Water Quality Program for Lake Granbury, Texas

Texas Water Resources Institute
FY 05 Federal Appropriated Funds
Addition to Project # 03-60768

Quarter no. 6 From 02/01/08 Through 4/30/08

Project Goals and Objectives

The goal for this project is to provide a mechanism to educate local stakeholders about water quality issues that are affecting Lake Granbury. This project will provide an assessment of existing and potential water quality threats related to on-going non-point source (NPS) water pollution within the Lake Granbury Watershed. The Texas Water Resources Institute (TWRI) and Texas AgriLife Extension Service will also assist BRA and TCEQ in developing a Watershed Protection Plan (WPP), aimed to improve and protect water quality within the Brazos River Basin. Educational information developed from this project will provide Federal, State and local decision makers with a variety of mechanisms that can be employed to prevent additional degradation of water quality in the watershed.

Key objectives of this project include:

- Holding public meetings to educate stakeholders and clients within the watershed about water quality and its protection
- Providing public educational programs to help achieve improved water quality
- Conduct training events on proper operation and maintenance of on-site wastewater treatment systems and collective facilities

Progress in Meeting Project Milestones and Output Commitments

Task, Deliverables, and Schedules

The Texas Water Resources Institute (TWRI) and Texas AgriLife Extension Service have been diligently working to complete project deliverables. Project efforts during the sixth quarter focused upon conducting stakeholder meetings in conjunction with BRA and TCEQ, gathering information for a targeted educational program and gathering information on the potential contribution of onsite wastewater treatment system to bacterial levels in local coves around the lake. Texas AgriLife Extension Service has been conducting educational programs relating to water quality for the project area specifically dealing with bacterial impairment issues resulting from onsite septic systems and ways to control non-point sources of pollution. TWRI has developed a Web site containing water quality information, specifically related to project efforts for the general public and has assisted TCEQ and BRA in the stakeholder participation process.

In looking forward to the next quarter Texas AgriLife Extension Service specialists will finalize development of a model to determine potential loading of onsite septic systems

for the oak trail shores subdivision, present educational meetings in conjunction with local civic groups as well as continue to develop educational resources.

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 Education

Date	Status	Deliverables
4/1/07	Completed	1. Develop a watershed management program bulletin and PowerPoint presentation dealing with on-site wastewater treatment and collective wastewater treatment systems.
4/1/07	Completed	2. Develop a watershed management program bulletin and PowerPoint presentation dealing with fecal coliform contamination and potential sources.
7/1/07	Ongoing	3. Hold Lake Granbury stakeholder committee meetings.
7/1/07	Completed	4. Conduct two training program for local citizens and other selected resource personnel on proper maintenance of on-site wastewater systems.
10/1/07	Ongoing	3. Hold Lake Granbury watershed public meeting on watershed characteristics and pollution problems.

Comments:

- Produced a series of water quality fact sheets pertaining to specific water quality issues in the region, namely, nutrient and sediment loadings, bacteria, urban and agricultural non-point sources, landscape chemicals etc.
- Worked with the North Central Texas Council of Governments to create a Public Service Announcement on Pet Waste Management, a source of bacterial contamination especially for areas adjacent to the lake
- Created and presented information to the local watershed stakeholder group on water quality standards and on-site wastewater treatment system maintenance
- Worked with the local County Extension Agent in Hood county to plan additional educational events related to small acreage landowner land management,

maintenance of on site wastewater treatment systems, rainwater harvesting and bacterial sources in water.

- Texas AgriLife Extension Service made a presentation at Lake Granbury Watershed stakeholder meetings regarding on-site septic system maintenance and regional collection systems; update on activities associated with the educational program, and identifying malfunctioning onsite wastewater treatment systems.
- Texas AgriLife Extension Service made a presentation to Oak Trail Owners Association, a local home owner association which has issues of high bacterial contamination in its coves. The presentation discussed sources of bacterial impairments, septic maintenance and preventative measures.
- On July 17-18, 2007, Texas AgriLife Extension Service conducted a rainwater harvesting training in Granbury. The event was attended by 40 participants who learned about rainwater harvesting, the hydrologic cycle, non-point pollution management and control, etc.
- On July 18, Texas AgriLife Extension Service conducted a program on Priority Groundwater Management Areas. The event was attended by 52 individuals.
- On July 19, Texas AgriLife Extension Service conducted a septic systems installer training. The event was attended by 11 participants. The goal of the course was to inform septic system installers about new technologies, rules and regulations, preventative maintenance of systems and correct installation.
- On August 20-24, Texas AgriLife Extension Service, Espey Consultants, BRA and TAES conducted a preliminary dye study of on-site wastewater treatment systems in the Lake Granbury watershed. The systems of six households in the Oak Trail Shores subdivision where evaluated for there efficiency and workability. Dye was placed in the system and readings where taken in nearby coves to determine if the systems where contributing directly or indirectly to the water quality. Additionally, soil cores and water table measurements where taken as a data gathering exercise from which the team will develop a model to evaluate septic systems for the subdivision and potential loading of bacteria and nutrients.
- In August, Texas AgriLife Extension Service Specialist Dr. Bruce Lesikar, working with the Hood County Extension agent, prepared radio news pieces on non-point sources of pollution, bacterial impairment of the lake, septic system health and other water quality topics.
- Texas AgriLife Extension Service continues to provide programs to local civic and homeowner association meetings regarding non-point sources of pollution and water quality.
- Literature review on effluent quality from onsite wastewater treatment systems
- On 2/20/08 presented information to the Lake Granbury Watershed Stakeholder Group regarding educational activities as well as how to identify failing onsite septic systems.

Task 2 Administration

Date	Status	Deliverables
1/30/07	Completed	1. Quarterly Progress Reports
4/30/07	Completed	
7/30/07	Completed	
10/30/07	Completed	
1/30/08	Completed	
4/30/08	Completed	
7/30/08		
10/30/08		2. Final Report

Comments:

- TWRI created a one-page fact sheet providing an overview of the project, including objectives, components and collaborators. The fact sheet identifies project needs and goals and will be used to gain stakeholder involvement and publicize project activity.
- The Institute created an Internet Web site specifically for the Lake Granbury Water Quality Project. The Web site can be accessed at the following address: http://lakegranbury.tamu.edu
- Assisted the Brazos River Authority and Texas Commission on Environmental Quality in developing a stakeholder group for the development of a watershed protection plan for the Lake Granbury Watershed.
- Toured the Lake Granbury watershed by land and by boat with the Brazos River Authority to gain a better understanding of the watershed and document potential sources of contamination.
- On April 12, 2007 TWRI organized a boat tour and project update with Representative Chet Edwards and his staff at Lake Granbury. Information was provided on current and future planned educational programs, water quality impairments for the area and boat tour to view impaired coves around the lake.
- Attended the Lake Granbury WPP Stakeholder meeting on 2/20//08.
- Attended a meeting with TCEQ and BRA to discuss educational and outreach programs for the next year as well as ways in which to incorporate activities of this grant into development of watershed protection plan documentation.

Problems or Obstacles Encountered and Remedial Actions Taken

None to report at this time.

Work Planned for Next Reporting Period

Task 1: Education

Texas AgriLife Extension Service will continue working with BRA, TCEQ, the local county Extension agent and local watershed stakeholder group to develop and present information on water quality. Texas AgriLife Extension Service has scheduled the following events listed below and are currently planning additional activities.

- Finalize development of a model to determine potential loading of onsite septic systems for the oak trail shores subdivision
- Continue conducting educational programs on water quality and non-point sources of pollution
- Work on developing a series of news stories on watershed characteristics and non point sources of pollution for distribution in Hood County

Task 2: Administration

TWRI will continue working with BRA, TCEQ, NRCS and Texas AgriLife Extension Service in moving forward with project deliverables and reporting its progress on a quarterly basis. Efforts will be made to publicize the project and raise awareness of water quality issues within the study area.