

Watershed Assistance to Improve Water Quality in North Central Texas
Texas Water Resources Institute
FY 08 Federal Appropriated Funds
Project # 68-7442-9-487

Quarter no. 1 From 10/1/09 Through 12/31/09

Progress in Meeting Project Milestones and Output Commitments

Task, Deliverables and Schedules

The Texas Water Resources Institute (TWRI) the Texas A&M University Spatial Sciences Laboratory (SSL), Texas AgriLife Research and Extension Center at Temple and Texas AgriLife Extension have been diligently working to complete project deliverables. Project efforts during this quarter focused finalizing stakeholder activities and input for the Cedar Creek WPP and continuing modeling activities and stakeholder education associated with the Eagle Mountain WPP.

TWRI continues to update the project web site: <http://nctx-water-tamu.edu> with water quality data, information related to project efforts, meeting updates, and contact information targeted to scientists and the general public. The website also serves to provide project oversight and financial reporting. Stakeholders are notified of website content updates via e-mail including meeting announcements, posting of presentations and watershed plan drafts.

Work associated with Eagle Mountain Reservoir and Richland Chambers Reservoir Watersheds computer modeling activities will continue in the next quarter. These include sub-basin analysis of nutrient and sediment loadings as well as BMP implementation scenarios.

An executive summary of the Cedar Creek Watershed Protection Plan was presented to Stakeholders at a December 15, 2009 meeting in Kaufman, Texas. The document provided an overview of EPA's Nine Elements of Watershed Protection Planning pertaining to the Cedar Creek Watershed and included extensive discussions of the computer modeling and economic analysis of cost performance of selected best management practices. Finalization of the full watershed protection plan is forthcoming with respect to allowing adequate time for stakeholder review and input. Implementation of plan elements is underway as the Kaufman/ Zandt SWCD and local NRCS have located landowners in targeted watershed sub-basins for development of on-site Water Quality Plans.

Creation of an economic cost performance model for best management practices for the Eagle Mountain Watershed has started. A December 21, 2009 meeting of Texas AgriLife Research, Texas AgriLife Urban Solution Center, Texas AgriLife Extension, and TCEQ officials produced the selection of a suite of best management practices for proposal to Eagle Mountain Watershed NRCS and SWCD officials at a January 6, 2010 meeting.

The status of tasks, milestones and deliverables will be defined using the following terms:

Pending	Work has not started on the deliverable
Initiated	Work has started
Completed	The objectives were achieved and deliverables are finished
Deferred	Work has started, but further action is delayed pending other information, the completion of another objective, staff restraints, etc.
Ongoing	Work will continue throughout the term of the contract

Task 1 SWAT Modeling

Date	Status	Deliverables
1/1/07	Completed	1. Complete model calibration and validation for Cedar Creek Reservoir Watershed
1/1/08	Completed	2. Model calibration and validation for Eagle Mountain Reservoir Watershed
1/1/08	Initiated	3. Model calibration and validation for Richland Chambers Reservoir Watershed
	Pending	4. Model calibration and validation for Benbrook Reservoir
	Pending	5. Model calibration and validation for Lake Bridgeport

Comments:

- SSL and Texas AgriLife Research and Extension Center at Temple have begun collection of water quality and flow data for the Richland Chambers Watershed.
- Baylor University conducted a sediment survey of Eagle Mountain Reservoir to verify storage capacity, flows and sediment size for the model. A survey of Richland Chambers Reservoir is scheduled to begin in August 2009. The survey has been postponed due to recent rainfall.
- Modeling activities have been completed for Richland Chambers Reservoir Watershed. Data has been gathered and analyzed for computer modeling purposes. The model has been calibrated for flow and the research team is working to finalize model calibration for nutrients. This deliverable is 100 percent complete.
- SWAT model calibration for the Eagle Mountain watershed has been initiated. Model validation will follow.

Task 2 Economic Analysis

Date	Status	Deliverables
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4/1/08	Completed	1. Begin developing input data for economic analysis of alternative BMPs for Cedar Creek Reservoir and Watershed
10/1/08	Completed	2. Conduct economic analyses of alternative BMPs for Cedar Creek Reservoir Watershed
10/1/08	Initiated	3. Begin developing input data for economic analyses of Eagle Mountain Watershed
4/1/09	Pending	4. Conduct economic analyses of alternative BMPs for Eagle Mountain Reservoir Watershed
4/1/09	Pending	5. Begin developing input data for economic analyses of Richland Chambers Reservoir Watershed
10/1/09	Pending	6. Conduct economic analyses of alternative BMPs for Richland Chambers Reservoir Watershed

Comments:

- A draft final report entitled “Evaluating the Economics of Best Management Practices for Tarrant Regional Water District’s Cedar Creek Reservoir” is in the process of being developed and will be completed next quarter.

Task 3 Extension Education

Date	Status	Deliverables
4/1/04	Completed	1. Develop generalized watershed management program bulletin
7/1/04	Completed	2. Conduct two-day watershed management training program for County Extension Agents and other selected resource personnel
10/1/05	Completed	3. Recruit Cedar Creek stakeholder committee
1/1/05	Completed	4. Develop Cedar Creek Watershed characteristics fact sheet
1/1/05	Completed	5. Construct demonstration trailer
4/1/05	Completed	6. Hold Cedar Creek public meeting on watershed characteristics and pollution problems
4/1/05	Completed	7. Recruit Eagle Mountain stakeholder committee
4/1/05	Completed	8. Conduct two-day training program on stream erosion for County Extension Agents and other resource personnel
4/1/05	Completed	9. Hold two Cedar Creek stakeholder committee meetings
7/1/05	Completed	10. Develop Eagle Mountain Watershed characteristics fact sheet
7/1/05	Completed	11. Conduct two Cedar Creek Extension education meetings on urban storm water quality, agricultural nonpoint source pollution prevention and wastewater

7/1/08	Initiated	12. Develop general fact sheets on:
	Completed	1) Wastewater management options around lakes,
	Completed	2) Urban storm water management, and
		3) Lawn management
8/1/08	Initiated	13. Hold Eagle Mountain stakeholder committee meetings
8/1/08	Initiated	14. Hold Eagle Mountain public meeting on watershed characteristics and pollution problems
4/1/09	Pending	15. Develop Richland Chambers Watershed characteristics fact sheet
7/1/09	Pending	16. Conduct educational meetings in the Richland Chambers Watershed
10/1/09	Pending	17. Hold Richland Chambers stakeholder committee meetings
10/1/09	Pending	18. Hold Richland Chambers public meeting on watershed characteristics and pollution problems

Comments:

- Cedar Creek Watershed fact sheet development is in the intermediate stage. This deliverable will be completed once BMP runs have been made through the SWAT model and recommendations have been made on how to reduce loadings into the reservoir. This deliverable is 85 percent complete.
- Texas AgriLife Extension is working on the following publications 1) stream processes, 2) Where does the rainfall go?, 3) Utilizing rain gardens for stormwater abatement, 4) Vegetative filter strips, and 5) grassed waterways. These publications are 75 percent complete.
- The Texas Watershed Steward Program, a one-day workshop put on by Texas AgriLife Extension was held in the Eagle Mountain Watershed on July 15, 2009. TWS programming focuses on general watershed knowledge and stewardship.
- The Texas Watershed Steward Program, a one-day workshop put on by Texas AgriLife Extension was held in the Cedar Creek Watershed on August 25, 2009. TWS programming focuses on general watershed knowledge and stewardship.

Task 4 Administration

Date	Status	Deliverables
1/7/04	Completed	1. Quarterly Progress Report
4/7/04	Completed	
7/7/04	Completed	
10/7/04	Completed	
1/7/05	Completed	
4/7/05	Completed	
7/7/05	Completed	
10/7/05	Completed	
1/7/06	Completed	
4/4/06	Completed	
7/7/06	Completed	

10/7/06	Completed	
1/7/07	Completed	
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4/7/08	Completed	
7/7/08	Completed	
10/7/08	Completed	
1/7/09	Completed	
4/7/09	Completed	
7/7/09	Completed	
10/7/09	Completed	
1/7/09	2.	Final Report

Comments:

- TWRI continually updates the Web site created specifically for the North Central Texas Water Quality Project. The Web site can be accessed at the following address: <http://nctx-water.tamu.edu>
- TWRI and the Texas AgriLife Research and Extension Urban Solutions Center conducted a stakeholder meeting in the Eagle Mountain watershed on July 17, 2009. The agenda included preliminary report of SWAT modeling efforts, review of a stakeholder survey of BMP preferences, and a presentation by Texas AgriLife Research in Stephenville regarding a Recreational Use Attainment Analysis for several stream segments within the watershed.
- TWRI and the Texas AgriLife Research and Extension Urban Solutions Center conducted a stakeholder meeting in the Cedar Creek watershed on July 20, 2009. The meeting focused on the presentation of the economic performance modeling of BMPs and associated SWAT modeling.
- TWRI and the Texas AgriLife Research and Extension Urban Solutions Center conducted a stakeholder meeting in the Cedar Creek watershed on September 10, 2009. Topics of discussion focused on the final draft of the Cedar Creek WPP and stressing the importance of stakeholder feedback. Brief discussions were also held on sources of funding for WPP implementation.
- TWRI and the Texas AgriLife Research and Extension Urban Solutions Center conducted a stakeholder meeting in the Cedar Creek watershed on December 15, 2009 to present an executive summary of the Cedar Creek Watershed Plan and solicit stakeholder input on the content and formatting of the Plan.

Problems or Obstacles Encountered and Remedial Actions Taken

The Spatial Sciences Laboratory and Texas AgriLife Research and Extension Center at Temple have been working closely with Texas Water Resources Institute (TWRI) towards successful completion of project deliverables.

Work Planned for Next Reporting Period

Task 1: SWAT Modeling

Refine the SWAT model for Eagle Mountain Reservoir and continue identifying BMPs for the watershed to meet water quality standards. Continue data collection and model development on Richland Chambers Reservoir.

Task 2: Economics

Finalize the draft final report entitled “Evaluating the Economics of Best Management Practices for Tarrant Regional Water District’s Cedar Creek Reservoir.”

Task 3: Education

Conduct stakeholder and educational meetings in the Cedar Creek and Eagle Mountain Watersheds. Continue conducting meetings to educate local landowners on Best Management Practices to implement on private property that can lessen soil erosion and water quality impairments as well as identify funding opportunities for these practices such as EQIP and others.

Task 4: Administration

TWRI will continue working with TRWD, SSL, Texas AgriLife Research and Extension Center at Temple and Texas AgriLife Extension Service 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.

FY 09 Funded Project Year 1	Current Balance (as of 11/19/09)
Texas Water Resources Institute	\$23,361
Texas AgriLife Research and Extension Center - Dallas	\$76,752
Spatial Sciences Lab - TAMU	\$73,580
Texas AgriLife Extension – BAEN	\$85,305
Texas AgriLife Extension – AGECE	\$34,602
Alan Plummer and Associates Inc.	\$8,800
TOTAL	\$302,400