Texas State Soil & Water Conservation Board
BRUSH CONTROL PROGRAM
2007 ANNUAL REPORT
JANUARY 1, 2007 - DECEMBER 31, 2007

PROGRAM GOAL
Enhance water availability through selective Brush Control.

2007 ACTIVITIES AT A GLANCE
- Brush Controlled on 745,585 Acres (FY 00-07)
- 12 Current Projects

PROGRAM BUDGET

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
FY 08	$1,848,927 General Revenue

INTRODUCTION

The Texas State Soil and Water Conservation Board present this annual report covering the 2007 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 745,585 acres of the 797,096 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 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, 329,703 acres of brush have been treated. It is estimated that landowners have provided the amount of over $4.7 million.

TWIN BUTTES RESERVOIR/ LAKE NASWORTHY 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, 253,871 acres have been contracted for treatment in this watershed. Over 250,610 acres of brush have been treated to date using state funds.

LAKE BALLINGER PROJECT

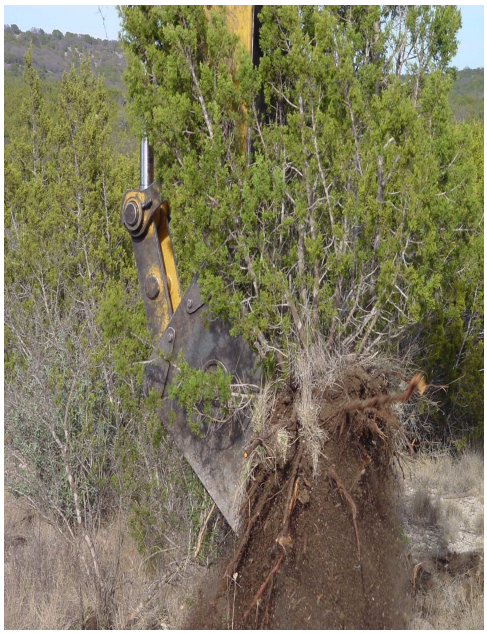
In September 2002, the TSSWCB and local SWCDs initiated a Brush Control Project to enhance the amount of water flowing into Lake Ballinger. Lake Ballinger lies in the Upper Colorado Watershed and supplies water to the city of Ballinger. Lake Ballinger is essentially dry except for water being pumped 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, 11,261 acres have been contracted for treatment in this watershed.

SWCDs That Participate in the Brush Control Program

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	Dawson
High Point	Upper Pecos	North Concho River	Mustang
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 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, 20,288 acres have been contracted for treatment in this watershed and over 16,504 acres of brush have already been treated.

CANADIAN RIVER PROJECT

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 PROJECT

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 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 2002-2007, 79,676 acres were contracted for treatment in this watershed. Over 64,125 acres of brush have been treated to date using state funds

Junipers have been documented to intercept 73% of precipitation

PECOS/UPPER COLORADO 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, $931,252 was allocated to the project by the TSSWCB. A total of 11,094 acres were put under contract and 11,780 acres have been treated.
This allocation of money allowed for the utilization of over $2 million of federal funds.

CHAMPION CREEK RESERVOIR 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.

NUECES RIVER PROJECT

In September 2006, the TSSWCB allocated money to the McMullen SWCD to begin spraying mesquite along the Nueces River. The Nueces River flows into Lake Corpus Christi. A total of $98,689.50 has been allocated to the project. To date, 3,133 acres are currently under contract. Of that amount, 318 acres have been sprayed. The area had a significant amount of rainfall, which reduces the efficiency of the herbicide sprayed and many landowners opted to wait for the following year to increase the effects of the herbicide.

WICHITA RIVER PROJECT

In September 2006, the TSSWCB allocated money to the Archer County SWCD to spray mesquite. The Wichita River flows through Archer, Wichita and Clay counties and feeds into Lake Arrowhead. Lake Arrowhead Reservoir serves as a water supply for the city of Wichita Falls. To date, $99,120 was allocated to the project by the TSSWCB and 4,650 acres are currently under contract. Due to unfavorable conditions in 2007, no herbicide has been applied although it is expected that spraying will occur in 2008.

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

PROJECT STATUS TO DATE

Project	Total Allocation	Remaining Acres Under Contract	Treated Acres
North Concho River	$ 13,380,978.00	35,450	327,286
Twin Buttes	$ 11,507,297.46	193,507	250,610
Pedernales	$ 4,478,793.92	12,034	64,125
Lake Ballinger	$ 522,900.00	1,426	7,861
Oak Creek Lake	$ 796,651.16	2,703	16,504
Champion Creek	$ 789,266.98	4,923	15,746
Nueces River	$ 198,689.50	2,815	318
Lake Hubbard (Salt Cedar)	$ 238,195.25	2,224	1,076
Pecos/ Upper Colorado (Salt Cedar)	$ 931,252.20	11,094	11,780
Canadian River (Salt Cedar)	$ 250,000.00	-	2,703
Wichita River	$ 99,120.00	4,650	-

OTHER ACTIVITIES

In cooperation with Texas Commission on Environmental Quality (TCEQ), a research team has been formed at the Texas Tech University Water Resources Center to study stream flow enhancement for both urban water supply and rural benefits. The team is led by Dr. Ken Rainwater, Director of the Water Resources Center and a Professor in the Department of Civil and Environmental Engineering, with experience in groundwater and surface water hydrology. Co-principal investigators shall be Dr. Ernest Fish, Professor and Chair of the Department of Natural Resources Management, an expert in watershed management, geographic information systems, and remote sensing, and Dr. Richard Zartman, Leidigh Professor of Plant and Soil Science, an expert in soil physics and agronomy.

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. Assist Soil and Water Conservation Districts (SWCDs) with conservation planning and performance certifications for their landowners.
7. Reviewed Texas Invasive Species council Bylaws with Texas Cooperative Extension, Texas Parks and Wildlife and Texas Department of Agriculture.
8. Evaluated sub-basins in the Twin Buttes and Pedernales watersheds that meet criteria for water enhancement cost share assistance and assess landowner participation.
9. Assist Soil and Water Conservation Districts with Water Quality Management Plans in Upper Colorado River Watershed.
10. Coordinate with USDA/ NRCS to utilize federal funds to offset state costs.
11. Under contract with the TSSWCB, the Upper Colorado River Authority (UCRA) continues to monitor efforts of Brush Control on the water balance and water yield within the North Concho River Watershed, Canadian River and Hubbard Creek.