

## Texas AgriLife Research

### Agricultural NPS Remediation in the Cedar Creek Reservoir Watershed Section 319(h) Nonpoint Source Program FY 2007 Project 07-14

Quarter no. 7 From 7/1/09 Through 9/30/09

#### I. Abstract

Water sampling and data collection continues. Best management practices have been implemented in the cropland area. Zach Kinsey has assisted with planning four WQMPs during this quarter. One WQMP was certified by TSSWCB Mt. Pleasant Regional Office. AgriLife Extension continued collecting educational information and is coordinating with County Extension agents to deliver these resources to the watershed. TWRI continued coordinating project activities, attending stakeholder meetings and reporting.

#### II. Overall Progress and Results by Task

##### **TASK 1: DEVELOP AND IMPLEMENT WATER QUALITY MANAGEMENT PLANS**

*Subtask 1.1 The Kaufman-Van Zandt SWCD will hire a technician to provide technical assistance to landowners on the development of WQMPs. The TSSWCB Mount Pleasant Regional Office will train the technician.*

The following actions have been completed during this reporting period:

- The Kaufman-Van Zandt Soil and Water Conservation District hired Zach Kinsey to serve as the technician for this project on February 20, 2008.

**100% Complete**

*Subtask 1.2 The SWCD technician will 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 following actions have been completed during this reporting period:

- Zach Kinsey attended SWCD board meetings on July 1, August 5 and September 2 to update them of field visits, conservation planning and program status.

**50% Complete**

*Subtask 1.3 The SWCD technician will coordinate with other agencies and programs providing landowners incentives for adopting Best Management Practices.*

The following actions have been completed during this reporting period:

- Zach Kinsey has assisted with the planning of WQMP #049, 050, 051, 052, and has cooperated with NRCS employees to improve water quality within the Cedar Creek Watershed.

### **50% Complete**

*Subtask 1.4 The SWCD technician will attend meetings with the TSSWCB project manager and other meetings, as needed, to review project status, deliverables, etc.*

The following actions have been completed during this reporting period:

- Zach Kinsey attended the Texas Watershed Stewardship meeting held on August 25, and the Cedar Creek Stakeholders meeting held September 10. Both meetings were held at the Kaufman Co. Library, located in Kaufman, TX.

### **50% Complete**

*Subtask 1.5 The SWCD technician will prepare materials for inclusion in quarterly reports and the final report for submittal by TWRI to the TSSWCB.*

The following actions have been completed during this reporting period:

- Zach Kinsey provided information for the quarterly report.

### **50% Complete**

*Subtask 1.6 The Kaufman-Van Zandt SWCD will be allocated \$300,000 in 319(h) funding to provide cost-share to landowners in the Cedar Creek Watershed to implement BMPs that reduce nutrient and sediment runoff to local waterbodies. In addition, TRWD will provide \$50,000 in cost-share funds. The maximum cost-share rate shall not exceed 70% of the cost of implementation of the BMP with 60% coming from 319(h), 10% from TRWD funds, and 30% from the landowner. Landowners shall be eligible to receive a maximum cost-share amount of \$15,000 from the TSSWCB 319(h) funds. Cost share will be based on actual cost not to exceed average cost of the practice.*

The following actions have been completed during this reporting period:

- Practices on 9 WQMPs were certified, with the cost total being (\$49,618.56).

### **20% Complete**

*Subtask 1.7 The SWCD technician will send out notifications announcing the availability of assistance for implementing WQMPs/BMPs and will assist the SWCD in accepting and prioritizing the WQMP applications. The TSSWCB project manager must approve all announcements, letters and publications developed before distribution.*

The following actions have been completed during this reporting period:

- Zach Kinsey assisted the SWCD in accepting two requests for planning. These applicants were prioritized, and planning was initiated.

### **60% Complete**

*Subtask 1.8 The SWCD technician, with assistance from NRCS and the TSSWCB Mount Pleasant Regional Office, will provide landowners information on appropriate BMPs and will work with landowners in developing and implementing a minimum of 20 WQMPs.*

The following actions have been completed during this reporting period:

- A request for planning on a 40 acre farm was approved by the SWCD Board on July 7, 2009. Work on the WQMP #505-09-051 was initiated this quarter.
- A request for planning on a 30 acre farm was approved by the SWCD Board on September 2, 2009. Work on the WQMP #505-09-052 was initiated this quarter.

### **30% Complete**

*Subtask 1.9 The TSSWCB Mount Pleasant Regional Office 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.*

The following actions have been completed during this reporting period:

- WQMP #505-09-026 was certified by TSSWCB Mt. Pleasant Regional Office on 7/14/2009.

### **30% Complete**

*Subtask 1.10 The SWCD technician will conduct status reviews on all WQMPs to ensure BMP implementation schedules are being followed.*

The following actions have been completed during this reporting period:

- No activity this quarter.

### **0% Complete**

*Subtask 1.11 The SWCD technician will assist landowners in the SWCD with the acquisition of current soil tests through utilization of project funding. Funding for 100 soil tests annually will be provided.*

The following actions have been completed during this reporting period:

- No activity this quarter.

### **0% Complete**

*Subtask 1.12 The SWCD will have an audit completed at least once during the project period.*

The following actions have been completed during this reporting period:

- No activity this quarter.

**0% Complete**

*Subtask 1.13 The SWCD technician, with assistance from the NRCS and TSSWCB Mount Pleasant Regional Office, will compile information on the location and types of BMPs for each WQMP implemented within the Cedar Creek Reservoir, Kings Creek, and Cedar Creek Watersheds.*

The following actions have been completed during this reporting period:

- Work continued this quarter.

**5% Complete**

**TASK 2: VERIFY BMP EFFECTIVENESS**

*Subtask 2.1 Texas AgriLife Research will develop a Quality Assurance Project Plan (QAPP) that will detail project goals and objectives, the data needs to fulfill those objectives, lists field and laboratory methods, procedures and schedules to be followed, and specify a data management structure and quality assurance protocols. The QAPP will be developed using guidelines in EPA QA/R-5, "EPA Requirements for Quality Assurance Project Plans".*

The following actions have been completed during this reporting period:

- The QAPP was reviewed and approved by TSSWCB and EPA

**100% Complete**

*Subtask 2.2 Texas AgriLife Research will provide annual revisions to the QAPP and amendments, as needed, to the TSSWCB and EPA. (Start Date: Month 6; Completion Date: Month 36)*

The following actions have been completed during this reporting period:

- No activity this quarter.

**0% Complete**

*Subtask 2.3 Texas AgriLife Research will construct 10 replication plots 2,500 square feet in size and measuring 50X50 ft to evaluate agricultural BMPs for cropland and pasture lands. Texas AgriLife Research will install run off collection instruments and soil moisture monitoring equipment in the runoff plots and gather benchmark runoff data from each plot before initiating BMPs.*

The following actions have been completed during this reporting period:

- Water samples and data collection continues in the cropland and pastureland plots using the installed ISCO samplers.



Collecting Runoff Samples

- Best management practices have been implemented in the cropland area, including filter strip, cover crop, and residue management.



Bermudagrass as a Filter Strip



Pigeonpea as a Cover Crop

- The grassland plots continue to be natural pasture (no BMPs implemented yet).

### **85% Complete**

*Subtask 2.4 Texas AgriLife Research will collect runoff data including flow intensities and volumes, sediment loads, total and soluble N and P concentrations, pH, electrolytic conductivity, total and dissolved organic carbon, and dissolved oxygen content. Treatments will consist of the following: 1) Control, 2) Residue management, 3) Buffer Strips, 4) Fertilizer and Nutrient Management, and 5) Cropland converted to forage production.*

The following actions have been completed during this reporting period:

- Samples have been collected from recent rain events, and are in the process of being analyzed in the laboratory.

### **15% Complete**

*Subtask 2.5 Texas AgriLife Research will use runoff data and data from other sources to calculate the nutrient and sediment load reductions resulting from the project for inclusion in the final report.*

The following actions have been completed during this reporting period:

- Flow data has been collected, and calculations are being done to determine nutrient and sediment loads and reductions.

**15% Complete**

### **TASK 3: PROVIDE WATER QUALITY EDUCATION**

*Subtask 3.1 Texas AgriLife Extension and Texas AgriLife Research will assimilate and evaluate the adequacy of existing educational resources and resource needs to provide educational support for the project.*

The following actions have been completed during this reporting period:

- Project team members continue working on developing fact sheets related to agricultural and pastureland BMPs identified in the Cedar Creek Watershed Protection Plan. These fact sheets will give a background of NRCS approved practices, benefits related to the practice related to water quality improvements and the economics involved.

**50% Complete**

*Subtask 3.2 Texas AgriLife Extension and Texas AgriLife Research will provide biannual educational/training events on single- or multi-county level to: 1) improve landowner knowledge and understanding of BMPs for nutrient management and erosion control, 2) provide information on project activities and results and 3) provide additional training on implementing and sustaining BMPs. NRCS, TSSWCB, and Kaufman-Van Zandt SWCD personnel will be requested to be speakers to provide information on cost share and technical assistance programs available to assist producers.*

The following actions have been completed during this reporting period:

- No activity this quarter.

**33% Complete**

*Subtask 3.3 Texas AgriLife Extension and Texas AgriLife Research will conduct a preliminary survey of a select group of initial event participants to evaluate knowledge about surface water conditions in the watershed and assess current knowledge and use of erosion control and nutrient management practices. Follow-up surveys will be conducted in subsequent years to evaluate changes, if any, in producer awareness and BMP implementation.*

The following actions have been completed during this reporting period:

- No activity this quarter.

**10% Complete**

## **TASK 4: COORDINATE PROJECT ACTIVITIES AND REPORTING**

*Subtask 4.1 TWRI, with input from the Project Partners, will prepare electronic quarterly reports for submission to the TSSWCB. All progress reports will be provided to all Project Participants.*

The following actions have been completed during this reporting period:

- TWRI will submit the Year 1, Quarter 7 Progress Report on October, 9, 2009

**33% Complete**

*Subtask 4.2 TWRI will coordinate quarterly TTVN meetings or teleconferences, as appropriate, with project participants to discuss project activities, project schedule, lines of responsibility, communication needs, and other requirements.*

The following actions have been completed during this reporting period:

- No activities this quarter.

**40% Complete**

*Subtask 4.3 TWRI will attend meetings with the TSSWCB project manager, SWCD, and other meetings, as needed, to review project status, deliverables, etc.*

The following actions have been completed during this reporting period:

- A TWRI project manager attended the Cedar Creek WPP Meeting on September 10 in Kaufman.

**33% Complete**

*Subtask 4.4 TWRI will assist Project Partners with the completion and submittal of a final report to the TSSWCB at the culmination of the project. This report will be completed and provided to the TSSWCB in electronic format (i.e. compact disc, etc.).*

The following actions have been completed during this reporting period:

- No activity this quarter.

**0% Complete**

### **III. Related Issues/Current Problems and Favorable or Unusual Developments**

- Nothing to report this quarter.

#### **IV. Projected Work for Next Quarter**

- Zach will continue working on WQMPs.
- Working through the County Extension Agents in Kaufman, Henderson, Van Zandt and Rockwall counties, the project team will continue to coordinate educational events in the Cedar Creek Watershed.
- Continue working with the Kaufmann-Van Zandt SWCD, TSSWCB, USDA-NRCS, Texas AgriLife Research, Texas AgriLife Extension Service, TWRI and TRWD in moving forward with project deliverables and reporting progress on a quarterly basis. Efforts will be made to publicize the project and raise awareness of water quality issues within the study area.
- TWRI will attend the next Cedar Creek WPP Stakeholder meeting, when scheduled.