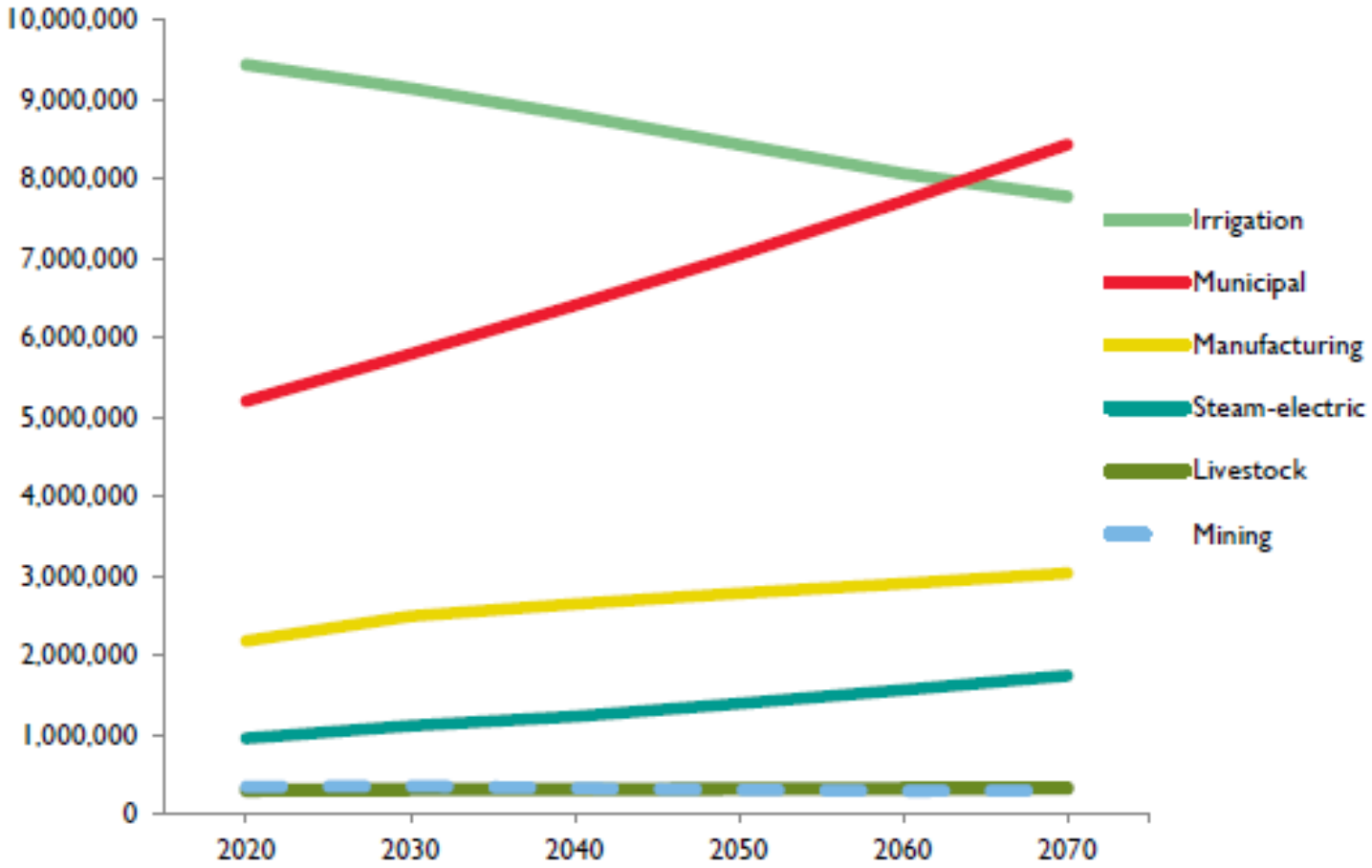
Projected Texas population (millions)



Projected population growth in Texas counties



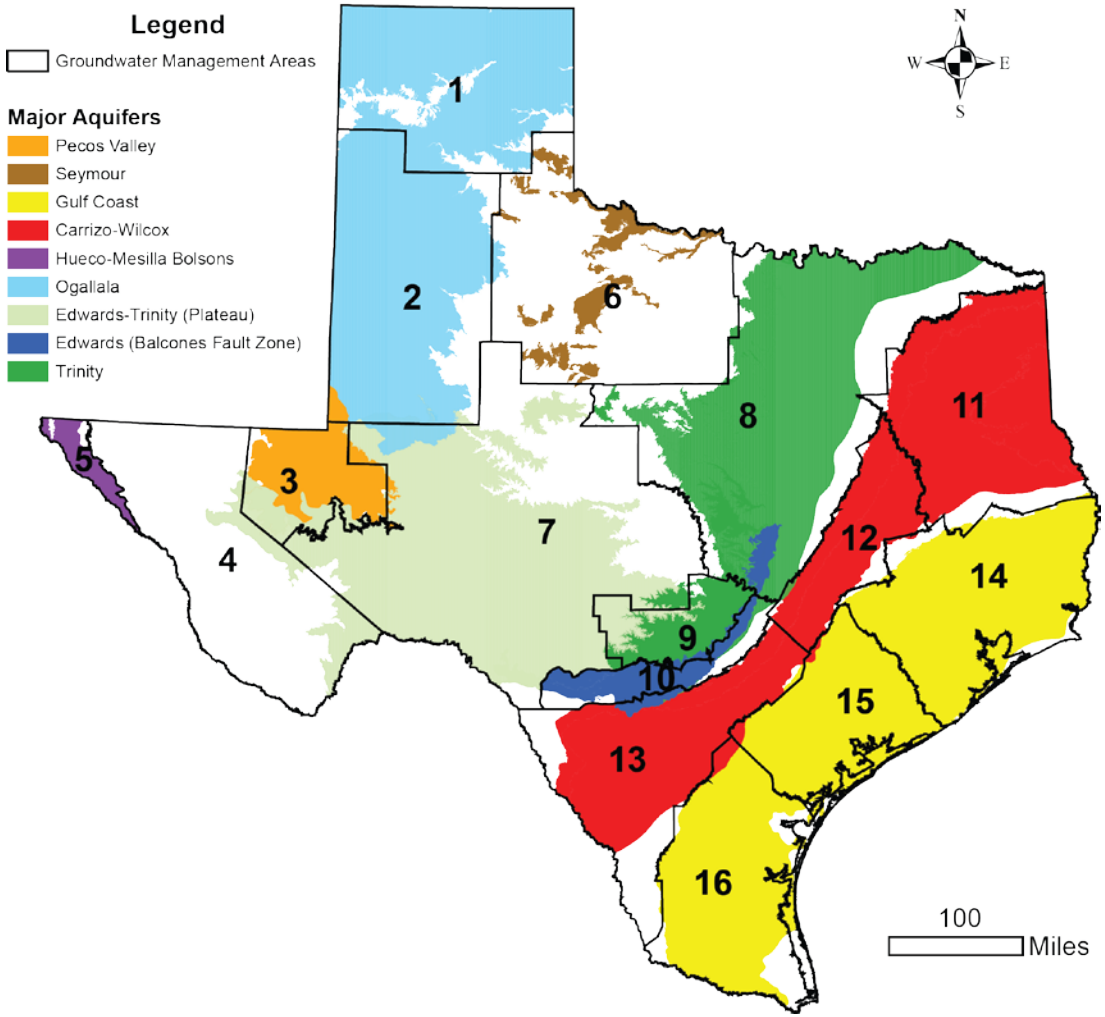
Water Demands

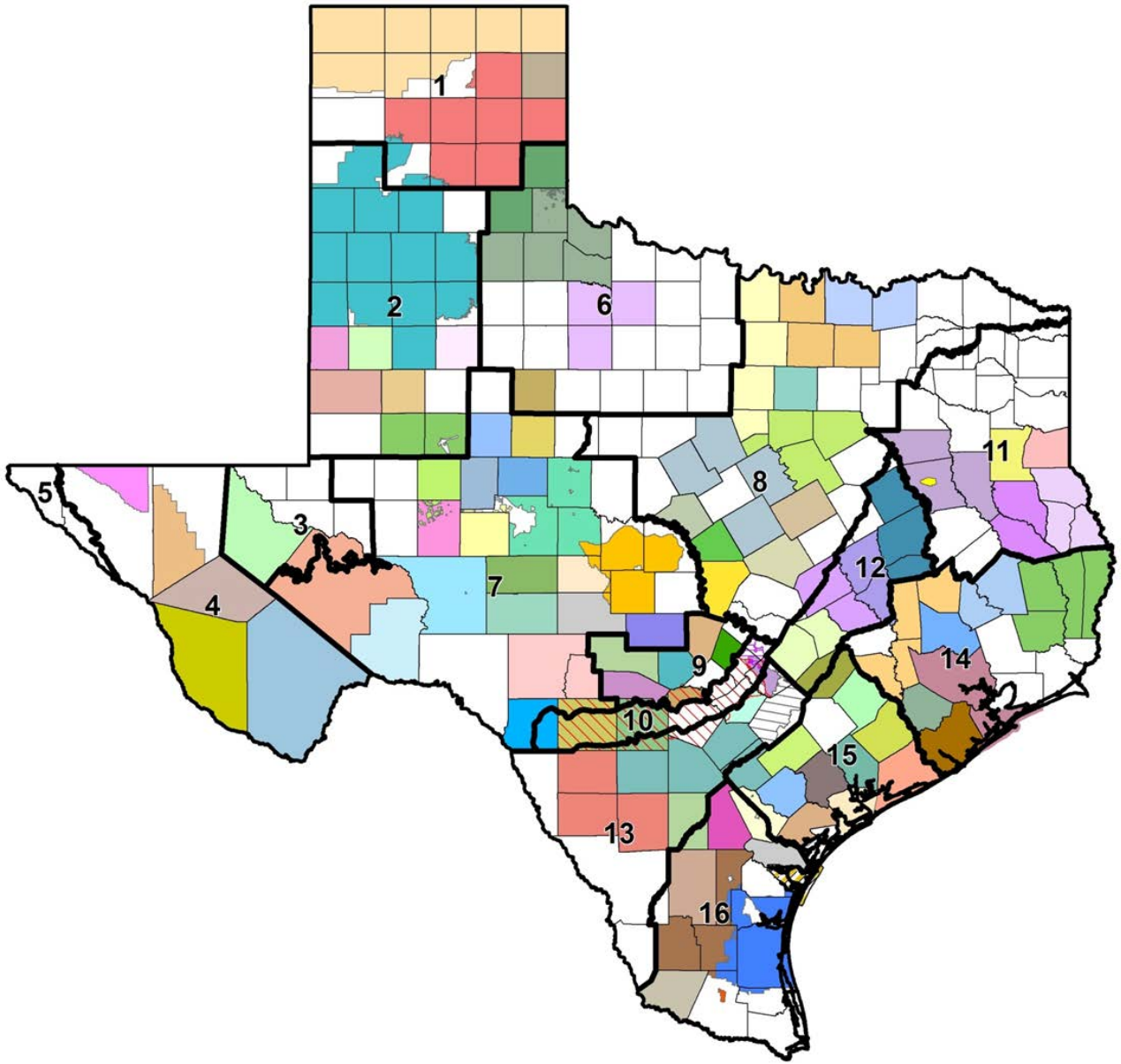


Water Supply

- To meet water demands:
  - Water Availability
  - Existing Water Supply
- Surface water supply
  - Water availability models
- Groundwater supply
  - Joint groundwater planning

Joint Groundwater Planning - Groundwater Management Areas

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Desired Future Conditions

- The desired, quantified condition of groundwater resources (such as water levels, water quality, spring flows, or volumes) at a specified time or times in the future or in perpetuity.
- For “relevant” aquifers
- Broad Policy Goal
  - Drawdown (most)
  - Spring flow (a few)
  - Storage volumes (High Plains)
- Updated at least every 5 years (due in 2016)

Resulting Groundwater Availability

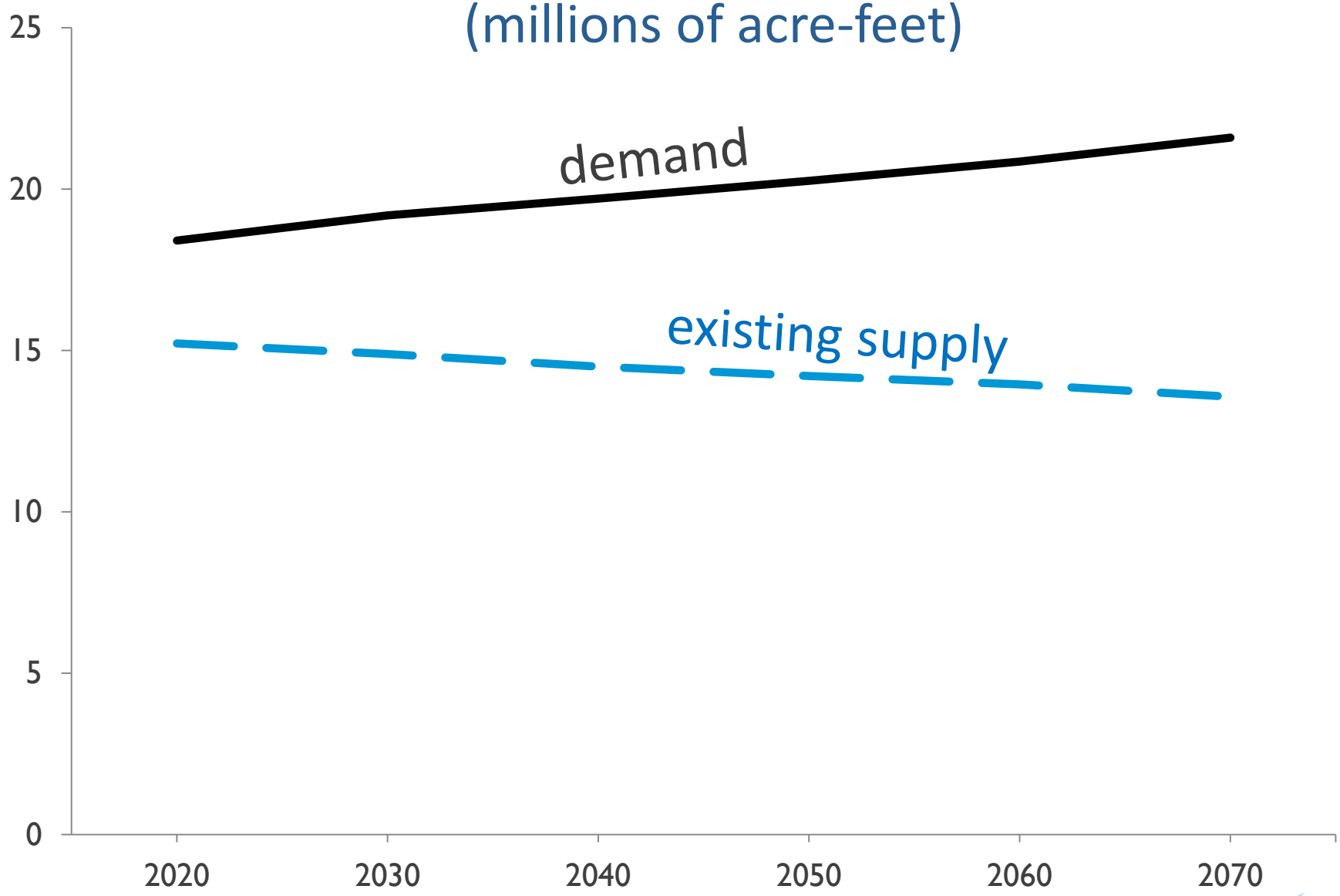
Policy + **Science** = **Groundwater Availability**

Desired Future Conditions + **GAM or other tool** = **Modeled Available Groundwater**

Goal: informed decisions

Projected water demand vs existing water supplies

(millions of acre-feet)



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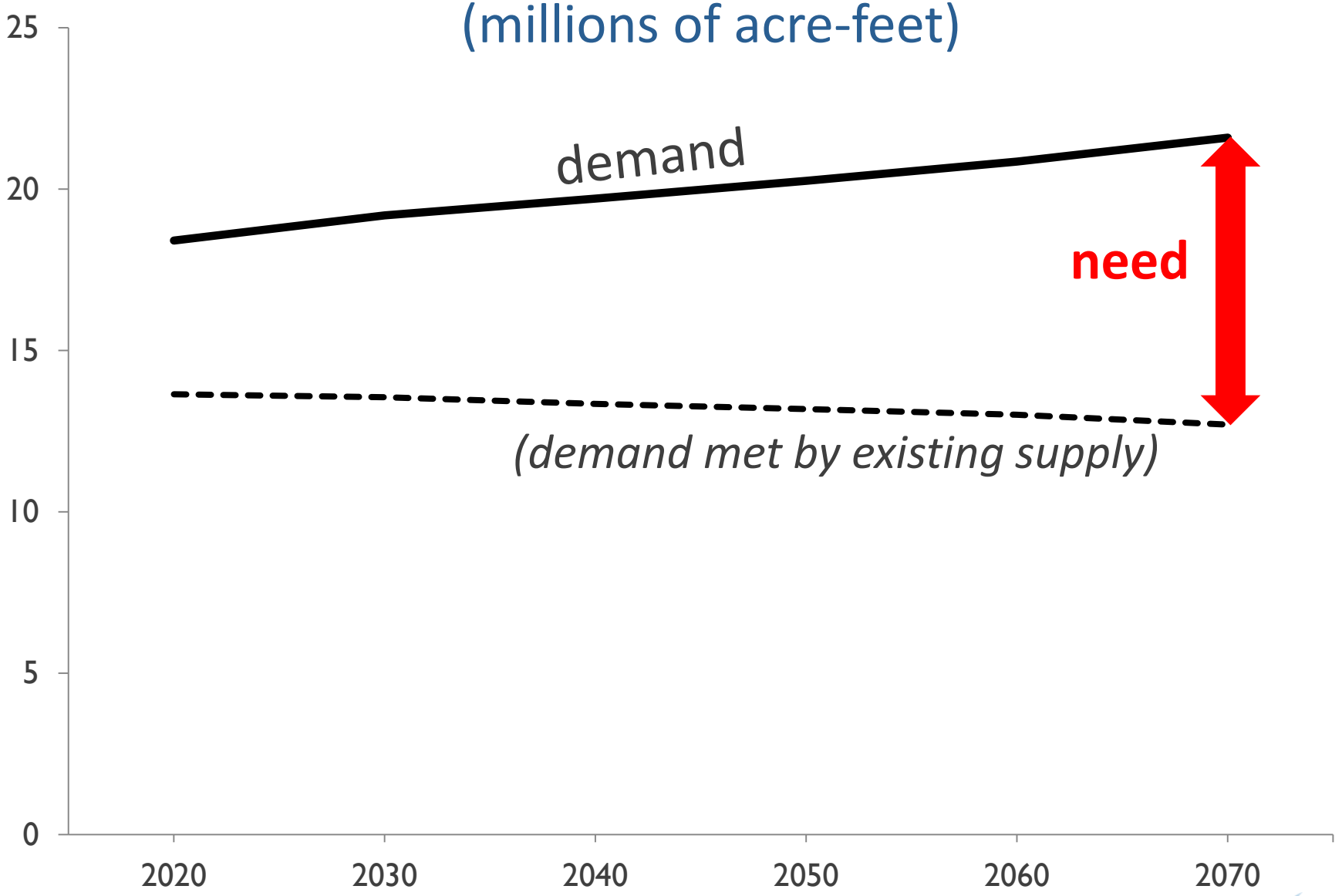
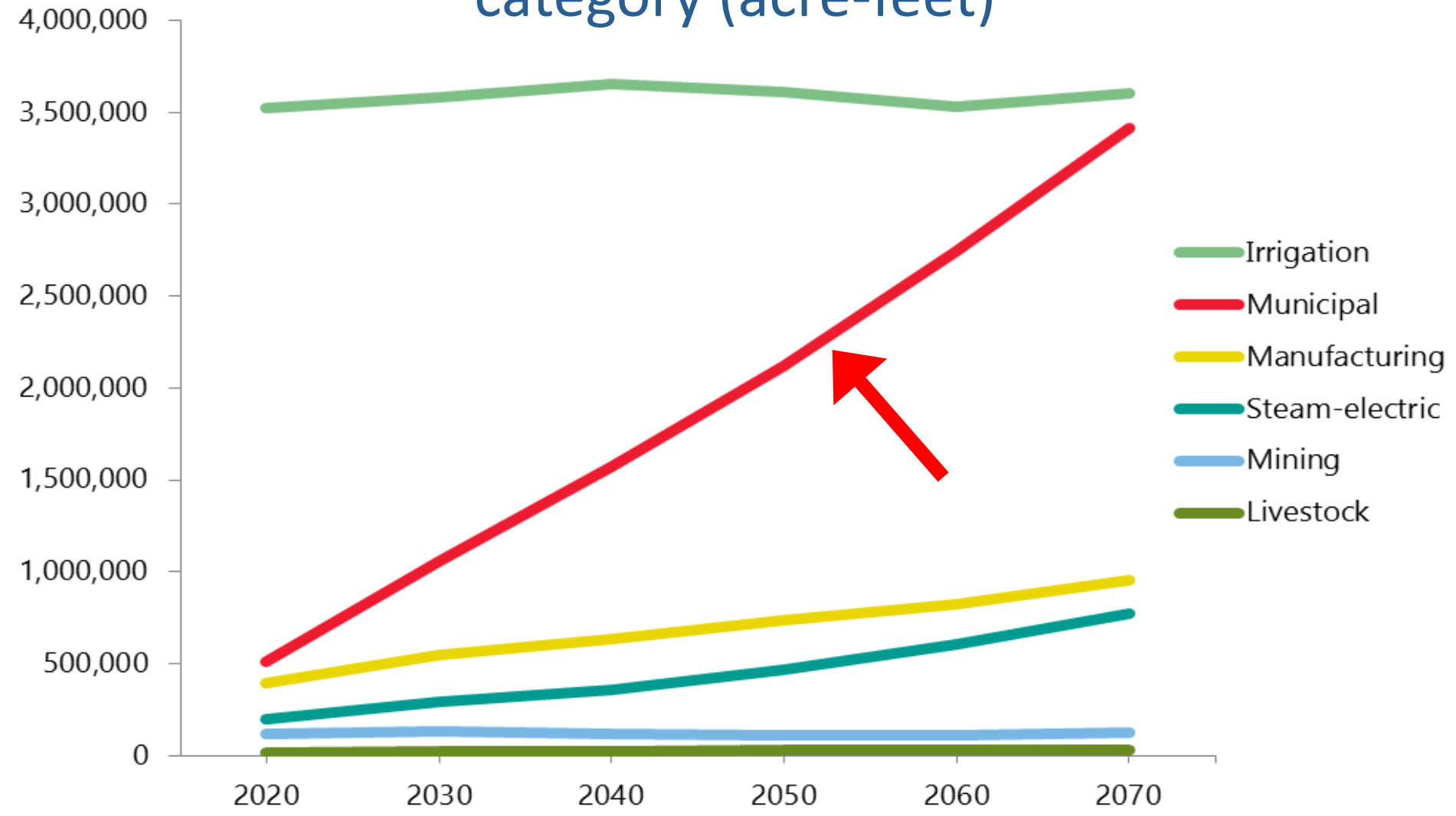
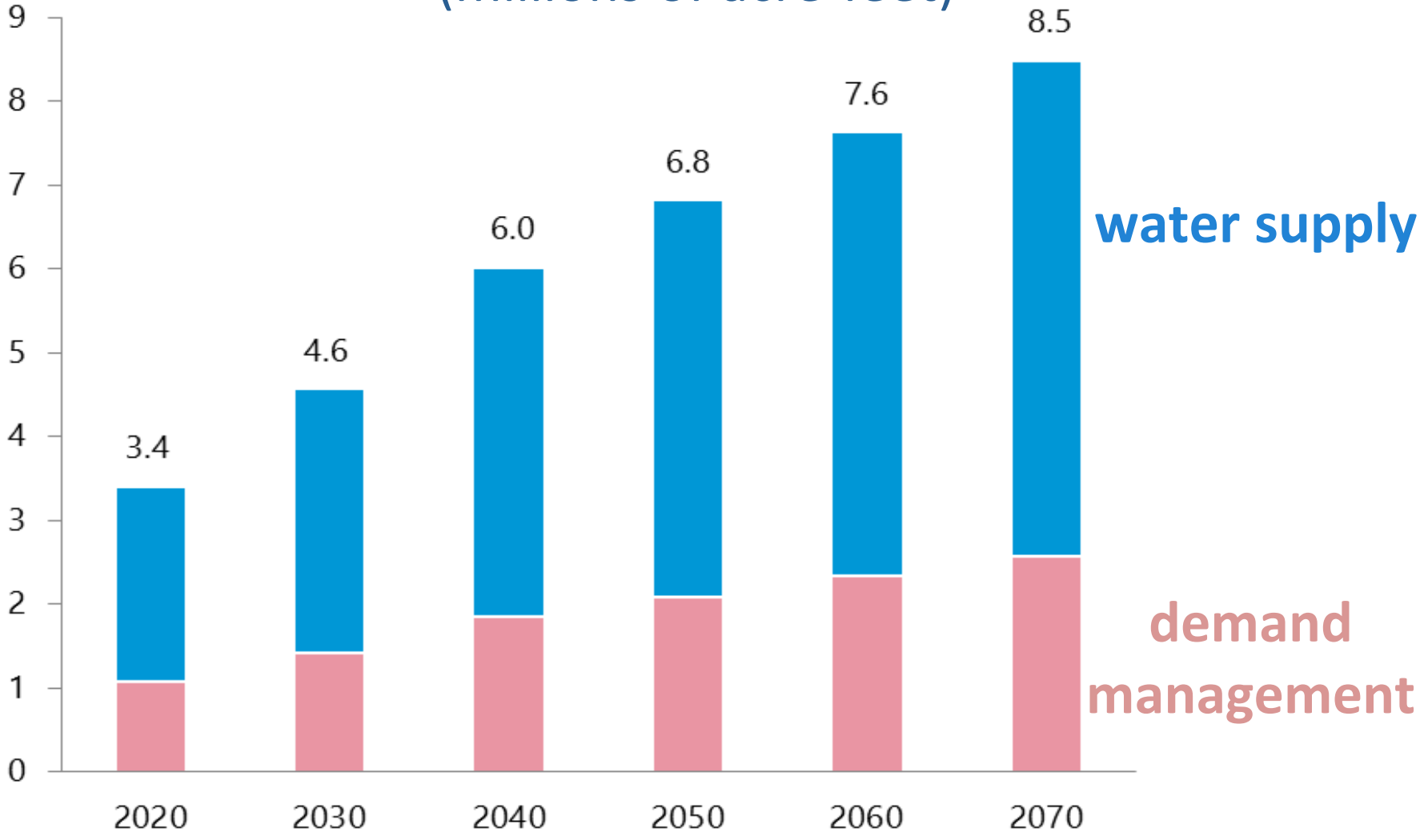


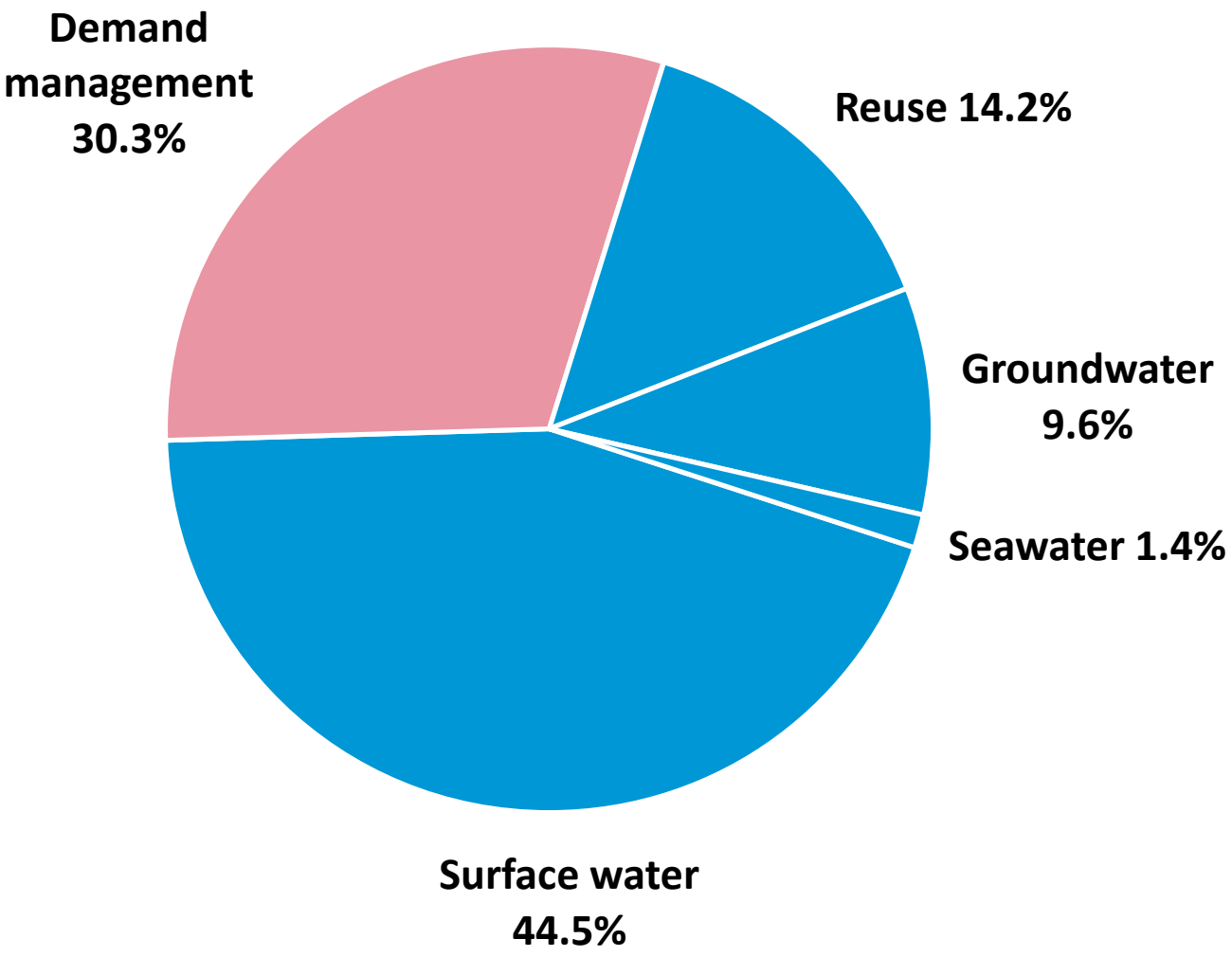
Water needs (potential shortages) by water use category (acre-feet)



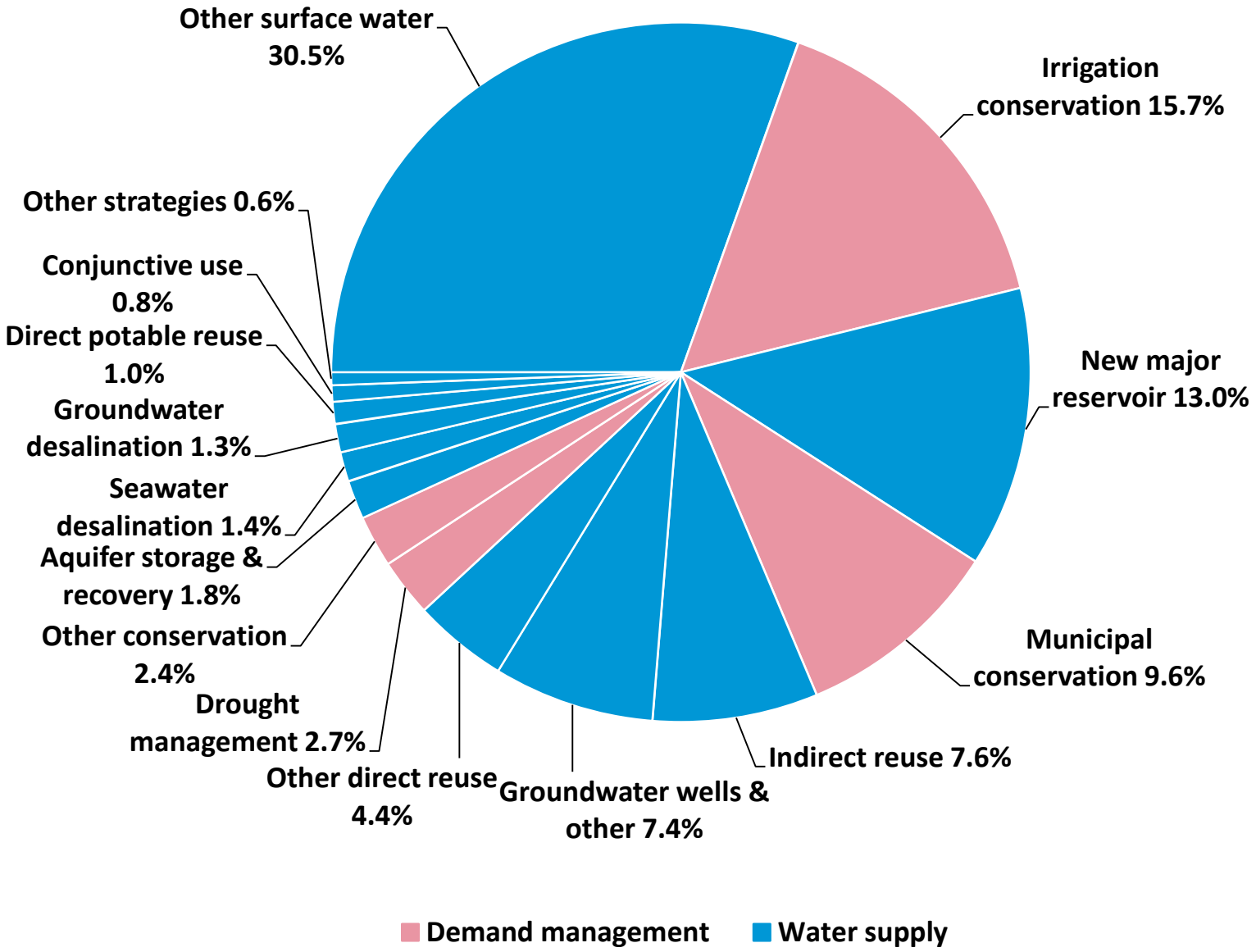
Recommended water management strategies
(millions of acre-feet)



Strategies by water resource in 2070



Share of strategies by type in 2070



Cost of not implementing the plan

$73 billion lost annual income - 2020

$151 billion lost annual income - 2070

lost jobs: 424,000 - 2020

lost jobs: 1.3 million - 2070

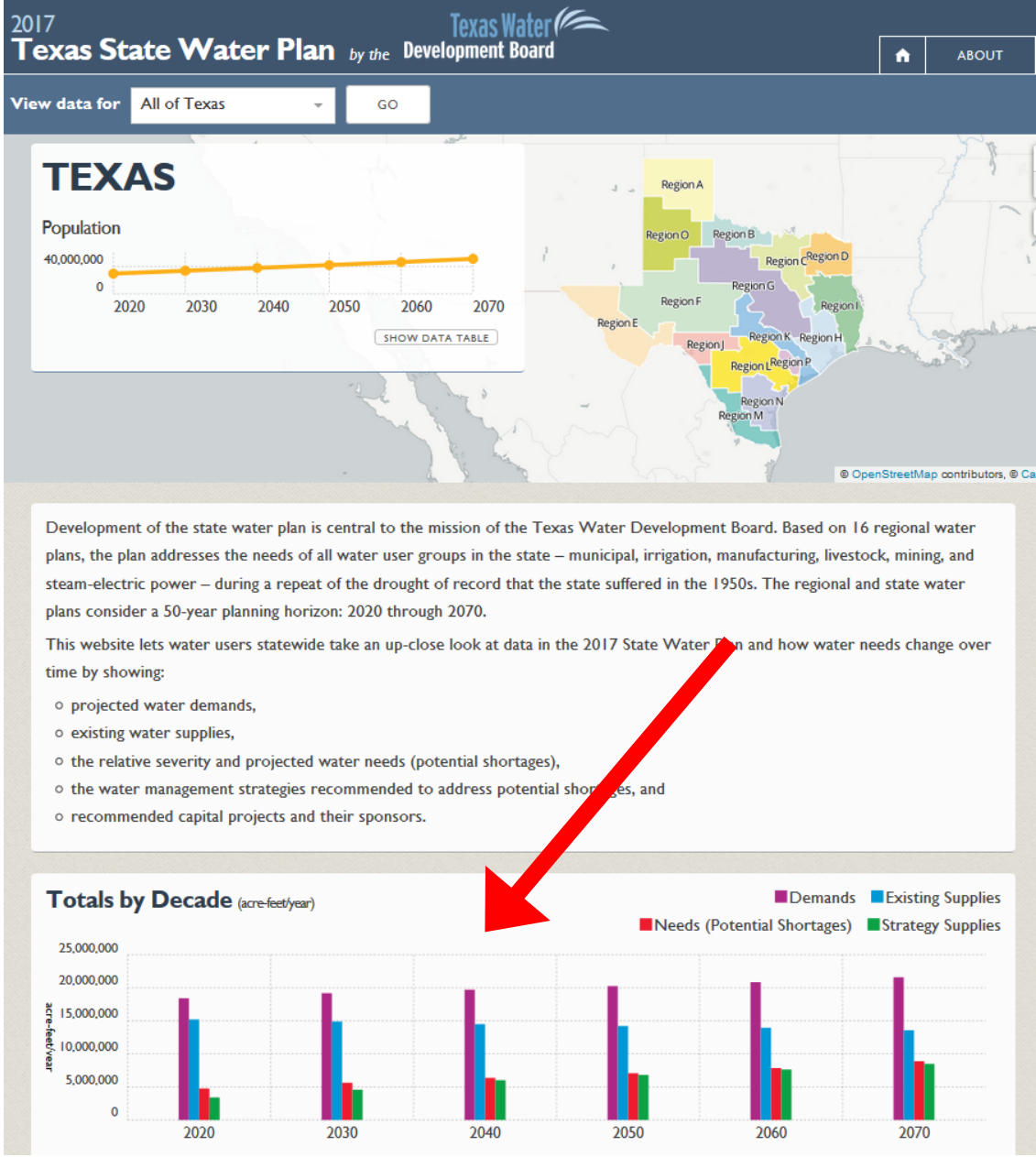
Strategies, projects, and cost of the plan

5,500 strategies

2,500 projects

Capital cost of **$63** billion

State water plan database and the interactive state water plan website



WATER for TEXAS

2017 conference

January 23-25, 2017

AT&T Conference Center,
Austin, Texas

Hosted by the TWDB

WaterForTexas.twdb.texas.gov

Texas Water Development Board

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