

**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. 11 From 7/1/10 Through 9/30/10

**I. Abstract**

Zach Kinsey has assisted with planning three additional WQMP during this quarter and continues work on the BMP spreadsheet. Eleven status reviews have been conducted with one more scheduled for next quarter. An audit has been scheduled for next quarter. BMPs have been monitored on the pasture land plots and the soybeans are approaching maturity in the cropland plots. Water sampling and data collection continues. TWRI continued coordinating project activities, collecting information from project members, 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 7, August 4, and September 1, 2010 to update them of field visits, conservation planning and program status.

**65% 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 #058, 059, 060 and has cooperated with NRCS employees to improve water quality within the Cedar Creek Watershed.

### **65% 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:

- No activity this quarter.

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

### **70% 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 practices on WQMP #505-10-024 have been completed (50 acres of T-85 grass planting, Nutrient Mgmt., and Pest Mgmt. for establishment and 18.5 acres of Jigs grass planting, Nutrient Mgmt., and Pest Mgmt. for establishment) as of August 31, 2010. Total cost-share for installation was \$12,017.40. Approximately 4% of the \$300,000 allocated funds were used.
- All practices on WQMP #505-10-039 have been completed (89 acres of T-85 grass planting, Nutrient Mgmt. with lime, and Pest Mgmt. for establishment) as of July 15, 2010. Total cost-share for installation was \$15,000. Approximately 5% of the \$300,000 allocated funds were used.
- Several practices on WQMP #505-10-030 have been completed (22.5 acres of Jigs grass planting, Nutrient Mgmt. with lime, and Pest Mgmt. for establishment) as of September 1, 2010. Total cost-share for installation was \$3,877.54. Approximately

1.25% of the \$300,000 allocated funds were used. Work on remaining practices will continue through spring 2011.

- Several practices on WQMP #505-09-037 have been completed (55 acres of Jigs grass planting, and Pest Mgmt. for establishment) as of July 16, 2010. Total cost-share for installation was \$5,940. Approximately 2% of the \$300,000 allocated funds were used. Work on remaining practices (fence) will continue this fall.

### **52% 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.

### **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:

- As of June 30, 2010, the Kaufman Van Zandt SWCD has 26 certified WQMPs. Work has begun or is completed on 24 plans.

### **45% 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:

- No activity this quarter.

### **35% 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:

- Zach Kinsey and the TSSWCB Mt. Pleasant Regional staff conducted status reviews on July 15-16, 2010, and one status review on August 12, 2010 (11 reviews total).
- One status review remains and will be completed next quarter.

### **45% 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:

- Throughout the project thus far, 120-150 soil test bags have been given out to 40 producers (2-3 bags per producer). There has been little response from the landowners and in most cases if they do utilize the bags, they only do one and they do it themselves.

**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:

- KVZ SWCD#505 has scheduled an audit for October 2010.

**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.

**50% 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.

### **66% 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.
- Best management practices have been monitored in the cropland area, including filter strip, cover crop, and residue management.
- BMPs, including nutrient management and range seeding, have been monitored on pasture land plots.
- Soybean crop has been approaching maturity in the cropland plots.
- Herbicides were applied to the cropland plots once in July and once in September (for weed control).
- The above-ground vegetation of the pastureland plots was removed (down to about four inches) with a harvester to simulate forage grazing.



Above: growing soybean plants



Above: harvesting of pastureland vegetation to simulate grazing

### **90% 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:

- Nineteen (19) rainfall events (defined as a continuous period with less than six hours having zero recorded rainfall between instances of recorded rainfall) occurred from August 1 to September 30, 2010. Eleven events ranged from 0.01 to 0.24 in.; three events ranged from 0.31 to 0.39 in.; one event was 0.68 in.; three events ranged from 1.08 to 1.19 in.; and one event was 5.66 in.

### **50% 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 processed for determining nutrient and sediment loads and reductions.

### **35% 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:

- No activity this quarter.

### **85% 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.

### **66% 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.

**20% 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 3, Quarter 11 Progress Report on October 13, 2010.
- The one-year no-cost extension was approved by TSSWCB. Last quarter, submitted a revised plan of work with new deliverable dates and a revised QAPP that was also approved by TSSWCB.

**70% 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:

- TWRI Project Manager worked with Zach and Clint to gather information to give an update to TSSWCB.

**50% 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 meeting is scheduled with TWRI and TSSWCB project managers next quarter.

**35% 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.
- Zach will conduct the remaining status review next quarter.
- Kaufman Van Zandt SWCD will complete an audit before the end of the next quarter.
- 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.