

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

Quarter no. 1 From 1/1/07 Through 3/31/07

I. Abstract

The project was kicked-off this quarter following the initiation of the contract on December 27, 2006. Following contract initiation, the budget was allocated to TCE and TWRI and accounts set up on January 29, 2007. Work this quarter primarily focused on hiring the Lone Star Healthy Streams Extension Assistant, identifying cooperators for the BMP evaluation, publicizing the project, and developing the QAPP. Meetings were held to coordinate *Lone Star Healthy Streams* with the *Education Program for Improved Water Quality in Copano Bay* and *Environmental Grazing Management* projects. The Welder Wildlife Refuge has graciously agreed to allow TCE to utilize three existing small watershed sites for the BMP evaluation. The project has been publicized through the development of a one-page fact sheet and other TWRI publications, a poster presentation at a national water conference, and an interview for an article for the upcoming May issue of "The Cattleman" magazine. Next quarter, efforts will focus on finalizing the QAPP, installing monitoring equipment, and initiating development of the education program.

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 select a pilot watershed for 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. A draft list of potential committee members has been drafted and is near completion. Once the list of committee members is finalized, the first semi-annual meeting will be scheduled.

4% 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 [Final report provided under Task 4].

The following actions have been completed during this reporting period:

- a. TWRI submitted Year 1, Quarter 1 Progress Report on April 13, 2007.

8% 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. On February 15, a coordination meeting was held between TWRI and TCE in Corpus Christi to request the assistance of TCE Corpus Christi staff with proposed monitoring on the Welder Wildlife Refuge. TCE Corpus Christi staff agreed to assist with equipment maintenance and runoff collection.
- b. On February 26, TWRI, TCE, and TAES met with the Welder Wildlife Refuge to discuss the project and request the use of three existing sub-watersheds for monitoring the effects of grazing management on bacteria runoff. The Welder Wildlife Refuge agreed to participate in the project.

8% 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. No activity.

8% Complete

Subtask 1.5: TWRI will submit appropriate Reimbursement Forms.

The following actions have been completed during this reporting period:

- a. The contract was initiated on December 27, 2006.
- b. The budget was allocated and accounts set up on January 29, 2007.

8% 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. Work has been initiated to develop an internet website for the project. The website will be fully operational next quarter.

4% 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 Lone Star Healthy Streams Extension Assistant has been selected and will start to work on April 23. A laptop and desktop computer have been purchased for the project.

8% 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. Mark McFarland and Nikki Dictson have been requested to serve on the internal TCE Planning Team.

4% 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. Work has been initiated to compile existing materials and information on bacteria, nutrient, and sediment runoff from grazing lands.

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.

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. No activity.

0% 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. Mark McFarland and Nikki Dictson have been asked to serve on the internal TCE Planning Team. This will facilitate integration and coordination of the Lone Star Healthy Streams Program with the Texas Watershed Steward program.

8% 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.

0% Complete

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

The following actions have been completed during this reporting period:

- a. No activity.

0% Complete

TASK 4: Education Program Testing and Delivery

Subtask 4.1: TCE will test the educational program in the pilot watershed selected by 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.

0% 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.

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.

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.

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.

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. Work on the QAPP has been initiated. The QAPP will be submitted to the TSSWCB next quarter for review and approval.

50% 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.

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. The Welder Wildlife Refuge, located in the Copano Bay Watershed, has agreed to participate in the project. Three existing 1 hectare watersheds will be used to evaluate the effects of grazing management on bacteria runoff.
- b. Work has been initiated to locate a stream segment for the evaluation of alternative water supplies. Rachel Bauer, Caldwell County Extension Agent, has been contacted to identify people who own both sides of the Clear Fork of Plum Creek and have, essentially, the headwater springs. These producers have been contacted and are currently considering the possibility of participating.

35% 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. No activity.

0% Complete

Subtask 5.5: TWRI and TCE will assess water quality before and after BMP implementation. Bacteria will be the focus of this effort and will be monitored bi-monthly. In order to gain a more complete picture of the impacts of BMP implementation on water quality, nutrients and sediment will be assessed at least quarterly as well. 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. No activity.

0% Complete

Subtask 5.6: In order to gain a more complete picture of the impacts of BMP implementation on stream health, additional assessments such as stream bank stability assessments, aquatic habitat assessments, and benthic macroinvertebrate assessments may also be performed by TWRI and TCE before and after BMP implementation.

The following actions have been completed during this reporting period:

- a. No activity.

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. No activity.

0% Complete

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

- From February 27-31, the TWRI Project Manager participated in the USDA-CSREES National Water Conference presenting the poster titled “Reducing Bacterial Contamination in Texas Watersheds”. Upcoming activities of the Lone Star Healthy Streams project were included on the poster.
- The TWRI PI and Project Manager were interviewed by “The Cattleman” magazine on March 13 for an article on bacteria TMDLs. The upcoming education program and BMP evaluation to be conducted through *Lone Star Healthy Streams* were briefly discussed. It is anticipated that the article will be included in the May edition of “The Cattleman”. In addition, the magazine was very interested in including future articles as the educational materials are developed and results of the BMP evaluation are completed.
- Efforts made to coordinate this project with the Education Program for Improved Water Quality in Copano Bay Project and Environmental Grazing Management Project have proven very beneficial in increasing the effectiveness and efficiency of all three projects.

- A one-page project fact sheet titled “Improving Water Quality of Grazing Lands” has been developed by TWRI describing the project’s background, objectives, collaborators, and sources of funding.
- Fencing of the three sub-watershed sites at the Welder Wildlife Foundation will be needed to control grazing. A budget amendment will be needed to fund this unanticipated expense and will be submitted next quarter.

IV. Projected Work for Next Quarter

- Finalize organization of Project Steering Committee and have first meeting.
- TWRI will prepare and submit Year 1, Quarter 2 Progress Report.
- TWRI will schedule and conduct a meeting with project participants to discuss project activities and progress.
- TWRI will submit a budget amendment to provide funding for fencing to control grazing in the three sub-watershed sites.
- The website will go on-line next quarter.
- The Extension Assistant will begin work on April 23.
- The internal TCE Planning Team will be organized.
- The Extension Assistant will work to compile existing educational materials and information on bacteria, nutrient, and sediment runoff from grazing lands.
- The Extension Assistant will work to modify existing educational materials and develop a core land/grazing management educational component for inclusion in the Lone Star Healthy Streams Program.
- The Extension Assistant will work to integrate the Lone Star Healthy Streams Program with the Watershed Steward Program.
- Identification of cooperators for the BMP demonstration will be completed.
- Equipment installation will begin following approval of the QAPP next quarter.