

**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. 12 From 7/1/13 through 9/30/13

**I. Abstract**

One 6-hour “Well Educated” training was held this quarter with a total of 89 participants. One well screening was held during this quarter with a record 191 samples. Since April 2011, 40 screenings have been held, which is above the required 30 screenings in the contract, with 2,729 samples screened. Post-training 6 month evaluations have been disseminated and positive responses are coming back.

**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 15<sup>th</sup> 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 12<sup>th</sup> Quarter, Year 3 report to TSSWCB on October 11, 2013.

**80% 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 September 5, 2013, \$392,623 or 83% of federal project funds had been expended.

**83% 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 September 25, 2013, to discuss project deliverables and status. Action items are included in Appendix A. Meeting participants included: Diane Boellstorff (SCSC), Ryan Gerlich (BAEN), Drew Gholson (SCSC), Allen Berthold (TWRI), Danielle Kalisek (TWRI) and Jana Lloyd (TSSWCB).
- b. The next meeting is tentatively scheduled for the end of November or beginning of December.

**90% 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 Extension Water Resource Specialist and TWON Coordinator presented information about the TWON program and schedule at the Texas Groundwater Protection Committee Public Outreach and Education Subcommittee quarterly meeting in Austin on September 10, 2013.
- b. The TWON Coordinator attended the Texas Alliance of Groundwater District's Texas Groundwater Summit on August 28–30.

### **80% 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 5,392 unique visitors. There were 1,510 visits from 1,028 unique visitors this quarter.
- b. The website continues to be maintained and updated with training dates and locations.
- c. Since the publications updates were made last quarter, there were 264 page views for the Publications Page. This is up from 228 the previous quarter.

### **83% 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. The TWON factsheets are in various stages of being written and reviewed by project Co-PIs.
- b. Final edits are being compiled for the *Improving Livestock Manure Storage and Treatment Facilities* and *Improving Livestock Holding Pen Management*.
- c. The *Improving Hazardous Waste Management* fact sheet edits are being compiled.
- d. These will then go to the TGPC for courtesy edits, then to TSSWCB for edits next quarter.
- 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.

### **80% 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.

### **95% 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.

**90% 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 txH<sub>2</sub>O, 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. One TSSWCB-approved press releases were sent out promoting TWON “Well informed” well screenings to local areas.
- b. Press releases were developed for the one TWON “Well Educated” training this quarter and two for trainings next quarter, approved by TSSWCB and published through Texas A&M AgriLife Communications. These press releases continue to be updated for each upcoming training.

**83% 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 was one training held this quarter. It was held in Wimberley on September 12 in the Cypress Creek watershed. There were a total of 89 attendees for the trainings held this quarter.

**64% 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. An additional screening has been held during this quarter and more have been requested. From the screening below, 191 samples were collected.
- b. Well screenings were held in:
  - i. Wharton County, September 16 with 191 samples

**97% 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 has been developed and is distributed at the trainings.

**80% 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.

**75% 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 and Wellington.
- b. Examples of some of the results are: 100% of the participants that had possible hazards in their well house removed them.
- c. Twenty-one percent of the participants actually pumped their septic system since the training, and the remaining participants state it was not needed or still plan to.
- d. Nearly 75% of the participants have already shared the resources and materials with other well owners.

**25% Complete**

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

The following actions have been completed during this reporting period:

- a. Rainwater harvesting slides were added to the presentations due to numerous requests from participants.

**50% Complete**

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

- No activity to report this quarter.

**IV. Projected Work for Next Quarter**

- TWON Well Educated trainings will be delivered October 2, October 10, October 22, October 23 and November 19.
- Additional TWON trainings will continue to be scheduled.
- TWON fact sheets will continue to be developed and published.
- TWRI will schedule quarterly meeting with program leaders and TSSWCB.
- The TWON coordinator will report educational outcomes of the Texas Well Owner Network at the American Society of Agronomy Annual Conference in Tampa, FL on November 6.

## APPENDIX A

### QUARTERLY COORDINATION MEETING — NOTES *Preventing Water Quality Contamination Through the Texas Well Owners Network* September 25, 2013 @ 3:00pm

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

#### *Goals*

- Discuss current project activities, project schedule, communication needs, deliverables and any other issues

#### *Discussion Points*

Discuss trainings held

- Wimberley, TX / Cypress Creek watershed, September 12, 2013 – 89 Attended

Next scheduled trainings this quarter

- Weatherford – scheduled for October 2, 2013
- Pleasanton – scheduled for October 10, 2013
- Fort Stockton – scheduled for October 22, 2013
- San Angelo – scheduled for October 23, 2013
- Uvalde – scheduled for November 19, 2013

News releases for Weatherford and Pleasanton have been released. Fort Stockton and San Angelo press releases are pending with AgriLife Communications and should go out soon.

Fact Sheets

- Livestock Manure, Livestock Holding Pen and Hazardous Waste fact sheet edits are being compiled.
- Fertilizer fact sheet is being re-draft by McFarland and will be sent out for review next quarter.
- All fact sheets will be sent to TSSWCB once internal review and compilation is complete.

Screenings

- Amount completed has exceeded what was specified in the contract. Future screenings will continue as requested and/or as the budget allows.

Website updates

- Website publications page has been updated, linking BAEN OSSF, Rainwater Harvesting and Abandoned Well websites and publications.

#### *Action Items*

- Complete and send news release to TSSWCB
- Prepare slides for Lucas to advertise during Pecos watershed meetings
- Continue screenings
- Continue internal project meetings
- Continue finalizing fact sheets
- Continue publicizing training events through various media and word-of-mouth sources