CONTINUED IMPLEMENTATION OF AGRICULTURAL NONPOINT SOURCE COMPONENTS OF THE PLUM CREEK WATERSHED PROTECTION PLAN

FINAL REPORT FOR TSSWCB PROJECT #19-08

Caldwell-Travis Soil and Water Conservation District #304

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

Executive Summary

The Caldwell-Travis #304 and Hays County #351 Soil and Water Conservation Districts (SWCDs), working cooperatively with the Texas State Soil and Water Conservation Board (TSSWCB) and the United States Department of Agriculture-Natural Resources Conservation Service (NRCS), provided technical assistance and financial incentives to agricultural producers in the Plum Creek watershed through a Clean Water Act §319(h) nonpoint source grant from the TSSWCB and the U.S. Environmental Protection Agency.

The development and implementation of water quality management plans (WQMPs) in the Plum Creek watershed continues to be a success. Through this project, a District Technician was hired and worked cooperatively with the TSSWCB and NRCS to provide agricultural producers with the opportunity to voluntarily implement best management practices (BMPs), which have a positive impact on water quality in Plum Creek.

Through this project, three WQMPs were developed on approximately 288 acres and BMPS were implemented for nine WQMPs covering 689 acres. Examples of BMPs installed were Forage and Biomass Planting, Range Planting, Cross Fencing, Prescribed Grazing, and Brush Management.

Additionally, the District Technician conducted 26 Status Reviews on existing WQMPs in the watershed. The District Technician and TSSWCB worked with the SWCDs and local producers to educate them on the WQMP program, proper soil sampling, and water quality. The District Technician and TSSWCB were active in continuing the implementation efforts of the Plum Creek Watershed Protection Plan (WPP).

Implementation of WQMPs has and will continue to be a key component in the overall effort to improve water quality in the Plum Creek watershed.

Introduction

Plum Creek rises in Hays County north of Kyle and runs south through Caldwell County, passing Lockhart and Luling, and eventually joins the San Marcos River at their confluence north of Gonzales County. Plum Creek is 52 miles in length and has a drainage area of 389 mi^2. According to the 2014 Texas Integrated Report, Plum Creek is impaired by elevated bacteria concentrations (category 4b) and exhibits concerns for nitrate, total phosphorus, depressed DO and orthophosphorus.

TSSWCB and Texas A&M AgriLife Extension Service, Department of Soil and Crop Science established the Plum Creek Watershed Partnership (PCWP) in April 2006. The PCWP Steering Committee completed the Plum Creek WPP in February 2008. Information about the PCWP, including the WPP and implementation activities, is available at http://plumcreek.tamu.edu/.

Sources of pollutants identified in the Plum Creek WPP include urban stormwater runoff, pet waste, failing or inadequate on-site sewage facilities (septic systems), wastewater treatment facilities, livestock, wildlife, invasive species (feral hogs), and oil and gas production.

The WPP Update notes that since the completion of the plan and implementation has begun, the watershed has seen significant changes, including severe drought, construction of State Highway 130 and subsequent commercial and residential growth, all of which have altered the land use and management of many areas in the watershed, affecting the implementation of some strategies (Extension, 2012).

Measures that have been implemented or are in the process of being implemented that focus on control of agricultural nonpoint source pollution include a SWCD Technician located in the watershed that provides technical assistance to agricultural producers for the development and implementation of Water Quality Management Plans (WQMPs) that focus on reducing bacteria loading from livestock operations in targeted areas across the watershed.

A WQMP is a site-specific plan developed through and approved by SWCDs which includes appropriate land treatment practices, production practices, management measures, and technologies that prevent and abate agricultural and silvicultural nonpoint source pollution. The best management practices (BMPs) prescribed in a WQMP are defined in the NRCS Field Office Technical Guide. TSSWCB and NRCS have various financial incentive programs which provide financial assistance to producers in implementing a WQMP.

Program Development

This project consisted of the TSSWCB working with the Caldwell-Travis SWCD #304 and Hays County SWCD #351 to provide technical assistance and financial incentives to landowners for the development, implementation, and/or maintenance of WQMPs.

The District Technician, working in cooperation with the NRCS, developed WQMPs based on the criteria outlined in the Field Office Technical Guide (FOTG), a publication of the NRCS. The FOTG represents the best available technology and is already tailored to meet the needs of SWCDs all over the nation. A WQMP includes the following:

- Conservation plan map showing boundaries, fields, land use, acres and facilities
- Soils map
- Soils description
- Topography map
- Conservation Plan of Operation
- Soil test (required when nutrients are applied)

Once the WQMP was developed and approved by NRCS and the local district, it was then sent to the TSSWCB Wharton Regional Office for technical review and certification. Upon certification of the WQMP, the plan could be implemented. The District Technician worked with the landowner to implement BMPs laid out in the WQMP. Examples of BMPs installed included:

Forage and Biomass Planting (512)
Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production. This practice applies to all lands suitable to the establishement of annual, biennial, or perennial species for forage or biomass production. This practice does not apply to the establishment of annually planted and harvested food, fiber, or oilseed crops.

Cross Fencing (382)
Locate fences to help facilitate management of different land uses and special management areas within land uses such as ecological sites, pasture types, riparian areas, critical eroding areas, etc. For domestic livestock, install fences in areas that will best facilitate the handling, feeding, watering and movement of the type of livestock managed.

Water Well (642)
This practice is to be installed on land uses where a suitable aquifer is available. The water well will be drilled to provide drinking water for livestock, and must be drilled by a licensed water well driller.

Nutrient Management (590)
This practice manages the amount, source, placement, form, and timing of the application of plant nutrients and soil amendments.

Other BMPs installed were water well pumping plant (533), pipeline (516), watering facility (614), prescribed grazing (528), herbaceous weed control (315), forage harvest management (511) and brush management (314).

The District Technician helped the landowner acquire any financial assistance available. The landowner was reimbursed once the practice was implemented and certified. Status reviews were conducted on WQMPs developed and certified through this project to ensure the BMPs were installed and maintained properly.

In addition to the development, installation, and maintenance of WQMPs, the District Technician and TSSWCB Wharton Regional Office worked with the SWCDs and local producers to educate them on their operation, the WQMP program, proper soil sampling, and water quality.

Conclusion

The Caldwell-Travis SWCD, working cooperatively with the TSSWCB and the NRCS, provided technical and financial assistance to agricultural producers in the Plum Creek watershed through a Clean Water Act §319(h) nonpoint source grant from the TSSWCB and the U.S. Environmental Protection Agency.

The development and implementation of WQMPs in the Plum Creek watershed continues to be a success. There is a need for this project to continue and grow its efforts. With more funding for financial assistance and more WQMPs developed, significant load reductions and further improvement of water quality can be achieved.

A total of three WQMPs were developed on approximately 288 acres and BMPS were implemented for nine WQMPs covering 689 acres. The types of BMPs installed were Forage and Biomass Planting, Range Planting, Cross Fencing, Prescribed Grazing, and Brush Management.

The District Technician and TSSWCB worked with the SWCDs and local producers to educate them on the WQMP program, proper soil sampling, and water quality.

TSSWCB has partnered with the Caldwell-Travis SWCD to continue this effort for another three years. The new project will continue utilizing CWA Section 319(h) grant funding to help landowners implement BMPs in the watershed.