

# Introduction to Regional Water Planning in Texas

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## Regional Water Planning Department

Water Supply Planning

Office of Planning

Texas Water Development Board

*Updated October 2022*

# Overview

- Introduction to regional and state water planning in Texas
- Overview of regional water planning groups
- Fundamentals of water planning

# Texas Water Development Board

**Mission:** To lead the state's efforts in ensuring a secure water future for Texas and its citizens



FINANCIAL ASSISTANCE

WATER AND FLOOD PLANNING

DATA COLLECTION & SCIENCE

# Why do we plan?

- Response to drought
- Texas' population is projected to increase by 73%
- Water demand is projected to increase 9%
- Existing water supplies are expected to decline 18%
- Potential water shortages during a drought of record: 3.1 million acre-feet



# State water planning origin and purpose

## Origin

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

## Purpose

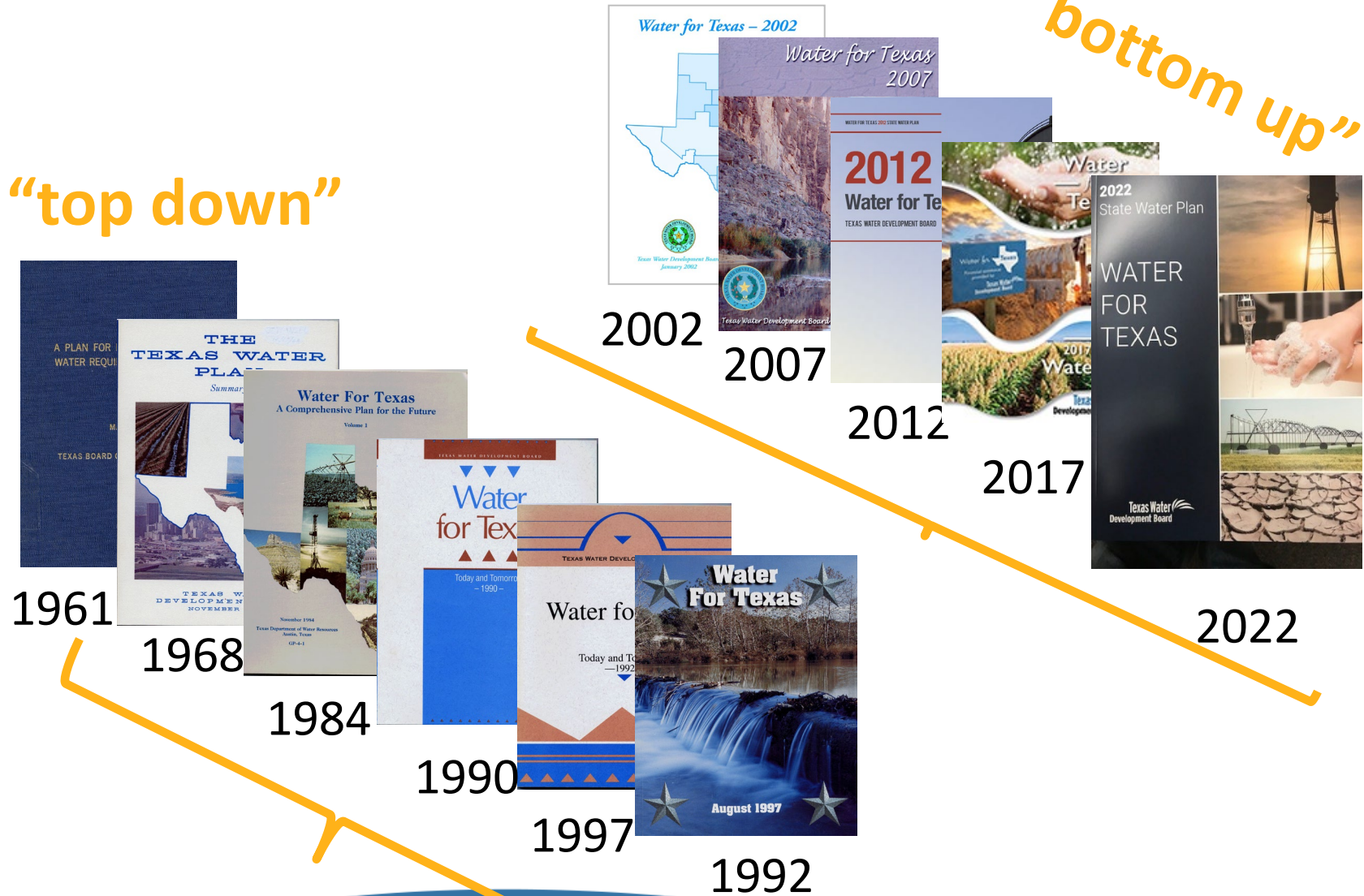
- Provide for the orderly development, management, and conservation of water resources
- **Prepare for and respond to drought conditions**



# State Water Plans

“top down”

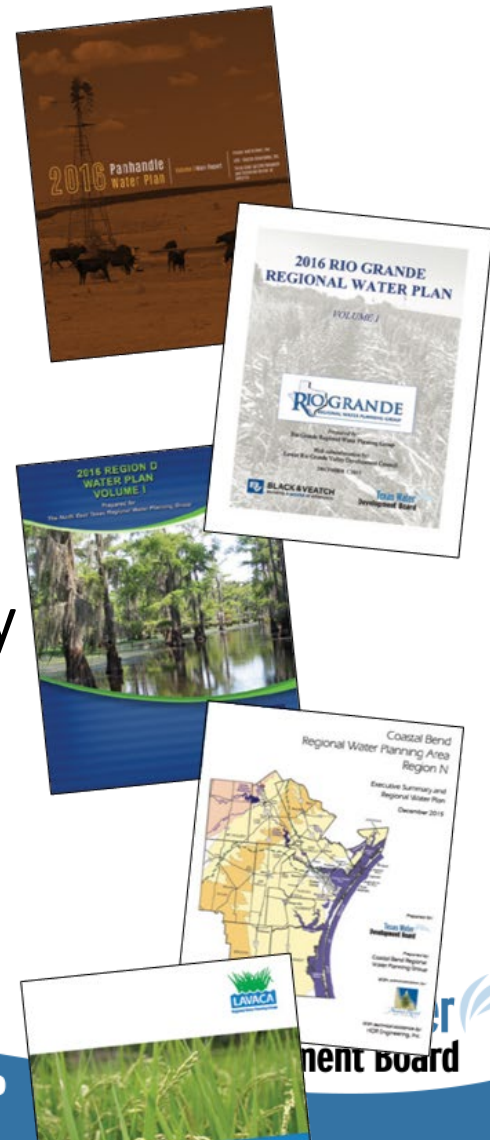
“bottom up”



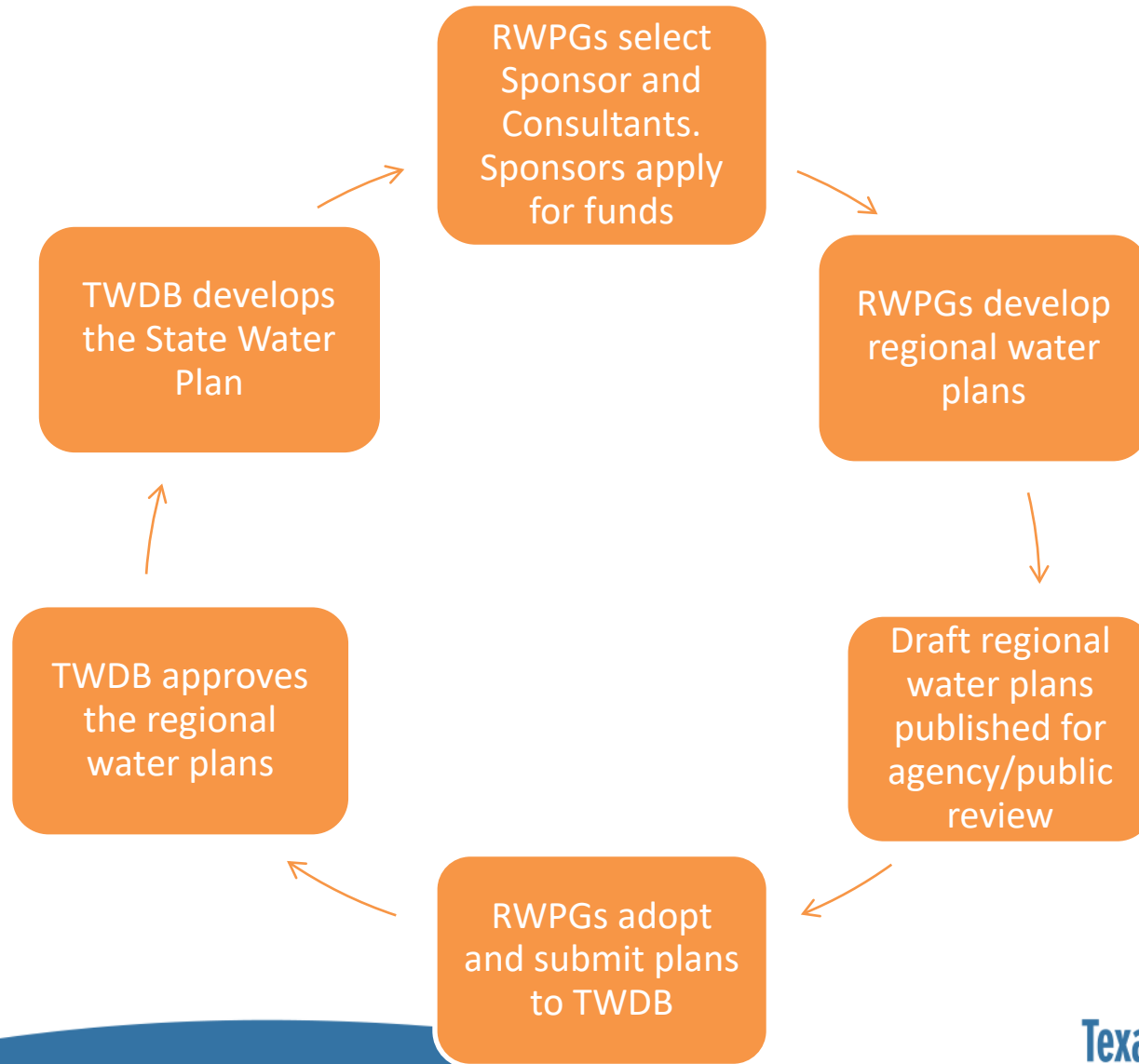


# Water planning process basics

- 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

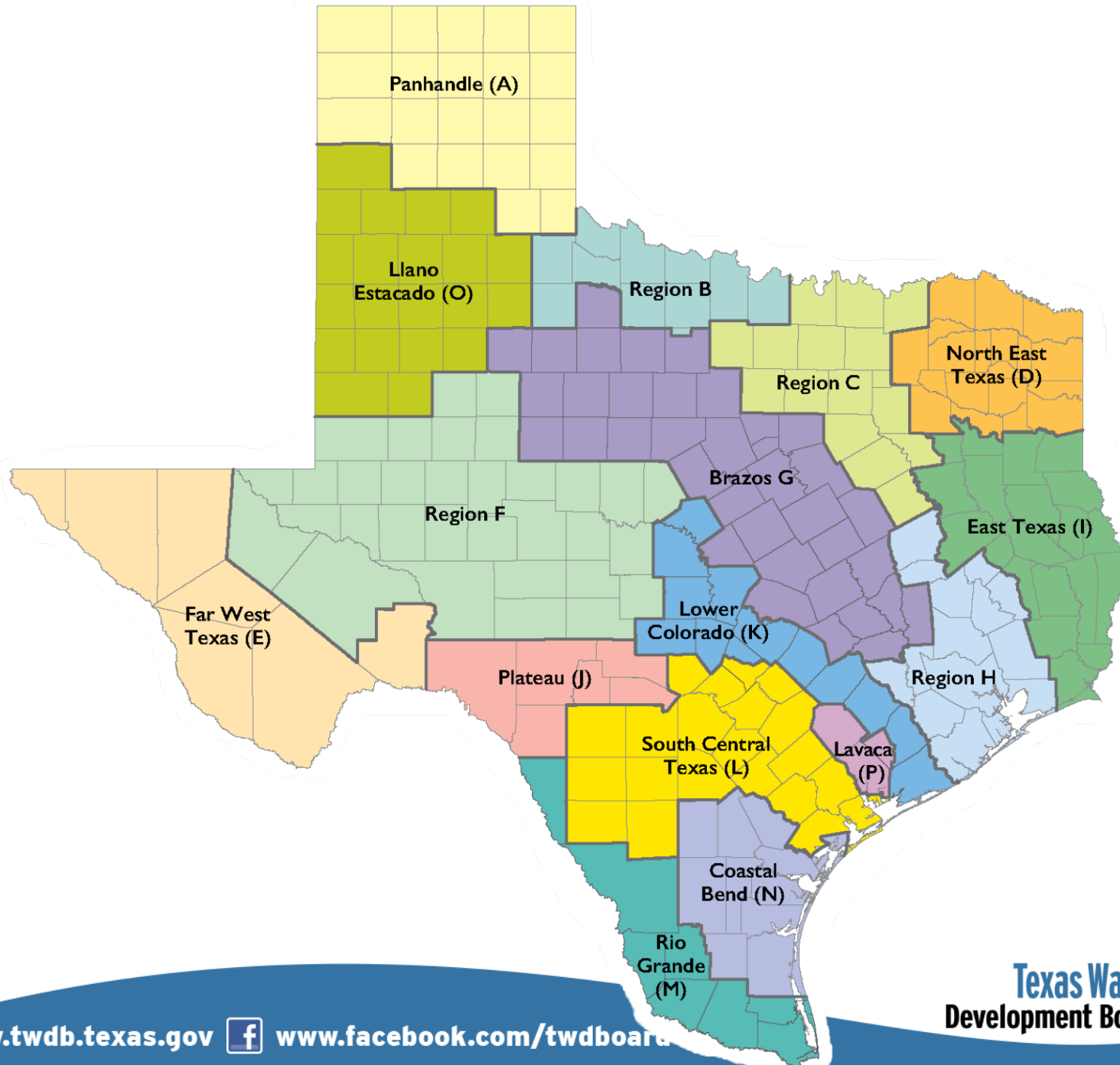


# Continuous planning cycle





# Overview of Regional Water Planning Groups



# Texas Water Code and TWDB rule – required voting member interest categories

- *Public*
- *Counties*
- *Municipalities*
- *Industries*
- *Agricultural interests*
- *Environmental interests*
- *Small businesses*
- *Electric-generating utilities*
- *River authorities*
- *Water districts*
- *Water utilities*
- *Groundwater management areas*

# Non-voting members

- *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*

# Main participants involved in the planning process

Voting Members

Non-voting  
Members

Political  
Subdivisions  
(RWPG Sponsors)

Technical  
Consultants

Public

Water User  
Groups & Project  
Sponsors

# Key Responsibilities of Planning Group Voting Members

- Attend meetings and represent interest category
- Engage or solicit information relevant for the interest category they represent
- Familiar with and follow the bylaws of their respective RWPG
- Informed on regional water planning rules, guidelines, and topics the RWPG acts on
- Consider local plans developed by local entities in the region
- Review meeting materials in advance of meetings

# Key Responsibilities of Planning Group Voting Members (cont.)

- Participate in and contribute supporting information for development of the RWP
- Consider water needs of all interests in the region
- Review and provide feedback on draft plan content developed by consultants.
- Coordinate with other RWPGs for data consistency and opportunities for shared water management strategies (WMS) and WMSPs
- Ensure adoption of a regional water plan that meets all requirements
- Complete Open Meetings Act and Public Information Act training



# Key Responsibilities of Non-Voting Members

- Attend meetings, represent, and act as a liaison for affiliated entity in the regional water planning process
- Provide input on areas of expertise and become familiar with planning issues
- Support the voting membership in the development of the RWP

# Role of TWDB's Regional Water Planners

- Serve as non-voting members of assigned RWPGs
- Provide administrative and technical guidance
- Orient new members and facilitate communication
- Manage the TWDB contract with the RWPG political subdivision
- Help to ensure the draft and final RWPs meet statute, rule, and contract requirements

# Liaison role

- Attend neighboring RWPG meetings and act as a liaison for primary RWPG
- Informed on planning activities in assigned region(s)
- Provide updates at meetings on planning activities in their primary or assigned liaison regions
- Look for opportunities for interregional coordination and collaboration

# RWPG Sponsor role

- Apply for and receive grant funds from the TWDB for the development of an RWP
- Execute the regional water planning grant contract with the TWDB
- Procure the technical consultant that will assist the RWPG with plan development
- Execute and the subcontract(s) with the technical consultant(s)
- Administer regional water planning contracts with TWDB and subcontracts with consultants

# RWPG Sponsor role (cont.)

- Organize the RWPG meeting locations, public notices, agendas, meeting presentations, handouts, meeting minutes, and new member solicitations
- Ensure all regular, committee, and subcommittee meetings of the RWPG are posted and held in accordance with the Texas Open Meetings Act, the Texas Public Information Act, statute, and regional water planning rules
- Maintain the RWPG website and member contact information

# Technical Consultant role

- Perform regional water planning contract scope of work tasks
- Receive direction from the RWPG and sponsors
- Present work at RWPG meetings
- Develop complete RWPs under direction of the RWPGs
- Populate data into the state water planning database
- Produce all final contract deliverables to be submitted to the TWDB
- Participate in RWPG meetings, committees, and sub-committees

# Stakeholder role

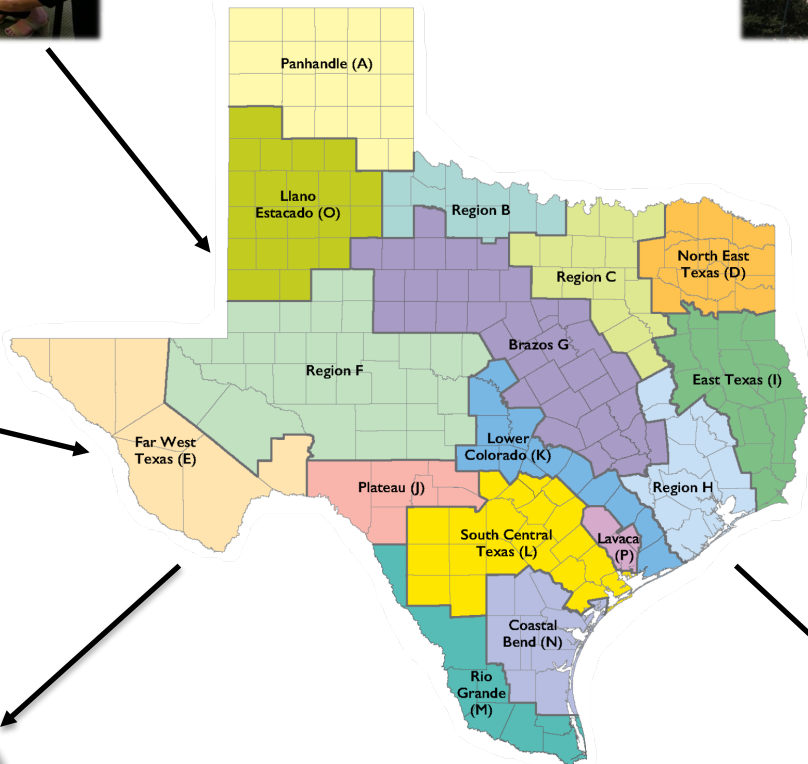
- Provide local information and local water plans to the RWPG
- Water providers in the region are presented as ‘sponsors’ of projects in the regional water plans and are responsible for implementing recommended strategies and projects
- Respond to RWPG surveys and requests for information
- Complete and submit required water use reports, water loss audits, conservation annual reports, water conservation plans, and drought contingency plans
- Coordinate with the RWPG to ensure local information is accurately represented Provide public comments throughout the planning cycle
- Review and provide comments on the draft RWP





Water User Groups

Technical consultants

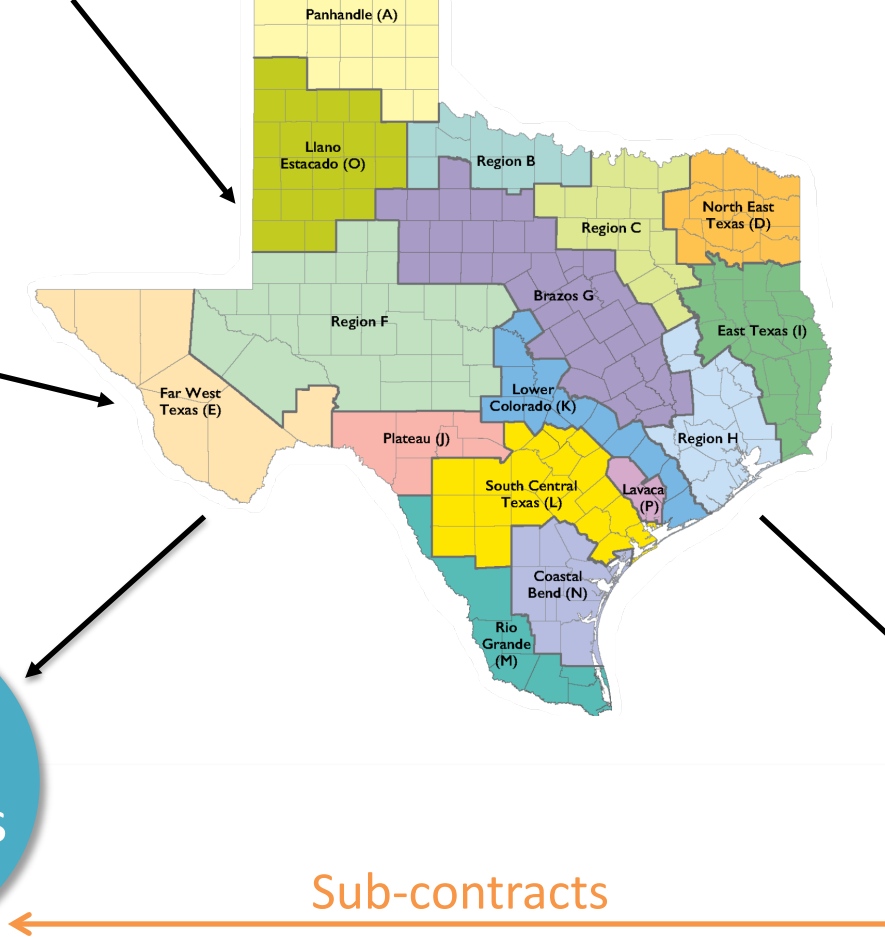


Texas Water Development Board

Political Subdivisions (Sponsors)

Grant contracts

Sub-contracts



# How Do Planning Groups Function?

- Designate a political subdivision (sponsor) to administer region
- Apply for TWDB planning grant funding
- Procure technical consultants
- Self-govern (maintain own bylaws and membership)
- Conduct business during open meetings
- Hold committee meetings for specific planning topics

# How Do Planning Groups Function?

- Consider stakeholder input and make decisions in accordance with bylaws
- Submit draft plan and data to the TWDB and public for review
- Adopt a final plan and submit to the TWDB for approval
- Planning groups are planning entities!

# Incentives for Water Users to Participate

## TWDB funding

- Projects must be recommended in the SWP for SWIFT
- Projects must be consistent for other funding programs

## TCEQ surface water right permitting

- Must be consistent with the SWP



# Key Documents

- Statute
- Administrative rules
- Contract Scope of Work/Task budget
- Contract Exhibit C – general guidelines for regional water plan development
- Contract Exhibit D – guidelines for data deliverables

<https://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2026/documents.asp>

# Fundamentals of Water Planning

# Basic planning parameters

- Water supply plans based on **Drought of Record** (1950-1957) conditions
- Water volume in acre-feet (1 AF = ~326,000 gallons, or about the size of a football field 1 foot deep)
- 50-year planning horizon (currently 2030-2080)
- 5-year planning cycle
- Six categories of water use



# Water use categories



Municipal



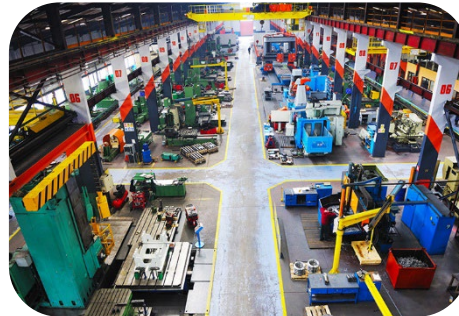
Irrigation



Livestock



Mining



Manufacturing



Steam Electric

# WUGs in the 2026 RWPs

Water User Group (WUG) Category	Number of WUGs
<b><i>Municipal WUGs</i></b>	
Utilities	1,705
County-Other	254
<b><i>Non-municipal WUGs</i></b>	
Manufacturing	184
Mining	205
Steam-Electric Power	78
Irrigation	247
Livestock	254
<b>Total number of WUGs</b>	<b>2,927</b>

# 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

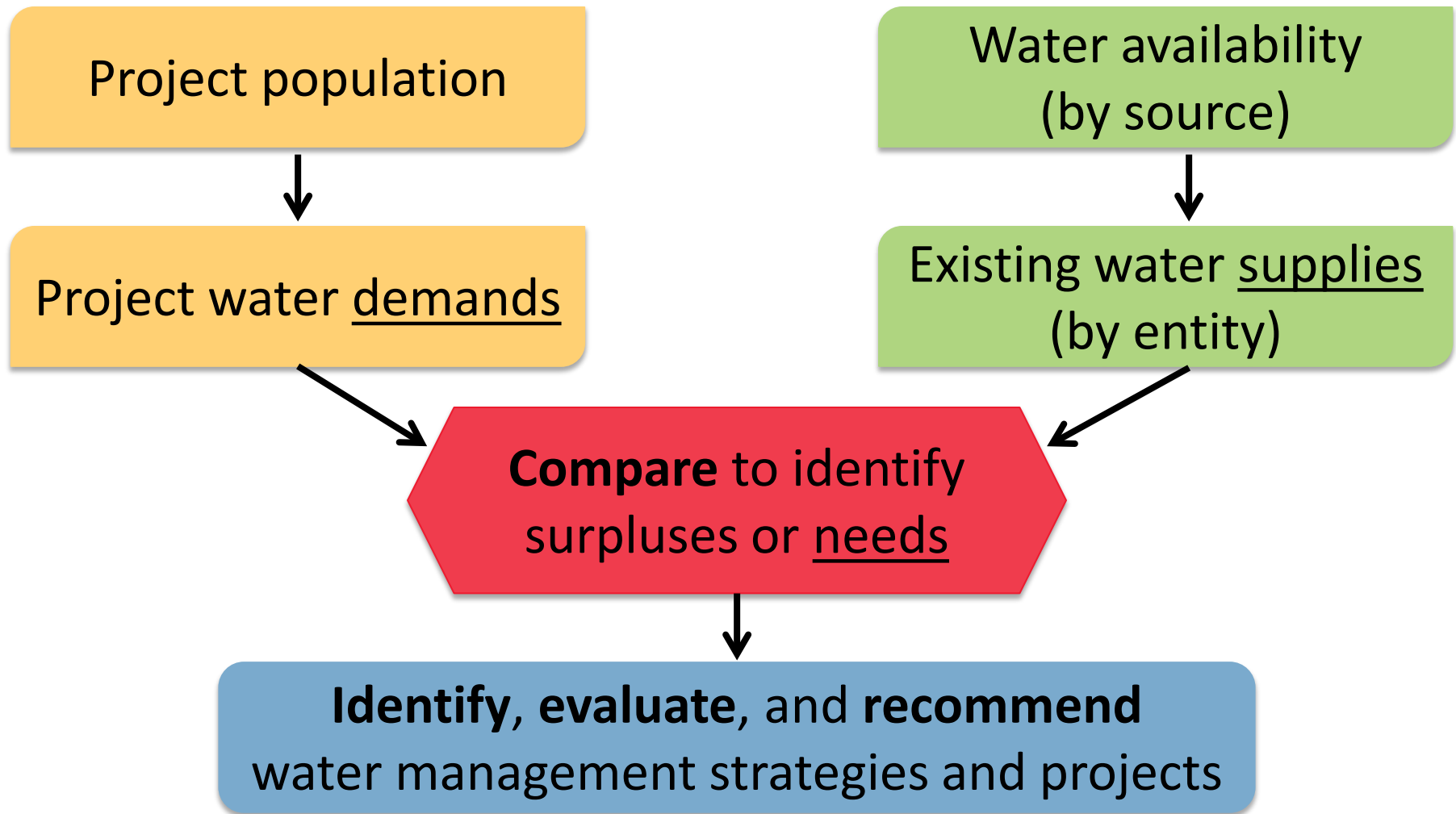
# Key Planning Terminology

- **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** or **WWPs**

# Water Planning Basics



# How do we plan?

**How many Texans there will be?**

*Population projections for municipal water user groups*



**How much water will we require?**

*Water demand projections for each water use category*



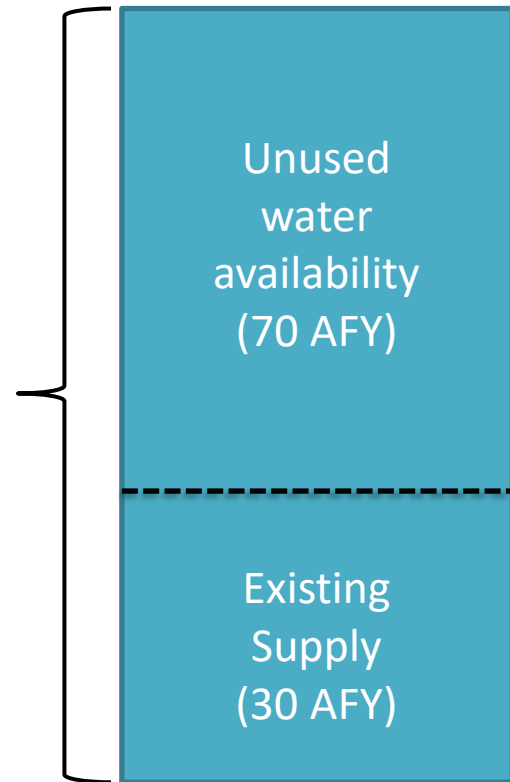
# How do we plan?

## How much water do we have?

*Quantify water availability and existing water supplies*

- *Surface water*
- *Groundwater*
- *Reuse*

Water  
availability  
(100 AFY)



# How do we plan?

## Do we have enough water?

*Identify surpluses and needs (potential shortages)*



# How do we plan?

**What can we do to get more water?**

*Evaluate and recommend water management strategies and projects*



**How much will it cost?**

*Capital costs of projects*

# Strategy vs. project

## Water Management Strategy

A water user group's **plan to obtain additional water** (to meet a water shortage)

City of Rockdale plans to develop additional groundwater supplies in Carrizo-Wilcox Aquifer: *400 AFY in 2070*

## Water Management Strategy Project

A water **project that has a capital cost** and is necessary to implement a water management strategy

Rockdale's strategy requires a new well field, transmission lines, pump station, treatment plant: Cost \$5.1M

# Path to Recommending Strategies and Associated Projects

- **Identify** “potentially feasible” strategies and projects
- **Evaluate** potentially feasible strategies and projects
- **Compare** evaluated strategies and projects
- **Recommend** strategies and projects that are “cost-effective and environmentally sensitive” 31 TAC 357.35(b)

# Potentially feasible water management strategies

- *New reservoirs*
- *Conservation*
- *Groundwater development*
- *Other surface water development*
- *Reuse of water*
- *Groundwater desalination*
- *Seawater desalination*
- *Aquifer storage and recovery*
- *Conjunctive use*
- *Rainwater harvesting*
- *Brush control*

# Evaluation of Strategies and Associated Projects

Evaluations are based on:

- Water quantity and reliability
- Financial costs
- Impacts to environment and agriculture
- Impacts to water quality
- Other factors such as regulatory requirements, time required to implement, etc.

# After Recommending Strategies

RWPGs must then evaluate plan impacts on:

- Water quality
- Natural resources
- Agricultural resources
- Third-parties due to transfers of water from rural or agricultural areas



# Regional Planning Deliverables

- Standard contract tasks associated with 10 Chapters
- Populate online State Water Plan database (DB27)
- Report documents
  - Technical Memorandum
  - Initially Prepared Plan
  - Final Regional Water Plan

# Standard RWP Chapters

1. Planning area description
2. Population and water demand projections
3. Water supply analysis
4. Water needs
5. Water management strategies and projects and conservation recommendations
6. Impacts of plan and consistency with protection of the State's water, agricultural, and natural resources

# Standard RWP Chapters (cont.)

7. Drought response information, activities, and recommendations
8. Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues
9. Implementation and comparison to previous regional water plan
10. Public Participation and Plan Adoption

# Plan Review & Adoption

## Initially Prepared Regional Water Plans

- Submitted to TWDB for review
- Public hearing/public review
- RWPG addresses agency and public comments

## Final plans adopted by RWPG

- Submitted to TWDB for approval
- TWDB confirms comments addressed
- Approved by TWDB Board if meets all requirements

# More information

- Regional Water Planning site:  
<http://www.twdb.texas.gov/waterplanning/rwp/index.asp>
- State Water Planning:  
<http://www.twdb.texas.gov/waterplanning/swp/index.asp>
- Interactive State Water Plan:  
<https://texasstatewaterplan.org/statewide>
- TWDB Planning contacts:  
<https://www.twdb.texas.gov/contact/office/planning.asp>