

**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. 13 From 10/1/13 through 12/31/13

I. Abstract

Five 6-hour “Well Educated” trainings were held this quarter with a total of 329 participants. Since April 2011, 40 screenings have been held with 2,729 samples screened. Post-training 6 month evaluations continue to be disseminated and positive responses are coming back. The TWON fact sheets have been reviewed and approved and will be sent for editing and layout next quarter. Project tasks are wrapping up with mainly the publications 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 13th Quarter, Year 4 report to TSSWCB on January 15, 2014.

85% 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 December 4, 2013, \$432,267 or 91% of federal project funds had been expended.

91% 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 December 17, 2013, to discuss 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), Jana Lloyd (TSSWCB), John Smith (SCSC) and Kevin Wagner (TWRI).
- b. The next meeting is tentatively scheduled for the end of March 2014.

93% 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. The TWON Coordinator participated in the annual meeting of Texas Soil and Water Conservation District Directors as an exhibitor with a poster display on October 28–30 in Fort Worth, TX.

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 9,293 visits by 6,251 unique visitors. This quarter there were 1,191 visits made by 876 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. TGPC POE provided courtesy review of the fact sheets.
- b. The TWON factsheets were all submitted to TSSWCB for review, except the fertilizer fact sheet.
- c. TSSWCB reviewed and approved the submitted factsheets.
- d. SCSC will begin working with Texas A&M AgriLife Communications for editing and layout.
- e. Only the *Improving Fertilizer Storage and Handling* is left, and a specialist is taking the lead on re-drafting this fact sheet and should have it out for review and edits next quarter.

85% 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 TSSWCB-approved press releases were sent out promoting TWON “Well informed” well screenings to local areas.
- b. Press releases were developed for the three TWON “Well Educated” training this quarter, approved by TSSWCB and published through Texas A&M AgriLife Communications. These press releases continue to be updated for each upcoming training.
- c. A brief about the success of the Texas Well Owner Network program was published in TWRI’s Fall 2013 txH₂O magazine. It also announced phase two, directing readers to the TWON website for info.

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. There were 5 trainings held this quarter. They were held in:
 - a. Weatherford on October 2 in the Upper West Fork Trinity watershed with 163 attendees.
 - b. Pleasanton on October 10 in the Atascosa River watershed with 38 attendees.
 - c. Fort Stockton on October 22 in the Pecos River watershed with 15 attendees.
 - d. San Angelo on October 23 in the Middle & South Concho Rivers with 87 attendees.
 - e. Uvalde on November 19 in the Leona River watershed with 26 attendees.
- b. There were a total of 329 attendees for the trainings held this quarter.

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. A 6 month follow-up survey was developed.
- b. The 6 month follow-up surveys have been sent to 7 of the 14 trainings to evaluate actual changes being made since the 6-hour training.
- c. The survey will continue to be distributed to more participants as the 6-month mark is reached.

80% 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. There were three, 6-month follow-up surveys sent out to the participants from the trainings in Seguin, Boerne, Wellington, Lubbock, Haskell, Lockhart and Junction.
- b. Examples of some of the results are: 98% of the participants that had possible hazards in their well house removed them.
- c. Almost 20% percent of the participants reported having had their septic system pumped since the training. Moreover, 96% 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.

50% 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 be sent to Texas A&M AgriLife Communications for editing, layout and publishing.
- The TWON fertilizer fact sheet draft will be completed and sent to TSSWCB for review.
- TWRI will schedule quarterly meeting with program leaders and TSSWCB.
- 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* December 17, 2013 @ 9:00am

Attendees – Diane Boellstorff, Ryan Gerlich, Drew Gholson, Jana Lloyd, Danielle Kalisek, John Smith, Kevin Wagner

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 January, 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
 - Now that they are approved, they will be sent to Texas A&M AgriLife Communications for editing, layout and publication
 - Dr. McFarland is rewriting the Fertilizer publication; it still needs to be submitted to TSSWCB for review and approval
- 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