

The Chambers Creek Atrazine Remediation Project

TSSWCB Project 00-05 and 03-12

Final Report

NAVARRO SOIL & WATER CONSERVATION DISTRICT



USDA-Natural Resources Conservation Service
Corsicana, Texas

TSSWCB Regional Office
Dublin, Texas

Funding provided through a Clean Water Act §319(h) Nonpoint Source Grant from the Texas State Soil and Water Conservation Board and the U.S. Environmental Protection Agency

INTRODUCTION

The Chambers Creek watershed, a sub-watershed of the Trinity River watershed includes land that is located in Navarro, Ellis, Hill, and Johnson counties. The drainage area of the watershed is approximately 686,720 acres. A major concern of the project is Richland Chambers Reservoir, from which the City of Corsicana and surrounding communities receive their drinking water and provides water to the city of Ft. Worth.

The Chambers Creek watershed in the Navarro Soil and Water Conservation District (SWCD) lies in the Blackland Prairie of Texas and has a primarily agricultural economy. The major crops produced in the area include cotton, corn, grain sorghum, and wheat. The majority of pastures in the watershed are either native grasses or improved Bermuda grasses.

The Richland Chambers Reservoir was listed on the 1999 State of Texas 303(d) List as threatened for atrazine. Atrazine is a herbicide applied for weed control in grain sorghum and corn production.

To remove this threat, the Texas State Soil and Water Conservation Board (TSSWCB) worked cooperatively with the Navarro SWCD to provide technical assistance, and financial assistance to corn and sorghum producers for the purpose of developing and implementing water quality management plans (WQMPs) to reduce atrazine runoff into the Richland Chambers Reservoir. This project entitled, “North Central Texas Atrazine Remediation Project (TSSWCB Project 00-5)” made cost-share funds available to twenty-five corn and sorghum producers and provided a full-time technician to administer the program. The cost-share funds for TSSWCB Project 00-5 were all utilized and the Navarro SWCD had additional requests for technical and financial assistance. To address these additional requests the TSSWCB worked with EPA to fund a project entitled, “North Central Texas Atrazine Remediation Project (TSSWCB Project 03-12)” which provided funds to thirty additional producers.

PROGRAM DEVELOPMENT

In April 2000 TSSWCB representatives met with the Navarro SWCD board to discuss the Navarro County Atrazine Remediation Program. It was determined that the program could begin in November 2000, the SWCD could begin the hiring process for a technician. Interviews were held; a technician was hired, and started in December 2000 to execute all components of the program. The duties of this technician included accepting applications for WQMPs, developing and assisting agricultural producers in the installation of best management practices (BMPs) as outlined in the WQMPs.

The Navarro SWCD set the following priorities to fund applications for cost share assistance:

High Priority – Operating units in need of conservation practices on cropland involved in a program of corn or grain sorghum production, or land that has a recent history of corn or grain sorghum production.

Medium Priority – Operating units in need of conservation practices on land adjacent to or bordering High Priority cropland and receives runoff from cropland.

Low Priority – All other lands that do not fit into the above two categories.

BMPs designed to meet various conservation and water quality needs were made a part of the cost-share program. Practices the district approved to accomplish project goals included pasture and hayland planting, terraces, waterways, critical area shaping, silt-catching ponds, filter strips, and field borders. WQMPs also included management of pests, nutrients, forage harvest, and prescribed grazing.

A list of potential applicants for the Navarro County Atrazine Remediation Project from the Farm Service Agency (FSA) records was used to determine eligible producers. Newspaper articles were also utilized as a method of contact. Word of mouth advertisement between neighbors/producers, Navarro SWCD, and the Natural Resource Conservation Service (NRCS) also helped promote the project.

PROJECT ACCOMPLISHMENTS BY TASK

TASK 1: Program Coordination and Management.

Objective: Organize an integrated team among the multiple agencies and groups involved with the project to efficiently and effectively achieve project goals:

Subtask 1.1 Attend monthly SWCD board meetings to discuss technical assistance activities, project schedule, lines of responsibility, communication needs, and other required tasks with project participants:

The Navarro SWCD technician attended monthly board meetings, reporting on progress of the project.

Subtask 1.2 Prepare quarterly and final reports. The final report will be submitted to the TSSWCB, via CD, at the culmination of the project. The TSSWCB project manager will set dates for the reports:

All quarterly reports and final report have been submitted.

TASK 2: Water Quality Education of BMPs to Reduce Atrazine:

Objective: To promote the implementation of cost effective BMPs that reduce atrazine runoff by informing and educating corn and sorghum producers about appropriate BMPs.

Subtask 2.1 Cooperate with NRCS, TAEX, TAES, TDA, and Tarrant Regional Water District to provide two education/training events describing methods for reducing Atrazine runoff:

Producer meetings were held to inform producers about the project and methods for reducing Atrazine runoff.

Subtask 2.2: Select appropriate agricultural BMPs practices for reducing atrazine runoff and implement at least one demonstration each year of the project in each watershed with assistance from the NRCS, county extension agent, local SWCD, and TAEX. (Month 1 through month 36)

Best management practices that reduce atrazine runoff were highlighted during field tours and other agricultural education events held throughout the watershed.

TASK 3: Development and Implementation of WQMPs

Objective: Encourage agricultural landowners to comply with state water quality laws through a traditional voluntary based incentive program and assist the producers in developing and implementing WQMPs.

Subtask 3.1 The Navarro SWCD will hire a technician to provide technical assistance to corn and sorghum producers and develop WQMPs.

The Navarro SWCD technician was hired in November 2000.

Subtask 3.2 The Navarro SWCD, with assistance from NRCS, will send out notifications announcing the availability of assistance for implementing WQMPs/BMPs, prioritize the WQMP applications and rank landowners based on greatest need of BMP implementation.

Letters were sent out to all producers in the watershed announcing the availability of assistance.

Subtask 3.3 The technician will provide land owners information on appropriate BMPs and will work with the TSSWCB regional office in developing and implementing WQMPs.

Seventy WQMPs were developed and approved. Eight of those approved withdrew or were cancelled from the project. The remaining sixty two requested financial assistance and implemented BMP's.

Subtask 3.4 The Navarro technician will develop approximately 55 WQMPs. The SWCD technician will complete all WQMPs with assistance from the NRCS, and the TSSWCB Regional Office as needed.

Seventy WQMPs were developed and approved by TSSWCB Dublin Regional Office.

Subtask 3.5 The TSSWCB will provide technical review and certification of WQMPs. During this process, TSSWCB will certify all WQMPs and ensure that they are consistent with state water quality standards.

Sixty-two WQMPs were approved and determined to meet technical standards and program criteria.

Subtask 3.6 The SWCD technician will conduct annual status reviews on all WQMPs developed to ensure that the implementation schedule is followed and funds are properly administered.

Sixty two WQMPs have completed all practices in their conservation plan.

Subtask 3.7 The NRCS will provide the needed training for the technician with assistance from the TSSWCB.

Training was given to the technician when needed by the NRCS employees in the area and the TSSWCB Dublin Regional Office.

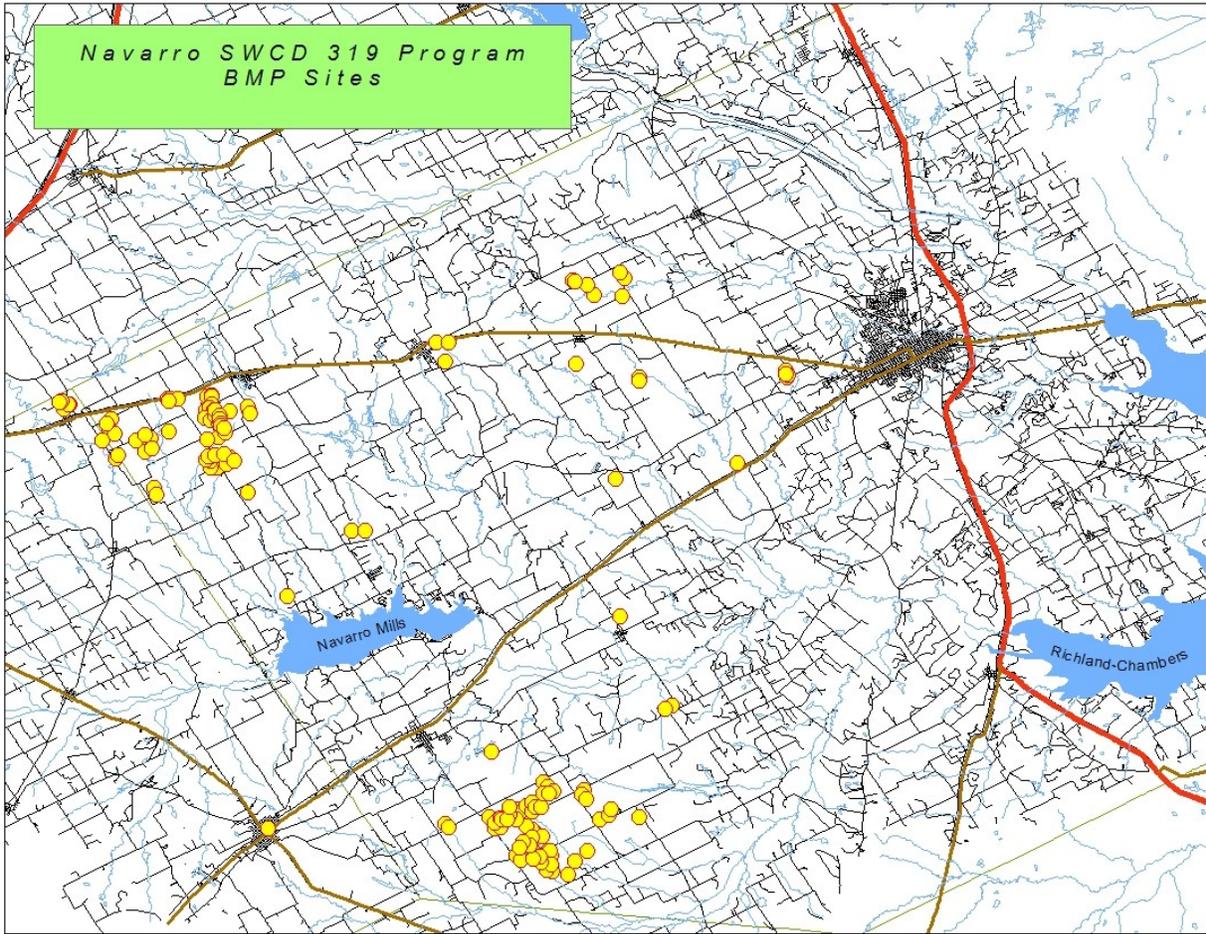
TASK 4: Inventory of land use practices and BMPs implemented in the Navarro SWCD.

Objective: To compile and document information on the amount and types of BMPs implemented through WQMPs.

Subtask 4.1 The SWCD will compile information on the location, numbers, and types of BMPs implemented within the watershed each year.

The compilation of practices and location map of this project are included in this report.

WQMP Location within Watershed



BMP's Implemented in the Watershed



Over 1100 acres of cropland was converted to permanent pasture. Converting cropland to pasture is one of the best ways to reduce sediment runoff. Below is a converted field after grass is established.





Grassed Waterways were installed on 169 acres reducing sediment loss from cropland fields.



Nutrient Management and Pest Management were applied to 9,000 acres of crop and pastureland within the watershed. Producers that implemented these BMPs greatly helped in the reduction of nutrient and atrazine runoff from their fields.



Over 4500 acres of Residue Management and Contour Farming were applied in the watershed to help the reduction of sedimentation from cropland fields into Richland Chambers Reservoir.