



Texas State Soil & Water Conservation Board
BRUSH CONTROL PROGRAM
2006 ANNUAL REPORT
JANUARY 1, 2006 - DECEMBER 31, 2006

PROGRAM GOAL

Enhance water availability through selective Brush Control.

2006 ACTIVITIES AT A GLANCE

- Brush Controlled on 721,037 Acres (FY 00-06)
- 8 Mesquite and Juniper Projects
- 4 Salt Cedar Projects

<u>PROGRAM BUDGET</u>	
FY 00-01	\$9,163,000 General Revenue
FY 02-03	\$9,163,000 General Revenue \$15,000,000 Agricultural Water Conservation Bond
FY 04	\$3,114,794 General Revenue
FY 05	\$607,805 General Revenue
FY 06	\$1,874,176 General Revenue
FY 07	\$1,816,009 General Revenue

INTRODUCTION



The Texas State Soil and Water Conservation Board present this annual report covering the 2006 calendar year. To show trends, some data from previous years is included. This report is also being attached as a section of the report required by S.B. 1828, passed by the 78th Legislature R.S., which requires the State Board to prepare a semiannual report relating to the status of budget areas of responsibility. In fiscal year 2004, brush projects were funded from Agriculture Water Conservation Bonds and from General Revenue appropriated by the 77th Legislature. Fiscal year 2005 funding was from

General Revenue appropriated by the 78th Legislature R.S. The 79th Legislature approved General Revenue funding in the amount of \$1,874,176 for fiscal year 2006, and \$1,816,176 for fiscal year 2007. The Brush Control Program, in existence since 1999, has treated 721,037 acres of the 745,808 acres under contract. The overall goal of the Brush Control Program is to enhance water availability through selective brush control, however due to drought conditions that still persist in areas being treated the water needs over the region remain critical. We must thank the Legislature for their vision in making this program a reality and express appreciation to those private landowners who are contributing their time and resources to implement a long range program to benefit others.



NORTH CONCHO RIVER PILOT BRUSH CONTROL PROJECT

In 1999, the 76th Legislature initiated the North Concho River Brush Control Project to enhance the amount of water flowing from the North Concho River Watershed into O.C. Fisher Reservoir. In 2001, this project was continued by the 77th Legislature. Having 352,000 acres of the 950,000-acre North Concho River Watershed currently contracted for Brush Control by the TSSWCB. West Texans have

focused their undivided attention to the progress of this project. Estimates indicate this project will enhance more than 267,000 acre-feet of water in the North Concho River Watershed over the 10-year life of the project. O.C. Fisher Reservoir is a water supply for the city of San Angelo, due to drought conditions water has dropped to a critical low level. However, levels have improved due to brush control efforts. Almost 90 % of the contracted acres of brush have been treated to date using state funds. Prison inmates have cleared 17,000 acres to date (13,000 acres in 2001 and 4,000 acres in 2002). However, the current drought in West Texas continues to present major challenges to the brush control program. The Upper Colorado River Authority (UCRA), under contract with the TSSWCB, is continuing to monitor hydrologic responses in the watershed due to brush removal. Basin-wide responses have been difficult to monitor due to the depleted condition of the shallow alluvial aquifer, prior to brush control efforts targeted and the fact that the area has been experiencing a drought since 1995. As a result, the UCRA has focused on subbasin and small area responses for early indications of benefits. Through brush control, the restoration of the North Concho River is ongoing and the following effects have been observed thus far:

- Areas where brush control work has been concentrated thus far (Chalk Creek, Grape Creek, Sterling Creek, and Walnut Creek) exhibit more frequent runoff events of greater intensity and duration than other tributaries along the North Concho River.
- Field observations of the North Concho River indicate that flow responses to rainfall are more frequent and pools hold water for longer periods of time following rainfall events.
- Following aerial treatment of mesquite, a pronounced increase in soil moisture and decrease in evapotranspiration has been observed.

Since the start of the pilot project, 327,826 acres of brush have been treated. It is estimated that landowners have provided the amount of over \$4.1 million.



**TWIN BUTTES RESERVOIR/
LAKE NASWORTHY
BRUSH CONTROL PROJECTS**

In September 2002, three brush control projects were initiated to enhance the amount of water flowing into the Twin Buttes Reservoir/Lake Nasworthy complex. Twin Buttes Reservoir is used to maintain sufficient water levels in Lake Nasworthy, which serves as a water supply for the city of San Angelo. Water levels in Twin Buttes Reservoir have fallen to critical levels. Based on water needs and the results of feasibility studies, the TSSWCB allocated \$10.8 million for brush control cost-share for three projects in the Twin Buttes Reservoir/Lake Nasworthy Watershed. It is projected that this allocation will allow the treatment of nearly 203,000 acres of brush and will result in the enhancement of almost 191,000 acre-feet of water over the life of the project. Additional funding will be needed to complete the treatment of the more than 555,000 acres of eligible brush in the Twin Buttes Subbasin. To date, 225,739 acres have been contracted for treatment in this watershed. Over 235,646 acres of brush have been treated to date using state funds.

**LAKE BALLINGER
BRUSH CONTROL PROJECT**

In September 2002, the TSSWCB and local SWCDs initiated a Brush Control Project to enhance the amount of water flowing into Lake Ballinger. Lake Ballinger lies in the Upper Colorado Watershed and supplies water to the city of Ballinger. Lake Ballinger is essentially dry except for water being pumped into it from the Colorado River. Based on water needs and the results of feasibility studies, the TSSWCB allocated \$522,900 for Brush Control cost-share in the Lake Ballinger Watershed. It is projected that this allocation will allow the treatment of over 14,940 acres. To date, 10,549 acres have been contracted for treatment in this watershed.

<u>SWCDs That Participate in the Brush Control Program</u>			
Caldwell-Travis	Pedernales	Howard	Lower Clear Fork on the Brazos
Crockett	Runnels	Kerr County	McMullen County
El Dorado Divide	Tom Green	Middle Concho	Archer County
Glasscock County	Trans Pecos	Mitchell	
High Point	Upper Pecos	North Concho River	
Kendall	Coke County	Rio-Grande Pecos River	
Middle Creek Fork	Devil's River	Sandhills	
Midland	Gillespie	Toyah-Limpia	
Nolan County	Hays County	Upper Colorado	

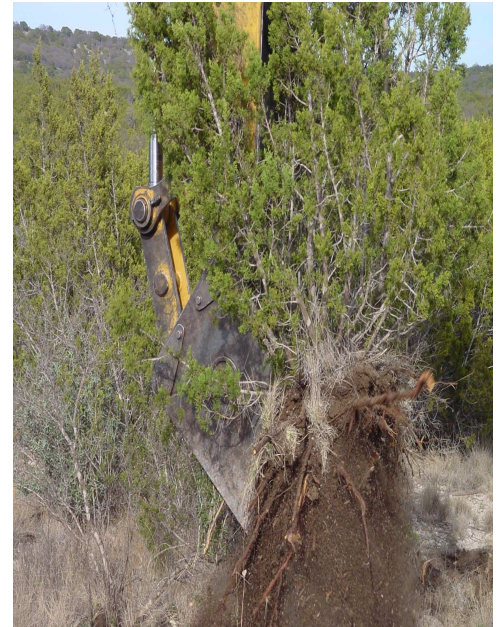
OAK CREEK RESERVOIR BRUSH CONTROL PROJECT

Based on water needs and the results of feasibility studies, the Oak Creek Watershed has been allocated \$1 million in Brush Control cost-share. This Brush Control Project will enhance the amount of water flowing into Oak Creek Reservoir, which supplies water for the citizens of Sweetwater, Blackwell, and Bronte.

The lake, which is located in the Upper Colorado Watershed, also serves as a recreational site. Water levels in Oak Creek Reservoir have fallen to seriously low levels.

It is projected that over \$1 million allocated to this project will allow the treatment of almost 23,000 acres in the Oak Creek Watershed.

Additional funding may be needed to complete the treatment in the 152,000-acre watershed. Projections indicate that over the life of the project, the treatment of targeted acres may result in approximately 66,000 acre-feet increase in water within the Oak Creek Watershed.



Thus far, landowners have submitted requests for funding to treat over 27,000 acres. To date, 19,764 acres have been contracted for treatment in this watershed and over 16,092 acres of brush have already been treated.

CANADIAN RIVER

In August 2005, in cooperation with the Canadian River Municipal Water Authority, a salt cedar project was initiated to improve water quantity and quality on the Canadian River above Lake Meredith. To date, over 2,703 acres have been treated.

HUBBARD CREEK

In August 2005, the TSSWCB along with the West Central Texas Municipal Water Authority began spraying salt cedar on the Hubbard Creek lake basin. To date, 1,076 acres have been treated with 3,300 acres planned to be sprayed throughout the watershed



PEDERNALES RIVER BRUSH CONTROL PROJECT

In September of 2002, a brush control project was initiated to enhance the amount of water flowing from the Pedernales River Watershed into Lake Travis, a water supply for the city of Austin. The lake is also used for power generation and has become a major resort area providing opportunities for boating, fishing, swimming, and camping. The Pedernales River Watershed has been allocated over \$4.4 million for cost-share. It is projected that this allocation will allow the treatment of over 62,000 acres of brush in the Pedernales River Watershed and may result in the enhancement of an estimated 317,000 acre feet of water over the life of the project. Additional funding will be needed to complete the treatment of the 140,000 acres of brush that are targeted in the 815,000-acre watershed. Feasibility studies indicate the life of the project, treatment of the targeted acres may result in over 715,000 acre feet of water in the Pedernales River Watershed.

Landowners have submitted requests for funding to treat more than 70,000 acres in priority subbasins. In 2002-2006, 74,751 acres were contracted for treatment in this watershed. Over 60,420 acres of brush have been treated to date using state funds

Junipers have been documented to intercept 73% of precipitation



[PECOS/UPPER COLORADO SALT CEDAR PROJECT](#)

In September 2003, the TSSWCB, SWCDs, USDA/NRCS, along with TDA, and TAES were involved in a combined effort to treat Salt Cedar along the Pecos and Upper Colorado Rivers. Salt Cedar is becoming an increasing problem along the Pecos and Upper Colorado Rivers. Salt Cedar is estimated to use 200 gallons of water per tree and increases the salinity of the water. To date, \$775,976 was allocated to the project by the TSSWCB. A total of 10,387 acres were put under contract and 9,630 acres have been treated.

This allocation of money allowed for the utilization of over \$2 million of federal funds.



[CHAMPION CREEK RESERVOIR BRUSH CONTROL PROJECT](#)

A brush control project was initiated in September 2002 to enhance the amount of water flowing into Champion Creek Reservoir which is located in the Upper Colorado critical area. This reservoir is an important water source for the Colorado City and their service area including the city's population of approximately 5,000 citizens and over 2,000 inmates within the TDCJ system. The lake also serves as an important tool in the power generation process for the TXU power plant located in Colorado City as well as a regional tourist attraction for recreational purposes.



Water levels have fallen to critical levels and are now well below the intake valves for both Colorado City and TXU. Based on a proposal submitted by local Soil and Water Conservation Districts, the TSSWCB allocated \$907,000 for brush control cost-share in the Champion Creek Reservoir Watershed. It is projected that the funds allocated may allow the treatment of all 24,000 acres of brush targeted in the 116,000 acre watershed. Projections indicate that over the next 10 years, treatment of the targeted acres will increase water yield to Champion Creek Watershed by almost 19,000 acre-feet. To date, 23,274 acres have been contracted for treatment in this watershed and 15,746 acres have been treated.

These funds are also being utilized to match funds in a 319 Water Quality Project along the Upper Colorado River.

A 10 foot mesquite tree can consume up to 20 gallons of water per day.

Project Status

Project	Total Allocation	Remaining Acres Under Contract	Treated Acres
North Concho River	\$ 13,303,950.00	31,799	327,286
Twin Buttes	\$ 10,979,768.86	180,339	235,646
Pedernales	\$ 4,260,049.72	10,814	60,420
Lake Ballinger	\$ 522,900.00	1,235	7,340
Oak Creek Lake	\$ 783,820.16	2,591	16,092
Champion Creek	\$ 755,933.65	4,923	15,746
Nueces River	\$ 100,000.00		-
Lake Hubbard (Salt Cedar)	\$ 160,000.00	2,224	1,076
Pecos/ Upper Colorado (SaltCedar)	\$ 775,976.00	10,387	9,630
Canadian River (SaltCedar)	\$ 250,000.00		2,703

OTHER ACTIVITIES

The 79th Legislature provided \$1.8 million budget to continue State Brush Control projects and initiate a combined effort with the Natural Resources Conservation Service to continue Salt Cedar control in the Pecos/Upper Colorado River Watersheds. The TSSWCB is also using State Brush money along with local match from the Mitchell SWCD to utilize Federal EPA dollars to treat Salt Cedar



along the Upper Colorado River Watershed between J.B. Thomas and E.V. Spence. Monitoring efforts are continued by the Upper Colorado River Authority (UCRA), under contract with the TSSWCB. The UCRA is working with the Texas Institute for Applied Environmental Research to determine the effects of Brush Control on the water balance and water yield within the North Concho River Watershed.

Other continuous activities by the TSSWCB:

1. Field inspections of Mesquite and Redberry Juniper Control Treatments used in the North Concho River Watershed Brush Control Project.
2. Field visits to assure that that Aerial Spraying of Mesquite is applied according to Program Specifications.
3. Evaluation of future financing alternatives for the State Brush Control Program.
4. Provided training assistance to Soil and Water conservation Districts (SWCDs) in the State Brush Control Program areas.
5. Meeting with Texas Department of Agriculture (TDA), Texas Parks and Wildlife Department (TPWD), Texas Water Development Board (TWDB), and Legislative Staff on Brush Control issues.
6. Coordinate with Texas USDA/NRCS to target EQIP dollars for use in Brush Control Project areas.
7. The TSSWCB is coordinating with the Texas Water Resources Institute in providing information that documents the hydrologic impacts of brush control.
8. Assist Soil and Water Conservation Districts (SWCDs) with conservation planning and performance certifications for their landowners.
9. Reviewed Texas Invasive Species council Bylaws with Texas Cooperative Extension and Texas Department of Agriculture.
10. Assisted National Association of State Conservation Agencies with tour of the Pedernales River Watershed Project.
11. Established Brush Project on the Nueces River working through the McMullen SWCD and the TSSWCB Harlingen Regional Office.
12. Established Brush Project on the Wichita River Watershed located in the Archer County Soil and Water Conservation District.
13. Evaluated areas for follow up treatment in project areas.
14. Assist Soil and Water Conservation Districts with Water Quality Management Plans in Upper Colorado River Watershed.