

**Lone Star Healthy Streams
FY 06 CWA 319(h)
TSSWCB Agreement No. 06-05-07-02**

Quarter no. 3 From 7/1/07 Through 9/30/07

I. Abstract

The Project Steering Committee was formed this quarter and is expected to meet next quarter. This Committee will provide oversight to the BMP evaluation and the development and delivery of the education program. The website, titled “Improving Water Quality of Grazing Lands” went on line this quarter. This site includes information about the Lone Star Healthy Streams project as well as other related projects. TCE continues to review the existing literature regarding BMPs to help reduce livestock bacteria levels in water bodies and has begun to transform this information into a Power Point presentation for dissemination to landowners in future educational programs. The QAPP was approved on September 24th. GPS collars will be installed on cattle from October 2-25 at the 2S Ranch to evaluate the percent time they spend in the riparian area when no alternative water is present. Water samples are will be collected at the 2S Ranch bi-monthly next quarter. Installation of automated samplers at the Welder Wildlife Refuge is expected to be completed next quarter and initial runoff samples collected. Finally, TCE has developed draft drawings of portable shade facilities. Construction and installation is expected next quarter.

II. Overall Progress and Results by Task

TASK 1: Project Coordination and Administration

Subtask 1.1: TWRI, in coordination with TCE, will organize a Project Steering Committee to coordinate project efforts with all project participants. This Committee will be composed of TSSWCB, SWCDs, TCE, TAES, TWRI, NRCS, TDA, FSA, GLCI, and producer groups such as TFB and TSCRA. This Committee will meet at least semi-annually to provide input on the evaluation of BMPs and the education program; provide input into curriculum development, program delivery and CEU processes; discuss project status, provide input on demonstration/BMP evaluation efforts, and coordinate project activities.

The following actions have been completed during this reporting period:

- a. On September 17, a letter was sent to 19 individuals representing TSSWCB, SWCDs, TCE, TAES, TWRI, NRCS, TDA, GLCI, USDA-ARS, producer groups and individual ranches in bacteria impacted watersheds.
- b. As of October 15, sixteen of the individuals had responded that they would participate (attachment 1).
- c. The first Steering Committee Meeting is being scheduled for next quarter.

20% Complete

Subtask 1.2: TWRI will prepare electronic quarterly reports for submission to the TSSWCB. All progress reports will be provided to the Steering Committee.

The following actions have been completed during this reporting period:

- a. TWRI submitted Year 1, Quarter 3 Progress Report on October 15, 2007.

25% Complete

Subtask 1.3: TWRI will conduct quarterly TTVN meetings 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. No activity this quarter.

25% Complete

Subtask 1.4: TWRI 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:

- a. TWRI attended the July 19th State Board Meeting in Temple.

25% Complete

Subtask 1.5: TWRI will submit appropriate Reimbursement Forms.

The following actions have been completed during this reporting period:

- a. As of August 31, 2007, \$47,416.35 or 11.7% of project funds had been expended.

12% Complete

Subtask 1.6: TWRI will develop (Months 1-3), host and maintain (Months 3-36) an internet website for the dissemination of information.

The following actions have been completed during this reporting period:

- a. The project website titled "Improving Water Quality of Grazing Lands" went online this quarter and can be found at the following web address: <http://grazinglands-wq.tamu.edu/index.php>
- b. The website will be continually updated as new data and information are obtained.

25% Complete

TASK 2: Compile Existing Information

Subtask 2.1: TCE will hire a LONE STAR HEALTHY STREAMS Extension Assistant to assist with and coordinate a review of the literature of the state of current knowledge regarding the effects of grazing animals on bacterial levels of riparian areas and associated water bodies and BMPs designed to minimize these impacts. Further, the Extension Assistant will lead all future LONE STAR HEALTHY STREAMS Program efforts.

The following actions have been completed during this reporting period:

- a. The Extension Assistant continues to review the existing literature regarding BMPs that help reduce livestock bacteria levels in water bodies.
- b. Work has begun to transform this information into Power Point presentations for dissemination to the public in future educational programs. The information will also be made available via the Forages and TWRI web sites.

25% Complete

Subtask 2.2: TCE will organize internal TCE Planning Team consisting of TCE personnel specializing in animal production systems and associated environmental issues.

The following actions have been completed during this reporting period:

- a. Complete. No activity to report this quarter.

100% Complete

Subtask 2.3: TCE will assess and inventory education/training materials within TCE and related materials developed through similar efforts in other states addressing bacteria from grazing cattle. In order to make the program more thorough, educational materials addressing nutrient and sediment runoff from grazing lands and proper grazingland management will also be assessed and inventoried.

The following actions have been completed during this reporting period:

- a. No activity this quarter.

10% Complete

TASK 3: Develop Bacterial Education Programs for Beef Cattle Producers

Subtask 3.1: TCE will facilitate the modification necessary to integrate existing materials from subtask 2.3 into the LONE STAR HEALTHY STREAMS Program.

The following actions have been completed during this reporting period:

- a. No activity this quarter.

0% Complete

Subtask 3.2: TCE will develop a core land/grazing management educational component that provides growers with state-of-the-art production technology training on fundamental BMPs and strategies which can be employed to protect and conserve water resources from bacterial and other NPS contamination originating from grazing lands.

The following actions have been completed during this reporting period:

- a. TCE has begun development of an educational program for Lone Star Healthy Streams.

15% Complete

Subtask 3.3: TCE will integrate and coordinate the Lone Star Healthy Streams Program with the Texas Master Watershed Steward program to provide producers with a more comprehensive environmental education curriculum incorporating basic training in watershed form and function, watershed management, sources of nonpoint source (NPS) pollution and BMPs and strategies which can be employed to protect and conserve water resources.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

17% Complete

Subtask 3.4: TCE will establish a continuing education component that enables acquisition of CEUs in both environmental and production management.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 3.5: TCE will develop and provide a certificate of completion, or other mechanism enabling individuals to take credit for participation in education program.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

TASK 4: Education Program Testing and Delivery

Subtask 4.1: TCE will test the educational program in a pilot watershed selected with input from the Project Steering Committee. TCE will coordinate with local SWCDs and others, such as the NRCS, to deliver and evaluate the educational program.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

10% Complete

Subtask 4.2: To increase Program availability, Web-based and related local “on-demand” program delivery tools (i.e., CD, videos, worksheets) will be developed for both core and CEU components.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 4.3: Evaluate changes in producer knowledge and awareness of important production and environmental issues.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 4.4: Utilizing participants surveys, identify and address any barriers to producer participation and successful implementation of the program.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 4.5: Make appropriate modifications to the program to facilitate greater producer participation and adoption of recommended BMPs.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

TASK 5: Evaluate And Demonstrate Value-Added BMPs To Reduce Bacteria Contamination Of Streams And Water Bodies From Grazing Lands

Subtask 5.1: TWRI 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:

- a. The QAPP was approved on September 24, 2007.

100% Complete

Subtask 5.2: TWRI will provide annual revisions to the QAPP and amendments, as necessary, to the TSSWCB and EPA.

The following actions have been completed during this reporting period:

- a. No activity this quarter. The first annual revision is due September 24, 2008.

0% Complete

Subtask 5.3: TWRI and TCE will identify a cooperator to conduct the BMP demonstration/evaluation with assistance of the Steering Committee, local SWCD, NRCS, TWRI, and TCE agents.

The following actions have been completed during this reporting period:

- a. Complete. No activity to report this quarter.

100% Complete

Subtask 5.4: TWRI and TCE will assess cattle and other animal behavior to determine the amount of time spent in the stream and riparian area before and after BMP implementation. GPS tracking will be utilized.

The following actions have been completed during this reporting period:

- a. GPS collars are scheduled to be placed on cattle at the 2S Ranch on October 2 and be removed October 25.

0% Complete

*Subtask 5.5: TWRI and TCE will assess water quality before and after BMP implementation. Bacteria (*E. coli*) will be the focus of this effort and will be monitored bi-monthly (enumeration only). Water quality will be assessed for 12 months prior to implementation and then 12 months following implementation.*

The following actions have been completed during this reporting period:

- a. Water samples are scheduled to be collected at the 2S Ranch on October 4th and 18th, November 1st and 15th, and December 6th and 20th.
- b. Installation of automated samplers and initiation of sampling at the Welder Wildlife Refuge is expected to occur next quarter.
- c. Initiation of sampling at Riesel is being coordinated with USDA-ARS and TCE, but is expected to begin next quarter.

0% Complete

Subtask 5.6: In order to gain a more complete picture of the impacts of BMP implementation on stream bank stability and specific sources of bacteria, stream cross-sections will be performed at all stream sites before and after BMP implementation and Bacteroidales PCR (library-independent BST) will be assessed at runoff evaluation sites by TWRI, TCE, and TAES.

The following actions have been completed during this reporting period:

- a. *Bacteroidales* will be assessed in runoff samples from the Welder Wildlife Refuge and Riesel. Sampling is expected to commence next quarter.
- b. Stream cross-sections will be surveyed next quarter at the 2S Ranch.

0% Complete

Subtask 5.7: TWRI and TCE will provide funding to cooperating ranch to implement BMPs to reduce bacteria and other NPS runoff from grazing lands.

The following actions have been completed during this reporting period:

- a. TCE has developed draft drawings of portable shade facilities to be used to collect additional data regarding alteration of cattle behavior using shade. These structures are to be installed on the 2S Ranch. Construction is expected to commence next quarter.

10% Complete

III. Related Issues/Current Problems and Favorable of Unusual Developments

- N/A

IV. Projected Work for Next Quarter

- The first semi-annual meeting of the Project Steering Committee will be scheduled to take place next quarter.
- TWRI will prepare and submit Year 1, Quarter 4 Progress Report.
- TWRI will schedule and conduct a meeting with project participants to discuss project activities and progress as needed.
- TWRI will attend the 67th Annual Meeting of Texas Soil and Water Conservation District Directors and update TSSWCB staff on the status of the project.
- TWRI will continue to work to improve the website.
- TCE will complete the educational program for state-wide use
- TCE will initiate fact sheet development and prepare for web loading
- TCE will continue communication of issues with landowners via educational programs
- Site setup will be completed on the Welder Wildlife Refuge.
- GPS tracking of cattle on the 2S Ranch will be conducted October 2-25.
- Bi-monthly sampling will be conducted on the 2S Ranch.
- Runoff monitoring will be initiated at Riesel and the Welder Wildlife Refuge.
- Portable shade facilities will be constructed and installed on the 2S Ranch.

Attachment 1: Steering Committee Members

Susan Baggett USDA – Natural Resources Conservation Services Temple, Texas 76501
Lynn Drawe Welder Wildlife Foundation Sinton, Texas 78387
Richard Eyster Texas Department of Agriculture Austin, Texas 78701
John Foster Texas State Soil and Water Conservation Board Temple, Texas 76503
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