

# Major Rivers Education Program

Presentation to the

Texas Groundwater Protection Committee  
Public Outreach and Education (POE) Subcommittee

Linda Ruiz McCall  
Conservation Education Specialist  
Texas Water Development Board

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# Groundwater Educational Outreach Plan Implementation Strategy

- Specific Activity 1 – Send a letter of support for GCD educational outreach via the Major Rivers and Raising Your Water IQ programs to Texas river authorities, geological societies, school district science coordinators, and science teacher conference coordinators.

[http://www.tgpc.state.tx.us/subcommittees/POE/TGPC\\_POE\\_EduOutreachPlan\\_Impl\\_Strat03Oct2007.pdf](http://www.tgpc.state.tx.us/subcommittees/POE/TGPC_POE_EduOutreachPlan_Impl_Strat03Oct2007.pdf)

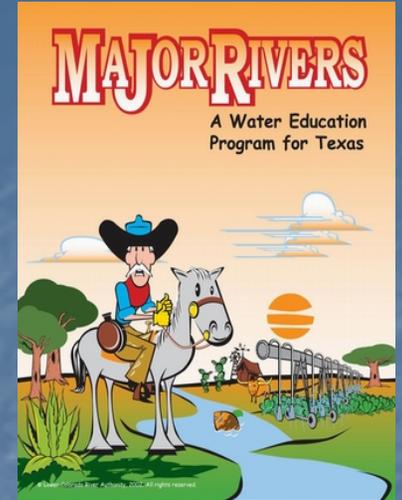
# Groundwater Educational Outreach Plan Implementation Strategy

- Specific Activity 2 – Provide classroom support of the Major Rivers and Raising Your Water IQ programs through on-site visitations, outdoor experiences, and/or field trips to enhance student understanding of local water resource conditions and challenges.
- [http://www.tgpc.state.tx.us/subcommittees/POE/TGPC\\_POE\\_EduOutreachPlan\\_Impl\\_Strat03Oct2007.pdf](http://www.tgpc.state.tx.us/subcommittees/POE/TGPC_POE_EduOutreachPlan_Impl_Strat03Oct2007.pdf)

# Major Rivers Program

Major Rivers is a water education curriculum designed to teach 4th-5th grade students about;

- Texas' major water resources
- How water is treated and delivered
- How to care for their water resources
- How to use water wisely



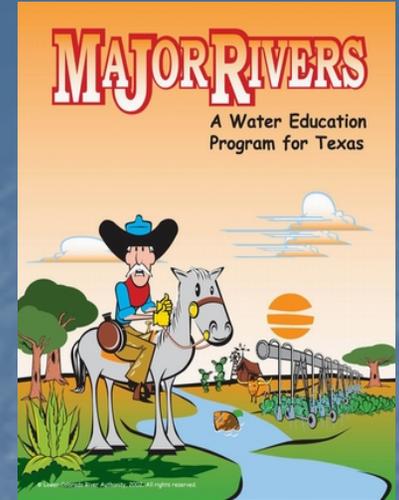
Web page link - <http://www.twdb.state.tx.us/edu/MajorRivers/index.asp>

# Major Rivers Program

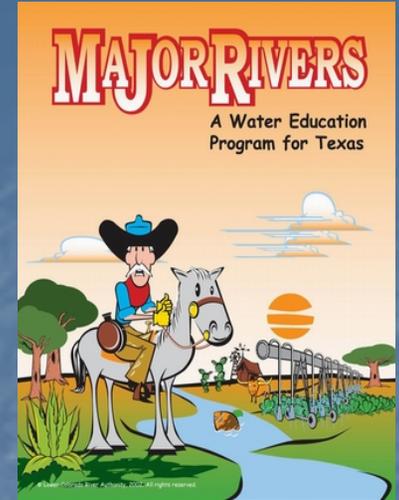
Groundwater education is integral to the Major Rivers curriculum. Major Rivers' trusty steed is named Aquifer. In the lessons, students learn;

- Groundwater provides more than half of the water supply for Texas.
- Infiltration
- Recharge
- Major Aquifers of Texas

Web page link - <http://www.twdb.state.tx.us/edu/MajorRivers/index.asp>



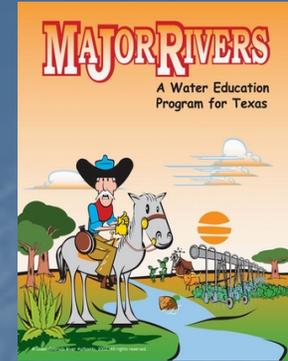
# Major Rivers Program



The student workbook for Major Rivers features a map of the Major Aquifers of Texas.

Web page link - <http://www.twdb.state.tx.us/edu/MajorRivers/index.asp>

# Major Rivers Program

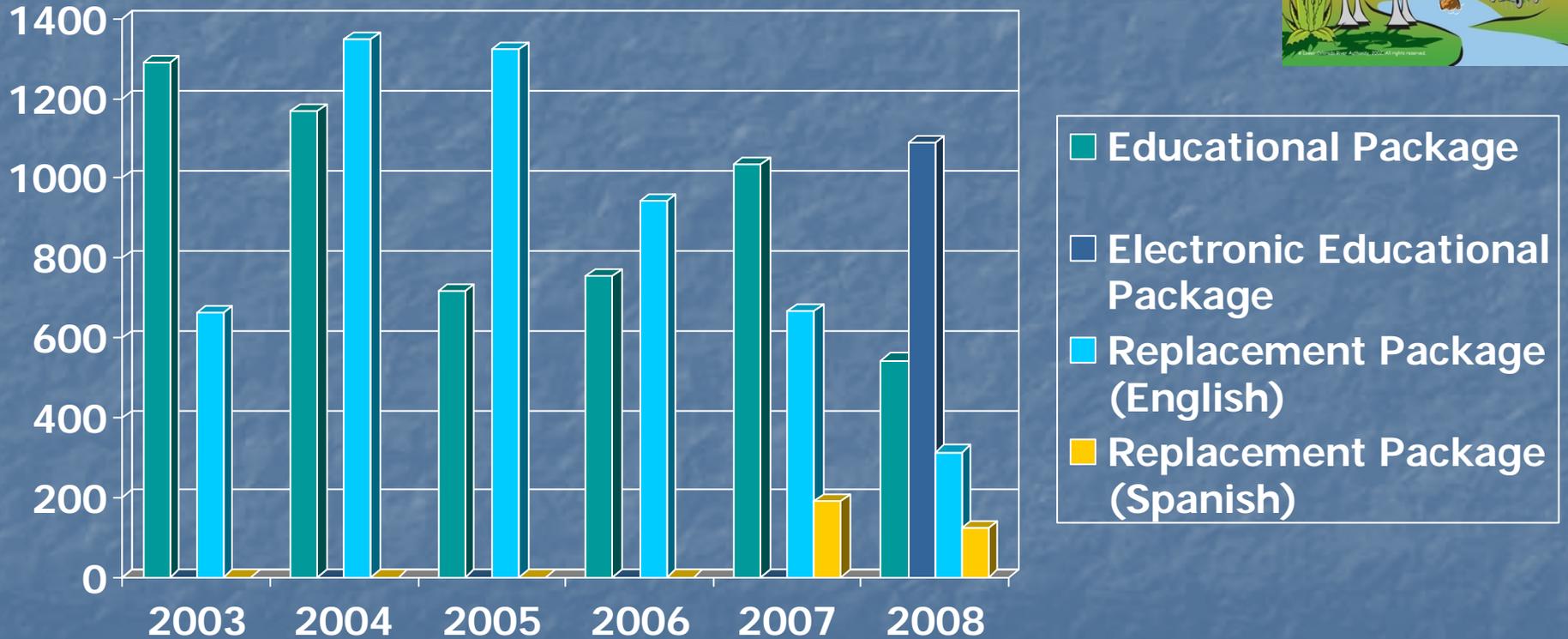
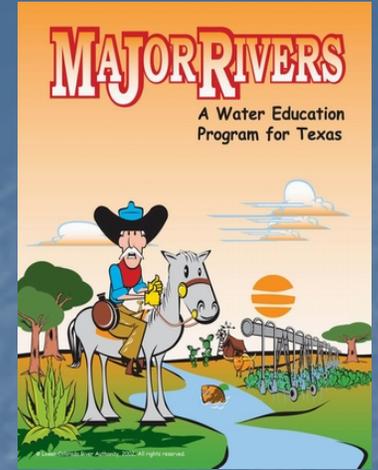


Students build an aquifer as a laboratory exercise in the Major Rivers curriculum. They explore groundwater/surface water interactions and learn about point and non-point source contamination.



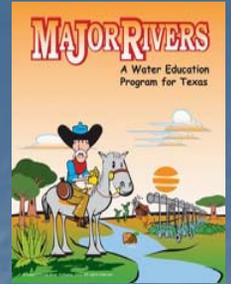
Web page link - <http://www.twdb.state.tx.us/edu/MajorRivers/index.asp>

# Major Rivers Program Sales History

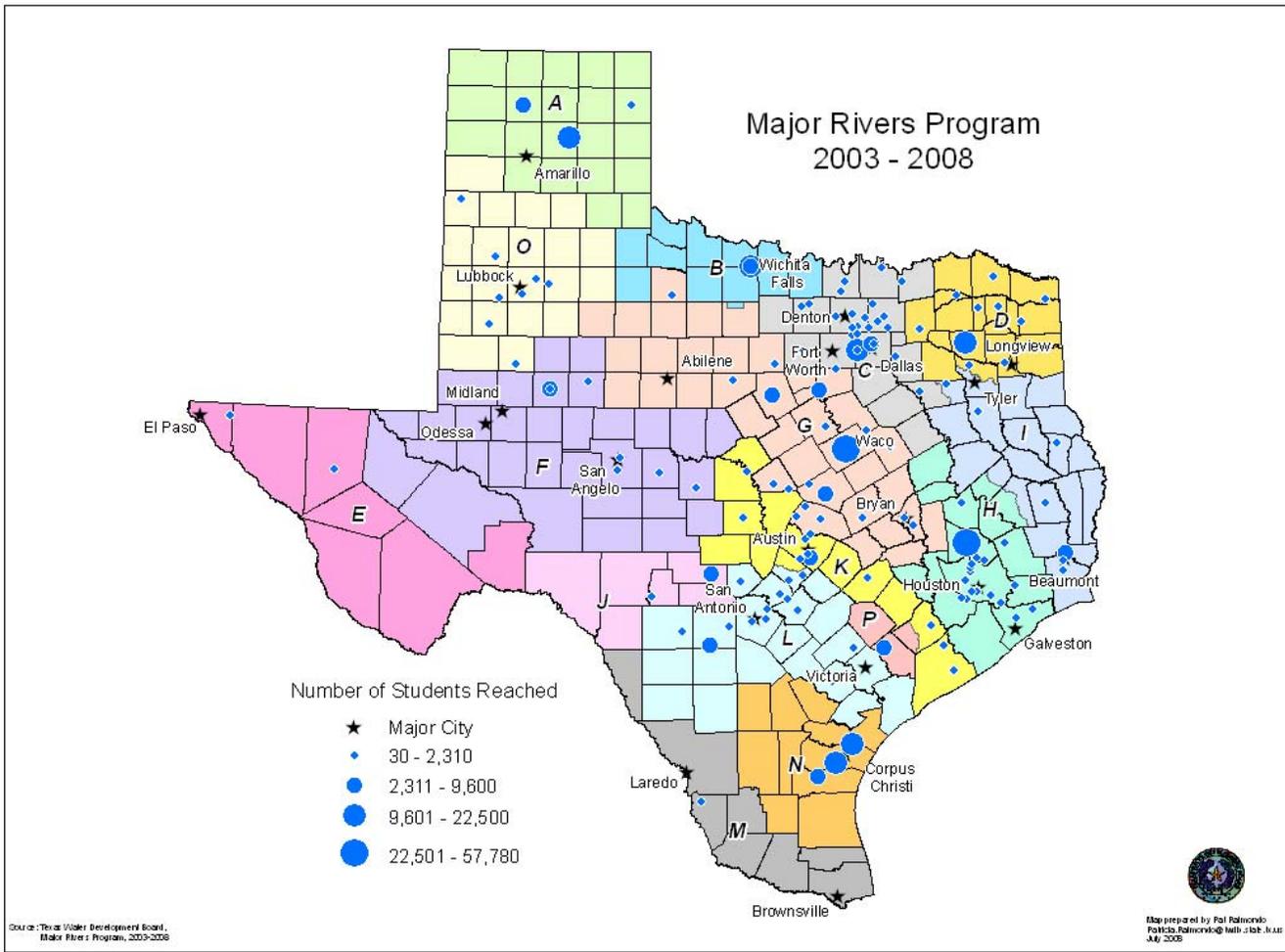


**Note:** The Spanish version of the Replacement Package was first offered in 2007.  
The Electronic Educational Package was first offered in 2008

# Major Rivers Program Distribution 2003 - 2008



Total of 215 participating water supply entities have sponsored a total of 354,480 student materials distributed statewide from 2003 to 2008.



Web page link - <http://www.twdb.state.tx.us/edu/MajorRivers/index.asp>

# Groundwater Conservation Districts that Sponsor Major Rivers

- Clearwater UWCD
- Coastal Plains GCD
- Culberson County GCD
- Fayette County GCD
- Goliad County GCD
- Hickory UWCD No. 1
- Lone Star GCD
- Middle Trinity GCD
- Neches & Trinity Valleys GCD
- North Plains GCD
- Panhandle GCD
- Pecan Valley GCD
- South Plains UWCD

# Teacher Professional Development Workshops



The Texas Water Development Board is authorized by the State Board for Educator Certification (SBEC) as a provider of Continuing Professional Education (CPE) credit for teachers.

Currently the SBEC requires teachers to obtain 200 clock hours of CPE credit to renew standard teaching certificate every 5 years.

# Teacher Professional Development Workshops



TWDB offers workshops to develop educator knowledge and skills about water resources and water conservation.

These workshops are generally coordinated with local and regional water supply entities to assist their efforts in achieving educational outreach to their community schools.

# The Water Cycle

The Sun

Condensation

Precipitation

Surface Runoff

Evaporation

Infiltration

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# El Ciclo del Agua

El Sol

Condensación

Precipitación

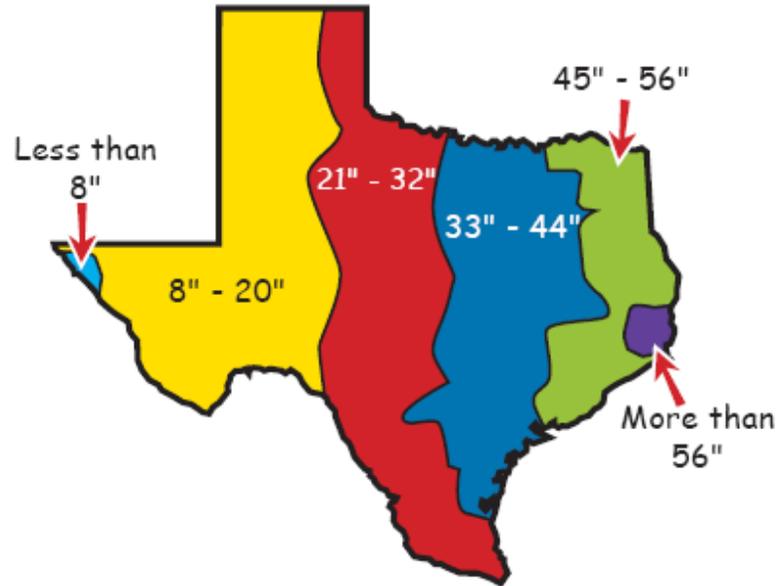
Escoorrentía Superficial

Evaporación

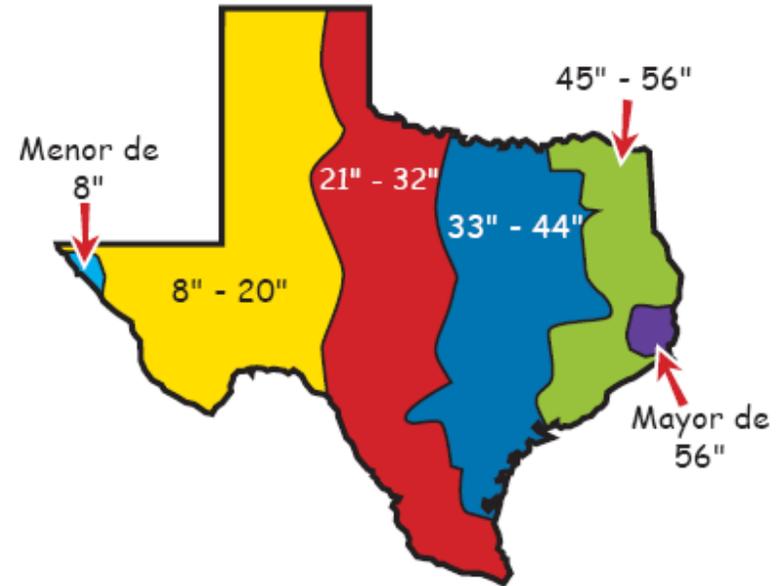
Infiltración

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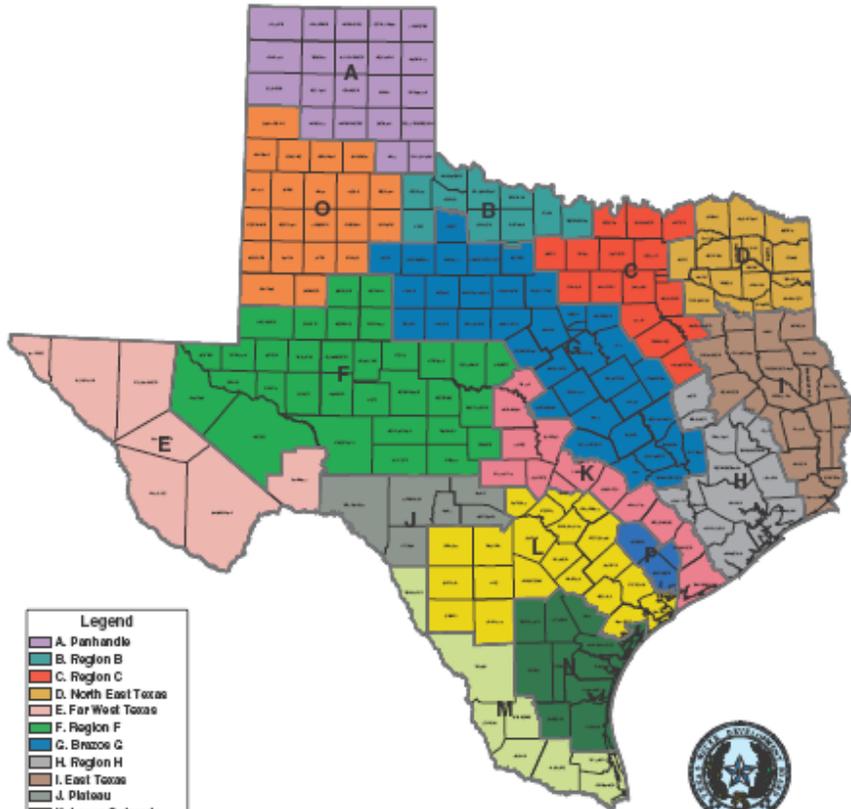
# Texas Average Annual Rainfall



# Promedio Anual de Lluvias de Texas



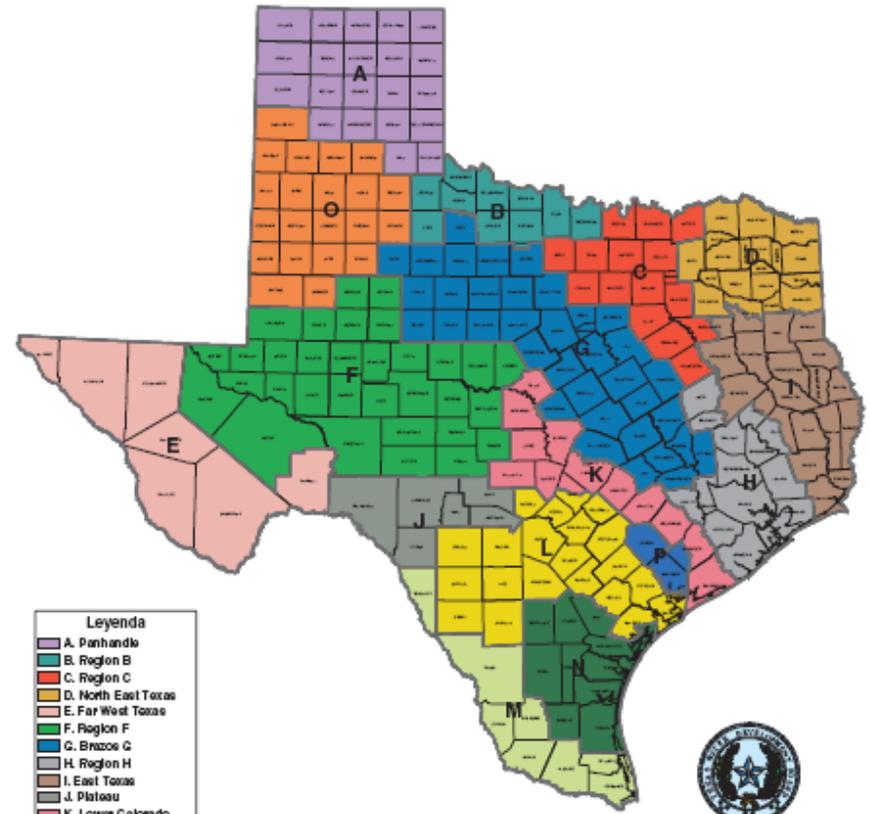
## Regional Water Planning Groups



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



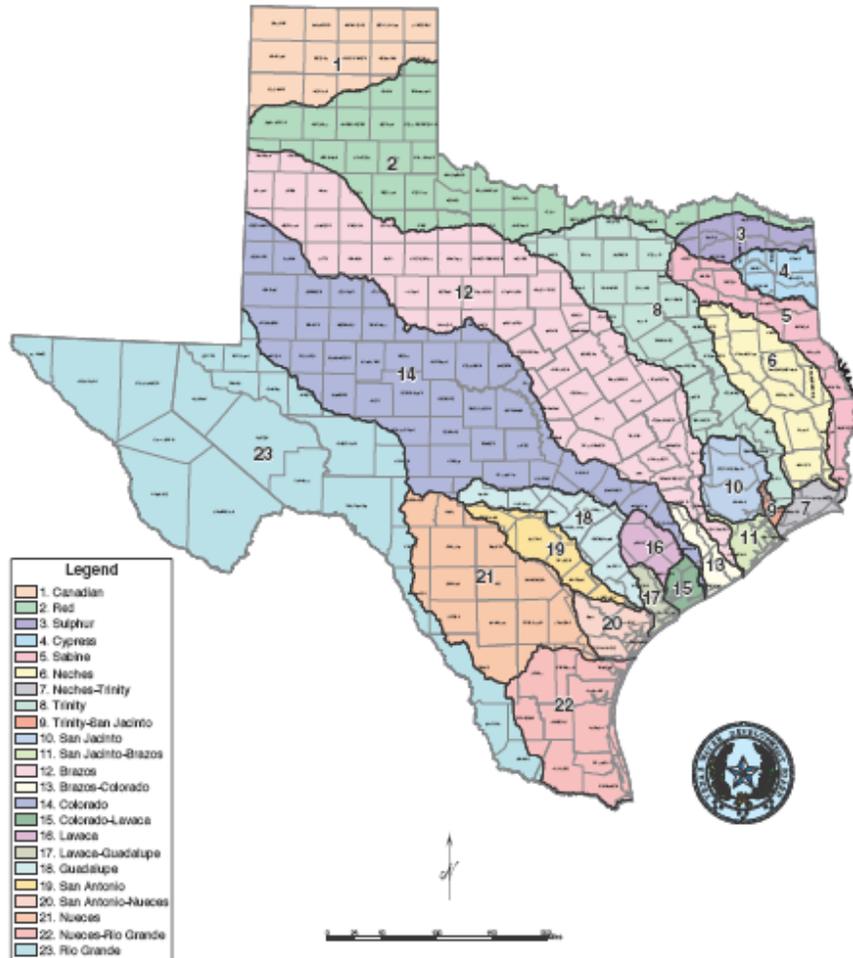
## Grupos Regionales de Planificación sobre el Agua



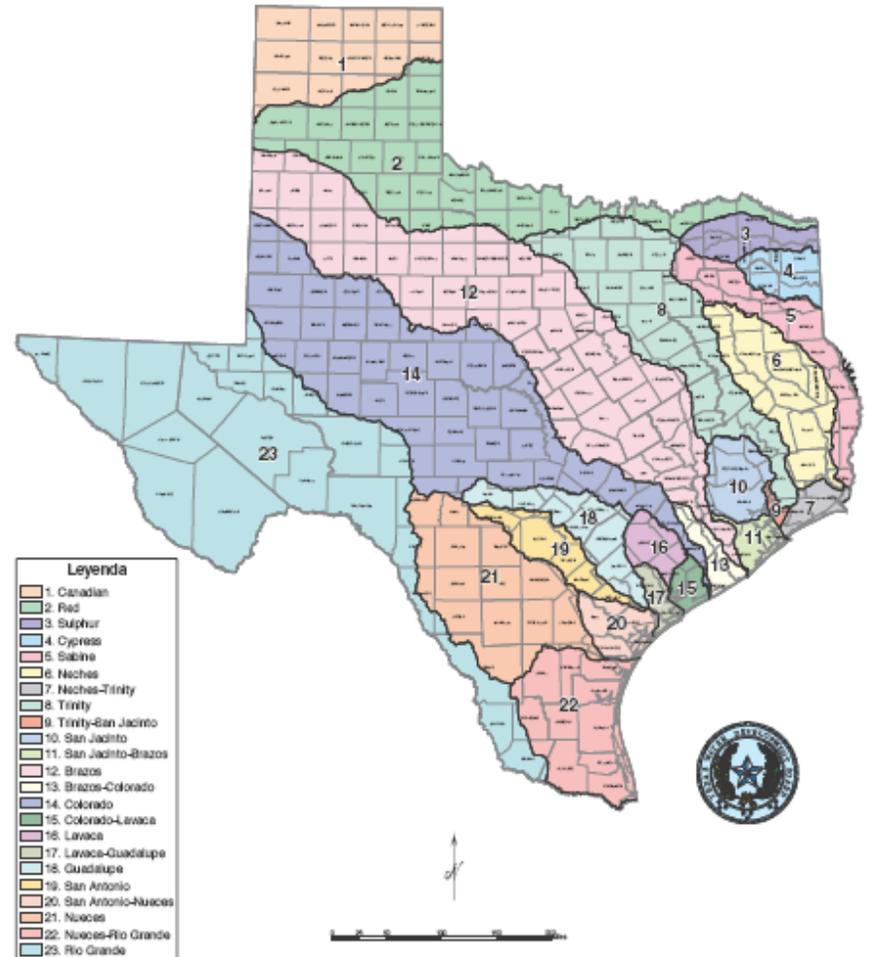
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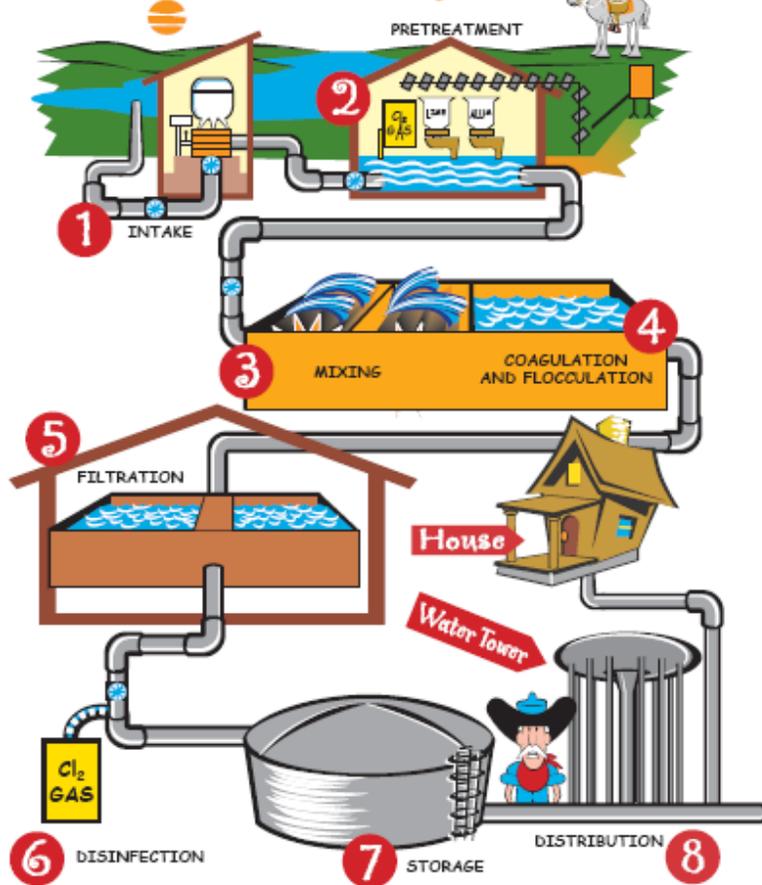
## Major River Basins In Texas



## Principales Cuencas Fluviales de Texas

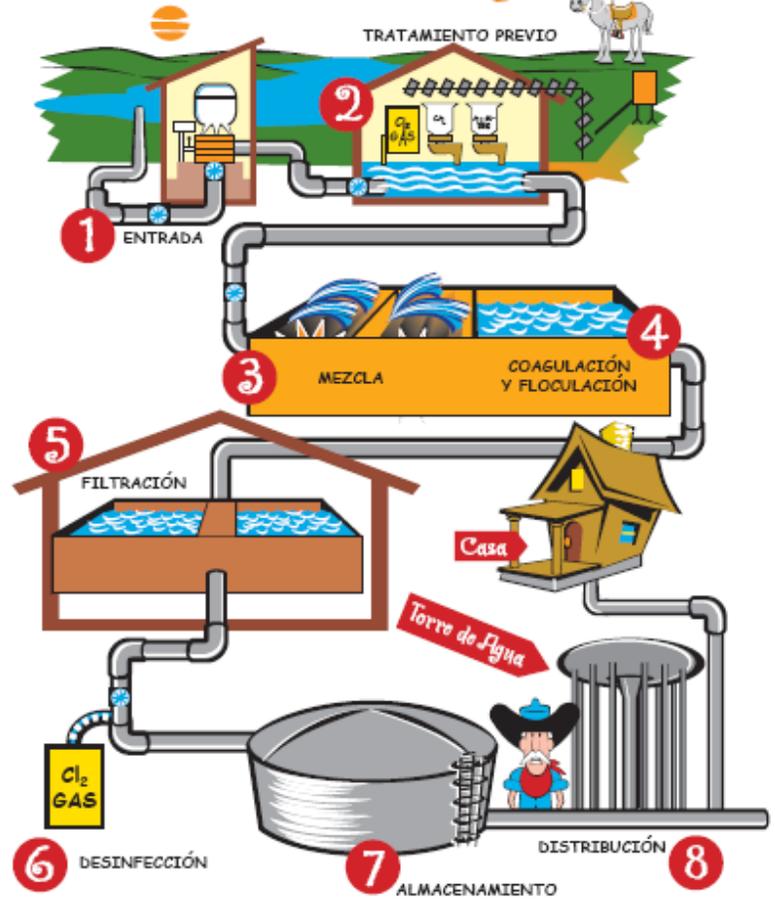


# Water Treatment and Distribution



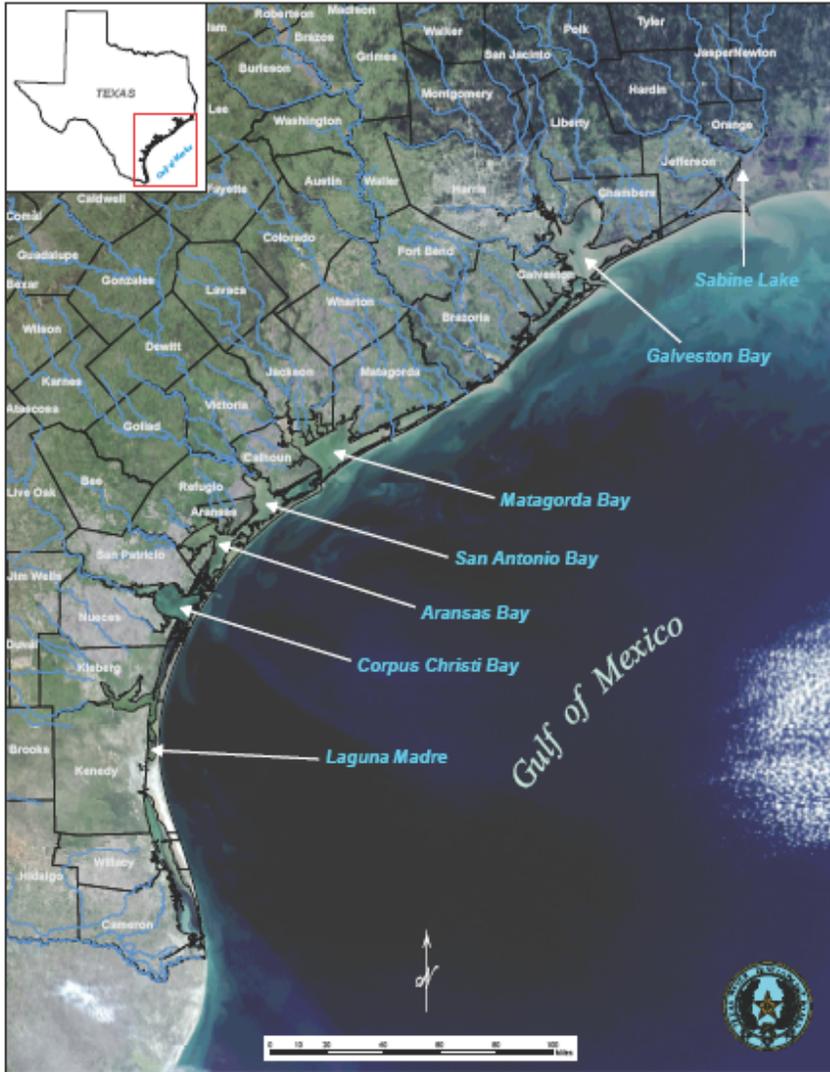
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# Tratamiento y Distribución del Agua

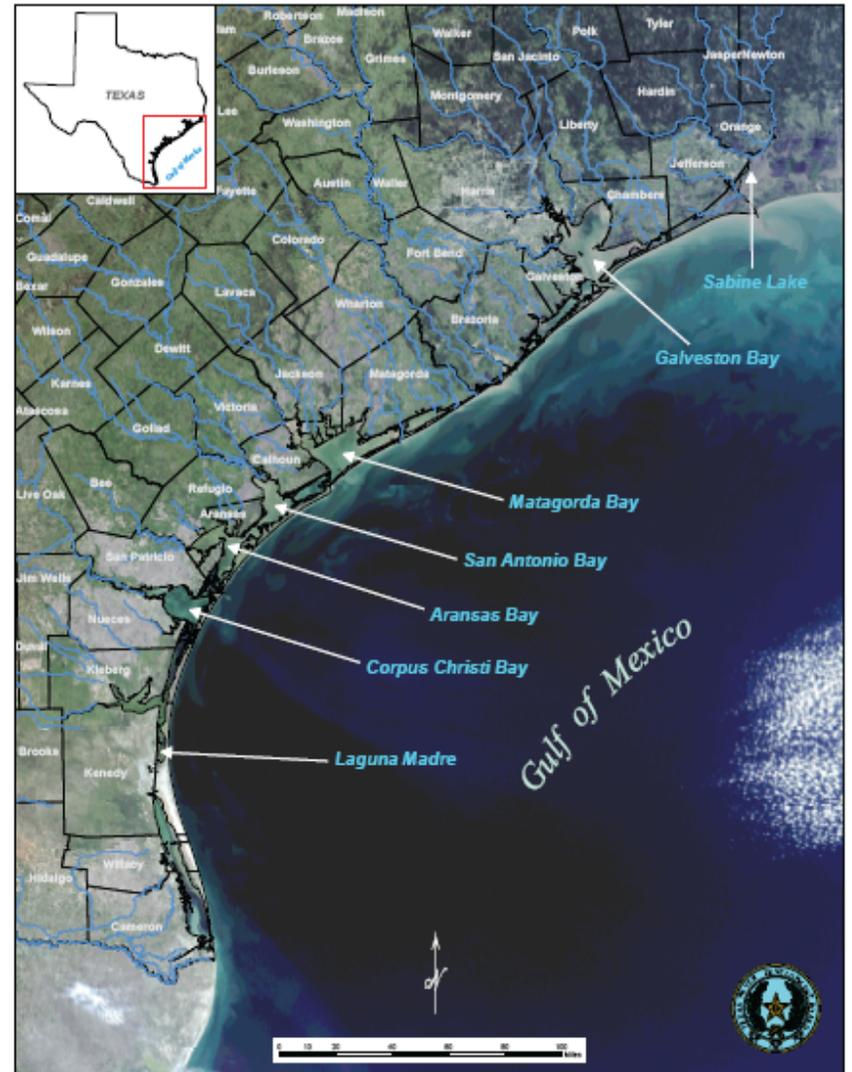


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## Major Coastal Bays of Texas



## Principales Bahías Costeras de Texas



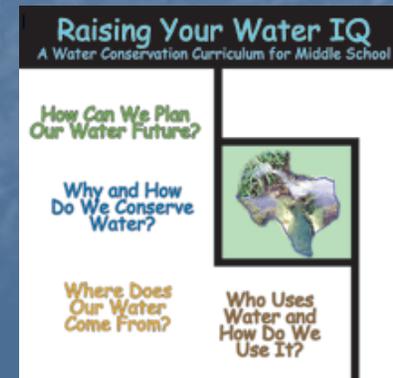
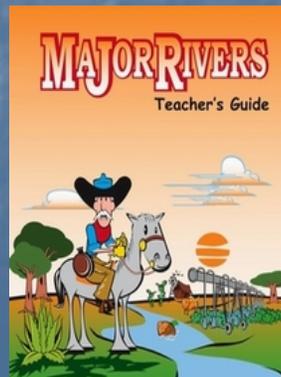




# Educational Outreach Programs



The more Texans know about their water, the more likely they are to conserve it. The TWDB offers a wide array of water conservation learning resources for all age groups.



# Water IQ Program

## A Water Conservation Public Awareness and Education Campaign



Based on research findings;

- 98% of Texans believe that water conservation is important
- Only 28% of Texans say they “definitely know” the source of their drinking water.
- 87% of Texans are more likely to conserve after learning more about water conservation.

Web page link - <http://www.wateriq.org>

# Additional Information

- Visit TWDB KIDS at  
<http://www.twdb.state.tx.us/kids>
  
- Contact Linda Ruiz McCall  
[Linda.McCall@twdb.state.tx.us](mailto:Linda.McCall@twdb.state.tx.us)  
512 463-5836