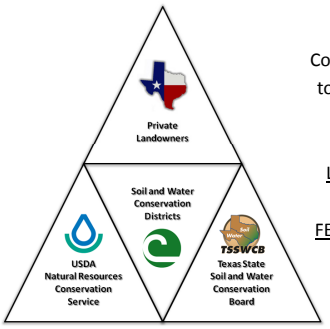
State Water Supply Enhancement Plan: Increasing Available Surface and Ground Water Through Brush Control

Aaron Wendt
Texas State Soil and Water Conservation Board

Public Hearing
July 01, 2014
Temple, TX

Texas Conservation Partnership

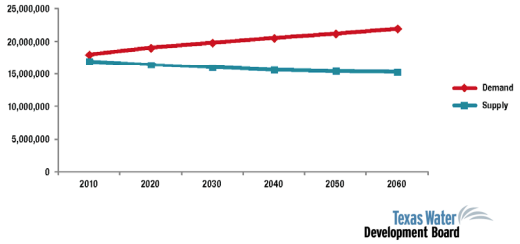


Providing Conservation Assistance to Private Landowners for 75 Years

LOCAL = 216 SWCDs
STATE = TSSWCB
FEDERAL = USDA-NRCS

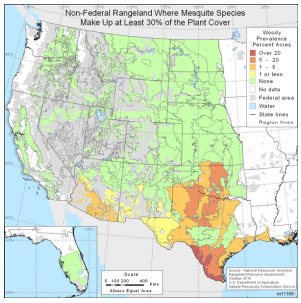
Scarcity and competition for water have made sound water planning and management increasingly important. With Texas' population expected to grow by 82% in the next 50 years, the availability of water supplies is essential for not only the Texans of today but also for those of tomorrow (2012 State Water Plan, Texas Water Development Board).

Projected Water Demand & Existing Supplies (ac-ft/yr)

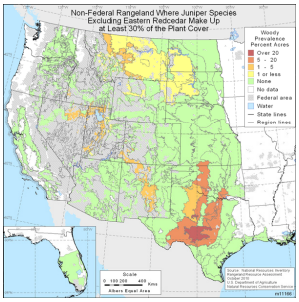


Noxious brush, detrimental to water conservation, has invaded millions of acres of rangeland and riparian areas in Texas, reducing or eliminating stream flow and aquifer recharge through interception of rainfall and increased evapotranspiration.

USDA NRCS NRI Rangeland Mesquite 30%



USDA NRCS NRI Rangeland Juniper 30%



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In order to help meet the State's critical water conservation needs and ensure availability of water supplies, the Texas Legislature established the Water Supply Enhancement Program administered by the TSSWCB.

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Program Background

- 69th Legislature created the Texas Brush Control Program in 1985
  - Since then, TSSWCB has been collaborating with SWCDs to implement the program
  - Program was unfunded until 1999 when 76th Legislature provided first appropriations to begin implementing the Program
- TSSWCB went through the Legislative Sunset review process in 2010-2011
- Sunset Advisory Commission adopted recommendations to address several issues identified with agency programs
  - Concluded that the framework of the Texas Brush Control Program was ineffective for meeting the State's critical water conservation needs
- 82nd Legislature, as a result of the Sunset Commission's recommendations, passed House Bill 1808 in 2011 which delineated major changes to TSSWCB's programs
  - Established new program for agency, the Water Supply Enhancement Program

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Purpose of WSEP

- to increase available surface and ground water supplies through
  - the targeted control of brush species that are detrimental to water conservation, and
  - the revegetation of land on which brush has been controlled

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Implementing Changes

- Established a Stakeholder Committee
  - Program goals
  - Proposal ranking process
- Established a Science Advisory Committee
  - Feasibility Studies
  - Prioritization of Acreage for Brush Control
- Adopted revised Rules (2012) & proposed additional amendments to Rules (2014)
- Adopted three Policies
- Draft State WSE Plan for public review and comment

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Consultation

- Texas Water Development Board
  - effects on water quantity
- Texas Parks and Wildlife Department
  - effects on fish and wildlife
- Texas Department of Agriculture
  - effects on agriculture

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Goals

- As recommended by the Stakeholder Committee, goals describe the intended use of a water supply enhanced by the program and the populations that the program will benefit.
- General Goals
  - Enhance domestic and municipal uses, including water for sustaining human life and the life of domestic animals, agricultural and industrial uses, commercial value, and environmental flows.
  - Enhance mining and recovery of minerals, power generation, navigation and recreation and pleasure, and other beneficial uses.
- Specific Goals
  - Implement project proposals that most enhance water quantity to the municipal water supplies most in need.
  - Direct program grant funds toward acreage within an established project that will yield the most water.

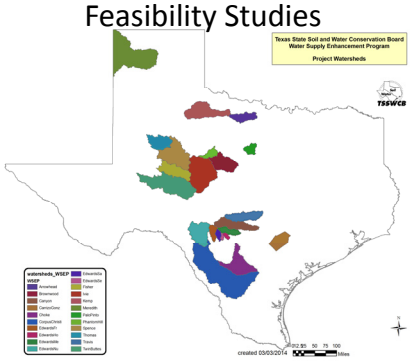
State WSE Plan

- TSSWCB shall prepare and adopt the State Water Supply Enhancement Plan (Texas Agriculture Code §203.051)
  - State's comprehensive strategy for managing brush in all areas of the state where brush is contributing to a substantial water conservation problem
  - programmatic guidance for the TSSWCB's WSEP
- must now be updated and revised in order to continue implementing provisions of HB1808

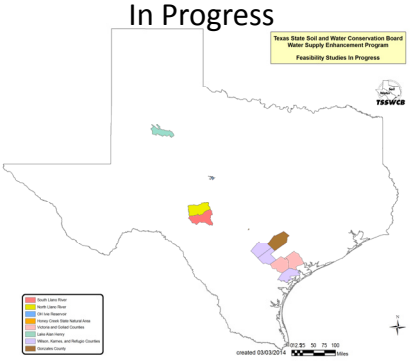
State WSE Plan

- Plan must document the goals, processes, and results established for the WSEP, including
  - goals describing the intended use of a water supply enhanced or conserved by the program, such as agricultural purposes or drinking water purposes
  - goals describing the populations that the WSEP will target
- Plan discusses
  - factors that must be considered in a feasibility study
  - priority watersheds across the state for water supply enhancement and brush control
  - eligible brush species detrimental to water conservation
  - how WSEP interacts with State Water Plan and Regional Water Planning process
  - competitive grant process
  - proposal ranking criteria
  - how the agency will allocate funding
  - geospatial analysis methodology for prioritizing acreage for brush control
  - technical assistance and financial incentives for landowners for developing and implementing resource management plans on enrolled acreage
  - how success for the WSEP will be assessed and reported
  - how overall water yield will be projected and tracked

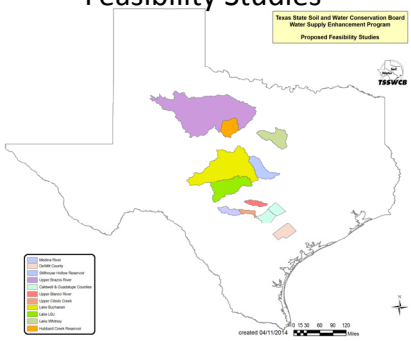
Completed Feasibility Studies



Feasibility Studies In Progress



Proposed Feasibility Studies



Ranking Index

- Ranking Index (RI) gives a measure of the yield benefit per capita
- RI basis: $RI = Reliance\ on\ source \times \frac{Yield\ Benefit}{Population}$
  - Yield Benefit per population
    - Larger acre-ft/yr/capita increases index
  - Reliance of a population on a specific supply
    - Larger reliance increases index

Reliance on source = (% water being supplied from a specific source)
Higher priority is given to those populations who rely solely on the specified water supply source

WSEP Rules

- Program Rules – Texas Administrative Code, Title 31, Chapter 517, Subchapter B, Cost-Share Assistance for Water Supply Enhancement
- Texas Agriculture Code §203.012 authorizes TSSWCB to adopt reasonable rules necessary to carry out the WSEP
- On March 22, 2012, the State Board adopted a comprehensive revision to 31 TAC, Chapter 517, Subchapter B, transitioning the rules from the Brush Control Program to the WSEP
- Rules must be amended in order to continue implementing provisions of HB1808 and to ensure consistency with the State Water Supply Enhancement Plan and other programmatic policies and documents
- proposed amendments to rules published June 6, 2014 in Texas Register for 30-day public review and comment period

Public Comment

- June 6, 2014 – notice published in Texas Register and agency news release; public review and comment period opens
- July 1, 2014 – public hearing to receive oral comments
- July 7, 2014 – written comments due; public review and comment period closes
- July 28, 2014 – State Board will consider approval of final version of State WSE Plan that addresses public comments received

- Submit comments via email to awendt@tsswcb.texas.gov

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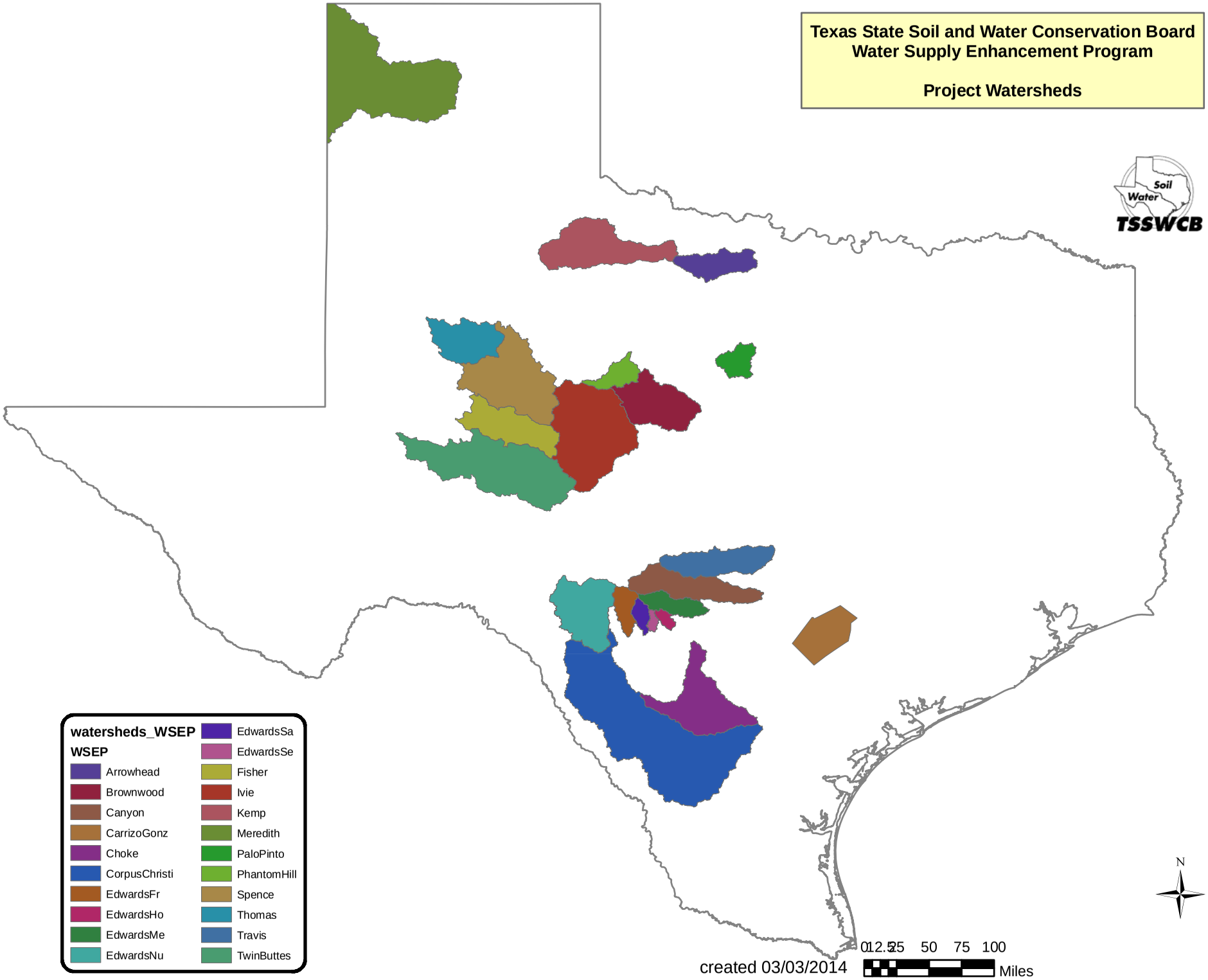
TEXAS STATE SOIL AND WATER CONSERVATION BOARD

WATER SUPPLY ENHANCEMENT PROGRAM

- Scarcity and competition for water have made sound water planning and management increasingly important. With Texas' population expected to grow by 82% in the next 50 years, the availability of water supplies is essential for not only the Texans of today but also for those of tomorrow (*2012 State Water Plan*, Texas Water Development Board). Noxious brush, detrimental to water conservation, has invaded millions of acres of rangeland and riparian areas in Texas, reducing or eliminating stream flow and aquifer recharge through interception of rainfall and increased evapotranspiration. Brush control has the potential to enhance water yield, improve soil conservation, protect water quality, and manage invasive species.
- In order to help meet the State's critical water conservation needs and ensure availability of water supplies, the 82nd Texas Legislature established the Water Supply Enhancement Program administered by the Texas State Soil and Water Conservation Board, with the purpose and intent of increasing the availability of surface and ground water supplies through the selective removal of brush species that are detrimental to water conservation (e.g., juniper, mesquite, saltcedar).
- The Texas State Soil and Water Conservation Board collaborates with soil and water conservation districts, and other local, regional, state, and federal agencies to identify watersheds across the state where it is feasible to implement brush control in order to enhance water supplies. The Texas State Soil and Water Conservation Board uses a competitive grant process to rank feasible projects and allocate Water Supply Enhancement Program grant funds, giving priority to projects that balance the most critical water conservation need of municipal water user groups with the highest projected water yield from brush control.
- In watersheds where Water Supply Enhancement Program grant funds have been allocated, the Texas State Soil and Water Conservation Board works through soil and water conservation districts to deliver technical assistance to landowners in order to implement brush control activities for water supply enhancement. A 10-year resource management plan is developed for each property enrolled in the Water Supply Enhancement Program which describes the brush control activities to be implemented, follow-up treatment requirements, and brush density to be maintained after treatment. Cost-share assistance is provided through the Water Supply Enhancement Program to landowners implementing brush control activities on eligible acres.
- More information on the Water Supply Enhancement Program is available at:
    - http://www.tsswcb.texas.gov/brushcontrol/
    - http://www.tsswcb.texas.gov/brushcontrol/sunset
    - http://www.tsswcb.texas.gov/reports#wsep
    - http://www.tsswcb.texas.gov/reports#feasibilitystudy
- The Texas State Soil and Water Conservation Board administers Texas' soil and water conservation law; delivers coordinated natural resource conservation programs through the State's 216 soil and water conservation districts; is the lead agency for planning, implementing, and managing programs for preventing and abating agricultural and silvicultural (forestry-related) nonpoint sources of water pollution; administers a water supply enhancement program to increase available surface and ground water through the targeted control of water-depleting brush; works to ensure the State's network of 2,000 flood control dams are protecting lives and property; and, facilitates the Texas Invasive Species Coordinating Committee.


Texas State Soil and Water Conservation Board
Water Supply Enhancement Program
Project Watersheds
Soil
Water
TSSWCB
watersheds_WSEP
WSEP
Arrowhead
Brownwood
Canyon
CarrizoGonz
Choke
CorpusChristi
EdwardsFr
EdwardsHo
EdwardsMe
EdwardsNu
EdwardsSa
EdwardsSe
Fisher
Ivie
Kemp
Meredith
PaloPinto
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Spence
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LAND STEWARDSHIP: PROVIDING WATER FOR TEXANS

"Saving the water and the soil must start where the first raindrop falls." Lyndon B. Johnson, 1947

Texas farmers and ranchers have a long history of voluntarily conserving the natural resources entrusted to them. Living off the land provides a great incentive to conserve and make the most of available resources. Today, Texas farmers and ranchers produce more food, fuel, and fiber than ever on a greatly reduced number of acres using no more water than was used in the 1950s. In addition, wildlife management on working ranches has resulted in the conservation and recovery of a number of wildlife species.

Due to the prolonged drought in Texas, many of the state's farmers and ranchers have sought to aggressively adopt innovative technologies and on-farm conservation practices to combat the impacts of drought and improve profitability. Some of these conservation practices, such as, grazing management, cover crops, and wildlife habitat enhancement, are lower-cost management practices that can have subtle impacts when implemented on thousands of acres. Other practices, like irrigation efficiency improvements and targeted brush control provide a greater benefit to Texas' water resources, but can be very costly to farmers and ranchers.

Understanding the Benefits of Land Stewardship:

Unfortunately, as more Texans move from rural to urban areas they generally become less mindful of their reliance on the land and its natural cycles as well as the variety of benefits they derive from the voluntary stewardship provided by private landowners throughout the state. As a result, many today do not recognize that land stewardship, which provides water for Texas, is a responsibility that should be shared by all Texans. Key concepts to understanding this important link include:

- Ground and surface water supplies originate with the rain that falls on the land and is captured by complex, large-scale ecological processes involving many variables including plants, animals, soils, and geology. When these processes function optimally, floods are reduced, aquifers are replenished, and water is released more slowly and steadily into springs, streams, rivers, lakes and eventually our bays and estuaries.

- When the natural processes are working well across millions of acres of productive agricultural, forest, wildlife and recreational lands the contribution to the state's water supply can be tremendous, "creating" more water for all Texans.

- The rainfall soaks into the ground as opposed to running off and carrying soil and sediment. The absorbed groundwater reappears as springs which drain into creeks, streams and rivers, which eventually feed the bays and estuaries, thus providing a base flow of water for all Texans. Land stewardship on millions of acres, combined with community conservation efforts, translates into what may be the most significant contribution to water conservation today.

- Finally, and perhaps most importantly, voluntary land stewardship allows Texans to consider water at its origins, not just at its destination.

We should encourage voluntary land stewardship – on a grand scale – as one of the cornerstone solutions for water issues in Texas because it is complementary, cost-effective, sustainable, efficient, environmentally sensitive, multi-faceted and manageable. The efforts of private landowners are vitally important because the presence of voluntary land stewardship helps maximize the effectiveness of all other water management strategies.

Look and see what you can do to make a difference on your lands and through your everyday activities to help provide more water for Texans.

Texas Water Resources Institute
make every drop count

Ducks Unlimited

Texas Wildlife Association

Soil Water
TSSWCB
Texas State Soil and Water Conservation Board

The Nature Conservancy
Protecting nature. Preserving life.®

Association of Texas
Soil & Water Conservation Districts

Texas Horse
PRESERVING OUR TRADITION

Texas Parks & Wildlife

Texas Wheat Producers

PCG
Plains Cotton Growers, Inc.

Texas Forestry Association

Texas Corn Producers Board

Texas A&M Forest Service

Texas Deer Association
Est. 1999

Trinity Waters
land. water. life.

Texas Association of Dairymen

Department of Agriculture Texas

Taking Care of Texas

GLCI
Grazing Lands Conservation Initiative

USDA
United States Department of Agriculture
Natural Resources Conservation Service

Quail Coalition
San Antonio

Independent Cattlemen's Association of Texas

Texas Poultry Federation
Producer · Processor · Equipment · Feed · Hatchery · Pharmaceuticals

STPRA
South Texans' Property Rights Association

STCGA
South Texas Cotton & Grain Association
Serving South Texas Agriculture Since 1963

Texas pork Producers Association

Texas Agricultural Land Trust
Conserving Texas Land For Future Generations