



Creekside Conservation Program Project

TSSWCB Project #04-5

WORKPLAN

February 1, 2004– January 31, 2007

1. **Title of Project:** Creekside Conservation Program Project.
2. **Project Goals/Objectives:** Protect the Central Texas Highland Lakes by providing technical and financial assistance to landowners through the LCRA's Creekside Conservation Program. Assess NPS reductions resulting from Creekside Conservation Program. Educate agricultural producers on abatement of NPS pollution through implementation of conservation practices.
3. **Project Tasks:** (1) Project Coordination; (2) Technology Transfer; (3) Conservation Planning and Practice Implementation; (4) Evaluation of Conservation Practice Implementation Through Creekside Conservation Program.
4. **Measures of Success:** (1) Demonstrate significant implementation of conservation practices on agricultural operations through the implementation of a minimum of 19 conservation plans. (2) Achieve an estimated 55,717 tons sediment reduction.
5. **Project Type:** Statewide (); Watershed (); Demonstration (); Other ().
6. **Waterbody Type:** River (); Groundwater (); Other ().
7. **Project Location:** Lake Austin, Segment 1403; Lake Travis, Segment 1404; Marble Falls Lake, Segment 1405; Lake Lyndon B. Johnson, Segment 1406; Inks Lake, Segment 1407; Lake Buchanan, Segment 1408; Pedernales River, Segment 1414; Llano River, Segment 1415.
8. **NPS Management Program Reference:** State of Texas Agricultural/Silvicultural Nonpoint Source Management Program
9. **NPS Assessment Report Status:** Impaired (); Impacted (); Threatened (); TMDL (); Other ().
10. **Key Project Activities:** Hire Staff (); Monitoring (); Regulatory Assistance (); Technical Assistance (); Education (); Implementation (); Demonstration (); Other ().
11. **NPS Management Program Elements:** Milestones from the *1999 Texas Nonpoint Source Pollution Assessment Report and Management Program*, which will be implemented, include: (1) providing financial assistance for the implementation of plans to reduce NPS pollution; (2) coordinating with federal, state, and local programs; (3) committing to technology transfer, technical support, administrative support, and cooperation between agencies and programs for the prevention of NPS pollution.
12. **Project Costs:** Federal (\$507,300); Non-Federal Match (\$569,967); Total Project (\$1,077,267).
13. **Project Management:** Texas State Soil and Water Conservation Board (TSSWCB). Cooperating Entities: Lower Colorado River Authority (LCRA); Caldwell-Travis, Hill Country, Llano, Pedernales, San Saba Soil and Water Conservation Districts (SWCDs); Natural Resources Conservation Service (NRCS).

14. Project Period: February 1, 2004 through January 31, 2007.



CREEKSIDE CONSERVATION PROGRAM PROJECT

WORKPLAN

February 1, 2004 – January 31, 2007

PROBLEM/NEED STATEMENT:

Background

Between 1935 and 1951 the LCRA built six dams along the Colorado River above Austin (Buchanan, Inks, Wirtz, Starcke, Mansfield and Tom Miller). These dams form the six Highland Lakes — Buchanan, Inks, LBJ, Marble Falls, Travis and Austin. The dams help control the river in floods and give the residents of the basin a reliable supply of water in dry times. Two of the Highland Lakes, Travis and Buchanan, provide water supplies that serve more than 500,000 people as well as businesses, power plants, and agriculture. Hydroelectric facilities at the six dams are capable of generating more than 240 megawatts of electricity, thus making the LCRA the largest supplier of renewable energy in the state.

The lakes and nearby parks and recreation areas are popular for water sports and leisure activities. The Highland Lakes attract nearly a million visitors a year. Lake Travis has become a major resort area that provides opportunities for boating, fishing, swimming, and camping. Considerable residential and recreational development have occurred along the lakeshore of Lake Marble Falls as well.

While all the dams were built to help handle floods, Mansfield Dam, which forms Lake Travis, is the only one designed to hold back floodwaters. The other dams pass floodwaters downstream to Lake Travis, where the water is stored in a flood pool until LCRA can safely release it downstream.

Between 1843 and 1938, the river basin suffered 15 major floods, causing millions of dollars in damage. Since their completion in 1941, Mansfield Dam and the Lake Travis flood pool have reduced the force of major and minor floods, protecting downstream residents.

Lakes Travis and Buchanan also serve as reservoirs, storing water for communities, industry and aquatic life along the river. The lakes have a long history of supplying irrigation water for the agricultural industry near the Gulf Coast. The combined storage capacity of the two lakes — about 680 billion gallons — keeps river-basin residents supplied with water even during severe droughts.

Each dam has a hydroelectric generation station that contributes "green" power to the Central Texas energy supply. Together, the hydroelectric plants provide more than 240 megawatts of capacity. Once the major source of power for LCRA's electric service area, hydroelectricity's primary use now is to help meet power demand "peaks" and to keep power flowing during emergencies.

Problem

Thousands of acres of valuable soil are washed into tributaries and lakes every year. Gullies and bare rock now exist where once rich topsoil and healthy plants occurred. As farmers and ranchers lose topsoil to erosion, land productivity decreases. Waterways also suffer from sedimentation and nonpoint source pollution. This sediment can build up to create flood management problems, threaten aquatic habitats, impair water quality in the Highland Lakes and reduce groundwater recharge. Nonpoint source pollution has been identified as the greatest threat to the Highland Lakes.

GENERAL PROJECT DESCRIPTION:

These types of conservation concerns have been targeted for reclamation for years and the Lower Colorado River Authority in Texas has been helping private landowners “heal the land”. The Lower Colorado River Authority (LCRA), a Texas conservation and reclamation district established by the Texas legislature, has the Creekside Conservation Program which was developed to promote soil conservation and improve vegetative cover. The program addresses LCRA policies and goals developed to protect and improve water resources in the LCRA 11 county statutory district in Texas (Bastrop, Blanco, Burnet, Colorado, Fayette, Lampasas, Llano, Matagorda, San Saba, Travis and Wharton counties).

The program’s overall goal is to work cooperatively with private landowners to reduce erosion and increase water infiltration, thereby reducing sediment loads reaching LCRA-controlled reservoirs and waterways and improving water quality by reducing nonpoint-source (NPS) pollution. The objectives of the program are to promote and demonstrate land treatments designed to improve vegetative cover to hold the soil, improve land productivity and enhance wildlife habitats. Brush management, land shaping, rangeland seeding, slope stabilization and grazing management systems are the major land treatment practices eligible for LCRA cost share support.

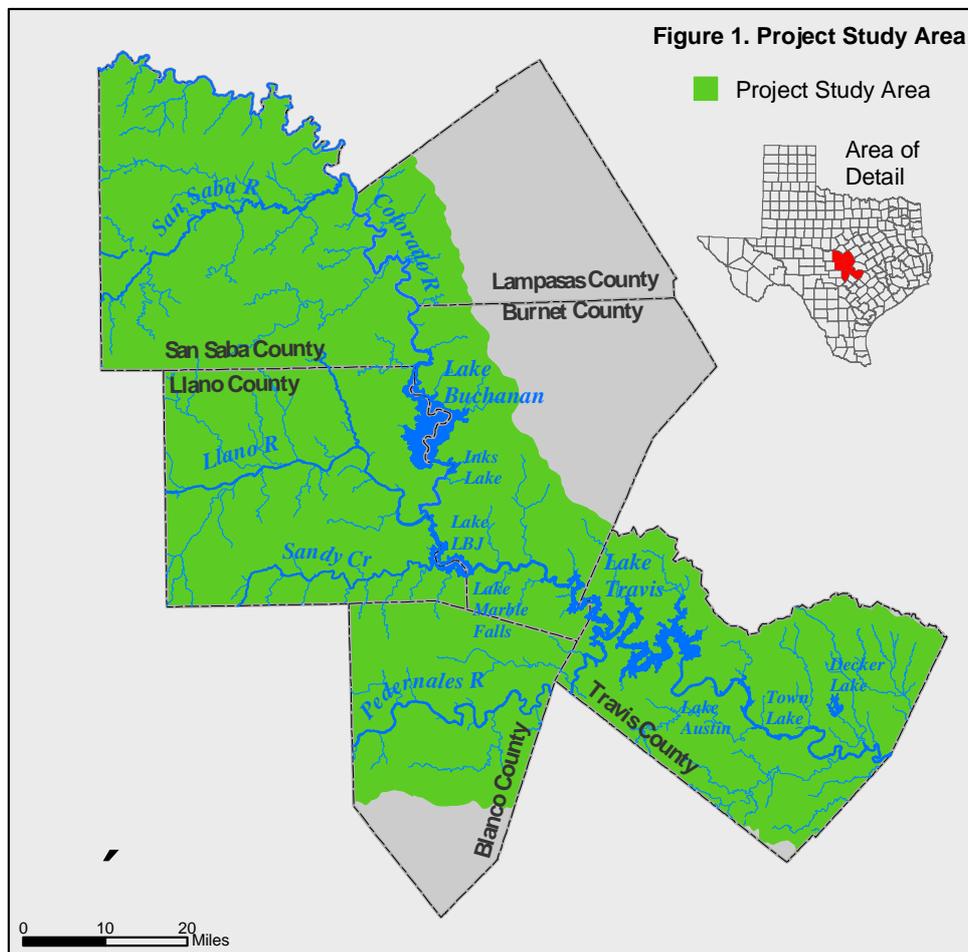
Landowners in the LCRA 11-county statutory district interested in receiving assistance under the Creekside Conservation Program may apply for assistance at their local NRCS office. The NRCS coordinates technical and financial assistance to landowners from various programs including LCRA’s Creekside Conservation Program. The NRCS staff, along with the local Soil and Water Conservation District (SWCD), prioritizes the projects based on the severity of the problem area, program objectives and availability of other funding sources. Final selection of actual participants and field locations are coordinated between the LCRA, NRCS, and the local SWCD. The NRCS then prepares a conservation plan for each selected project. The projects and their plans are reviewed and approved by the local SWCD, then submitted for final approval to the LCRA. The LCRA’s share of the cost cannot exceed 50% of the calculated cost for each project and no project can exceed \$10,000 in total LCRA cost sharing. In this grant no single project can exceed \$20,000 in total LCRA and grant cost sharing. Landowners will only be allowed one contract through the life of the grant to allow for more participation by different landowners. These grant funds will allow for the projects to be expanded covering larger areas.

Since the program was implemented in 1990, the Creekside Conservation Program has worked with 143 participants in eight of the LCRA’s 11 statutory counties. The program has over 40,800 acres under management and has implemented best management practices on over 26,400 acres of land. These activities have produced estimated soil savings of 86,000 tons and a savings of 14,363 acre-feet of water. Over this 13-year project period, the LCRA cost share has been \$548,978. LCRA continually strives to find new avenues to improve the management of all watershed resources. LCRA has gained enormously from its partnerships, with private landowners and agencies alike, and looks forward to continued successes in the agriculture field.

This project consists of the TSSWCB working cooperatively with the LCRA, SWCDs, and NRCS to protect the Highland Lakes for future generations by providing technical and financial assistance to agricultural producers and landowners through the Creekside Conservation Program. Through this project, conservation practices will be developed and implemented to reduce sedimentation and agricultural nonpoint source pollution on privately owned land. Currently the program’s effectiveness is evaluated based on a locally modified version of the universal soil loss equation that better represents rangeland erosion. It is a portion of this project to work with the NRCS to develop a more accurate tool for predicting soil loss from rangeland and to use that tool in evaluating the effectiveness of the Creekside Conservation Program. This project will target the portion of the LCRA statutory counties in the Colorado River watershed from Lake Austin to San Saba County (the Highland Lakes Region). These counties are Blanco, Burnet, Lampasas, Llano, San Saba, and Travis (see Figure 1).

A Project Coordinator will be employed to work closely with the SWCDs, NRCS, TSSWCB and LCRA to provide technical assistance to develop conservation plans for agricultural lands and an educational outreach component. The Project Coordinator will work with the cooperating agencies to produce a final report describing the implementation strategies and summarizing the program evaluation findings.

FIGURE 1. PROJECT AREA



TASKS, OBJECTIVES AND SCHEDULES:

Task 1: Project Coordination

Costs: \$227,750 (Federal); \$35,974 (Non-Federal Match); \$263,724 (Total)

Task Description: This task involves employing a Project Coordinator to oversee the implementation of the Creekside Conservation Program in the Highland Lakes Region. The Coordinator will be responsible for the following tasks:

- Identify producers in need of conservation plans due to water quality problems.
- Coordinate planning efforts with NRCS and the SWCDs.
- Conduct farm visits, develop plans, and perform follow-up visits.
- Document implementation of conservation practices through Creekside Conservation Program.
- Compile photographs of implementation sites, before and after implementation.

The Coordinator's position is a full time position, with a duration of three years from February 1, 2004 through January 31, 2007.

Objective: To provide technical assistance to landowners in the development and implementation of conservation plans on agricultural operations in the Highland Lakes Region and to coordinate project efforts with natural resource agencies and project participants.

Subtask 1.1 Hire Project Coordinator (Start Date: Month 1; Completion Date: Month 1).

Subtask 1.2 The Project Coordinator, in cooperation with the SWCDs, LCRA, TSSWCB, and NRCS, will solicit participation in the project and provide notice of availability of technical and financial assistance (Start Date: Month 1; Completion Date: Month 1).

Subtask 1.3 The Project Coordinator, with assistance from the SWCDs, LCRA, NRCS, and TSSWCB, will compile the location and types of conservation practices on each participant's land. This is to be an ongoing project subtask to be completed on the project completion date and then to be provided to LCRA so that the information can be included in the final report (Start Date: Month 1; Completion Date: Month 35).

Subtask 1.4 The Project Coordinator, with assistance from the SWCDs, NRCS, LCRA and TSSWCB, will develop conservation plans for interested landowners. The NRCS will be contracted to assist with development of conservation plans. SWCDs will also provide assistance. A minimum of 30 conservation plans will be developed under this project (Start Date: Month 1; Completion Date: Month 36).

Subtask 1.5 The Project Coordinator, with assistance from the SWCDs, NRCS, LCRA and TSSWCB, will provide follow-up technical assistance to participants after the conservation plans are developed for the duration of the project. Beyond the end date of the project, follow-up technical assistance to participants will be carried out by the SWCD, with assistance from NRCS when available (Start Date: Month 1; Completion Date: Month 36).

Subtask 1.6 The Project Coordinator, with assistance from the cooperating entities, will develop quarterly and final reports, which will include the number of conservation plans, the extent of conservation practice implementation, and an executive summary and a thorough evaluation of the programs effectiveness obtained during this project. (Start Date: Month 35; Completion Date: Month 36).

Deliverables

- Quarterly Reports
- Final Report
- Compilation of the location and types of existing conservation practices.
- Documentation of follow-up technical assistance provided (prior to project end date).

Task 2: Conservation Practice Implementation

Costs: \$225,000 (Federal); \$525,000 (Non-Federal Match); \$750,000 (Total)

Task Description: This task involves the implementation of conservation practices in the Highland Lakes Region. The main conservation practices that will be implemented in the area will focus on reduction of sediment loads. These practices may include:

- Brush management — invasive brush species are treated to improve vegetative cover that will hold the soil, increase land productivity, filter groundwater and enhance wildlife habitat.
- Contour buffer strips — land near a body of water with natural vegetation that is not plowed or farmed.
- Critical area planting — grasses, legumes, trees and shrubs planted to prevent erosion in small, isolated areas.
- Diversions — earthen embankments across a slope that diverts runoff from an area where water is unwanted to an area where water is useful.
- Field borders — a type of "picture frame" around a field to control erosion at field edges and the ends of row crops, as well as turning areas for equipment.

- Riparian herbaceous cover — an ecosystem along water bodies consisting of grasses, grass-like plants and forbs. Compare with riparian forest buffers, which are trees or shrubs located adjacent to and up-gradient from water bodies.
- Filter strips — use of grass or other vegetation to filter runoff and remove sediment before it can reach water bodies.
- Grade stabilization structures — concrete, metal or rock structures that allow water to drop safely to a lower elevation.
- Grassed waterways — waterways through fields which allow water to be filtered and cleaned by the vegetation.
- Terraces — earth embankments around a hillside to stop water flow and store or guide it safely off a field.
- Water and sediment control basins — trap runoff water temporarily and let the sediment settle before reaching a body of water.
- Range Planting — Establish native or introduced forage to reduce soil erosion and improve water quality.
- Watering Facility — Protect streams from contamination by providing alternative access to water.
- Fence — A constructed barrier to livestock, wildlife, or people.

The program works like this:

1. The local office of the USDA's Natural Resources Conservation Service lists projects for consideration and selects potential sites and qualified landowners to participate.
2. Selection of participants and field locations is recommended by the local Soil and Water Conservation District and coordinated with NRCS and LCRA. The local Soil and Water Conservation District approves the projects, and then the NRCS submits them to LCRA for final approval.
3. Upon completion of the project, the landowner is reimbursed for up to half of the cost. The NRCS and LCRA staffs review each project annually for three years to monitor its success.

Cost share cannot exceed 50% of the calculated cost for each project and no project can exceed \$20,000 in total cost sharing.

A GIS layer of conservation plans will be created. Conservation practices as planned and implemented will be tracked for reporting project performance. Project staff will make regular site visits to assess progress in implementing planned conservation practices. Details will be summarized in the project final report.

Objective: Provide financial assistance to landowners in the implementation of conservation plans to reduce NPS pollution and sediment loads in the Highland Lakes Region.

Subtask 2.1 Conservation practice implementation.

Subtask 2.2 Track implementation of conservation practices.

Deliverables

- Map and list of conservation plans and conservation practices implemented through this project.

Task 3: Technology Transfer

Costs: \$43,620 (Federal); \$4,497 (Non-Federal Match); \$48,117 (Total)

Task Description: This task involves the implementation of the technology transfer component of the projects. The Project Coordinator will be responsible for coordinating the tasks below with the appropriate agencies and news media:

- Assist with local producer meetings in the project area on water quality issues.
- Compile collections of any media coverage, meeting agendas, etc. related to the project.
- Work with local media to promote project activities.

Objective: To provide information and educational materials to landowners regarding the effectiveness of the Creekside Conservation Program and conservation practices. The public involvement will be extensive. The project activities will directly involve landowners and will offer educational outreach to the general public. The Project Coordinator will give BMP presentations to various groups in Central Texas

Subtask 3.1 The Project Coordinator will coordinate field tours of the project sites throughout the duration of the project (Start Date: Month 1; Completion Date: Month 36).

Subtask 3.2 The Project Coordinator will give presentations to SWCDs, producers, and civic groups in the Highland Lakes Region (Start Date: Month 1; Completion Date: Month 36).

Subtask 3.3 The Project Coordinator will prepare and distribute an informative brochure discussing the project and its effect on agricultural nonpoint source pollution. (Start Date: Month 1; Completion Date: Month 36).

Deliverables

- Field days and workshops. There will be a minimum of one field day annually for the life of the project. The actual dates will be determined as the project progresses.
- Documentation of the success of each program through the number of attendees (sign in list), copy of agenda or meeting highlights.
- Advance review by TSSWCB of the proposed brochure before final printing and distribution.
- Newspaper articles
- Local media interviews

Task 4. Evaluation of Conservation Practice Implementation Through Creekside Conservation Program

Costs: \$10,930 (Federal); \$4,497 (Non-Federal Match); \$15,427 (Total)

Task Description: This task involves working with the Revised Universal Soil Loss Equation (RUSLE) to predict soil loss from rangeland to evaluate the effectiveness of the Creekside Conservation Program.

Objective: Estimate sediment load reductions resulting from implementation of conservation practices through the Creekside Conservation Program and evaluate the effectiveness of using RUSLE on rangeland.

Subtask 4.1 Consult with NRCS to address improvements to RUSLE for predicting soil loss from rangeland (Start Date: Month 4; Completion Date: Month 36).

Subtask 4.2 Estimate sediment load reductions resulting from implementation of conservation practices through the Creekside Conservation Program. (Start Date: Month 4; Completion Date: Month 36).

Deliverables

- Program evaluation reported in final report

COORDINATION, ROLES AND RESPONSIBILITIES:

Cooperating entities and a summary of their roles in this project are as follows:

- **Texas State Soil & Water Conservation Board - Project Lead:** Project oversight. State NPS lead agency for agricultural NPS pollution.
- **Lower Colorado River Authority:** Project management. Responsible for employing Project Coordinator, submitting quarterly and final reports, technology transfer, and evaluation of program effectiveness.

- **SWCDs:** Assist with conservation planning, private landowner cooperation in installation of conservation practices, and project coordination.
- **Natural Resources Conservation Service:** Assist in the development of a list of possible applicants. Assist in the development of a list of existing conservation practices. Assist in the sending out of notification of the availability of technical and financial assistance. Assist in the development and implementation of conservation plans. Assist in the follow-up activities.

PUBLIC PARTICIPATION:

The primary goals of this project are to increase BMP implementation through the Creekside Conservation Program, assess the effectiveness of the Creekside Conservation Program, and to educate landowners about Conservation practices. The public involvement will be extensive. The project activities will directly involve landowners and will offer educational outreach to the general public. The following subtasks will involve public participation:

- Field tours of the project sites throughout the duration of the project.
- Local media to promote project tasks.
- BMP presentations to various groups in Central Texas.

MEASURES OF SUCCESS:

1. Demonstrate significant implementation of conservation practices on agricultural operations through the implementation of a minimum of 19 conservation plans.
2. Achieve an estimated 55,717 tons of sediment reduction.

PROJECT LEAD:

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Creekside Conservation Program Project
Texas State Soil and Water Conservation Board
FY04 CWA Section 319(h)

BUDGET

February 1, 2004 – August 31, 2009

04-05 "Creekside Conservation Progra Project"			
Budget Revision 05-08-2009			
Federal 319(h)	\$507,300	% of total project	60%
Non-Federal Match	\$569,967	% of total project (at least 40%)	40%
Total \$ Cost	\$1,077,267	Total project %	100%
Category	Federal	Non-Federal Match	Total
Personnel	\$162,654	\$35,130	\$197,784
Fringe Benefits	\$47,000	\$9,837	\$56,837
Subtotal Personnel & Fringe	<u>\$209,654</u>	<u>\$44,967</u>	<u>\$254,621</u>
Travel	\$23,200	\$0	\$23,200
Equipment	\$0	\$0	\$0
Supplies	\$4,800	\$0	\$4,800
Contractual	\$31,346	\$0	\$31,346
Construction	\$230,500	\$525,000	\$755,500
Other	\$7,800	\$0	\$7,800
Subtotal	<u>\$297,646</u>	<u>\$525,000</u>	<u>\$822,646</u>
Total Direct Costs	\$507,300	\$569,967	\$1,077,267
Indirect Costs	\$0	\$0	\$0
Total Project Costs	\$507,300	\$569,967	\$1,077,267