

**Texas AgriLife Research
Texas Water Resources Institute**

**Preventing Water Quality Contamination Through the Texas Well Owner Network
FY 10 CWA 319(h)
TSSWCB Project No. 10-04, FAMIS Account #07-428570**

Quarter no. 6 From 01-01-12 through 3-31-12.

I. Abstract

Three well screenings were held during this quarter, and selection of targeted counties for TWON program delivery continued. Since April 2011, 20 screenings have been held with more than 1,093 samples screened. The TWON Handbook was delivered to and reviewed by the TSSWCB. Comments are being reviewed and incorporated.

II. Overall Progress and Results by Task

TASK 1: Project Administration

Subtask 1.1: *TWRI will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15th of January, April, July and October. QPRs shall be distributed to all project partners.*

The following actions have been completed during this reporting period:

- a. TWRI submitted the 5th Quarter, Year 2 report to TSSWCB on January 15, 2012.

50% Complete

Subtask 1.2: *TWRI will perform accounting functions for project funds and will submit appropriate Reimbursement Forms to TSSWCB at least quarterly.*

The following actions have been completed during this reporting period:

- a. As of March 1, 2012, \$86,731.23 or 18% of federal project funds had been expended.

18% Complete

Subtask 1.3: *TWRI will host coordination meetings, conference calls, or TTVN meetings, as appropriate, with project partners in order to efficiently and effectively achieve project goals, coordinate efforts and summarize activities and achievements made throughout the course of this project. TWRI will develop lists of action items needed following each project coordination meeting and distribute to project personnel.*

The following actions have been completed during this reporting period:

- a. A meeting between TWRI, TSSWCB and the project partners was held on January 11, 2012, to discuss project deliverables and status.
- b. The TWRI project manager for TWON changed this quarter. An internal meeting was held between TWRI's former and new project manager and the project partners to catch up on the current status of the project. A meeting with TSSWCB will be scheduled next quarter.

50% Complete

Subtask 1.4: *TWRI and SCSC will attend and participate in the Texas Groundwater Protection Committee and subcommittee meetings, Texas Alliance of Groundwater Districts conferences, and other meetings as appropriate in order to communicate project goals, activities and achievements accomplishments to affected parties.*

The following actions have been completed during this reporting period:

- a. Kristine was a session moderator at the National Ground Water Association 'Emerging Contaminants' conference in San Antonio (February 28) and presented a brief summary of the TWON program to the conference attendees.
- b. Kristine presented a summary of the TWON Handbook to the Public Outreach and Education Subcommittee of the Texas Groundwater Protection Committee in Austin (March 1) and solicited review comments on the text and graphics from the extended membership. Chair Kathy McCormack distributed the text for review.
- c. Kristine attended the Edwards Aquifer Authority Lecture Series on Karst Challenges in San Antonio (March 2) and met with Geary Schindel, Chief Technical Officer of the Edwards Aquifer Authority to discuss TWON graphics and text associated with the Edwards Aquifer.

50% Complete

Subtask 1.5: *TWRI in collaboration with SCSC, will create (Months 1-3), host and maintain (Months 4-36) a website to serve as a clearinghouse for TWON information and resources including updated and renamed, web-adapted Tex*A*Syst educational materials and online delivery of TWON.*

The following actions have been completed during this reporting period:

- a. The Texas Well Owner Network website went online on June 10, 2011, and continues to be maintained and updated. It can be found at <http://twon.tamu.edu/>. Since the website went online, it has been viewed by a total of 1,294 unique visitors with 497 of those in the last quarter.
- b. The TWON website coordinated with the National Ground Water Association (NGWA) outreach during Ground Water Awareness Week (March 12-17th) with NGWA sponsored outreach material.
- c. Following on Ground Water Awareness Week, the TWON web site is now hosting a public survey on drinking water source awareness sponsored by the PBS News Hour.

50% Complete

Subtask 1.6: *TWRI and SCSC will develop a project final report.*

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

TASK 2: Development of TWON Educational Materials/Curriculum

Subtask 2.1: *SCSC will employ a TWON Coordinator to develop and deliver the TWON curriculum in selected watersheds.*

The following actions have been completed during this reporting period:

- a. This task is complete. Kristine Uhlman was hired on May 9, 2011.

100% Complete

Subtask 2.2: *Update and rename existing TEX*A*Syst documents to reflect changes/improvements in laws and regulations and private well management, maintenance and protection. Revisions will be developed by the TWON Coordinator, with significant assistance from Project Co-Leads and the BAEN Program Specialist.*

Existing publications include:

- *Improving Wellhead Management and Conditions*
- *Improving Pesticide Storage and Handling*
- *Improving Fertilizer Storage and Handling*
- *Improving Petroleum Product Storage*
- *Improving Hazardous Waste Management*
- *Improving Household Wastewater Treatment*
- *Improving Livestock Manure Storage and Treatment Facilities*
- *Improving Livestock Holding Pen Management*

All documents, educational materials, etc. will be provided to the TSSWCB for review and comment prior to dissemination.

The following actions have been completed during this reporting period:

- a. The TWON Handbook was delivered to TSSWCB for review on February 24, 2012.
- b. Comments from TSSWCB's review were returned on March 26, 2012.
- c. The project team is reviewing and integrating TSSWCB comments and working toward the final draft.
- d. Kristine met with Ag Communications on March 27, 2012, to coordinate TWON publication.

60% Complete

Subtask 2.3: *Develop and adapt additional educational resources to create a TWON curriculum. Resources will be developed by the TWON Coordinator, with significant assistance from Project Co-Leads and the BAEN Program Specialist. Specific components or modules of the curriculum may include:*

- *Watershed and groundwater hydrology and the importance to neighbors and the public of safeguarding aquifer integrity and groundwater quality*
- *Proper siting of drinking water wells and avoiding improper well construction techniques*
- *Proper maintenance and protection of the wellhead*
- *Solid and hazardous household waste management*
- *Aging and failure of well construction materials*
- *Locating and properly plugging abandoned wells*
- *Improperly sited and functioning on-site wastewater treatment systems*
- *Maintenance, aging and failure of on-site wastewater treatment systems*
- *Effects of land use changes on well water quality*
- *Successful methods of sharing TWON information with neighbors and community.*

TWON curriculum will include a handbook for participants, standardized presentations for program delivery and availability of program materials online.

All documents, educational materials, etc. will be provided to the TSSWCB for review and comment prior to dissemination.

The following actions have been completed during this reporting period:

- a. The curriculum was delivered to TSSWCB for review on February 24, 2012.
- b. Comments were returned from TSSWCB and are being reviewed and incorporated into the curriculum.

55% Complete

TASK 3: Deliver updated and renamed TEX*A*Syst Publications, Well Water Screenings, and TWON trainings

Subtask 3.1: SCSC will develop a preliminary list of watersheds where the Well Water Screenings and TWON trainings will be delivered. SCSC will work with the TSSWCB and other state and local organizations to select locations for these training events. SCSC will coordinate efforts with state agencies and organizations already involved in WPP/TMDL processes or who are planning future WPP/TMDL processes in specific watersheds.

The following actions have been completed during this reporting period:

- a. The TWON schedule continues to be updated to reflect requests from local communities as well as from the TSSWCB.

65% Complete

Subtask 3.2: SCSC with assistance from TWRI will develop and disseminate informational materials in order to actively market well water screenings and TWON trainings including news releases, internet postings, newsletter announcements, public/conference presentations, flyers, etc. As appropriate TWRI will include information on the project in the txH₂O, New Waves e-letter, and AgriLife news. All announcements, letters, and publications will be provided to the TSSWCB for review and comment prior to dissemination.

The following actions have been completed during this reporting period:

- a. TSSWCB-approved press releases were sent out promoting well screenings to local areas.
- b. Additional press releases were sent to TSSWCB for review on March 26, 2012.

50% Complete

Subtask 3.3: Deliver 6-hour TWON trainings in selected watersheds, with the minimum goal being 6 trainings in year 2, and 8 trainings in year 3 to increase local understanding of the factors which can adversely impact well water quality and provide access to the knowledge and tools which can be employed to prevent and/or resolve them. Trainings will be delivered by the TWON Coordinator, and a combination of the BAEN and SCSC Program Specialists and the SCSC Assistant Professor and Extension Specialist.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 3.4: Deliver well screening events to provide well-head protection information and recommendations for remediating well contamination, if appropriate. Screenings will be delivered by the SCSC Assistant Professor and Extension Specialist, TWON Coordinator and/or the SCSC Program Specialist as appropriate. A minimum of 30 well screening events will be delivered throughout the course of the project. Well screening

event educational programming will include an overview of the topics discussed in more detail during comprehensive TWON trainings. Well screening events will be conducted in conjunction with TWON trainings as well as other Texas AgriLife Extension programs.

The following actions have been completed during this reporting period:

- a. A total of 20 of the 30 required well screenings have been held.
- b. Well screenings were held in;
 - i. Austin County, Jan 9-10
 - ii. Brazoria County, March 8-10
 - iii. Anson County, March 21-22

67% Complete

TASK 4: Evaluate the effectiveness of the TWON trainings

Subtask 4.1: SCSC will develop and deliver pre-test/post-test evaluation strategy to evaluate increased knowledge by individuals participating in the TWON trainings regarding program principles, appropriate BMPs, and other activities; to address proper private well management, to evaluate participant satisfaction with the program; and to evaluate participant's intentions to change their behavior as a result of the TWON training.

The following actions have been completed during this reporting period:

- a. Survey development continues. Example surveys from other similar programs are being assessed, working towards incorporating into TWON.

30% Complete

Subtask 4.2: SCSC will develop and deliver 6 month follow-up survey via online techniques to assess behavior changes adopted and other activities (such as number of neighbors contacted) by TWON training participants.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

30% Complete

Subtask 4.3: SCSC will analyze results obtained from the pre-test/post-test and 6 month follow-up evaluations using descriptive, correlational, and analysis of variances statistical procedures.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

Subtask 4.4: SCSC will modify educational program and materials as appropriate.

The following actions have been completed during this reporting period:

- a. No activity to report this quarter.

0% Complete

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

- TWON program leaders are undergoing IRB certification to assure data collection and management activities comply with privacy standards.

IV. Projected Work for Next Quarter

- Six well screenings have been scheduled for next quarter.
- The TWON Handbook will be formatted and available for final review prior to printing.
- TWON trainings will be scheduled.
- TWRI will schedule quarterly meeting with program leaders and TSSWCB.