

**Texas A&M AgriLife Research & Extension Service
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. 14 From 1/1/14 through 3/31/14

I. Abstract

All 6-hour “Well Educated” trainings and 1-hour “Well Informed” screenings have now been held. Post-training 6 month evaluations continue to be disseminated to participants and positive responses are coming back. The TWON fact sheets were edited and are currently in layout. Project tasks are mostly complete with just the publications and quarterly and final reports remaining.

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 14th Quarter, Year 4 report to TSSWCB on April 11, 2014.

90% 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 February 3, 2014, \$448,747 or 95% of federal project funds had been expended.

95% 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 March 18, 2014, to touch base on outstanding project deliverables and wrapping up the project. Action items are included in Appendix A. Meeting participants included: Diane Boellstorff (SCSC), Ryan Gerlich (BAEN), Drew Gholson (SCSC), Danielle Kalisek (TWRI) and Jana Lloyd (TSSWCB).

95% 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. This task is considered complete. No activity to report.

100% 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 10,586 visits by 7,278 unique visitors. This quarter there were 1,206 visits made by 976 unique visitors this quarter.
- b. The website continues to be maintained and updated with training dates and locations.

95% 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. Drew Gholson was hired on September 17, 2012.

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. SCSC is working with Texas A&M AgriLife Communications for editing and layout. The fact sheets have been edited and approved and are currently in layout.
- b. The *Improving Fertilizer Storage and Handling* fact sheet draft was completed. It has been edited and approved and is currently with AgriLife Communications.

90% 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 TWON Handbook has been published. This task is now complete.
- b. Presentations were finalized for the training, and continue to be adjusted due to responses and evaluations of the trainings.

97% 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. All well water screenings (1 hour) and TWON trainings (6 hour) have been held. This task is complete.

100% 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, Conservation Matters 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. Two articles were written highlighting the TWON project. One was an overview of the trainings to be published in The Cattleman magazine in May 2014. The other was an article on protecting groundwater resources using information from fact sheets and materials located on the TWON website to be published in the spring issue of txH₂O magazine.

100% 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. All trainings were held. This subtask is complete.

100% 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 40 of the 30 required well screenings have been held. This subtask is complete.

100% 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 was developed and distributed at all the trainings.

100% 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. The 6 month follow-up surveys have been sent to 9 of the 14 trainings to evaluate actual changes being made since the 6-hour training.
- b. The survey will continue to be distributed to more participants as the 6-month mark is reached.

85% 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. Six-month follow-up surveys were sent out to the participants from the following trainings: Seguin, Boerne, Wellington, Lubbock, Haskell, Lockhart, Junction, Killeen and Wimberley.
- b. Examples of some of the results are: 98% of the participants that had possible hazards in their well house removed them.
- c. Twenty percent of the participants reported having had their septic system pumped since the training. Moreover, 95% of participants either pumped their septic system, still plan to or indicated that it was not needed.
- d. Nearly 75% of the participants have already shared the resources and materials with other well owners.
- e. Pre/Post Test: Pre-test scores average 54% correct answers, while post-test scores averaged 84% correct, for a 30% improvement.
- f. The average response from participants when asked how much they would value their participation in the “Well Educated Program” is \$834.

55% Complete

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

The following actions have been completed during this reporting period:

- a. Slight modifications were made throughout the training schedule. Trainings and this task are complete.

100% Complete

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

- No activity to report this quarter.

IV. Projected Work for Next Quarter

- TWON fact sheets will continue to be completed and published as AgriLife Communications can get them out.
- TWRI will schedule quarterly meeting with program leaders and TSSWCB.
- Work will begin on the TWON final report.
- TWRI will facilitate completion and submission of the TWON quarterly report for next quarter.

APPENDIX A

QUARTERLY COORDINATION MEETING — NOTES *Preventing Water Quality Contamination Through the Texas Well Owners Network* March 18, 2014 @ 10:00am

Attendees – Diane Boellstorff, Ryan Gerlich, Drew Gholson, Jana Lloyd, Danielle Kalisek

Goals

- Discuss outstanding deliverables, get updates for the QPR, develop a checklist for wrapping up the project

Action Items

Outstanding deliverables

- Quarterly Progress Reports for April, July and October 2014
- Reimbursement Forms and necessary documentation
- Action items from project coordination meetings
- Number of unique visitors to TWON website
- Finalizing the fact sheet publications
 - All drafts are at AgriLife Communications. Edits were received back on all but three. They are currently in layout.
 - The fertilizer draft was completed by McFarland and is at AgriLife Communications.
- Put TWON presentations online
- Follow-up 6-month survey assessment for TWON trainings
- Results from evaluation approach
- Final Report summarizing the results of the project