

**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. 14 From 4/1/11 Through 6/30/11

**I. Abstract**

Zach Kinsey has continued with planning, review, and implementation of all certified WQMP, and has continued to work on the BMP spreadsheet. Simulated rainfall was used to generate runoff from four of the six grassland plots as natural rainfall that occurred did not generate runoff. Runoff samples were collected from the events and have been analyzed. TWRI continued coordinating project activities, collecting information from project members, and reporting. TWRI has offered assistance on compiling the final task reports and will submit them to TSSWCB on July 31.

**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 April 6, May 4, and June 1, 2011 to update them of field visits, conservation planning and program status.

**100% 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 met with Kaufman County Extension agent and AgriLife Extension and Research to help organize a summer 2011 BMP field day within Cedar Creek watershed.

**100% 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 April 2011 TSSWCB meeting in Temple, TX to update project managers and other project partners of 319 WQMP status.

**100% 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.
- Zach Kinsey has continued work on the Final Report and the BMP spreadsheet.

**90% 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:

- All remaining practices on WQMP#505-09-026 were completed (70 acres of pasture planting, nutrient management, and pest management) as of May 3, 2011. Total cost of installation was \$8,129.85. Approximately 3% of the \$300,000 allocated funds were used.
- Two practices on WQMP#505-09-038 were completed (53 acres of pasture planting) as of April 14, 2011. Total cost of installation was \$4,032. Approximately 1.5% of the \$300,000 allocated funds were used.

- Two practices on WQMP#505-11-043 were completed (54 acres of pasture planting and nutrient management) as of May 7, 2011. Total cost of installation was \$8,265.98. Approximately 3% of the \$300,000 allocated funds were used.
- Two practices on WQMP#505-09-044 were completed (26.4 acres of pasture planting and nutrient management) as of May 19, 2011. Total cost of installation was \$4,177.11. Approximately 1.5% of the \$300,000 allocated funds were used.
- All practices on WQMP#505-11-056 were completed (28.2 acres of pasture planting, nutrient management and pest management) in May and June 2011. Total cost of installation was \$6,328.08. Approximately 2% of the \$300,000 allocated funds were used.
- Two practices on WQMP#505-11-059 were completed (43.6 acres of pasture planting and nutrient management) in May and June. Total cost of installation was \$7,032.98. Approximately 2.5% of the \$300,000 allocated funds were used.
- Two practices on WQMP#505-11-061 were completed (24 acres of pasture planting and nutrient management) as of May 10, 2011. Total cost of installation was \$3,776.05. Approximately 1.25% of the \$300,000 allocated funds were used.

### **85% 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:

- No activity this quarter.

### **100% 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:

- As of June 30, 2011, the Kaufman Van Zandt SWCD has 32 certified WQMPs. Work has begun or is completed on 30 plans.
- Zach Kinsey has completed planning on three WQMPs totaling 1,124.5 acres.

### **100% 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:

- TSSWCB certified WQMP#505-11-061 as of April 12, 2011 (495.6 acres in Kaufman Co.).
- TSSWCB certified WQMP#505-11-059 as of April 12, 2011 (165.9 acres in Kaufman Co.).
- TSSWCB certified WQMP#505-11-056 as of April 20, 2011 (295.4 acres in Kaufman Co.).
- TSSWCB certified WQMP#505-11-043 as of April 12, 2011 (134.6 acres in Kaufman Co.).

**100% 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.

**100% Complete**

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

The following actions have been completed during this reporting period:

- Work continued this quarter.

**100% 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.

**100% 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.

**100% 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 revisions were required during this reporting period.

**100% 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:

- Flow measuring equipment, ISCO runoff samplers and best management practices were maintained and monitored in the cropland and pastureland runoff plots to guarantee operability.
- Fertilizer was applied to grassland plots with nutrient management as BMP, according to soil test recommendations.

**100% 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:

- Eight rainfall events produced runoff during this period.

- In addition, simulated rainfall was used to generate runoff from four of the six grassland plots as the natural rainfall events that occurred within this and other periods since BMP implementation generated no runoff. Two of the grassland plots remain to be rained on artificially.
- Runoff samples collected from both the simulated and natural rainfall events have been analyzed.



*Runoff generation on grassland plots using simulated rainfall. Whitish objects in plot area are plastic rain gauges used to monitor rainfall amounts.*

**100% 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 for this reporting period have been processed. Nutrient and sediment load calculations using processed flow data continued during this period.

**95% 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:

- AgriLife Extension developed two new fact sheets—one on grassed waterways and another on filter strips—to be used to educate producers on the benefits of these practices, how they operate, how to maintain them, and the cost of implementation.

**100% 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:

- Texas AgriLife Research and the Kaufman County AgriLife Extension Office are working on a BMP field day and tour scheduled for August 12, 2011. The event will visit four sites and look at BMPs that have been implemented with funds from this project and will be used to encourage the participation of other producers in the watershed.

**95% 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:

- Surveys have been completed and are being summarized for the final report..

**95% 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 4, Quarter 14 Progress Report on July 15, 2011.

**100% 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:

- A project meeting was held on April 26 to review project activities and the status of deliverables. All tasks were progressing well and planned to be completed by the end of the project if not before.

**100% 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:

- TWRI project manager met with TSSWCB project manager on April 26 to discuss the overall project, upcoming deadlines, and budget revisions.

**100% 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:

- TWRI project manager has offered compiling/writing, editing/review, and layout assistance to all task participants on their final task reports.
- TWRI will assist in this process, as requested and will submit draft reports by July 31.

**20% 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.
- Zach will continue working on the final report and the BMP spreadsheet.
- 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 assist with and submit Draft Final Task Reports to TSSWCB electronically by July 31.
- After TSSWCB's review of the Draft Final Task Reports, any revisions will be considered and incorporated to finalize the reports. TWRI will resubmit Final Reports to TSSWCB by August 31, or as soon as possible once TSSWCB revisions are received and edits can be made.