TEXAS STATE SOIL & WATER CONSERVATION BOARD

SEMI - ANNUAL REPORT

TO THE

GOVERNOR,
LIEUTENANT GOVERNOR,
AND
SPEAKER OF THE HOUSE

JANUARY 1, 2006

FORWARD

In response to S.B. 1828 passed by the 78th Texas Legislature in Regular Session, 2003, the Texas State Soil and Water Conservation Board presents this review of its programs and activities. S.B. 1828 added §201.028 to the Texas Agriculture Code to provide that the TSSWCB shall prepare and deliver to the Governor, the Lieutenant Governor, and the Speaker of the House of Representatives a report, not later than January 1 and July 1 of each year, relating to the status of the budget areas of responsibility assigned to the State Board including outreach programs, grants made and received, federal funding applied for and received, special projects, and oversight of soil and water conservation district activities.

The FY06 Expected Expenditure Summary is attached to this report. Information on grants made to local districts and other entities is incorporated within the program section it involves. Federal grants received for the Clean Water Act are provided in that section.

Attached, as an addendum of this report, is the Brush Control Program 2005 Annual Report. Section 203.056, Texas Agriculture Code, requires the State Board, before January 31 of each year, to submit a report of the activities of the Brush Control Program during the immediately preceding year.

The Texas State Soil & Water Conservation Board takes pride in the accomplishments and remarkable progress that have been made in soil and water conservation in this state. Often environmental successes are slow to be realized. We have realized and already reported one success story that involves reducing the level of Atrazine in several water bodies, particularly the Aquilla Reservoir in the Hill County-Blackland SWCD.

However, we recognize there remains a continuing challenge and an ongoing need to ensure our land has the capability to produce food and fiber for future Texans. Because of changes in land use, ownership, technology, and population growth, the need for soil and water conservation programs will remain critical. Texas has a finite number of acres to provide for the needs and desires of citizens and visitors, and this places an ever-increasing demand on agricultural land. Farmers and ranchers face complex decisions concerning the best ways to manage and utilize the land available to them.

We believe that soil and water conservation programs must remain dynamic as land uses change and technology improves to make some conservation practices more capable of meeting demands on soil and water resources. We also maintain the belief that the purpose of the soil and water conservation program is to promote the wise use of our renewable natural resources and provide for the conservation and enhancement of the soil and water resources of this state through and by the dynamic decisions of local soil and water conservation districts which promotes the use of each acre of land within its capabilities and treating it according to its needs.

From the beginning, the Texas State Soil and Water Conservation Board and local soil and water conservation districts have formed an organizational framework through which various complex governmental conservation programs are delivered to local landowners and operators. This relationship has successfully been utilized to disseminate sound management techniques and practices to maintain individual productive land uses to provide for the needs of present and future generations.

To the landowners of Texas, the individual soil and water conservation district directors, and the many agencies and organizations assisting and working with our programs, we offer our sincere thanks.

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HISTORICAL BACKGROUND

In the early history of the United States, those involved in agriculture often did not consider the conservation of soil and water resources. Land was cleared and put into farm production. When the land quit producing at a profitable level, the farmers merely moved on to new land farther west and started the process over again. There was no need to be concerned with soil conservation, as there was a seemingly unlimited supply of virgin land waiting to be tilled. This process continued through the 1800s and into the early 1900s. With the outbreak of World War I, farmers in the Great Plains states were encouraged to break out native grassland to grow wheat and other foodstuffs to feed the nation and the world. As a result of these and other unwise management practices and the fact that the farmlands were experiencing long periods of drought, the 1930s produced some of the worst dust storms the nation had ever seen. Clouds of dust rolled across the plains states sending dust storms through the south and into the nation's capital. At the same time, the nation was in the midst of a great economic depression. The federal government, seeking ways to put people back to work and encourage conservation, created the Civilian Conservation Corps and Soil Erosion Service. Through these mechanisms, demonstration projects were initiated to train technicians and to educate the public in ways to conserve soil resources. These programs were successful in putting people back to work, but lacked the local ties to establish lasting conservation programs.

One of the early day leaders in the national effort to control soil erosion was Hugh Hammond Bennett from North Carolina. After graduation from the University of North Carolina in 1903, Hugh Bennett took a job with the Bureau of Soils in the United States Department of Agriculture. Because of his experience, scientific knowledge and leadership ability, he was put in charge of the Soil Erosion Service when it was created in 1933. In 1935, P.L. (Public Law) 46 was passed creating the Soil Conservation Service within the U.S. Department of Agriculture and Hugh Bennett became the first Chief of the agency. He soon became internationally known for his accomplishments in conservation work.

With the help of Congressman Buchannan from Columbus, Texas, Hugh Bennett was able to persuade President Franklin Roosevelt that the soil resources of this nation were being wasted. He convinced the President that a Model Soil Conservation Act should be developed and sent to the governors of each state for passage by their state legislatures. The purpose of this Model Act would be to develop programs at the state and local level to control soil erosion.

In 1936, such a Model Act was sent to the governors with the endorsement of President Roosevelt. The Model Act, developed in Washington, was patterned after the Texas Wind Erosion Act, the Grass Conservation Acts in the Northern High Plains and certain water conservation district law.

In 1937 legislation was introduced in the Texas Legislature based on this Model Act. It is reported that as many as 25 different versions of this soil conservation law were considered before a final version was passed. There was much heated discussion of the proposed legislation. When the final version was adopted, the bill contained many undesirable features. The law would have set up Soil Conservation Districts automatically on a county basis and made County Commissioners Courts the governing body. A portion of the county tax was to be used to finance the program and county agricultural agents were to be the administrative officers.

A number of agricultural leaders from across the state had, by this time, become concerned about the newly passed legislation. It was their opinion that, if the responsibility for installing and maintaining conservation measures lay in the hands of the land owners, the control of such a program should also be

in their hands. As a result of these and other concerns, a group of landowners led by V.C. Marshall of Heidenheimer, Texas, convinced the Governor to veto the 1937 legislation.

Hard feelings among agricultural leaders resulted from the attempt to pass this soil conservation law. Under the leadership of Mr. Marshall, a concerted effort was made during the interim between legislative sessions to heal the old wounds and to put together a version of a law that would be generally accepted by the farmers and ranchers of Texas. Mr. Marshall organized a committee of leaders from across the state to promote the passage of a new Soil Conservation Law. He traveled many miles at his own expense seeking the views of agricultural leaders and promoting the idea of the Soil Conservation District Program.

The key points Mr. Marshall felt should be included in the new law were that (1) farmers and ranchers should determine whether or not a Soil Conservation District was needed and hold a local option election prior to the establishment of the district; (2) the program should be controlled by landowners; and (3) the Soil Conservation Districts should have no taxing authority or the power of eminent domain.

In 1939 the Texas Legislature passed H.B. (House Bill) 20 which incorporated those features and was the first Soil Conservation Law for the state. The law created the State Soil Conservation Board and allowed for the creation of the Soil Conservation Districts. Mr. Marshall was elected as the first Chairman of the Soil Conservation Board and later resigned to become the first Executive Director of the agency.

On April 30, 1940, the Secretary of the State issued Certificates of Organization for the first 16 Soil Conservation Districts paving the way for the program we now operate. Today, Texas has 217 local soil and water conservation districts that encompass more than 99% of the state.

As previously mentioned, the Model Act endorsed by President Roosevelt was in part patterned after the Texas Wind Erosion Act. Texas was already making attempts to address soil conservation as a result of the "Dust Bowl" days of the 1930s. The 44th Legislature in 1935 passed legislation authorizing the establishment of Wind Erosion Conservation Districts. This law provided for the creation of districts to "conserve the soil by prevention of unnecessary erosion caused by winds, and the reclamation of lands that have been depreciated or denuded of soil by reasons of winds." Although a number of Wind Erosion Control Districts were created, the passage of the Soil Conservation District Law in 1939 resulted in those districts becoming dormant.

In 1975, Governor Dolph Briscoe, by Executive Order, designated the TSSWCB as lead agency to assume the planning and management responsibility for control of agricultural and silvicultural nonpoint source pollution as required by the Federal Water Pollution Control Act.

In 1981 the 67th Legislature passed H.B. 1436, which for the first time codified the agricultural laws of Texas. Title 7, Chapter 201 of this code contains the portion pertaining to Soil and Water Conservation.

In 1985 the 69th Legislature passed S.B. 1083 creating a Brush Control Program in Texas and granting new powers and responsibilities, without funding, to the TSSWCB and Soil and Water Conservation Districts under Chapter 203 of the Agriculture Code. In 1999, the TSSWCB received its first appropriation in the FY00-01 biennium to control water-depleting brush and trees, such as cedar and mesquite. The program received $9.1 million to establish a pilot project in the North Concho Watershed.

In 1993, the 73rd Legislature passed S.B. 503 which named the TSSWCB the lead agency to address water quality issues relating to runoff from diffused, or nonpoint sources resulting from agricultural and forestry operations. In 1999, the Legislature expanded the TSSWCB's environmental mission and appropriated money to address water pollution from nonpoint sources under a separate, federally mandated program.

The leaders who framed the Texas Soil and Water Conservation Law in 1939 recognized that landowners and operators of private land constitute the basic resource for the conservation of our renewable natural resources. Without the support and willing participation of private landowners and operators in the development and implementation of soil and water conservation programs there is little hope of success. Local soil and water conservation districts led by farmers and ranchers who know the land and the local conditions and problems have the means to develop conservation plans that address each acre of land specific to its needs to solve or reduce the severity of its problems.

ORGANIZATION

Since inception, the TSSWCB has been governed by five board members, elected by delegates from each of five regions of the state's 217 local soil and water conservation districts. Elections occur annually at regional conventions of the local soil and water conservation districts, with members serving two-year staggered terms. However, with the enactment of S.B. 1828 by the 78th Legislature, two Governor appointees join the five elected board members to create a seven-member board. The two Governor appointed positions are listed below. The term of one member appointed by the Governor expires February 1 of each odd-numbered year, and the term of the other member appointed by the Governor expires on February 1 of each even-numbered year.

Elected State Board members must be 18 years of age or older; hold title to farmland or ranchland; and be actively engaged in farming or ranching. The Governor appointees must be actively engaged in the business of farming, animal husbandry, or other business related to agriculture and wholly or partly owns or leases land used in connection with that business; and may not be a member of the board of directors of a conservation district.

The State Board elects its own Chair and generally meets every odd month, unless specific programs or issues require more immediate action. The following list shows the current Board members and shows which State Board Region they represent.

Texas State Soil and Water Conservation Board

Member Name	Region	Term	Residence
Aubrey L. Russell	#1	May 3, 2005 – May 1, 2007	Panhandle
Reed Stewart	#2	May 4, 2004 – May 2, 2006	Sterling City
José O. Dodier, Jr.	#3	May 3, 2005 – May 1, 2007	Zapata
Jerry D. Nichols	#4	May 4, 2004 – May 2, 2006	Nacogdoches
W.T. "Dub" Crumley	#5	May 3, 2005 – May 1, 2007	Stephenville
Larry D. Jacobs	Appointed	June 20, 2005-February 1, 2006	Montgomery
Joe L. Ward	Appointed	June 20, 2005-February 1, 2007	Telephone

STAFF

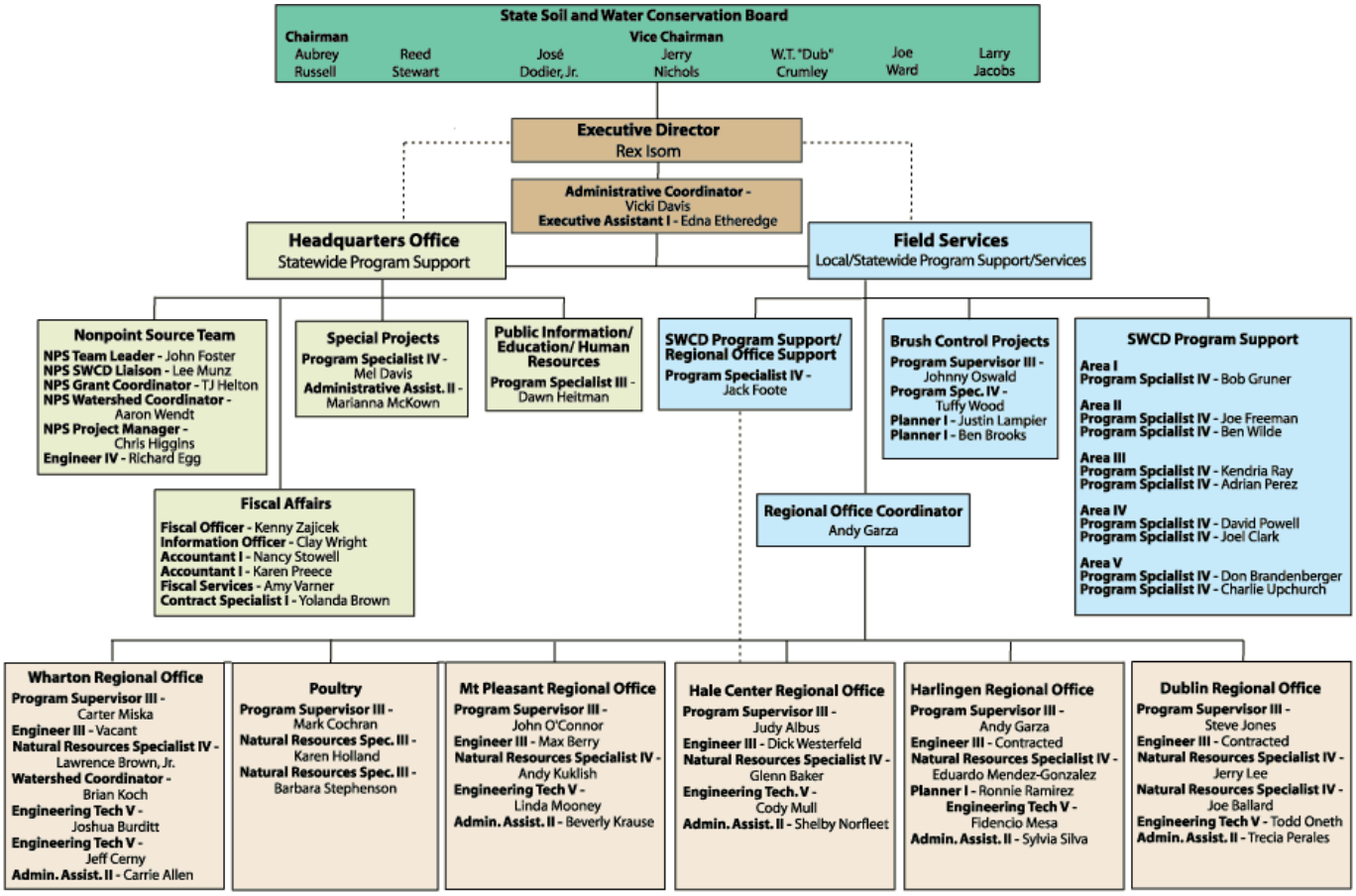
Mr. Rex Isom was named as the Executive Director in January 2004 and continues to carry out the directives of the State Board and directing staff efforts.

We emphasize our agency philosophy as stated in our Strategic Plan, "The State Soil and Water Conservation Board will act in accordance with the highest standards of ethics, accountability, efficiency, and openness. We affirm that the conservation of our natural resources is both a public and a private benefit, and we approach our activities with a deep sense of purpose and responsibility." Mr. Isom, as Executive Director, is leading the agency in that direction and expects all employees to follow that lead.

As of December 1, 2005 the TSSWCB employed 61 staff, 17 of which work in the Temple headquarters. The remaining 44 employees are field staff, either working out of their homes or located in seven satellite offices; five regional offices and two program specific offices, located throughout the state. Due to difficulty in recruiting engineers, two field engineer positions remain contracted. The following organization chart shows the agency's current structure.

The current structure of the TSSWCB now reflects efforts to place more personnel in the field and away from headquarters for a 72% to 28% ratio of Field personnel to Headquarters personnel.

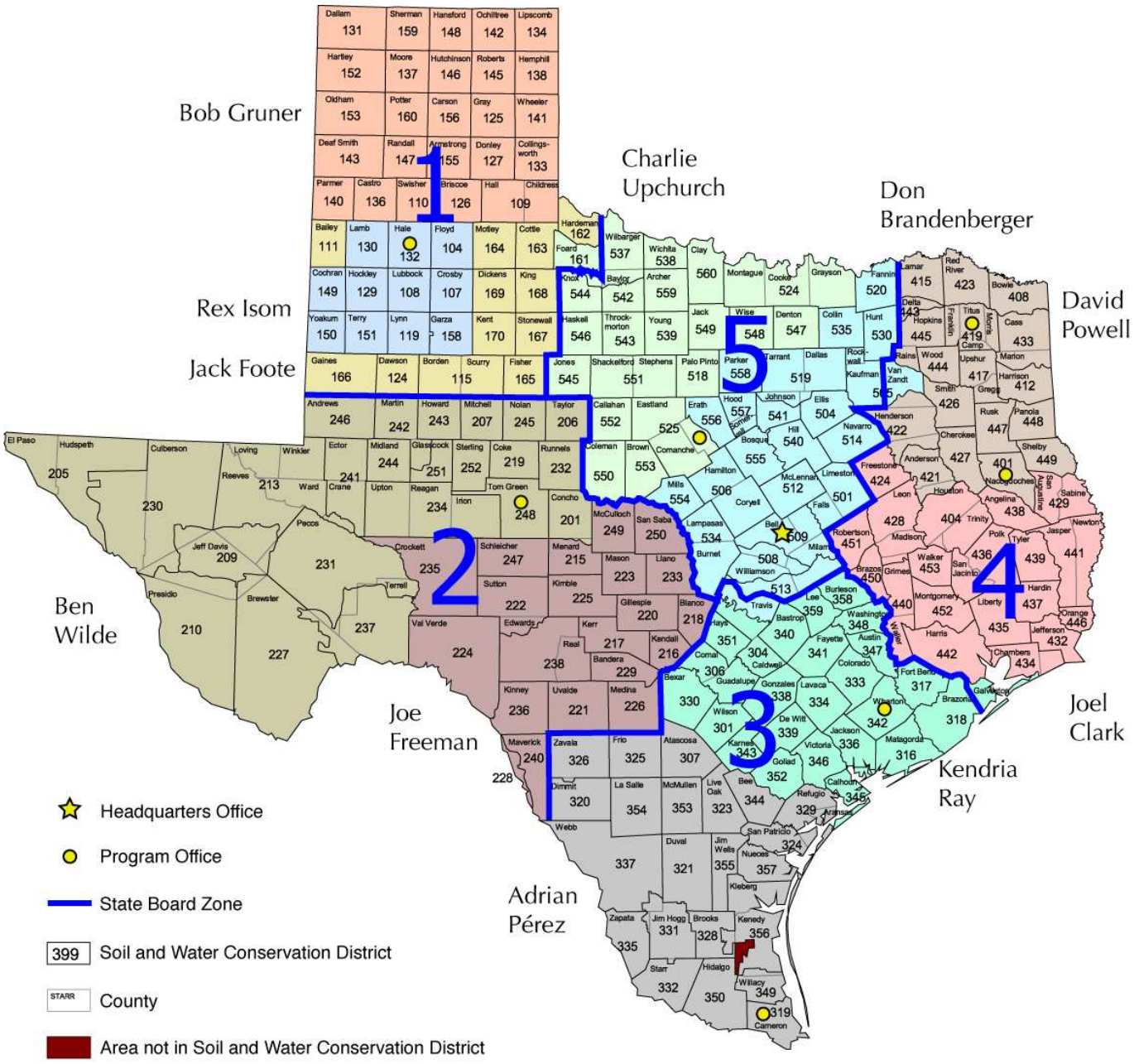
The regional office staff along with the program specific staff provides on-site technical assistance to farmers and ranchers. The field staff serves as a liaison between the TSSWCB and local districts. The field staff also provides assistance to local districts and district employees concerning operations, programs, and activities. The regional office staff and the program specific staff coordinates with the Texas Commission on Environmental Quality (TCEQ), Texas Cooperative Extension (TCE), and the USDA's Natural Resource Conservation Service (NRCS) to provide technical assistance to landowners to implement Water Quality Management Plans (WQMPs).



Soil And Water Conservation Districts

The TSSWCB performs many of its activities in coordination with the state's 217 local soil and water conservation districts. These local districts are political subdivisions of the state, established through local option elections of agricultural landowners. Districts generally reflect county boundaries, but may also follow river basin or watershed boundaries, depending on the desires of the local landowners.

The following soil and water conservation district map shows the current 217 local districts that cover almost the entire state. That portion of the state not in a soil and water conservation district is in Kenedy County and contains the privately owned King Ranch. The map also shows the grouping of the districts into the five State Board Districts that respectively elect a State Board member and shows the field staff that is assigned to work with each district within a specific area.



Landowners within these local districts elect the five district directors that comprise the districts governing body or board of directors. This board of directors administers the programs and activities of the district. Representatives of the districts within each region then elect the members of the State Board through a series of convention style-elections.

Districts do not have taxing authority and rely on locally generated funds from various activities and programs, federal assistance, county assistance, and state assistance from the TSSWCB. The USDA Natural Resource Conservation Service (NRCS) provides most of the federal assistance available to districts and through cooperative agreements provides technical assistance to farmers and ranchers requesting assistance from the district.

ANNUAL STATE MEETING OF SOIL AND WATER CONSERVATION DISTRICT DIRECTORS

The Annual State Meeting of Soil and Water Conservation District Directors, required in §201.081, Texas Agriculture Code, convened in Corpus Christi last October. There were 141 districts represented, with 365 individual district directors that registered for the meeting. The total registration was 876.

For the 2006 calendar year, the state meeting is scheduled for October 23-25 in Fort Worth.

DIRECTOR MILEAGE AND PER DIEM

Due to the reductions in staff at the headquarters office, director mileage and per diem claims are now managed directly by districts. The TSSWCB sent each district 75% of their approved allocation (grant). The remaining 25% will be used as a pool for any expenses not covered through the initial allocation (grant). Field staff will approve each claim before payment to ensure claims are accurate and comply with state statutes and guidelines. The FY06 state appropriation for this program is $325,000.00.

DISTRICT TECHNICAL ASSISTANCE FUNDS

The TSSWCB 2006-2007 Appropriation revised the allocation method for technical assistance funds. On September 1, 2005, the TSSWCB will begin disbursing technical assistance payments on a reimbursing basis only. The FY06 state appropriation for this program is $1,036,241.00.

AGRICULTURAL WATER CONSERVATION GRANT

Sub-chapter H funds were appropriated to the TSSWCB from the Agricultural Soil and Water Conservation Account No. 563. Senate Bill 1053 enacted by the 78th Legislature moved the bond that funded Account No. 563 to the Texas Water Development Board (TWDB). Account No. 563 no longer exists and future funding for what was Sub-chapter H grants will come from the TWDB in the form of competitive Agricultural Water Conservation Grants. The TWDB adopted rules and developed a grant application process for distributing the funds from the fund. The TSSWCB, on behalf of districts, applied to the TWDB for grant funding to continue the water conservation program previously supported by the sub-chapter H program. Soil and water conservation districts (SWCDs) provide technical and planning assistance to agricultural producers for implementing conservation best management practices (BMPs) on their farms and ranches.

The Texas State Soil and Water Conservation Board (TSSWCB) received an Agricultural Water Conservation Grant of $115,000.00 from the Texas Water Development Board (TWDB) for FY2004. The funds from the grant were allocated to eligible SWCDs to support technical assistance in planning agricultural water conserving BMPs on farms and ranches.

Eligible BMPs were those that directly or indirectly produced water savings and those that reduced erosion, a cause of increased sedimentation of Texas' surface water reservoirs.

The grant award of $115,000 supplemented approximately $950,000 in technical assistance funding allocated to local SWCDs for support of planning and implementing agricultural water conserving Best Management Practices (BMPs) on farms and ranches.

A total of 197 SWCDs statewide were eligible and willing to participate in this program. The assistance performed by these SWCDs has resulted in an estimated 341,729 ac-ft potential water savings for the State or approximately 2.97 ac-ft of water conserved for each state dollar spent. The FY05 Agricultural Water Conservation Grants from TWDB were awarded last spring. The TSSWCB received a grant of $100,00.00. The funds from the grant were again allocated to eligible SWCDs to support technical assistance in planning agricultural water conserving BMPs on farms and ranches.

DISTRICT CONSERVATION ASSISTANCE PROGRAM

District Conservation Assistance funds are appropriated to the TSSWCB from general revenue funds. Of the 217 local soil and water conservation districts, 216 districts request to receive an allocation (grant) from these funds. Local districts receive these funds as a dollar for dollar match for money that they generate locally through various activities. The local districts use this money to pay operational expenses. The FY06 state appropriation for this program is $916,364.00.

PROGRAMS & ACTIVITIES OF THE TSSWCB

The services and programs provided by the TSSWCB target rural Texas farmers and ranchers, but the results of these services benefit all Texans. For example, many of the flood control structures maintained by soil and water conservation districts serve to protect heavily populated areas from flood damage, and also prevent sediment from building up in suburban drinking water supplies. Another example is the use of best management practices, implemented through TSSWCB-certified water quality management plans, to prevent pesticides, nutrients, and other contaminants from impairing Texas waters.

The agency is responsible for numerous natural resource conservation efforts, the most prominent of which is serving as the lead state agency for the prevention, management, and abatement of nonpoint source pollution resulting from agricultural and silvicultural, or forestry-related, activities. As a result, the majority of the agency's programs and services aim to improve and protect water *quality*. The TSSWCB is also responsible for water conservation, or water *quantity*. The major existing program addressing water conservation is the Texas Brush Control Program, although the agency is conducting preliminary work on a new program that would provide assistance to Texas landowners who irrigate cropland from both ground and surface water sources. The Water Conservation Taskforce, created by Senate Bill 1094 from Senator Duncan, issued a final report to the Legislature recommending a state cost-share program be implemented through the TSSWCB to assist landowners in implementing best management practices that conserve water resources. If the agency is asked to fully develop the new program by the Legislature, it would likely be patterned after the Water Quality Management Plan Program created by Senate Bill 503 in 1993. Other responsibilities include prevention of soil erosion, control of floods, maintaining the navigability of waterways, the preservation of wildlife, protection of public lands, and providing information to landowners regarding the jurisdictions of the TSSWCB and the Texas Commission on Environmental Quality related to nonpoint source pollution. The TSSWCB has no regulatory functions; all of the agency's programs and services are voluntary in nature.

TOTAL MAXIMUM DAILY LOAD (TMDL) PROGRAM

The 1972 federal Clean Water Act (CWA) §303(d) requires all states to identify waterbodies that do not meet water quality standards and are not supporting their designated beneficial uses. Each state must submit an updated list of these impaired waterbodies, called the 303(d) List, to the U.S. Environmental Protection Agency (USEPA) every two years. Once placed on the 303(d) List, a state must develop a

Total Maximum Daily Load (TMDL) for the particular pollutant that is causing the impairment. This TMDL defines the amount of that pollutant that waterbody can assimilate and still meet water quality standards and support its designated beneficial uses. Based on this environmental target, a state then develops an implementation plan prescribing the measures necessary to mitigate anthropogenic (human-caused) sources of that pollutant in that waterbody. The TMDL and the implementation plan together serve as the mechanism to reduce the pollutant, restore the full use of the waterbody and remove it from the 303(d) list. USEPA must approve the TMDL, but the implementation plan only requires state approval.

In Texas, the responsibility to develop TMDLs is shared between two state agencies – the Texas State Soil and Water Conservation Board (TSSWCB) and the Texas Commission on Environmental Quality (TCEQ). TCEQ is the lead agency for protecting Texas' water quality. Except that, responsibility for managing nonpoint source (NPS) pollution is shared with TSSWCB. TSSWCB is the lead agency in Texas responsible for planning, implementing and managing programs and practices for abating agricultural and silvicultural NPS pollution. TCEQ administers the NPS program for all other forms of NPS pollution including urban, commercial and residential.

TSSWCB is actively engaged in the implementation of several approved TMDLs with agricultural or silvicultural NPS components:

- Aquilla Reservoir – Atrazine (Approved 2002)
- E.V. Spence Reservoir – Salinity (Approved 2001)
- North Bosque River – Nutrients (Approved 2002)

Additionally, TSSWCB is actively involved in the development of TMDLs for waterbodies impaired, at least in part, by agricultural or silvicultural NPS pollution:

- Adams and Cow Bayous – Bacteria, Dissolved Oxygen, and pH
- Arroyo Colorado – Dissolved Oxygen
- Atascosa River – Bacteria
- Buck Creek – Bacteria
- Clear Creek – Bacteria
- Colorado River below E.V. Spence Reservoir – Salinity
- Copano Bay and Aransas and Mission Rivers – Bacteria
- Dickinson Bayou – Dissolved Oxygen
- Elm and Sandies Creeks – Bacteria and Dissolved Oxygen
- Gilleland Creek – Bacteria
- Guadalupe River above Canyon Lake – Bacteria
- Lake O' the Pines – Dissolved Oxygen
- Leon River – Bacteria
- Lower San Antonio River – Bacteria
- Oso Bay and Oso Creek – Bacteria and Dissolved Oxygen
- Peach Creek – Bacteria
- Upper Oyster Creek – Bacteria and Dissolved Oxygen
- Upper Trinity River – Bacteria

Various TSSWCB Programs, such as the CWA §319(h) Grant Program or the WQMP Program, target these waterbodies for abatement projects as federal and/or state funding becomes available. These programs are described in detail in other sections of this Semi-Annual Report. Many of these

waterbodies, have projects currently in progress implementing practices to prevent and abate agricultural and silvicultural NPS pollution. For more information on the TSSWCB Total Maximum Daily Load Program, visit our website at http://www.tsswcb.state.tx.us/programs/tmdl.html.

Clean Water Act, §319(H) Nonpoint Source Grant Program

Background

Congress enacted Section 319(h) of the Clean Water Act in 1987, establishing a national program to control nonpoint sources of water pollution. Through Section 319(h), federal funds are provided through the EPA to states for the development and implementation of the State's Nonpoint Source Management Program. The 319(h) funding in Texas is divided evenly between the TCEQ and TSSWCB. The following report provides an overview of TSSWCB's 319(h) program status and major ongoing activities.

State Nonpoint Source Management Plan

An approved management plan is a requirement for receiving 319 Grant funding. Because the State's overall Nonpoint Source Program is jointly administered between the Texas Commission on Environmental Quality (TCEQ) and the TSSWCB, both agencies recently revised the Texas Nonpoint Source Management Program Report for the years 2005 through 2010. The report, which went through extensive public comment and review, was approved by the TSSWCB on September 15, 2005, and by TCEQ on October 26, 2005. The document was certified by the Attorney General's Office and was submitted by the Governor to the Regional Administrator for U.S. EPA Region 6 on December 15, 2005.

2004 Annual Report

In order to receive 319 funds, the State of Texas must also submit a report on the activities of the Texas NPS Pollution Program annually. The TCEQ develops the report on odd numbered years and the TSSWCB develops the report on even numbered years. Currently the TSSWCB staff and TCEQ staff are working together to develop the FY 2005 Annual Report.

Project Management

There are currently 66 ongoing 319 projects (Attachment 2). The $30 million provided to these projects through Clean Water Act, §319(h) Nonpoint Source Grants between 2000 and 2005 is being utilized to abate NPS pollution from poultry operations and dairies, runoff of atrazine from cropland, salt cedar, watershed planning, groundwater quality improvement, assessing sources of bacteria, educational programs for the forest industry, and many other projects (Figure 1). Quarterly reports for ongoing projects were received on July 15, 2005 and October 15, 2005. To date, project reports have been received for 100% of the projects. These reports are entered into EPA's Grant Reporting Tracking System. The TSSWCB also conducts financial audits on one 319 projects each quarter. During the 1st quarter of FY2006, an audit was conducted on the Delta SWCD 319 project on October 14, 2005. The Texas A&M University System under went an audit during the 2nd quarter.

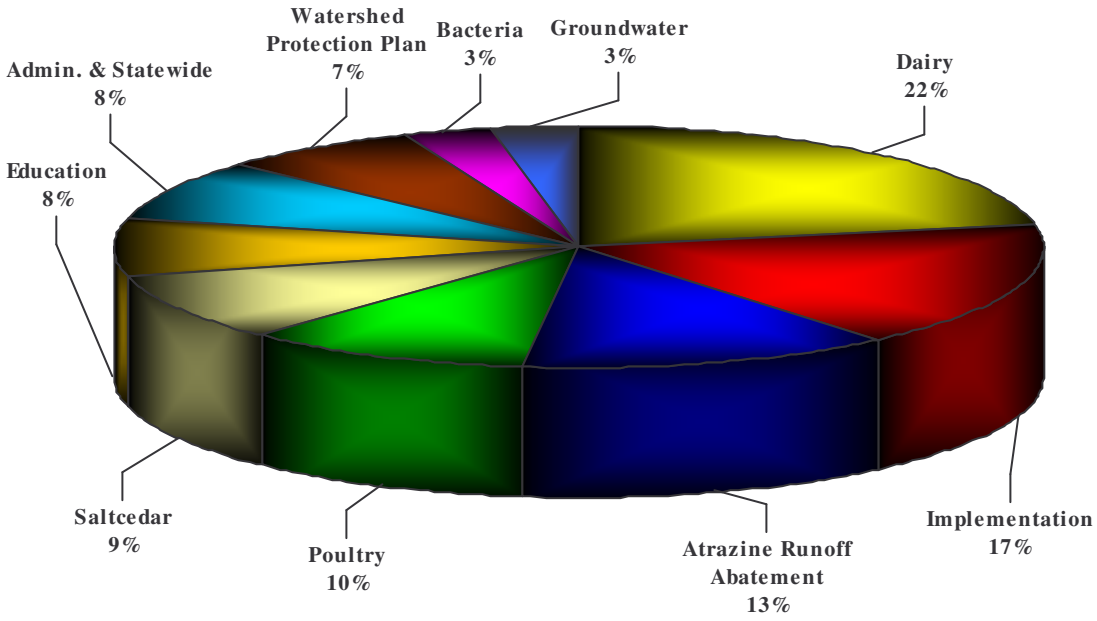


Figure 1.0 TSSWCB active federal 319(h) grants for FY 2000 – FY 2005.

WATERSHED PROTECTION PLAN PROGRAM

Watershed protection planning is a process to develop and implement a locally driven Watershed Protection Plan (WPP) designed to protect unimpaired surface waters from pollution threats and ameliorate impaired, polluted surface waters. This mechanism addresses complex water quality problems that cross multiple jurisdictions. WPPs serve as tools to better leverage the resources of local governments, state and federal agencies, and non-governmental organizations. WPPs integrate activities and prioritize implementation projects based upon technical merit and benefits to the community and watershed, promote a unified approach to seeking funding for implementation, and create a coordinated public communication and education program.

WPPs have a variety of ingredients and can take many forms. TSSWCB watershed protection planning projects utilize guidelines promulgated by the U.S. Environmental Protection Agency (USEPA) in 2003. These guidelines describe nine elements fundamental to a potentially successful plan.

TSSWCB provides guidance and technical assistance to local stakeholder groups in developing and implementing WPPs through one of three mechanisms. One, a TSSWCB Regional Watershed Coordinator facilitates the WPP process in watersheds throughout their service area. Currently, the Wharton Regional Office is piloting this method. Two, through the TSSWCB CWA §319(h) Grant Program, other entities are granted funds necessary to facilitate the WPP process in a specific watershed. Three, TSSWCB staff participate in and provide technical assistance to WPP projects funded and facilitated by other entities.

TSSWCB funded WPP projects include:

- Concho River – Upper Colorado River Authority
- Lake Granger – Brazos River Authority
- Little Wichita River – Texas Institute for Applied Environmental Research
- North Bosque River – Brazos River Authority
- Pecos River – Texas Cooperative Extension

- Plum Creek – TSSWCB Wharton Regional Office
- Southeast and South Central Texas – TSSWCB Wharton Regional Office
- Texas Master Watershed Steward Program – Texas Cooperative Extension

TSSWCB engaged WPP projects funded by other entities include:

- Arroyo Colorado – Texas Sea Grant (funded by TCEQ)
- Dickinson Bayou – Texas Sea Grant (funded by TCEQ)

In order to abate agricultural and silvicultural nonpoint source pollution, WPPs will implement components of other TSSWCB Programs, such as the WQMP Program or the Brush Control Program. Additionally, the CWA §319(h) Grant Program can serve as a funding source to implement the agricultural and silvicultural components of WPPs. These programs are described in detail in other sections of this Semi-Annual Report. For more information on the TSSWCB Watershed Protection Plan Program, visit our website at http://www.tsswcb.state.tx.us/programs/watershed.html.

Water Quality Management Plan (WQMP) Program

In 1993, the Texas Legislature passed Senate Bill 503 that directed the TSSWCB to implement Water Quality Management Plans (WQMPs) in Texas. The agency has implemented more than 6000 WQMPs since the inception of the program.

The WQMP Program is administered from five Regional Offices around the state. A poultry WQMP office will open in Nacogdoches in January 2005. The Regional Offices are:

- Dublin Regional Office
- Hale Center Regional Office
- Harlingen Regional Office
- Mount Pleasant Regional Office
- Wharton Regional Office
- Poultry Program Office (Nacogdoches - Coming in January 2005)

A WQMP is a site-specific conservation plan developed through (and approved by) SWCDs for agricultural or silvicultural lands. The plan includes appropriate land treatment practices, production practices, management measures, technologies or combinations thereof. The purpose of WQMPs is to achieve a level of pollution prevention or abatement determined by the TSSWCB, in consultation with local soil and water conservation districts, that is consistent with state water quality standards.

The TSSWCB selected requirements for a WQMP based on the criteria outlined in the *Field Office Technical Guide (FOTG)*, a publication of the United States Department of Agriculture's Natural Resources Conservation Service (NRCS).

Nutrient management must be included if nutrients are applied. If an animal feeding operation is involved (such as an unpermitted dairy), a WQMP will be planned with practices that individually or in combination with other practices will properly manage animal wastes. Waste utilization will be considered when agricultural wastes are applied. These WQMPs also have subcomponents for irrigation waters, erosion control, and are flexible enough to cater to a wide range of operating systems.

Agricultural and forestry landowners may enter into these cooperative agreements with their local district to control nonpoint source pollution from their operations. While the decision to develop a plan is voluntary, landowners have many reasons to do so. These plans provide for landowners to use best management practices in their operations to protect their most precious agricultural resources by controlling erosion, conserving water, and protecting water quality. In addition, certified plans have the same legal status as Texas Commission on Environmental Quality (TCEQ) point source pollution permits, without having to go through that agency's regulatory process. Landowners may also receive financial incentives to help pay for implementing these plans.

It should be noted that an animal feeding operation that is required by law to operate within the confines of a water quality permit issued by the TCEQ cannot participate in the TSSWCB program.

Water Quality Management Plans are especially useful for animal feeding operations. Depending on their size, animal feeding operations may be regulated by TCEQ as a point source or are unregulated and eligible for the TSSWCB's voluntary program. Generally, these feeding operations are classified according to the number of animals they have, calculated as "animal units"; however, TECQ has adopted rules that provide if you have or exceed a certain number of animals, you will be regulated. Animal feeding operations with more than the number of animals listed in TCEQ rules must apply for a permit. Most animal feeding operations in Texas are not large enough to require a permit, which makes this program critical to protecting Texas' water quality.

In developing the Water Quality Management Plan, the TSSWCB, SWCDs, and the USDA Natural Resources Conservation Service (NRCS) provide technical assistance to help the landowner meet the criteria of the plan. A plan establishes practices and installations on the farm that adhere to best management practices specific for that area. The various installations that a plan calls for depend on the operation. A farm may include a combination of cropland, dairy cows, poultry, hogs or cattle.

These plans may also include erosion control measures such as terraces or grass waterways; or they may address nutrient management to help landowners avoid over-fertilizing their land, or over-applying animal waste. Although a plan will take into consideration each farm's unique components, all WQMPs generally attempt to control erosion, conserve water, and protect water quality.

Upon TSSWCB certification of a WQMP, a landowner may apply for a financial incentive that will help pay for implementing the plan. Local districts have varying rates for sharing the cost of plan implementation, however cost-share may not exceed 75% with a maximum $10,000 grant limit per plan. Landowners receiving financial incentive have approximately are now given a specific time period to implement conservation practices, otherwise, their applications are cancelled automatically and the funds are reallocated to another plan. This approach hopefully will reduce the amount of lapsed funds.

The TSSWCB allocates money to local districts for financial incentives based on whether the area has impaired water bodies as determined by TCEQ, or if the TSSWCB had previously designated it as a priority. Most of these financial incentives were appropriated from General Revenue funds. Some plans received financial incentives from federal funds. State appropriations provided to local districts in FY05 amounted to $2,226,042.00 to carry out a WQMP cost-share program in their district.

In addition to certifying WQMPs to ensure that they help abate nonpoint source pollution, the TSSWCB monitors WQMPs to ensure they are properly implemented. Each year, the TSSWCB conducts status reviews on a minimum of 10% of the plans. Additional technical assistance may be offered to a

landowner when a WQMP is found noncompliant. In the unlikely case that the landowner does not achieve compliance with the WQMP, the TSSWCB may decertify the plan.

During FY03, the WQMP Program was administered from the TSSWCB office in Temple. The staff reductions in the FY04 budget made it necessary for the program to be reorganized and the Regional Offices activities are now coordinated through the Harlingen Regional Office. Additionally, plan certification authority was shifted from the Temple headquarters to each regional office. This change is already expediting the certification process and reducing postage expenditures, while maintaining the integrity and standards of the program.

The last adjustment involved the complaint process, which was also administered out of the headquarters office during FY03. Headquarters office no longer has an individual to do complaint inspections and all complaints are investigated from the appropriate Regional Office.

Current Status

A total of 786 water quality management plans were certified in FY-05. The deadline for districts to obligate FY-06 cost-share funds is 4-30-06.

An internal audit on the water quality management program was conducted during the summer of 2005. Eleven recommendations resulted from the audit. All recommendations were accepted and are in various stages of implementation.

Poultry Water Quality Management Plan (WQMP) Initiative

In 1994, the Texas State Soil and Water Conservation Board (TSSWCB) began assisting poultry operations with the establishment of the Northeast Texas - Senate Bill 503 Cost-share Area. Since 1994, over $300,000 of WQMP Program funding has been provided annually to six soil and water conservation districts (SWCDs) in Northeast Texas to address animal feeding operations (AFOs). Shelby SWCD began receiving SB 503 funds in FY 2005.

In 1995, the TSSWCB initiated three Clean Water Act, §319(h) projects to demonstrate composting as a means for dead bird disposal, buffer strips, and proper land application of poultry litter. In 1996, the TSSWCB expanded its efforts by initiating a composting and marketing project. This effort to promote the installation of composters and other means of mortality management on poultry farms resulted in accelerated WQMP development.

In 1997, the Texas Legislature passed Senate Bill 1910, which required all poultry farms to have a TCEQ-approved method of dead bird disposal. The law took effect in March 1998. However, the rules were not adopted and did not take effect until fall 1999. It was during this time that requests for poultry-WQMPs significantly increased due to pursuit of cost-share for mandated mortality management. This activity intensified the TSSWCB's poultry initiative.

In response to water quality concerns and the initiation of TMDL development in the Big Cypress/Lake O' the Pines watershed in 1999, the TSSWCB began using §319 funds for cost-share in the area in addition to the Senate Bill 503 cost-share funds already directed to the watershed. Due to rising concerns in nearby watersheds, the TSSWCB also included the Sam Rayburn and Toledo Bend Reservoir

watersheds in its initiative in 1999. The TSSWCB expanded the poultry initiative again in 2001 to the Gonzales area.

All together, the TSSWCB has focused over $5 million in §319 funding and over $3 million in state funding to assist poultry operations with abating NPS pollution in Texas. Another $2.9 million in USDA-NRCS Environmental Quality Incentives Program (EQIP) funding was obligated to assist poultry producers in Northeast Texas and Gonzales County from 2000 to 2003.

The 77th Legislature, in 2001, passed Senate Bill 1339, which requires all poultry facilities in Texas to operate in accordance with a WQMP certified by the TSSWCB. The review and certification process assures the plan includes appropriate practices, management measures, and schedules of implementation.

This law provides a staggered-schedule of deadlines by which each producer, depending on their initial date of operation, must have requested the development of a WQMP from their soil and water conservation district. Any poultry facility constructed after January 1, 2002 is required to have a WQMP prior to the receipt of any birds.

Currently, the TSSWCB is aware of 1488 total dry-litter poultry farms, of which 1368 (92%) currently operate under a certified WQMP. The TSSWCB estimates that 45 farms need to request a plan before January 2008. The other estimated 75 farms have already requested a plan and those plans are in various stages of development. However, there is an ongoing challenge of identifying new poultry farms continually being constructed and put into production and locating other poultry farms not yet identified.

Since 2001, seven soil and water conservation district (SWCD) technicians have been employed under Federal Clean Water Act §319 contracts to develop WQMPs in poultry producing areas. Six of those contracts expired in 2004. The seventh expired in August 2005. An eighth §319 district technician was hired in 2003 with the Shelby SWCD and that contract will expire in March 2007. Three SWCD technicians were hired with funding from SB 1339 and those projects will expire in August 2006. As a result of expiring contracts, there has been a substantial reduction of available staff for developing new plans, conducting status reviews, and revising plans as needed. As currently contracted, only 4 SWCD technicians remain available to assist with poultry WQMP development and review during FY 2006 and only one technician will continue into FY 2007.

Due to changes made by the U.S. Environmental Protection Agency (EPA) to the federal regulations for concentrated animal feeding operations (CAFOs), the Texas Commission on Environmental Quality (TCEQ) adopted a rule change in 2004 that requires dry-litter poultry operations larger than 125,000 or more broilers or pullets, 82,000 or more layers or breeders, or 55,000 turkeys to operate under a water quality permit. Prior to this change in the federal regulations, dry-litter poultry operations were not required to have a permit. The requirement for a permit was initially scheduled to become effective in April 2006. However, due to a federal court decision by the U.S. 2nd Circuit Court of Appeals in February 2005, the EPA has issued a notice that the date by which a permit must be obtained will be extended to allow for rule changes mandated by the court. The new deadline date and whether dry-litter poultry operations will be required to obtain a permit are still pending release by EPA. TSSWCB estimates between 200-500 dry poultry operations would meet the current requirements for a permit. The final CAFO Rule adopted by TCEQ recognizes that a poultry operator's existing WQMP meets the majority of the technical requirements required by a permit. The TSSWCB staff has a new guidance document, *Converting Water Quality Management Plans into Pollution Prevention Plans on Dry Litter Poultry Operations Requesting General Permit Coverage*, to assist poultry producers in utilizing their existing

WQMPs as a component to the general permit, which will be available in the event permitting is required. If permitting is eventually required, TSSWCB will perform status reviews on 20% per year of the permitted operations that use WQMPs as a permit component. TSSWCB will transmit information on each of these status reviews to TCEQ on a quarterly basis. Noncompliant producers will be referred to TCEQ under an existing process.

In FY 2006, the TSSWCB Poultry Office, located in Nacogdoches, continues to develop, update, and review Water Quality Management Plans for poultry producers and provide assistance with all issues related to the Poultry WQMP Program. The office is staffed by the Poultry Program Supervisor and two Natural Resource Specialists. Approximately 677 (45%) of the estimated 1488 dry-litter poultry farms in Texas are located in an eight-county area surrounding Nacogdoches. Approximately 75 (11%) of the farms in those counties still need a WQMP developed. The office also assists other soil and water conservation districts in the state with poultry WQMP development as needed.

The following is a summary of the status of farms statewide needing a WQMP that TSSWCB is currently aware of:

Date Due	Status	Number of Farms
1/1/2002	Not Signed-up	0
1/1/2002	Plans in Progress	0
1/1/2003	Not Signed-up	0
1/1/2003	Plans in Progress and/or Signed-up	2
1/1/2005	Not Signed-up	0
1/1/2005	Plans in Progress and/or Signed-up	1
1/1/2008	Not Signed-up	45
1/1/2008	Plans in Progress and/or Signed-up	56
Unknown	Not Signed-up	0
Unknown	Plans in Progress and/or Signed-up	16
Subtotal:		120
Unknown	Additional Gonzales area farms*	30
Total:		150

* One integrator in the Gonzales area has indicated approximately 30 farms that are or have been wet operations and required permits will now convert to dry operations and will need WQMPs.

NORTH BOSQUE RIVER WATERSHED INITIATIVE

In 1998 the North Bosque River (Segments 1226 and 1255) was included in the Texas CWA §303(d) List of impaired waters under narrative water quality standards related to nutrients and aquatic plant growth.

In February 2001, the TCEQ adopted *Two Total Maximum Daily Loads for Phosphorus in the North Bosque River* for segments 1226 and 1255.

The TMDLs concluded that:

- Use of the two segments was "impaired" by high levels of nutrients.
- The nutrient of principal concern was soluble reactive phosphorus (SRP)
- Reduction of SRP of approximately 50% would reduce the potential for problematic algal growth in the river.
- The major controllable sources of nutrients in the North Bosque River basin were municipal wastewater treatment plants (WWTPs) and NPS pollution from dairy waste application fields (WAFs).

In December 2002, both the TCEQ and the TSSWCB adopted *An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque River Watershed*. The four basic elements of phosphorus control identified in the plan were:

- Phosphorus application rates in WAFs.
- Reduced phosphorus diet for dairy cows to reduce the phosphorus content of dairy wastes.
- Removing approximately half of the dairy-generated manure from the North Bosque River watershed for use or disposal outside of the watershed.
- Effluent limits on phosphorus for municipal wastewater treatment plants.

Before and since the adoption of the Implementation Plan, the TSSWCB TMDL Program has been actively working on numerous projects and programs designed to assist the agricultural community in meeting its recommendations and requirements. Clean Water Act §319(h) Grant Program funding has been used extensively to assist in the development and implementation of the North Bosque River TMDL. Currently, seven CWA §319(h) are actively assisting the implementation of the North Bosque River TMDL. All of the efforts explained in the following discussions are in support of the TMDL and the Implementation Plan.

DAIRY MANURE EXPORT SUPPORT (DMES) PROGRAM

The TSSWCB initiated the Dairy Manure Export Support (DMES) program in an effort to bring an innovative solution to the problem of elevated phosphorus levels in the North Bosque and Leon River Watersheds. The DMES program offers financial incentives to commercial manure haulers to support the transport of raw manure from dairy farms in the North Bosque and Leon River Watersheds to commercial composting operations. The raw manure is then improved through a composting process so it may be put to beneficial use. Entities such as the Texas Department of Transportation and municipalities, as well as agricultural producers and the general public are some of the target purchasers of the composted product. The TCEQ, TSSWCB's partner in the overall regional program, provides rebates to these target purchasers to facilitate the development of a sustainable market. The export of this surplus manure (and the nutrients contained in the manure) will help address concerns regarding potential NPS water quality impacts associated with traditional on-farm land application of manure in the region.

Overall DMES program management is controlled through the TSSWCB. The TSSWCB has contracted everyday activities to the Texas Institute for Applied Environmental Research (TIAER) at Tarleton State University. In April 2001, TIAER subcontracted many aspects of the program to the Foundation for

Organic Resources Management (FORM), which was replaced by imanage, LLC in July 2003. Through FORM, and later imanage, LLC, the DMES program has been managed at the local level through a DMES program office located in Stephenville, Texas. The TSSWCB has contracted TIAER to manage the program through September 30, 2006..

Participation requirements for dairies include being located in the North Bosque and/or Leon River Watersheds. Dairies must have (or have applied for) a TSSWCB–certified Water Quality Management Plan or a TCEQ water quality permit and an approved nutrient utilization plan. Each composting facility must be compliant with all state regulations regarding compost facilities and be approved for participation in TCEQ's Composted Manure Incentive Project (CMIP). Manure haulers must attend a workshop convened by the TSSWCB's contractor and obtain a vendor number from the Texas State Comptroller and authorize direct deposit.

Individual hauling jobs are coordinated through manure haulers that make arrangements with dairies and commercial composting operations. A manure hauler completes a job notification form, which is then submitted to the DMES office for approval. Once approval is received, the manure hauler performs the work and submits an invoice to the DMES office, which is signed by a representative of the dairy, accompanied by load tickets signed by a representative of the composting facility, and a scale ticket for each load. The DMES office prepares semi-monthly reimbursement request summaries, has them approved by TIAER, and then submits them to the TSSWCB for payment. Because the TSSWCB is using Clean Water Act §319(h) funding from the U.S. Environmental Protection Agency (EPA), the TSSWCB must then request that the funds be released from EPA to the TSSWCB. The TSSWCB then issues reimbursements via direct deposit to the manure haulers.

The initial goal of the DMES program was to export 300,000 tons of manure from participating dairy farms during in a three-year project period from November 2000 through October 2003. That benchmark was exceeded in less than two years. Based on remaining funds, the DMES program was projected to end in September 2005. However, an additional appropriation from the 79th Texas Legislature and a CWA §319(h) grant through the TSSWCB will enable the project to be phased out at a reduced reimbursement rate over the course of an additional year.

As of November 30, 2005 more than 930,000 tons of manure has been hauled to commercial composting facilities. It is estimated that this prevented the land application of more than 3 million lbs of phosphorus.

COMPREHENSIVE NUTRIENT MANAGEMENT PLAN (CNMP) PROGRAM

The TSSWCB Comprehensive Nutrient Management Planning (CNMP) Program was developed in response to a control measure recommended in the *Implementation Plan for the North Bosque River Total Maximum Daily Load for Soluble Reactive Phosphorus*. The implementation plan recommended that dairy producers in the watershed voluntarily develop and implement a CNMP, however, the Texas Commission on Environmental Quality (TCEQ) adopted a rule that makes the recommendation a requirement. This program is confined to the North Bosque River Watershed by TSSWCB rule.

A CNMP is a resource management plan containing a grouping of conservation practices and management activities which, when combined into a conservation system, will help ensure that both agricultural production goals and natural resource concerns dealing with nutrient and organic by-products and their adverse impacts on water quality are achieved. A CNMP incorporates practices to utilize animal manure and organic by-products as a beneficial resource. The TSSWCB selected requirements for a

CNMP based on the TCEQ rules and regulations required for permitted and unpermitted animal feeding operations and criteria outlined in the *Field Office Technical Guide (FOTG)*, a publication of the United States Department of Agriculture's Natural Resources Conservation Service (NRCS). The FOTG represents the best available technology and is already tailored to meet the needs of soil and water conservation districts all over the nation. To be certified by the TSSWCB, the local SWCD, the producer, and the local NRCS Field Office must approve a CNMP.

Although the TSSWCB adopted a set of technical criteria and program guidance that was customized for the specific resource concerns of the North Bosque watershed in 2003, recent changes to the technical requirements for permitted dairies under the TCEQ permitting program has resulted in the need for an update. The TSSWCB adopted an updated criteria and guidance document in May 2005.

TEXAS ATRAZINE INITIATIVE

BACKGROUND

Atrazine is a pre-emergent herbicide primarily used to control broadleaf and grassy weeds in corn and sorghum. Since it went on the market in 1958, it has become the most widely used herbicide in the United States.

It is classified as a restricted use herbicide due to its potential for groundwater contamination. Inconsistent with its restricted use designation, it is commonly found in W*eed and Feed* and other home and garden products, making it not only an agricultural issue, but an urban issue as well.

Atrazine, a chlorinated triazine herbicide, acts as a photosynthesis inhibitor. It is nontoxic to humans, having about the same toxicity as table salt. It has no adverse reproductive effects. It's not teratogenic or mutagenic. Only low levels of bioaccumulation may be expected in fish organs. It is nontoxic to birds and only slightly toxic to aquatic life.

Atrazine is, however, a possible human carcinogen (Class C). Due to this, a Maximum Contaminant Level (MCL) of 3 µg/L (micro-grams per liter) has been established for finished drinking water. A micro-gram would equate to 0.000,001 grams per liter of water.

Atrazine is persistent in the environment, having a field half-life of 60 days. It is moderately soluble in water and is not removed from drinking water by conventional water treatment methods. Activated carbon, ozonation, cation exchange, and UV treatment methods must be used to remove it from drinking water.

Because of its persistence, solubility, and widespread use, Atrazine is commonly found in surface water. A 1993-95 US Geological Survey (USGS) study of pesticides in urban and agricultural streams in the Trinity River Basin found Atrazine in 100% of samples from both sources. This suggests that Atrazine is both an agricultural and urban problem. The concentrations in the agricultural streams were, however, greater than the concentrations in the urban streams.

DEVELOPMENT OF THE TEXAS APPROACH

In Texas, testing of Atrazine in drinking water began in 1993. However, the method used only had a detection limit of 3 µg/L, and little detection was observed. In 1996, the state began using EPA (testing)

Method 525.2, which has a much lower detection limit 0.065µg/L. Once the state began using this new (testing) method, numerous detections began appearing around the state in both surface and groundwater supplies. Between 1996 and 1999, Atrazine was detected in 69 water supplies around the state. In addition to drinking water monitoring, some raw water monitoring for Atrazine has been performed, but it has been infrequent and project specific.

In 1995, due to a detection of 9.6 µg/L in Marlin City Lake, the Marlin City Manager contacted the TCEQ-Source Water Assessment and Protection (SWAP) team for assistance. The City of Marlin and TCEQ-SWAP team then approached EPA for federal assistance. In 1996, Marlin City Lake was designated an EPA Region 6 Pilot Source Water Protection Program project.

To deal with the growing number of Atrazine detections around the state, TCEQ-SWAP formed an "Atrazine Steering Committee" in 1997 (later, the committee was renamed the "Surface Water Protection Committee). Committee membership consisted of the TSSWCB, the TDA, Texas A&M University, Novartis, the USDA- NRCS, the USDA-Agricultural Research Service (ARS), the Texas Farm Bureau, the Brazos River Authority, and municipal representatives. The committee's goal was to develop a strategy to address the numerous detections of Atrazine in drinking water in a proactive manner through BMP implementation and public education.

In 1998, nine reservoirs were listed as impacted by Atrazine on the §303(d) List. One of these, Aquilla Reservoir was listed as impaired by Atrazine. The running annual average at the Aquilla Water Supply District's treatment plant for the second quarter of 1997 through the first quarter of 1998 was 4.0 µg/L, violating the drinking water standard (3 µg/L) and triggering the listing of Aquilla Reservoir as an impaired water of the state. The other eight reservoirs, Lake Bardwell, Joe Pool Lake, Marlin City Lake, Lake Lavon, Lake Tawakoni, Richland Chambers Lake, Lake Waxahachie, and Big Creek Lake, were listed as threatened by Atrazine.

Following the listing of these reservoirs on the §303(d) List, the state began developing and implementing an initiative to remediate the Atrazine threats and impairments consisting of:

- Performing a standard TMDL in Aquilla Reservoir
- Building on the Source Water Protection Program in Marlin City Lake
- Performing targeted monitoring and implementing BMPs in the 7 threatened lakes

IMPLEMENTATION OF THE ATRAZINE INITIATIVE

The Aquilla TMDL was initiated in November 1998. It was a cooperative effort among the Texas Agricultural Experiment Station (TAES), Texas Cooperative Extension (TCE), Texas Department of Agriculture, Texas A&M University, TCEQ, TSSWCB, NRCS, Novartis, and local stakeholders. Over $500,000 was provided for the Aquilla and Marlin projects through PPG funds, §§319(h), 604(b), Source Water Protection, TCEQ GR, and in-kind contributions. Stakeholder committees were formed for the Marlin and Aquilla projects. Training for pesticide applicators, demonstration of BMPs, and TEX*A*SYST was provided by the TAES in cooperation with the TCE. The Texas Agricultural Experiment Station conducted monitoring in the Aquilla and Marlin Watersheds. SWAT modeling of the watershed was completed as an in-kind contribution effort of NRCS, TDA, and TCEQ. Economic analyses of the implementation of BMPs on farms in both watersheds were also completed by the TAES.

The TMDL for Atrazine in Aquilla Reservoir was adopted by the TSSWCB and TCEQ in March 2001, and was revised in June 2002 in response to comments from the Environmental Protection Agency (EPA).

The implementation plan was approved by the TSSWCB and TCEQ in January 2002. Region 6 of the EPA approved the TMDL on October 30, 2002.

The TMDL stated that a load reduction of approximately 25% would result in attainment of the water quality standards.

The environmental target set for measuring the success of the TMDL implementation plan is a running annual average concentration of Atrazine *in the reservoir* that does not exceed 3.0 µg/L for two consecutive years.

The TCEQ and the TSSWCB had the leadership roles for implementing the project, as well as for developing the TMDL. The key groups involved in implementing the plan at the local watershed level were agricultural producers and city governments. Regionally, the key partners were Aquilla Water Supply District, the Woodrow-Osceola Water Supply Corporation, the Hill County Appraisal District, and the Hill County-Blackland Soil and Water Conservation District. The Texas Cooperative Extension (TCE) and the Texas Department of Agriculture (TDA) also implemented aspects of the project. The U.S. Army Corps of Engineers, the federal agency that owns and operates the lake, also cooperated.

Since the source of the Atrazine was known, some activities were initiated before the TMDL and its implementation plan were complete. In 1998, the NRCS established the Aquilla EQIP Priority Area. From 1998-2003, the NRCS obligated over $2 million to implement BMPs in the Aquilla Watershed. Along with the EQIP funding, the TSSWCB initiated a §319 project in 1999 to provide cost-share and technical assistance through the Hill County-Blackland SWCD to encourage the implementation of BMPs in the Aquilla Watershed to reduce sediment and pesticide runoff from corn and sorghum farms.

In 1999, Aquilla area farmers formed a Producers Atrazine Action Committee. Meetings featured speakers on water quality topics and training on pesticide application. The Producers Committee developed a list of BMPs recommended for use in the watershed, and composed a questionnaire to document adoption of BMPs over time. In addition, the committee met with pesticide dealers to increase dealers' awareness of the problem and to gain their assistance. The practice to incorporate herbicides into the soil upon application was already adopted by about 33% of area producers at the end of the first year, and reached nearly 100% by the third year of the project.

In the seven threatened lakes, targeted monthly monitoring was conducted near water supply intakes to verify the level of impairment and provide baseline data for future actions. Texas A&M University conducted the analysis. Water quality sampling conducted by the TCEQ was used to measure the effectiveness of the practices. In addition, Syngenta, a private corporation that markets Atrazine, continued its voluntary pesticide-monitoring program with the area's public water suppliers.

Partners in the program include the TSSWCB, the TCEQ, the TDA, the TPWD, the Texas Agricultural Experiment Station (TAES), the TCE, and the federal Natural Resources Conservation Service (NRCS). Several other agencies and interested parties were involved, including the EPA, the Brazos River Authority, the Sabine River Authority, the Aquilla Water Supply District, and Syngenta (formerly Novartis), a private corporation.

Monitoring was completed in August 2003, with the exception of Bardwell and Lake Waxahachie. The City of Waxahachie continues to sample these lakes to obtain the needed 36 monthly samples.

Technical and financial assistance was provided to corn and sorghum farmers to implement BMPs in the seven lakes watersheds through 12 TSSWCB §319 projects funded by EPA, over $4.1 million in cost share and TA was provided to farmers through SWCDs. Demonstrations, monitoring, and modeling were also conducted through TSSWCB 319 projects to support and evaluate the implementation of BMPs in the seven threatened lakes. Through the TSSWCB 319 program, almost $4.6 million has been obligated to address the Atrazine issues in the seven threatened lakes.

In 2000, the Little River was listed as threatened by Atrazine. In response to this listing, the TSSWCB initiated two 319 projects in 2002 to provide technical and financial assistance to the area to address this threat. These efforts were continued in 2003 with the provision of additional funding. Over $1.1 million in 319 funding has been provided to encourage BMP implementation.

ATRAZINE INITIATIVE RESULTS – A SUCCESS STORY

As a result of the Atrazine Initiative, Atrazine concentrations in Aquilla Reservoir have been reduced to safe levels. Between 1998 and 2003, Atrazine concentrations in Aquilla Reservoir have been reduced by approximately 60%, to amounts lower than those required for treated drinking water. There have also been no Atrazine concentrations higher than the allowable amount at the Aquilla Water Supply District's drinking water treatment plant. Monitoring will be continued on a quarterly schedule to ensure that Atrazine concentrations remain at a safe level. The BMPs implemented to help reduce the level of Atrazine are under contract for five years and as long as they are maintained, the level of detectable Atrazine should remain below standards.

Monitoring by TCEQ indicates that Atrazine concentrations in five of the seven lakes have been reduced to levels that warrant their reclassification from threatened. Those lakes are now attaining their uses as a source for treated drinking water.

The other two lakes, Bardwell and Waxahachie Reservoirs, are still being monitored. However, trends in those two reservoirs indicate that they, too, will no longer be classified by the TCEQ as threatened within the next six months.

COASTAL MANAGEMENT PROGRAM

BACKGROUND

The Texas Coastal Management Program (CMP) was created to coordinate state, local, and federal programs for the management of Texas coastal resources. The program brings in federal Coastal Zone Management Act (CZMA) funds to Texas state and local entities to implement projects and program activities for a wide variety of purposes. The Coastal Coordination Council (CCC) administers the CMP and is chaired by the Commissioner of the GLO. It comprises the chair or appointed representatives from the TPWD, the TCEQ, the TWDB, TxDOT, a member of the Texas State Soil and Water Conservation Board, a member of the RRC, the director of the Texas A&M University Sea Grant Program and four gubernatorial appointees. These members are selected to provide fair representation for all aspects concerning coastal issues.

The Council is charged with adopting uniform goals and policies to guide decision-making by all entities regulating or managing natural resource use within the Texas coastal area. The Council reviews significant actions taken or authorized by state agencies and subdivisions that may adversely affect coastal

natural resources to determine their consistency with the CMP goals and policies. In addition, the Council oversees the CMP Grants Program and the Small Business and Individual Permitting Assistance Program.

The Coastal Zone Act Reauthorization Amendments (CZARA), Section 6217, requires each state with an approved coastal zone management program to develop a federally approvable program to control coastal nonpoint source pollution. The Texas CCC appointed a Coastal Nonpoint Source Pollution Control Program workgroup to develop this document. The National Oceanic and Atmospheric Administration and the U.S. Environmental Protection Agency jointly administer the program. In Texas, two agencies hold primary responsibility for the program's development and implementation: the Texas Commission on Environmental Quality and the TSSWCB.

Section 6217 calls for implementation of management measures (§6217(g) measures or (g) measures) that will control significant nonpoint sources of pollution to coastal waters. Six source categories are addressed by these measures: agriculture, forestry, urban and developing areas, marinas, wetland/riparian areas, and hydro modification. States can use voluntary approaches combined with existing state authorities to achieve implementation of management measures. However, if the voluntary mechanisms are not effective, states must have backup enforcement authorities in place to ensure that management measures are implemented.

Texas submitted the Texas Coastal Nonpoint Source Pollution Control Program to EPA and NOAA in December 1998. In October 2000, Texas submitted the Texas Coastal NPS Control Program 15-year Program Strategy and FY 2001-2005 Implementation Plan.

Final findings were issued by NOAA/EPA in July 2003, which contained conditional approval of the program. The agricultural and silvicultural portions of the program were approved without conditions.

CURRENT STATUS

The TSSWCB is responsible for implementing the agricultural and silvicultural management measures of the program. The main mechanism we have for this is the State's cost-share program for implementing Water Quality Management Plans on farms and ranches through local soil and water conservation districts (SWCD). For over six years, more than $300,000 of state funds has been spent annually in the coastal zone districts to provide cost-share to implement over 1600 Water Quality Management Plans.

In addition to state funding, Texas receives §6217 funding from NOAA for implementing the Coastal Nonpoint Source Pollution Control Program. For the past several years, SWCDs in the Coastal Management Zone have received grants from NOAA's §6217 Implementation Funds to install agricultural management measures through the TSSWCB Water Quality Management Plan program. This has been very effective in expanding Texas' effort in carrying out the agricultural portion of its coastal nonpoint source program.

In March 2004, NOAA issued final guidance for the program funds. The guidance no longer allows these funds to be used to implement agricultural best management practices on private lands. As a result, federal funding is no longer available for SWCDs to implement agricultural management measures beginning in FY06. In addition, the FY05 NOAA budget cut the Coastal Nonpoint Source Pollution Control Program funding by 70%. The FY05 amount Texas received was only $112,000. The amount, if any, of FY06 funding for coastal nonpoint source pollution control programs.

In the meantime, our Water Quality Management Plan program in the coastal management zone continues.

Implementation of the silvicultural management measures in the coastal zone is through a CWA §319 grant from the TSSWCB to the Texas Forest Service.

INFORMATION TECHNOLOGY

New Agency Security Policies
Working with guidance from the Department of Information Resources, the agency information resources manager developed a comprehensive set of new security policies to help safeguard the agency's IT infrastructure and its program data. These policies were also designed to ensure agency compliance with state law. The new policies went into effect May 1, 2005.

Conservation Program Database Application
The network specialist continued work from January 2005 – June 2005 on the development of a web-based database application to be used to track information related to the agency's conservation programs. This project will provide significant improvements in the efficiency, security, and usefulness of the agency's program data. Several features have been added to the original design of this application and have delayed its original target deployment date, but the application should be available to agency staff about the middle of the 2006 fiscal year. This project has been developed on and will be implemented using an open source software stack, and will result in no cost to the agency for software purchases, licensing or third-party support.

Linux Desktop Evaluation
In April 2005 the network specialist began preparing for a limited trial of the open source Ubuntu Linux distribution at the agency's headquarters office. Faced with limited funds available to replace PCs that are at or past their expected life cycle, the agency is evaluating whether or not a freely available Linux desktop operating system can help maximize the use of available funds toward needed PC hardware. The open source software used in this project will not result in any cost due to software purchases or licensing.

PUBLIC INFORMATION /EDUCATION REPORT FY05

GENERAL OVERVIEW

The purpose of the public information/education program is to provide leadership and coordination of information/education programs relating to the agency and district programs, services, operations and resources. The TSSWCB prepares and disseminates public information relative to the agency and district functions, programs, events and accomplishments for the public and to farmers and ranchers. TSSWCB staff coordinates seminars, conferences, workshops, displays at trade shows and training for district directors and district bookkeepers, conservation professionals, youth groups and other entities. Staff provides guidance to districts with their own individual information/education programs as well as regional and state information/education programs initiated by districts. Staff prepares and disseminates press releases, news stories and printed promotional products. The TSSWCB monitors the use of the publications and use of information. Staff represents the agency as needed with various information/education groups and entities. The TSSWCB has a cooperative agreement with the Association of Texas Soil and Water Conservation Districts to provide assistance and help coordinate

district involvement and participation with Association's Information/Education Committee and its programs.

2005 Summer Teacher Workshops

Several teacher workshops are held each summer for teachers interested in conservation and natural resource issues. The workshops are held in various parts of the state in cooperation with the TSSWCB. The Texas Environmental Education Advisory Committee to the Texas Education Agency approves the content of these workshops, sponsored by the TSSWCB. As an approved Environmental Education Professional Development Provider teachers are able to get credit hours toward their required continuing education units (CEUs), while experiencing nature and the outdoors.

Pedernales SWCD hosted a Teachers Workshop in Johnson City, Texas at the Franklin Family Ranch on June 14-16, 2005. Topics included barren waste, water cycle, plants in the Texas hill country, wildlife biology, and prescribed burning.

2005 Texas Conservation Awards Program

Each year, the Texas State Soil and Water Conservation Board and the Association of Texas Soil and Water Conservation Districts co-sponsor the Texas Conservation Awards Program to recognize and honor those who dedicate themselves and their talents to the conservation and wise use of renewable natural resources. The 2005 Awards Program marked the 27th year of this joint program.

Local districts select their outstanding individuals as winners and submit them by mid-February each year for regional judging. Those selected as regional winners are honored each May at regional Awards Banquets. From these regional winners, a state winner is selected for the Outstanding Conservation Districts, Outstanding Conservation Teacher, Poster Contest, and the Essay Contest. These individuals are invited to the Annual State Meeting for recognition. The State winners for 2005 were:

- Outstanding Conservation District – Pedernales SWCD, Johnson City, Ralph M. Eberling, Chairman.
- Outstanding Conservation Teacher – Karen Abbey, Second Grade, Teague Elementary School, Teague, Freestone SWCD.
- Poster Contest – Lucas Miguel Hernandez, Austwell-Tivoli Elementary School, Tivoli, Capino Bay SWCD.
- Essay Contest (Ages 13 and under) – Marley Schaffer, Claude Middle School, Claude, Staked Plains SWCD.
- Essay Contest (Ages 14 to 18) – James Michael Reichert, Chapel Hill High School, Mt. Pleasant, Sulphur-Cypress SWCD.

The conservation awards program provides competition and incentives to expand and improve conservation efforts, resource development, and increase the wise utilization of renewable natural resources. As a result, soil and water conservation districts, and both rural and urban citizens of Texas are benefited.

Soil and water conservation districts may enter their local recognition honorees in any of 10 categories (East Texas has an additional category of Forestry Conservationist), depending on appropriateness to the category description. For the youth of the district, there is also a poster and essay contest. The categories and a brief description of each are:

OUTSTANDING CONSERVATION DISTRICT

Awarded to the winning soil and water conservation district in each area for the most outstanding program during the past fiscal year.

RESIDENT CONSERVATION RANCHER

Awarded to the outstanding resident conservation rancher in each area. They **must** be a resident of the district, perform ranching activities within the district and be a cooperator with the district from which the entry was submitted. The rancher may have other business or professional interests.

RESIDENT CONSERVATION FARMER

Awarded to the outstanding resident conservation farmer in each area. They **must** be a resident of the district, perform farming activities within the district and be a cooperator with the district from which the entry was submitted. The farmer may have other business or professional interests.

ABSENTEE CONSERVATION FARMER/RANCHER

Awarded to the outstanding absentee conservation farmer or rancher in each area. They **must** reside **outside** the district, but operate farming or ranching activities within the district and be a cooperator with the district from which the entry was submitted. The person may have other business or professional interests.

WATER QUALITY MANAGEMENT PLAN

Awarded to the outstanding Water Quality Management Plan recipient in each area. They **must** be a district cooperator who has a district approved Water Quality Management Plan and has incorporated water quality into their farming or ranching activities and soil and water conservation work.

ESSAY CONTEST –TWO CATEGORIES (THOSE 13 AND UNDER AND THOSE 14 TO 18 YEARS OF AGE)

Essays (topic: "Celebrate Conservation") are to be submitted to local soil and water conservation districts for local judging. Each local district will judge the entries and submit three essays to the TSSWCB for competition on the area level. Plaques will be awarded to 1st, 2nd and 3rd place winners on the area level and state winners will be selected from the area winners. This contest is open to students, in two categories, one for those ages 13 and under, and the other category for those ages 14 to 18 years of age and does not jeopardize Texas University Interscholastic League eligibility.

POSTER CONTEST

Posters should address one of the following subjects: "Food for the Future" or "The Living Soil". Posters shall be submitted to local soil and water conservation districts for local judging. Each local district will judge the entries and submit three posters to the TSSWCB for competition on the area level. Plaques will be awarded to the 1st, 2nd and 3rd place winners on the area level and state winners will be selected from the area winners. This contest is open to students, 12 years and under, and does not jeopardize Texas University Interscholastic League eligibility.

BUSINESS/PROFESSIONAL INDIVIDUAL

Awarded to the outstanding man or woman in the business community who has rendered the most unselfish conservation service in each area. Representatives of the news media (radio, television, newspaper, magazines, etc) who contribute to or provide support for conservation shall also be considered eligible for this award. (This award is not for individual conservation practices or individuals who, because of employment, assist with or augment the work of the soil and water conservation district.)

CONSERVATION TEACHER

Awarded to the outstanding teacher of conservation in schools in each area. Teachers of all grade levels are eligible for this award.

WILDLIFE CONSERVATIONIST

Awarded to the outstanding wildlife conservationist in each area. They **must** be a district cooperator who has incorporated wildlife conservation into their farming and ranching activities.

CONSERVATION HOMEMAKER

Awarded to the outstanding conservation homemaker in each area. The homemaker and or family **must** own or operate a farm or ranch, be a district cooperator and have knowledge of the conservation programs being implemented.

CONSERVATION DISTRICT EMPLOYEE

Awarded to the outstanding soil and water conservation district employee who exhibits a degree of knowledge, skill, ability, and leadership that clearly results in superior job performance far above the basic requirements of the position.

FORESTRY CONSERVATIONIST *(AREA IV ONLY)*

Awarded to the outstanding forestry conservationist for the most outstanding farm forestry conservation program in the commercial forest areas of Texas. They **must** be a district cooperator or an individual who has implemented conservation practices on their land and has done missionary work for conservation and the district program.

SOIL & WATER STEWARDSHIP PUBLIC SPEAKING CONTEST

The Soil & Water Stewardship Public Speaking Contest is open to high school FFA students interested in conservation. The contest is aimed at broadening students' interest and knowledge of conservation and how individuals must depend on and take care of the world around them for survival. The contest is coordinated through the Texas FFA, with contests at the local, area and state level. Local winners compete in the 10 state FFA areas and those winners compete for the state title. The theme for the 2006 contest will be “Water Wise.”

To prepare for the contest, students are to consult with their Agriculture Science teacher and work with their local soil and water conservation district. Students are encouraged to visit with their local SWCD to find out more about conservation practices in their area.

This project is a partnership between the Texas FFA, the Vocational Agriculture Teacher's Association of Texas, The Texas State Soil and Water Conservation Board, and the Association of Texas Soil and Water Conservation Districts. The 2005 regional winners were:

Britnee Brotherton, Floydada, Floyd County SWCD
Jordan Gregory, Lamesa, Dawson County SWCD
Meredith Timms, Katy, Harris County SWCD
Leeza Henderson, Quanah, Lower Pease River SWCD
Tara Smithwick, Krum, Denton County SWCD
Julia Nelson, Ore City, Upshur-Gregg SWCD
Joanna Hensley, Florence, Taylor SWCD
Wesley Dunlap, Riesel, McLennan SWCD
Julianna Bloodworth, Livingston, Polk-San Jacinto SWCD
Dustin Burke, Corpus Christi, Nueces SWCD

The State Winner of the Soil and Water Stewardship Public Speaking Contest is invited to attend the Annual State Meeting each year and asked to deliver their winning address. The 2005 State Winner was selected on July 12, 2005 at the State FFA Convention held in Lubbock. The 2005 State Winner is Britnee Brotherton, a Junior at Floydada High School, Floydada.

WILDLIFE ALLIANCE FOR YOUTH

The Wildlife Alliance for Youth (WAY) contests offer opportunities at the local district level for 4-H and FFA students to demonstrate their knowledge of the outdoors on wildlife habitat and management, wildlife laws, sportsmanship and other factual information on wildlife. The program offers scholarships to contest winners. It is a powerful tool for students to become involved in conservation and obtain an appreciation for wildlife.

Agriculture Science students, who compete in the WAY Contest, first acquire the foundational knowledge and skills for this event through the Agscience 381 - Wildlife and Recreation Curriculum. The WAY contests address the following nine subject areas in Wildlife and Recreation Management: Wildlife Plant Identification; Wildlife Plant Preferences; Wildlife Biological Facts; Wildlife Habitat; Habitat Management; Game Laws; Hunter and Boater Safety; Compass and Pacing; and Identification Techniques. Students should have an understanding of these subject areas before they compete.

The WAY contests are held in the five Texas State Soil and Water Conservation Board areas. Area IV (East Texas) holds their contest in the fall. Area V (North Central), Area I (Panhandle), Area II (West Texas) and Area III (South Texas) all hold their contests in the spring. Each team is certified to the area level by their local SWCD. The WAY State Contest is held each year in one of the geographical areas of the state. About 600 high school students participate in the statewide competition.

The TSSWCB is the lead agency in sponsoring and organizing the contests. The Association of Texas Soil and Water Conservation Districts, USDA- Natural Resources Conservation Service, Texas Parks and

Wildlife Commission, Cooperative Extension service, and the Texas Education Agency, along with local soil and water conservation districts (SWCD), all partner in the success of the youth organization.

STATE WOODLAND CLINIC AND CONTEST

The Texas State Woodland Clinic and Contest is held annually in the month of April. It is a joint effort between local soil and water conservation districts, Stephen F. Austin University School of Forestry and the NRCS-USDA.

The contest is an opportunity for 4-H and FFA youth to demonstrate their expertise in different aspects of forestry management and skills in identification of needed practices and management techniques. Competition is between teams composed of four members representing either a 4-H Club or a FFA Chapter. Prior to the state contest several local districts conduct contests for 4-H Clubs and FFA Chapters within their district and the surrounding area.

The contest began in the late 1950s and was initiated by local SWCDs and timber industry personnel to develop forestry and woodland curriculum in schools in the commercial timber area of the state (East Texas Piney Woods). The clinic and contest have experienced widespread popularity and now has participation from outside of the commercial timber area on a regular basis. The state participation level for teams averages around 55 teams per year, with the vast majority of teams being composed of FFA Chapters. Winners at the state level are eligible to participate in the four states regional woodland contest held each May in one of four states. Texas, Louisiana, Arkansas and Oklahoma host the regional contest on a rotational basis.

REGIONAL WOODLAND CONTEST

The four states regional woodland contest is sponsored by soil and water conservation districts in each of the four states with program and technical support provided by USDA-NRCS and Resource Conservation and Development (RC&D), state organizations and industry personnel. The soil and water conservation districts in Texas hosted the first four states or southern regional woodland contest in 1984.

An attempt was made to expand this clinic and contest to a national level. However, that effort was dropped due to the wide diversity of forestry species and management practices across the nation.

Each state is allowed to send a maximum of six teams to the regional contest. Each state has a competition that determines the six teams from that state that may enter in the regional contest. Those teams may be composed of individuals representing either a 4-H Club or an FFA Chapter.

The 2005 regional clinic was hosted by Oklahoma at Beaver Bend State Park.

CONSERVATION EDUCATION VIDEO LIBRARY

The Association of Texas Soil and Water Conservation Districts has established and updates a conservation related video library that is maintained by TSSWCB staff on their behalf for the benefit of local districts and educators. Currently there are 194 conservation-related videos in the library available to districts and teachers. No rental fees are assessed to those wishing to borrow the videos from the library. Borrowing privileges are for a length of two weeks and must be returned upon date specified by the librarian. Videos can be ordered through your local soil and water conservation district or by contacting

the TSSWCB. For the calendar year, there have been 150 videos of various titles loaned out to districts and teachers across the state.

CONSERVATION EDUCATION MODELS

The Nonpoint Source Pollution Watershed Flow Model and the Groundwater Flow Model allow students to understand how water supplies can become polluted from nonpoint sources through interactive demonstrations.

NONPOINT SOURCE (NPS) POLLUTION WATERSHED FLOW MODEL

The NPS model is a hands-on representation of a landscape that allows students to understand how water sources can become polluted from nonpoint sources. The plastic landscape structure has industrial, undeveloped, agricultural, and residential and roadway features complete with individual houses, trees, cars, tractors and cows. When "rain" falls on the model, the runoff flows into a city lake. Using various products to add color to the water, the model demonstrates how potential pollutants are picked up by run-off.

The model is a layout of a watershed that includes all the factors that may contribute to polluting our water. (Urban features such as: factories, parking lots, construction sites, lawn chemicals and golf courses and Rural features such as: forested land, dairies, feedlots, cropland and pastureland). To demonstrate how each type of potential pollutant can enter a water body Kool-Aid and cocoa are used to color "runoff". Grape Kool-Aid is used to represent pollution from factories and oil from parking lots and roads. Orange Kool-aid represents pollution from lawn chemicals, golf courses, and cropland and pastureland chemicals. Cocoa is used to represent pollution from construction sites, forested land, dairies and feedlots. The Kool-aid and Cocoa are sprinkled on the model in the areas that represent each type of pollutant. Once all the pollutants are sprinkled on the model a spray bottle with water is use to represent rainfall. As the pollutants get wet and start to runoff the students can see how the water carries them to the streams and into the lake where we get our drinking water. Once all the pollutants have run into the lake the students can see how these factors have the potential to make surface waters unattractive and unsafe. This demonstration leads to a discussion about how to protect the water quality and prevent our water from looking like the model.

GROUNDWATER FLOW MODEL

This model shows a cross-section of soil layers with a lake, a lagoon, and several wells represented. It uses a vacuum pump to make the water move through the soil layers and injection dyes to help visualize the flow of groundwater though soil and demonstrates how pollutants can travel in groundwater. The model demonstrates both percolation and the movement of groundwater due to pumping. Accompanied by an instructional video with tips on the setup, presentation and cleanup, the model is useful and easy to use.

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
00-1	**Administration of the FY2000 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY00 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$115,477
00-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY00 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$197,972
01-1	**Administration of the FY2001 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY01 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$228,574
01-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY01 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$208,890
01-4	**North Texas Atrazine Remediation**	Collin County SWCD 535	Provide corn and sorghum producers in the Lake Lavon, Lake Tawakoni, and Big Creek Lake watersheds with financial/technical assistance for WQMP implementation aimed at reducing Atrazine runoff, and provide water quality educational activities.	4/11/01 3/31/06	$404,200
01-13	**Technical and Financial Assistance in the Bosque River Watershed**	Cross Timbers SWCD 556	Provide technical/financial assistance to landowners toward development and implementation of WQMP for the purpose of reducing NPS nutrient losses from agriculture operations that land-apply animal waste. Monitoring of micro-watersheds will be performed in order to determine NPS reductions.	12/23/01 3/31/06	$1,800,607

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
02-1	**Administration of the FY2002 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY02 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$304,132
02-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY02 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$311,290
02-4	**Texas Silviculture**	Texas Forest Service	Project will reduce significant risks to water quality from silvicultural NPS pollution by implementing BMPs and increasing silvicultural NPS awareness. Statewide evaluation of silvicultural BMP adoption. Provide technical assistance. Continue a silvicultural WQMP & increase coordination among entities.	5/1/02 11/30/05	$503,293
02-5	**Little River Atrazine Remediation**	Central Texas SWCD 509	Project will provide corn & sorghum producers in the Little River watershed with an opportunity to participate in water quality educational activities, technical assistance, and financial assistance for implementation of BMPs, to reduce atrazine runoff.	4/9/02 3/31/06	$433,482
02-6	**Little River Atrazine Remediation**	Little River - San Gabriel SWCD 508	Project will provide corn & sorghum producers in the Little River watershed with an opportunity to participate in water quality educational activities, technical assistance, and financial assistance for implementation of BMPs, to reduce atrazine runoff.	4/29/02 3/31/06	$328,482
02-10	**DNA Sample Collection/Library**	TFB, TAES, TAMU AREC	Develop publicly available, comprehensively characterized genetic fingerprint and antibiotic resistance libraries of approx. 1,000 unique E.coli isolates from known animal, human & wastewater sources from Bosque and Leon River watersheds.	11/1/02 9/30/05	$780,836

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds

02-11	**Phosphorus Index**	TCE	Determine the effects of selected soil properties on measured and predicted P runoff. Compare and correlate different soil test & soil solution extractable P levels to runoff P. Validate and/or modify the TX P Index as a predictive tool for classification of field sites relative to P loss potential.	9/27/02 3/31/06	$203,178
02-12	**Three - Technicians**	Southmost, Shelby, & Ellis-Prairie SWCDs 319, 349, 350, 401, 449, 504, & 514	Three technicians will work under the direction of SWCDs, with assistance when needed from the TSSWCB regional offices, and NRCS to assist landowners in the development, implementation, &/or maintenance of WQMPs/BMPs. Technicians will be placed in three SWCDs and will work in adjacent SWCDs through cooperative agreements between the participating SWCDs.	9/11/02 12/31/05	$519,589
02-13	**Oso Creek/Oso Bay Watershed Implementation Assistance**	Nueces SWCD 357	Technical assistance will be provided by Nueces SWCD and TSSWCB Harlingen Regional Office to landowners within Oso Creek/Oso Bay Watershed to develop and implement WQMPs within the watershed.	9/5/02 12/31/06	$544,302
02-14	**North Texas Atrazine Demonstration**	TCE	Demonstration and educational activities will be conducted to foster the implementation of BMPs within the Big Creek Lake Watershed to reduce atrazine in runoff.	9/11/02 3/31/06	$206,636
02-15	**Water Quality Information/Education**	TSSWCB Statewide	Development of newspaper articles, informational brochures/flyers, display exhibits and promotional materials that include both water quality and water conservation messages to increase public awareness.	3/31/02 3/31/07	$135,000

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
02-16	**Implementation Support Project**	Southmost	Project will provide additional funding for ongoing	9/11/02	$547,307

	in the Arroyo Colorado Watershed	SWCD 319	implementation efforts in Arroyo Colorado watershed. TSSWCB projects entitled "WQMP Implementation Assistance in Arroyo Colorado Watershed"(99-3) & "SWCD WQMP Development, Implementation &/or Maintenance Assistance" (02-12) will provide technical assistance for the project with coordination from the Harlingen Regional Office.	12/31/05	
02-18	**Athletic Field Topdressing as a Commercial Market for Compost from Dairy Manure (Field of Dreams Project)**	Leon-Bosque RC&D Council	Overall project goal: Gain commercial acceptance of blend of compost and sand for topdressing of athletic fields through demonstration on athletic fields.	7/1/04 6/30/06	$52,500
02-20	**Saltwater Revegetation**	Young SWCD	Demonstration project designed to show conservation practices and different seeding and mulching methods to establish best grass cover.	5/4/05 3/30/07	$15,060
03-1	**Administration of the FY2003 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY03 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$154,231
03-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY03 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$245,109
03-3	**The Aquatic Experience**	UCRA SWCD 219, 248, 251	"*The Aquatic Experience"* will be an education about NPS inputs and provide opportunities for area public schools to interact with the aquatic environment.	11/1/03 3/30/06	$19,200

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
03-4	**Texas Silviculture BMP Effectiveness Study**	TFS	Project will serve to quantify improvements in the quality of surface water in East Texas. Established	7/1/03 4/31/06	$367,620

			TSSWCB WQMP Program will continue as part of this project to increase coordination among all entities involved.		
03-5	**Sam Rayburn WQMP Implementation Supplemental**	Shelby SWCD 449	Provide financial assistance to landowners for development/implementation of WQMPs. Foster coordinated technical assistance activities in Sam Rayburn Reservoir and Toledo Bend Reservoir watersheds between TSSWCB, SWCD, NRCS, and other interested individuals. Compile info. on the location/types of BMPs for WQMPs implemented.	6/16/03 3/31/06	$350,000
03-6	**E.V. Spence Saltcedar**	TSSWCB SWCD 115, 207, 219, & 243	Provide technical and financial assistance toward implementation of targeted brush control activities for the purpose of reducing NPS loadings from saltcedar in the E.V. Spence Reservoir.	11/1/03 3/31/06	$2,208,446
03-7	**Bacteria Monitoring for Buck Creek**	TWRI SWCD 109	Monitor water quality as related to bacterial NPS pollution in Buck Creek by in-stream water sampling to facilitate TMDL definitions and guidance if needed.	11/1/03 3/31/06	$247,198
03-8	**Nitrate Impacts in Groundwater**	TCE	Project will design and implement a cover crop demonstration using three different winter cover crops and one bare soil.	11/1/03 3/31/06	$98,341
03-9	**Central Texas WQMP Implementation Supplemental**	Little River - San Gabriel, Central Texas SWCD 508 & 513	Project will provide additional funding for the ongoing implementation efforts in the Little River watershed. TSSWCB projects (02-5 & 02-6) entitled “Central Texas Atrazine Remediation Project”.	11/1/03 3/31/06	$424,080
03-10	**Technologies for Animal Waste Pollution**	TWRI	Proposal provides for testing of new technologies designed for reducing water pollution associated with animal production systems, principally dairies. Focus is restricted to reducing P in dairy waste streams.	11/1/03 3/31/06	$227,793

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
03-11	**Leaf Beetle Demonstration**	ARS	Project will demonstrate the usefulness of biologically treating saltcedar in the Colorado River Basin in an effort to reduce NPS pollution loadings	11/1/03 3/31/06	$99,246

			resulting from saltcedar on agricultural lands.		
03-12	**Navarro WQMP Implementation Supplemental**	Navarro SWCD 514	Project will provide additional funding for the ongoing implementation efforts in the Richland-Chambers Reservoir watershed. TSSWCB F321 projects (00-5) entitled "North Central Texas Atrazine Remediation Project".	11/1/03 3/31/06	$430,279
03-14	**Edge of Field Monitoring**	BRA	Project will monitor and evaluate the P reduction capabilities of a state of the art methane digester installed on a dairy facility in the North Bosque River watershed operating in conjunction with a CNMP.	11/1/03 3/31/06	$96,081
03-15	**Reducing Atrazine Losses in Central TX**	TCE	Demonstrate effects of alternative tillage practices & atrazine application practices on protecting water quality by reducing atrazine losses; validate simulation model with measured atrazine losses.	11/1/03 3/31/06	$101,271
03-16	**Atrazine Modeling**	NRCS-WRAT	Purpose of project is to determine, using a watershed model (SWAT), effects of applying BMPs on atrazine loadings to streams, rivers, and lakes in 7 watersheds.	11/1/03 11/30/06	$158,400
03-18	**Bosque Watershed Coordinator**	BRA	Objectives include identifying and tracking progress of all pollution prevention projects and measures that are currently underway, tracking rules & regulations that affect operations of entities in the watershed, reviewing water quality data for trend I.D., providing opportunities for efficient/effective use of resources.	11/1/03 3/31/06	$190,815
04-1	**Administration of the FY2004 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY04 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$154,220

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
04-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY04 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$520,480

04-3	**Athletic Field Topdressing as a Commercial Market for Compost from Dairy Manure (Field of Dreams Project)**	Leon-Bosque RC&D Council	Overall project goal: Gain commercial acceptance of blend of compost and sand for topdressing of athletic fields through demonstration on athletic fields.	7/1/04 3/31/07	$300,000
04-4	**Field Validation of the Texas P Index in the Poultry Areas of Texas**	TCE	Effects of selected soil properties in Sam Rayburn Reservoir and Lake O' the Pines watersheds and other poultry producing areas of the state in East & South Central Texas to measure & predict P runoff and compare and correlate Mehlich III and soil solution soluble P extracts to runoff P.	8/1/04 8/31/07	$390,657
04-5	**Creekside Conservation Program Project**	LCRA	Protect Central Texas Highland Lakes by providing technical/financial assistance to landowners through the LCRA's Creekside Conservation Program. Assess NPS reductions resulting from Creekside Conservation Program.	2/1/04 8/31/07	$507,300
04-6	**Modeling Nutrient Loads from Poultry Operations in the Toledo Bend & Sam Rayburn Reservoir Watersheds**	NRCS-WRAT	Collect GIS, landuse, management, and measured data for selected watersheds. Where measured data is available, calibrate SWAT watershed model to measured flow, sediment and nutrients. Simulate nutrient load for current, pre and post conditions.	4/11/05 3/31/08	$96,000
04-7	**Technical Assistance and Implementation in West Fork of the Trinity River Watershed**	Jack SWCD 549	Provide technical assistance to landowners in developing and implementing WQMPs within the West Fork of Trinity River Watershed.	8/12/04 8/31/07	$100,000
04-8	**WQMP Implementation Assistance in Falcon Reservoir Drainage Area in Zapata Co.**	Zapata SWCD 335 TSSWCB Harligen R.O.	Coordinate technical assistance activities in the Falcon Reservoir Drainage Area in Zapata County between TSSWCB, SWCD, NRCS, & Kika De La Garza PMC. Inventory & map land uses & current mgmt. practices within the targeted watershed. Provide technical/financial assistance to landowners to aid in development/implementation of WQMPs.	8/17/04 8/31/07	$461,290

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
04-9	**Seymour Aquifer Water Quality Improvement**	TWRI (Haskell, Wichita Brazos & California Creek SWCDs)	The main goal of this project is reduce the nitrate levels in the Seymour Aquifer. Project will provide irrigators in Haskell, Knox, and Jones counties with opportunity to participate in water quality educational activities, technical assistance, financial assistance for implementation of BMPs, in order to	8/19/04 8/31/07	$764,054

			improve water quality in Seymour Aquifer.		
04-10	**Phytoremediation of excessively high phosphorus soils and subsequent reduced P runoff into North Bosque River**	TAES	General objective of this project is to reduce surface surface water contamination in the north Bosque River from soil-applied P of dairy manure origin.	8/30/04 8/31/07	$238,859
04-11	**Watershed Protection Plan Development for the Pecos River**	TWRI	Assess the Pecos River Basin and increase landowner and stakeholder involvement through educational efforts. Watershed Protection Plan based on the river basin assessment.	8/25/04 8/31/07	$709,380
04-12	**Little Wichita River Watershed Protection Plan**	TIAER at TSU	Project will provide assessment of existing and potential water quality problems associated with NPS pollution in the Little Wichita River Basin & provide watershed plan to improve and protect water quality within the basin.	8/1/04 2/28/07	$90,090
04-13	**Development of a Watershed Protection Plan for the Concho River Basin**	Upper Colorado River Authority (UCRA)	Project will provide assessment of existing and potential water quality threats related to on-going NPS water pollution within the Concho River basin and will also provide a Watershed Protection Plan.	9/1/04 8/31/07	$375,240
04-14	**Assessment and Mitigation of Agricultural and Other NPS Activities in the Cypress Creek Basin.**	NETMWD	Northeast Texas Municipal Water District Assessment Project and On-Site Sewage System Replacement Program. Primary goal of project is evaluate effectiveness of selected BMPs in reducing nutrient inputs to Big Cypress Creek and Lake O' Pines by documenting runoff quality from sites representing dominant soil & land use types, with/out BMPs. Implemented/replace failing septic systems.	8/1/04 3/31/07	$442,805

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
04-15	**Mathematical Model for Dispersal of Leaf Beetle, Diorhabda Elongata from Old World released in U.S. for Biological Control of Invasive Saltcedar**	ARS-USDA	Goal of project is aid in Implementation Plan for Sulfate and Total Dissolved Solids (TMDLs) in the J.B. Thomas, E.V. Spence and O.H. Ivey Reservoirs by biological control of saltcedar in riparian areas along the Colorado River of Texas and its tributaries.	10/27/04 8/31/07	$136,724
04-16	**Nueces Basin Headwaters**	Nueces River	Using public education, project will concentrate on	9/1/04	$170,703

	Stewardship Project	Authority	water quality concerns, impairments, and threats to water quality and streambed conditions in five headwater stream segments of the Nueces River Basin.	8/31/07	
04-17	**TSTAR**	TCE	The purpose of this project is to develop and test in a pilot watershed the educational component of the T-STAR Program which provides agricultural producers and allied industry with a combination of production and environmental training.	2/24/05 8/31/07	$440,503
04-18	**BMP Verification in Richland-Chambers**	TAES	Verify effectiveness of nutrient load reduction BMPs in the Richland-Chambers watershed.	8/1/05 7/31/05	$237,722
05-1	**Administration of the FY2004 CWA Section 319(h) Agricultural/Silvicultural NPS Management Program**	TSSWCB	Administer/manage the FY05 CWA 319(h) cooperative agreement between EPA and TSSWCB. Coordinate with project cooperators on administrative related issues and manage the financial aspects of each contract.	Grant	$104,480
05-2	**Statewide NPS Pollution Management Project**	TSSWCB	Provide technical assistance for FY05 CWA 319(h) agricultural and silvicultural projects and ensure that projects meet all technical requirements and are successfully completed in a timely fashion.	Grant	$310,426
05-3	**Ellis Prairie SWCD Project**	Ellis Prairie SWCD	Provide technical/financial assistance to qualifying producers on appropriate BMPs to reduce sediment, nutrient, and pesticide runoff and provide water quality educational events.	9/1/05 9/1/08	$433,700

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
05-4	**Silvicultural NPS Abatement**	TFS	This project will reduce significant risks to water quality from silvicultural NPS pollution by implementing BMPs and increasing silvicultural NPS awareness by completing a statewide evaluation of silvicultural BMP implementation, providing technical assistance, education, coordination, and monitoring the effectiveness of forestry BMPs.	9/1/05 9/1/08	$574,521
05-5	**Watershed Education**	TWRI TCE	The purpose of this project will be to develop and deliver an educational curriculum which functions to	9/1/05 9/1/08	$358,041

			support the TSSWCB's effort to prepare a Watershed Protection Plan in the target watershed.		
05-6	**PLAN**	TCE	To educate 3rd party applicators of poultry litter to the environmental benefits of using proper application management techniques on new sites.	9/1/05 9/1/08	$210,002
05-7	**Impact of Proper Fert. Mgmt**	TCE	Implement fertilizer management practices on cultivated and pasture fields to demonstrate the importance of using proper management relating to application method, timing, and rate, and conduct demonstration/educational activities on the importance of proper organic fertilizer management.	9/1/05 9/1/08	$186,352
05-8	**Peach Creek Project**	Gonzales SWCD	Developing, implementing and maintaining WQMPs and provide technical assistance to agricultural producers in the Peach Creek watershed.	9/1/05 9/1/08	$465,123
05-9	**Lake Granger Project**	BRA	The Brazos River Authority will facilitate the development of a Watershed Protection Plan for the Lake Granger Watershed. This project will also provide the Little River-San Gabriel and Taylor SWCDs with funding for technical/ financial assistance to implement BMPs through conservation planning.	9/1/05 9/1/08	$814,168
05-10	**Arroyo Eduation Project**	TWRI	Educate agricultural producers on how to better produce and manage their acreage and support and promote associated programs implementing BMPs related to water quality protection.	9/1/05 9/1/08	$103,959

Texas State Soil and Water Conservation Board (TSSWCB) Projects

	Title	Lead	Goals	Period	Federal Funds
05-12	**Arroyo WQMP Project**	Hidalgo SWCD	Provide technical assistance to landowners to aid in the development and implementation of a minimum of 78 WQMPs in the Arroyo Colorado Watershed.	9/1/05 9/1/08	$970,478
05-13	**Composting Support - DMES**	TSSWCB	Project will coordinate compost activities in Bosque and Leon watershed among all entities involved. Provide financial/technical assistance to offset costs of transporting raw manure to compost facilities. Continuation of 00-8 & 02-8.	10/1/05 9/30/06	$228,000

FISCAL YEAR 2006
EXPECTED EXPENDITURE SUMMARY

	SWCD ASSISTANCE	BRUSH PROGRAM	319 GRANT PROGRAM	503/POULTRY PROGRAM	INDIRECT ADMIN.	TOTAL
Salary and Wages	$ 650,000.00	$ 140,000.00	$ 300,000.00	$ 1,231,520.00	$ 315,000.00	$ 2,636,520.00
Other Personnel	$ 22,242.00	$ 3,000.00	$ 10,000.00	$ 35,000.00	$ 15,000.00	$ 85,242.00
Professional Fees	$ -	$ -	$ -	$ -	$ 16,000.00	$ 16,000.00
Fuel and Lubricants	$ -	$ 5,000.00	$ -	$ 25,000.00	$ -	$ 30,000.00
Consumables	$ 5,000.00	$ 2,500.00	$ 12,000.00	$ 10,000.00	$ 1,250.00	$ 30,750.00
Utilities	$ 30,000.00	$ 6,000.00	$ 10,000.00	$ 50,000.00	$ 2,500.00	$ 98,500.00
Travel	$ 150,000.00	$ 12,500.00	$ 25,000.00	$ 70,000.00	$ 50,000.00	$ 307,500.00
Rent - Building	$ 20,000.00	$ 12,000.00	$ 10,000.00	$ 90,000.00	$ 2,500.00	$ 134,500.00
Rent - Machine	$ 5,000.00	$ 500.00	$ 6,000.00	$ 25,000.00	$ 2,000.00	$ 38,500.00
Other Operating	$ 56,301.00	$ 65,847.00	$ 31,900.00	$ 226,019.00	$ 6,075.00	$ 386,142.00
Client Services	$ -	$ -	$ 1,020,800.00	$ 2,221,740.00	$ -	$ 3,242,540.00
Grants	$ 2,277,605.00	$ 1,629,376.00	$ 2,550,000.00	$ -	$ -	$ 6,456,981.00
Captial Expenses	$ 2,200.00	$ 2,700.00	$ 3,100.00	$ 28,900.00	$ 11,300.00	$ 48,200.00
Lapse	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,218,348.00	$ 1,879,423.00	$ 3,978,800.00	$ 4,013,179.00	$ 421,625.00	$ 13,511,375.00

Texas State Soil & Water Conservation Board

Brush Control Program

2005 Annual Report

January 1, 2005 - December 31, 2005

Program Goal

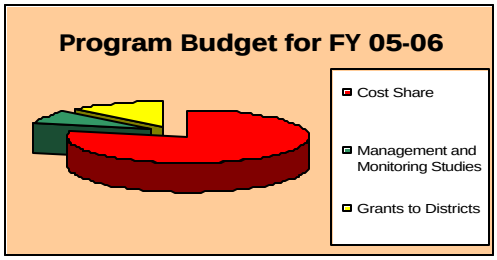
Enhance water availability through selective Brush Control.

2005 Activities At A Glance

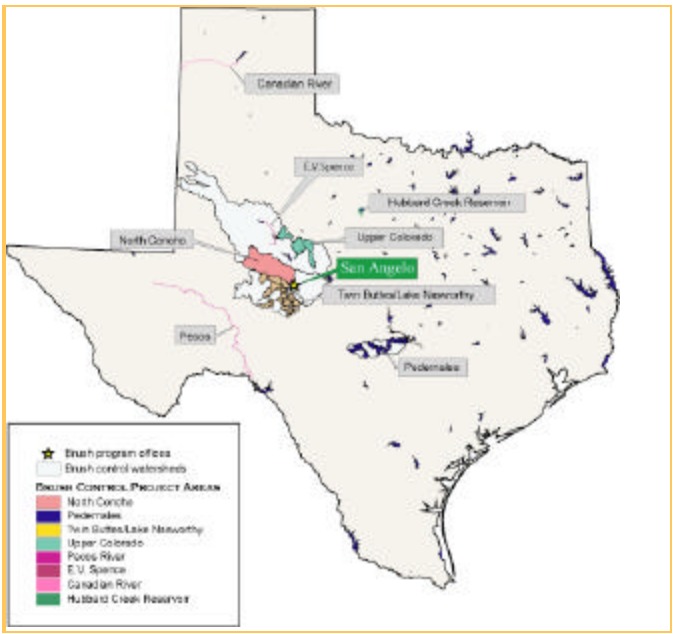
- Brush Controlled on 619,810 Acres (FY 00-05)
- 10 Mesquite and Juniper Projects
- 4 Salt Cedar Projects
- Consultation with the Texas Water Development Board (TWDB) on the effects of the Brush Control program on water quantity.

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



Introduction



Map of Ongoing Brush Control Projects

The Texas State Soil and Water Conservation Board presents this annual report covering the 2005 calendar year. To show trends, some data from other 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.

For FY04, brush projects were funded from Agriculture Water Conservation Bonds and from General Revenue appropriated by the 77th Legislature. FY05 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.

The Brush Control Program, in existence since 1999, has treated 619,810 acres of the 675,386 acres under contract. Drought conditions still persist in areas being treated and 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 benefits 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. In FY 05, an additional $100,000 of General Revenue money has been allocated to complete intitial treatment of Brush Control in the North Concho River Watershed.

With 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 where water levels are at critically low levels due to drought conditions; 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.

O.C. Fisher Reservoir is a water supply for the city of San Angelo where water levels have fallen to dangerously low capacities.

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, 301,649 acres of brush have been treated. It is estimated that landowners have provided cost-share in the amount of over $3.3 million.

An Excavator is being used for Brush Management

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. Lake Nasworthy also provides cooling water for a power generation plant. Water levels in Twin Buttes Reservoir have fallen to critical levels.

Based on water needs and the results of feasibility studies, the TSSWCB allocated $9.7 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, 180,338 acres have been contracted for treatment in this watershed. Over 215,537 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 $422,900 for Brush Control cost-share in the Lake Ballinger Watershed. It is projected that this allocation will allow the treatment of over 7,040 acres. To date, 9,422 acres have been contracted for treatment in this watershed.

SWCDs that Participate in the Brush Control Program:

Caldwell-Travis	Coke County
Crockett	Devil's River
Eldorado Divide	Gillespie
Glasscock County	Hays County
High Point	Howard
Kendall	Kerr County
Middle Clear Fork	Middle Concho
Midland	Mitchell
Nolan County	North Concho River
Pedernales	Rio Grande-Pecos River
Runnels	Sandhills
Tom Green	Toyah-Limpia
Trans Pecos	Upper Colorado
Upper Pecos	

Canadian River

In August 2005, in cooperation with the Canadian River Municipal Water Authority, a saltcedar project was initiated to improve water quantity and quality on the Canadian River above Lake Meredith. To date, over 800 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, 100 acres have been treated with 3300 acres planned to be sprayed throughout the watershed.

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 (currently 7% of capacity).

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.

Brush recently treated in the Twin Buttes Watershed

Thus far, landowners have submitted requests for funding to treat over 27,000 acres. To date, 19,126 acres have been contracted for treatment in this watershed and over 15,654 acres of brush have already been treated.

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 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 that over 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 2002-2005, 67,611 acres were contracted for treatment in this watershed. Over 56,226 acres of brush have been treated to date using state funds.

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

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, $625,976 was allocated to the project by the TSSWCB. A total of 8,967 acres were put under contract and 6,431 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.

Bulldozers and other heavy machinery are used to effectively clear brush.

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, 22,301 acres have been contracted for treatment in this watershed and 14,891 acres have been treated.

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

Juniper has been documented to intercept 73% of precipitation.

Project Status to Date

Project	Total Allocation	Acres Under Contract	Treated Acres
North Concho River	$ 13,303,950.00	31,799	301,649
Twin Buttes	$ 10,979,768.86	180,339	215,538
Pedernales	$ 4,260,049.72	10,814	56,226
Lake Ballinger	$ 375,690.55	1,235	7,041
Oak Creek Lake	$ 783,820.16	2,591	15,654
Champion Creek	$ 755,933.65	4,923	14,892
Pecos/ Upper Colorado	$ 628,424.25	9,882	6,432
Mountain Creek	$ 70,846.00	0	1,440

OTHER ACTIVITIES

The 78th Legislature provided a $3.1 million budget to continue State Brush Control projects and intitiate a combined effort with the Natural Resources Conservation Service to continue Salt Cedar control in the Pecos/Upper Colorado Watershed. The TSSWCB is also using State Brush money along with local match from Mitchell SWCD to utilize federal EPA dollars to treat Salt Cedar along the Upper Colorado River Watershed. 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 Aerial Spraying of Mesquite is Applied According to Program Specifications.*
3. *Evaluation of Future Financing Alternatives for the State Brush Control Program.*
4. *Provide Training Assistance to SWCDs in the State Brush Control Program Areas.*
5. *Meetings with Texas Department of Agriculture (TDA), Texas Parks and Wildlife Department (TPWD), 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. *Updating the State Brush Control Plan.*
8. *The TSSWCB is coordinating with the Texas Water Resource Institute in providing information that documents the hydrologic impacts of brush control.*
9. *Assist SWCDs with conservation planning and performance certifications for their landowners.*
10. *A participant in the Texas Invasive Species Council since the inception.*
11. *Contracted with Canadian River Municipal Water Authority to spray salt cedar on the Canadian River*
12. *Brush Tour of the Pedernales Watershed Project*
13. *Contracted with West Central Texas Municipal Water Authority to spray salt cedar on Hubbard Creek*

For more information, visit TSSWCB's website at http://www.tsswcb.state.tx.us/programs/brush.html or contact the Brush Control Office at 325-481-0335