

Texas Regional and State Water Planning



RSAH₂O

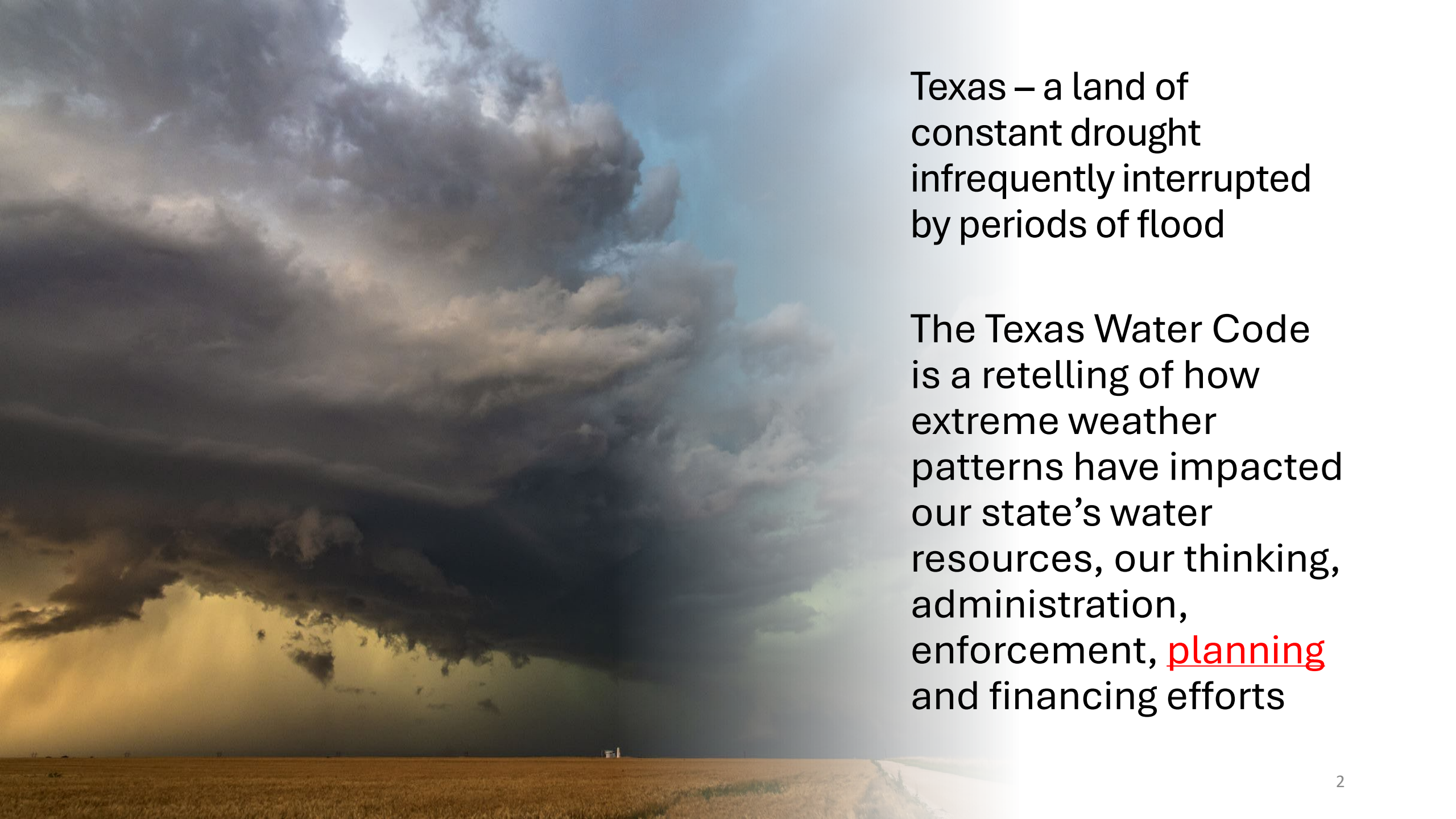
Oklahoma Governor's Water
Conference

November 2024

Carlos Rubinstein, Principal RSAH2O, LLC



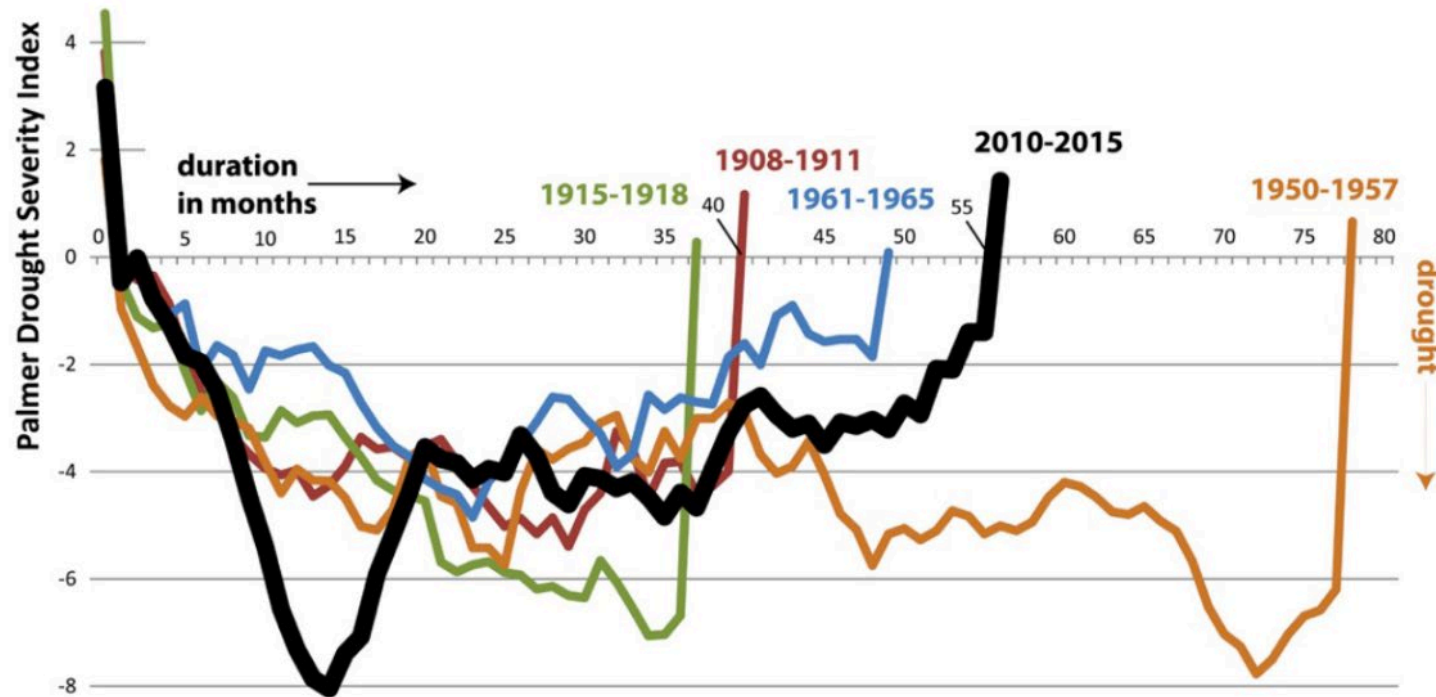
Acknowledgment – many figures, graphs and text are from the TWDB



Texas – a land of constant drought infrequently interrupted by periods of flood

The Texas Water Code is a retelling of how extreme weather patterns have impacted our state's water resources, our thinking, administration, enforcement, planning and financing efforts

John Nielsen-Gammon, State Climatologist)

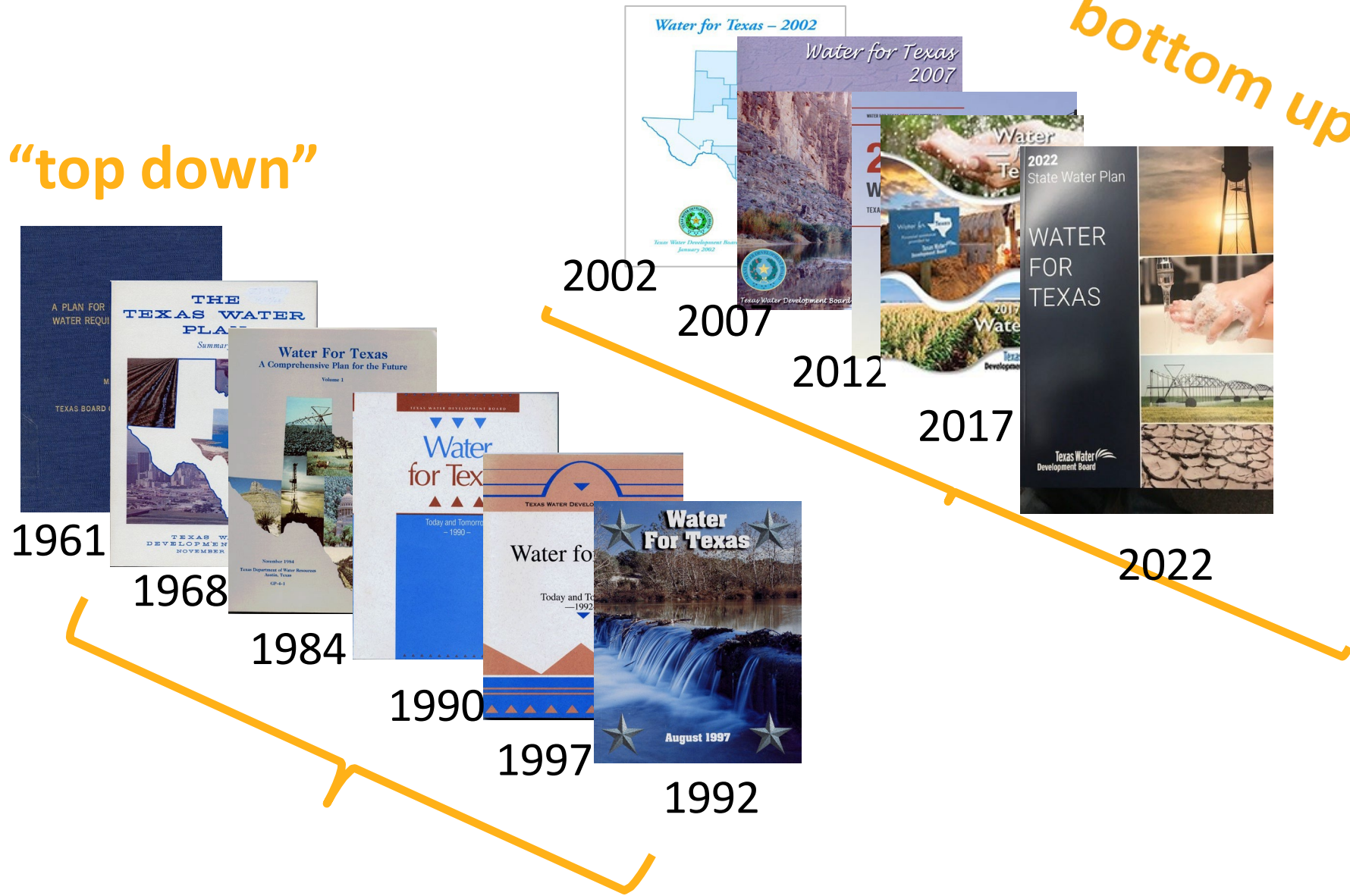


Top 5 most significant droughts in TX

Two Approaches to State Water Planning

“top down”

“bottom up”





WHY BOTTOM-UP APPROACH?

Origin

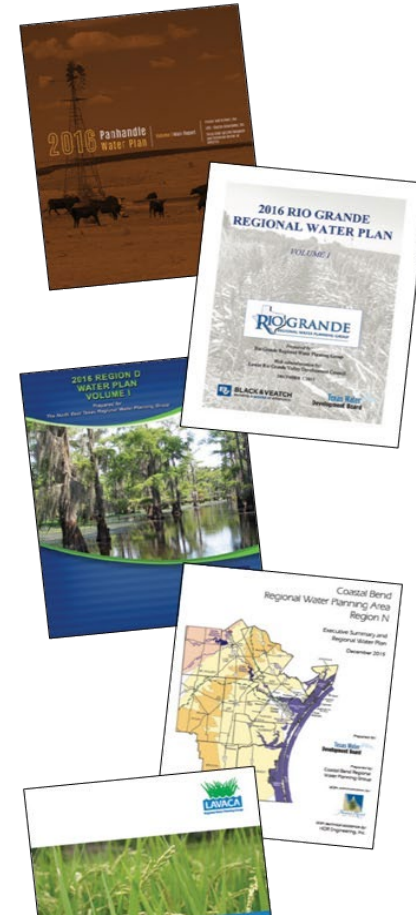
- Lack of implementation of state plans since 1950s
- Severe drought in mid-1990s
- Omnibus Senate Bill 1 in 1997

Purpose

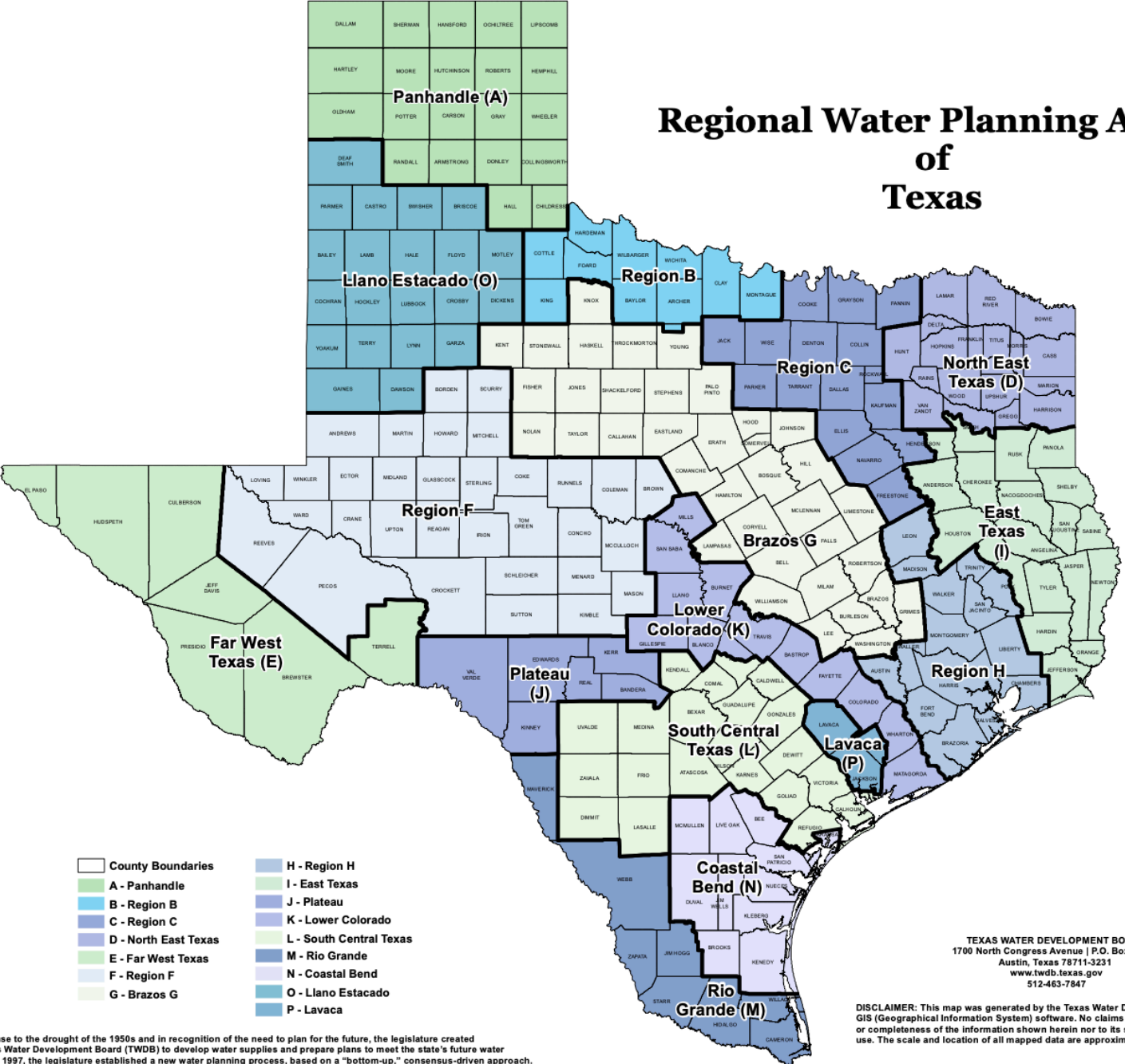
- Provide for the orderly development, management, and conservation of water resources
- **Prepare for and respond to drought conditions**

Water planning process basics

- Bottom-up approach to planning for future water needs (shortages)
- Local water provider involvement
- 16 regional planning groups make decisions
- Transparent and public process
- Regional water plans developed every 5-years and inform the state water plan



Regional Water Planning Areas of Texas

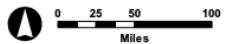


- | | |
|----------------------|-------------------------|
| County Boundaries | H - Region H |
| A - Panhandle | I - East Texas |
| B - Region B | J - Plateau |
| C - Region C | K - Lower Colorado |
| D - North East Texas | L - South Central Texas |
| E - Far West Texas | M - Rio Grande |
| F - Region F | N - Coastal Bend |
| G - Brazos G | O - Llano Estacado |
| | P - Lavaca |

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DISCLAIMER: This map was generated by the Texas Water Development Board using GIS (Geographical Information System) software. No claims are made to the accuracy or completeness of the information shown herein nor to its suitability for a particular use. The scale and location of all mapped data are approximate. Map date: JAN-2014

In response to the drought of the 1950s and in recognition of the need to plan for the future, the legislature created the Texas Water Development Board (TWDB) to develop water supplies and prepare plans to meet the state's future water needs. In 1997, the legislature established a new water planning process, based on a "bottom-up," consensus-driven approach. Coordinating this water planning process are 16 planning groups, one for each regional water planning area (see map). The planning groups, each made up of about 20 members, represent a variety of interests, including agriculture, industry, environment, public, municipalities, business, water districts, river authorities, water utilities, counties, and power generation.



MISSION: The Texas Water Development Board's (TWDB) mission is to provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas.

Key Planning Terminology

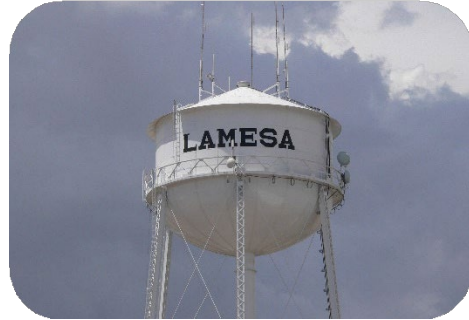
- ✓ **Demand** = volume of water required to carry out the anticipated domestic, public, and/or economic activities of a **WUG** during drought conditions
- ✓ **Need** = a potential water supply shortage, based on the difference between water demands and existing water supplies (may be met by implementing recommended water management strategies)
- ✓ **Unmet Need** = the portion of an identified water need that is not met by recommended water management strategies
- ✓ **Availability** = maximum amount of raw water that could be produced by a source during a repeat of the **DOR**
- ✓ **Existing Supply** = maximum amount of water that is physically and legally accessible for immediate use by a **WUG** under a repeat of **DOR** conditions



Key Planning Terminology

- **Water Management Strategy (WMS)** = a plan to meet a need for additional water by a discrete **WUG**, through increasing total water supplies or maximizing existing supplies, including through reducing demands
- **Water Management Strategy Project (WMSP)** = a water project that has a capital cost and when implemented, would develop, deliver, or treat additional water supplies or conserve water for **WUGs**

What is a WUG?



Municipal



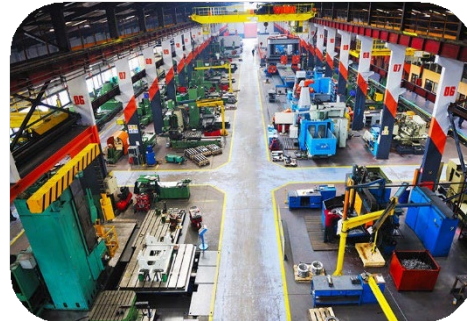
Irrigation



Livestock



Mining

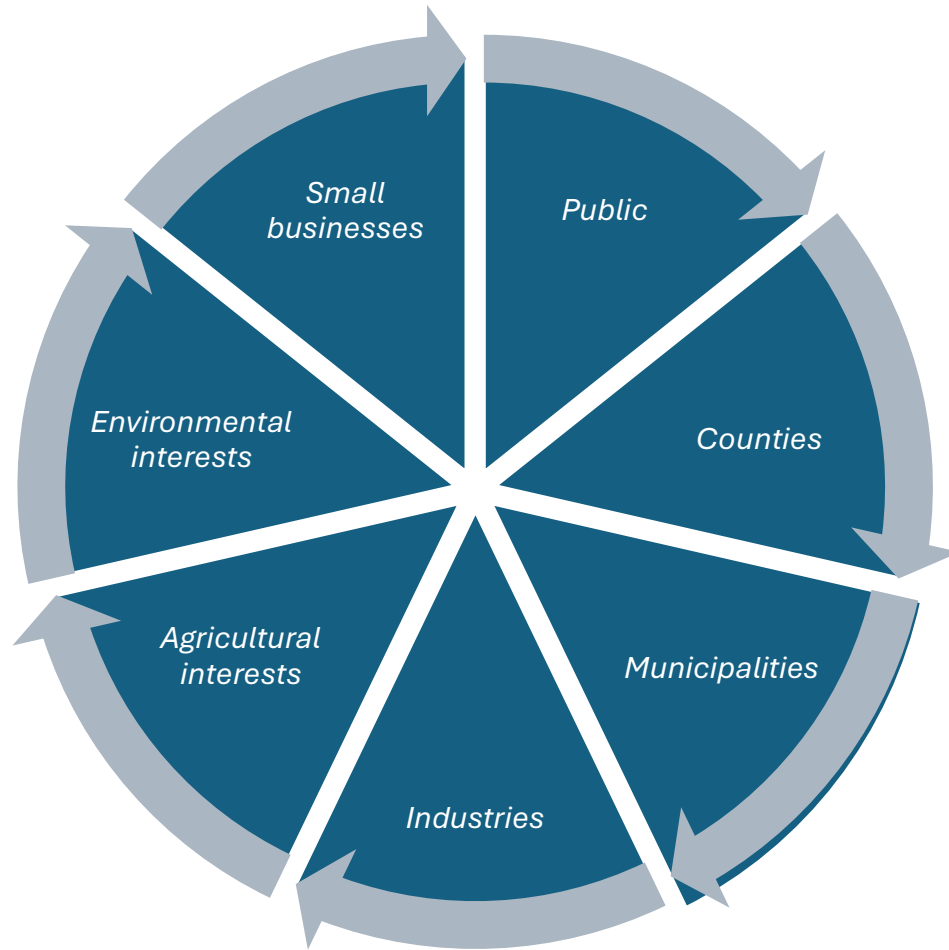


Manufacturing



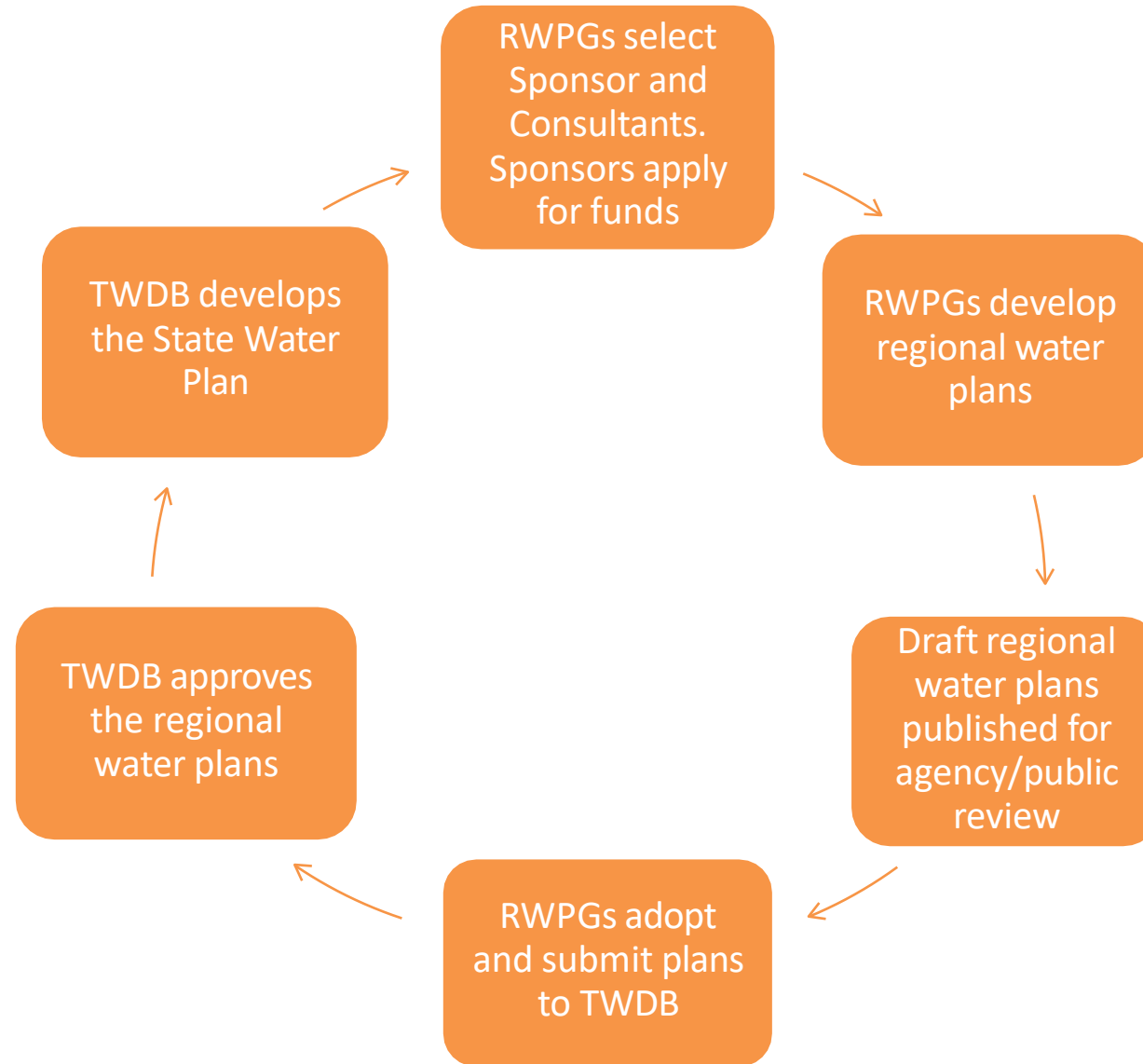
Steam Electric

Required voting member interest categories

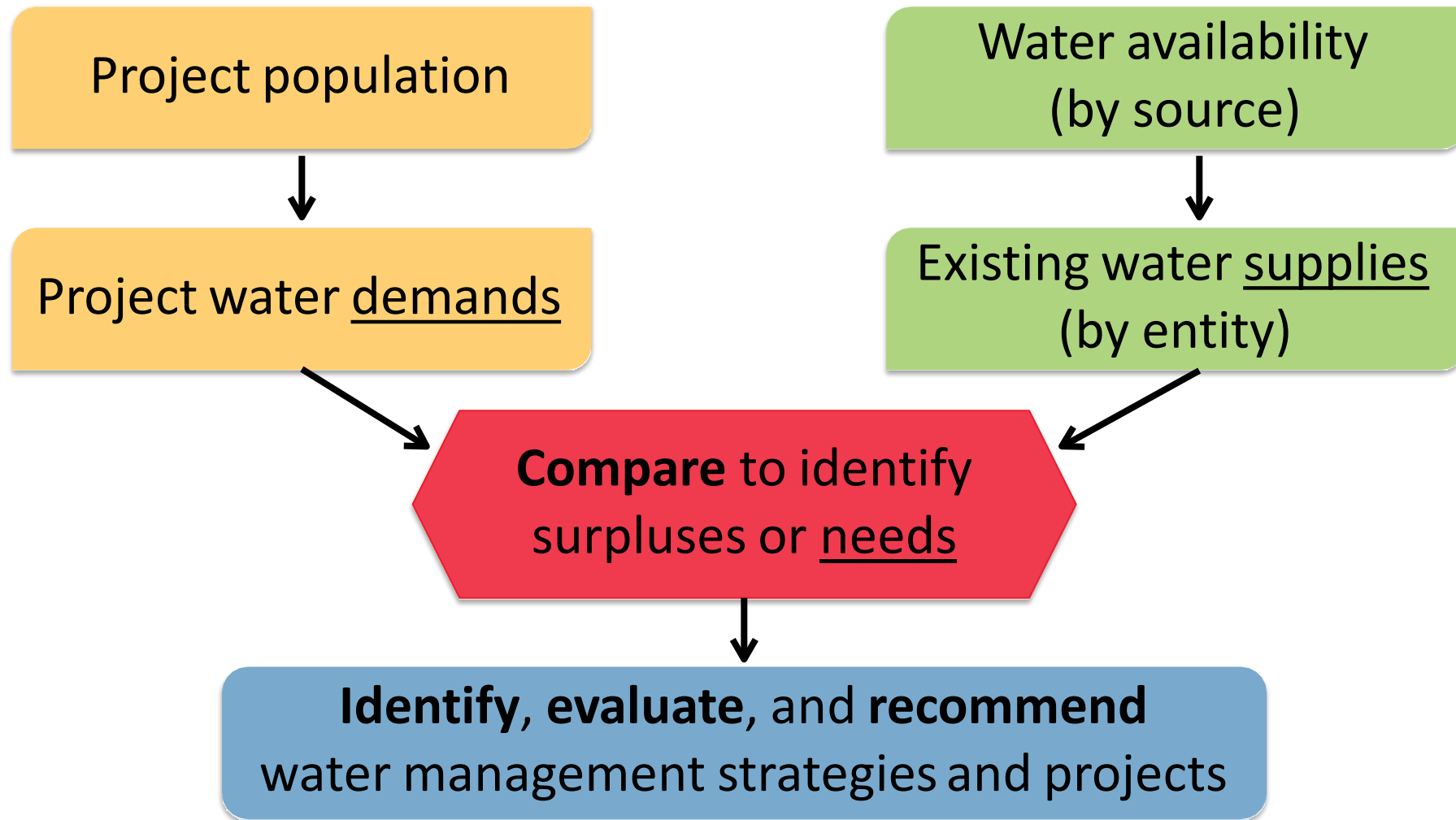


- *Electric-generating utilities*
- *River authorities*
- *Water districts*
- *Water utilities*
- *Groundwater management areas (Joint Water Planning by GCDs)*

Continuous planning cycle

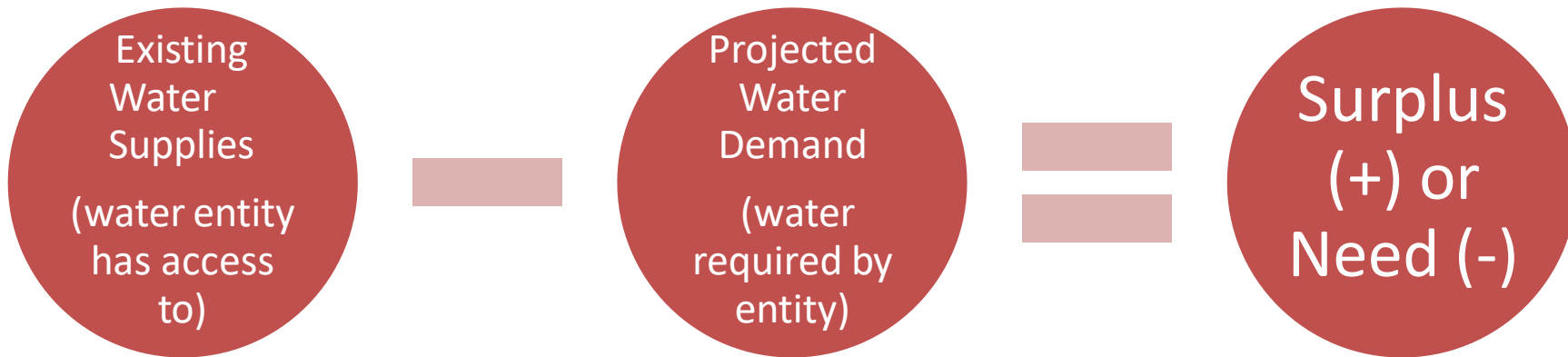


Water Planning flow



Do we have enough water?

Identify surpluses and needs (potential shortages)



Potentially feasible water management strategies

Traditional

- New reservoirs
- Conservation
- Groundwater development
- Other surface water development
- Reuse of water
- Groundwater desalination

Innovative

- Seawater desalination
- Aquifer storage and recovery
- Conjunctive use
- Rainwater harvesting
- Brush control



Supporting / Resource Entities

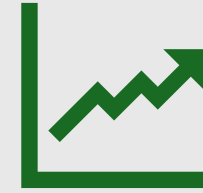
- *Texas Water Development Board*
- *Texas Department of Agriculture*
- *Texas Parks and Wildlife*
- *State Soil and Water Conservation Board*
- *Liaisons to neighboring regions*
- *Entities with headquarters in another RWPA who hold major water interest within the RWPA*
- *Other entities as determined by the RWPG*



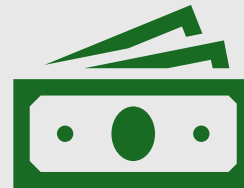
WHY DOES ALL THIS PLANNING MATTER?



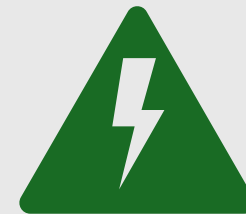
*Resiliency and
sustainability*



*Economic
development*



Funding



Permitting

Thank you!



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