# TEXAS WELL OWNER NETWORK

## *PROTECTING GROUNDWATER RESOURCES AND HUMAN HEALTH*

TWON TEXAS Well Owner NETWORK

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Texas A&M AgriLife Extension

Texas Water Resources Institute
*make every drop count*

Texas State Soil & Water Conservation Board

TAGD

United States Environmental Protection Agency

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# BACKGROUND

1. Over 1,000,000 private water wells in Texas.
2. About 2.2 million Texans in rural areas and those living on small acreages rely on private wells for drinking water.
3. About 10% of the total population and 20% of the population living outside of city limits drink well water.
4. Two to 50% exceed nitrate MCL depending on region (TWDB 2003-2008 data for 3,861 wells).


*In Texas, a household well is exempt from water quality regulations, including exemption from water quality monitoring to assure the well water is safe to drink.*

*Groundwater pollution can often be prevented - the well owner is responsible for assuring safe drinking water.*

# *Texas Well Owner Network Program Goals*

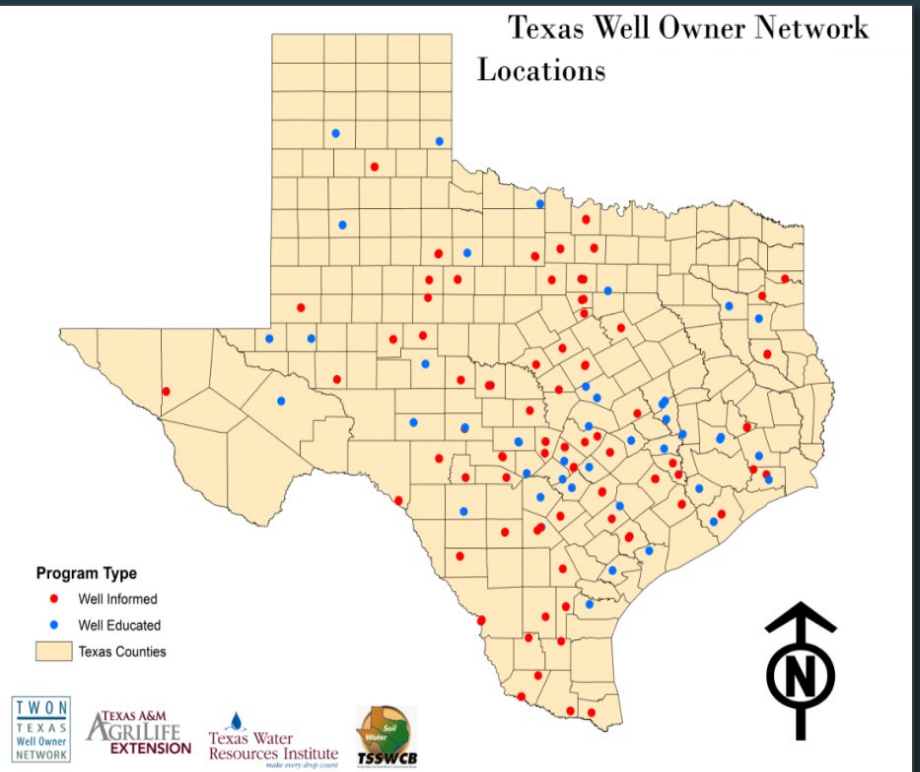
## Desired Outcomes

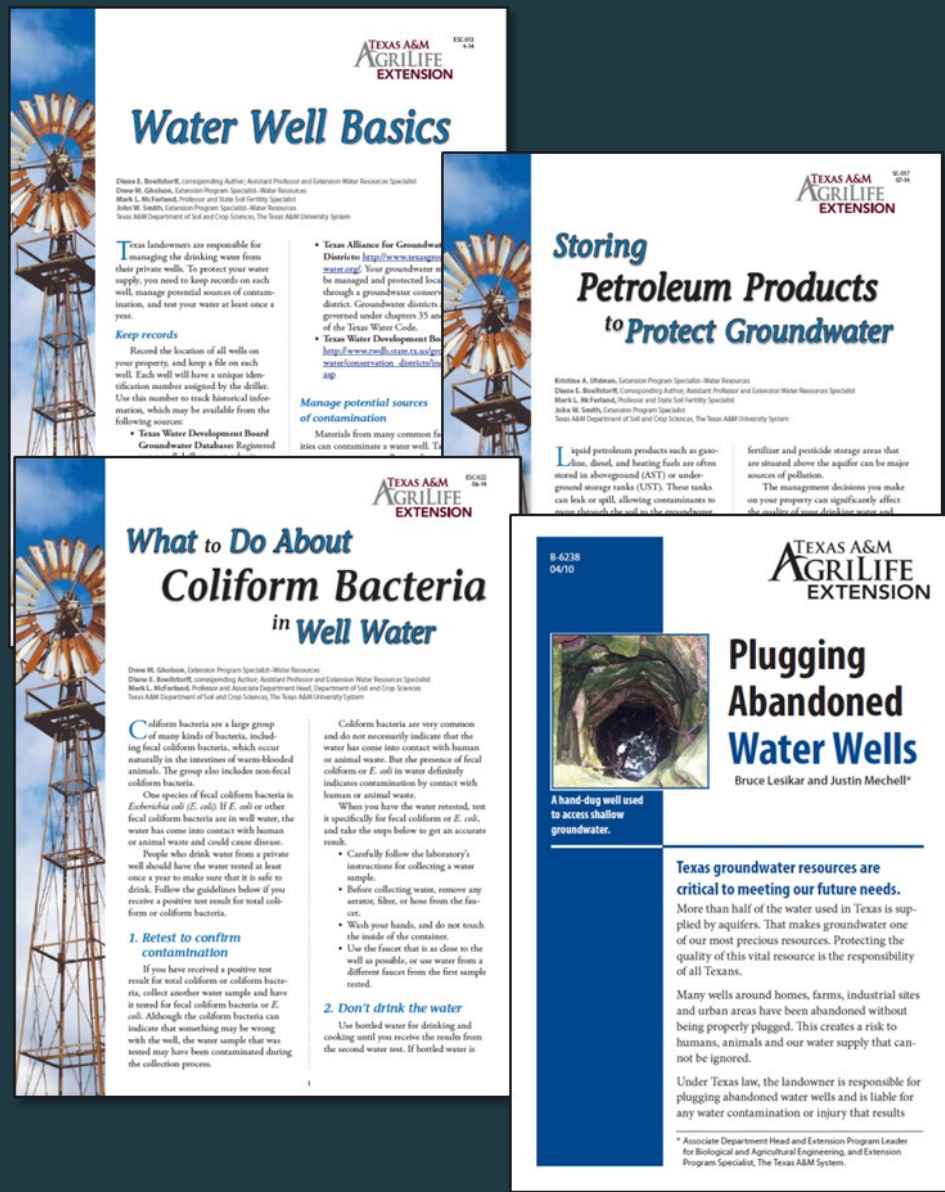
1. Changes in knowledge, awareness, attitudes and actions of private well mangers.

2. Improvement of private well management to safeguard homeowner health and protect water resources.

# Texas Well Owner Network

- TWON was established 2011
- 9,500 participants in workshops
- 200 events
- Covering 166 counties



# TWON Educational Trainings

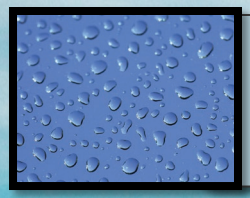
## Two Program Types

- *"Well Educated"*
  - Half-day, 4 hour training
  - Water sample screening
  - 8 chapter topics

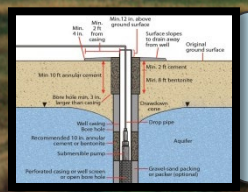
- *"Well Informed"*
  - 1 hour educational program
  - Water sample campaign
  - Screening result interpretation
  - Wellhead protection

# TWON Educational Trainings

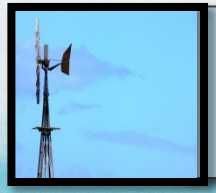
## "Well Educated"

1. 
   Aquifer 101
   Aquifers of Texas

2. 
   Watersheds and Aquifers

3. 
   Private Water Well Basics

4. 
   Onsite Wastewater Treatment

5. 
   Water Quantity

6. 
   Water Quality and Testing

7. 
   Water Treatment Options

8. 
   Protecting Your Water Supply

# TWON Educational Training

## *"Well Informed"*

1 hour program

- *Water Sample Screening*
  - *E. coli* bacteria
  - Nitrates
  - Total Dissolved Solids
  - Arsenic (location driven)
- *Education Program*
  - Explanation of results
  - Wellhead protection
  - Stimulate initial interest and responsibility

# Water Well Testing FAQs

How often should the well be tested?

- Annually for bacteria
- Every few years for general chemistry such as nitrates and salts
- As frequently as needed for other contaminants of concern

How much will it cost?

- Varies depending on analyses selected.
- Basic *E. coli* test should be less than $30

# PROGRAM EVALUATIONS

*2-phase evaluation approach:*

1. Pre-test/post-test
2. One year delayed questionnaire

*To evaluate:*

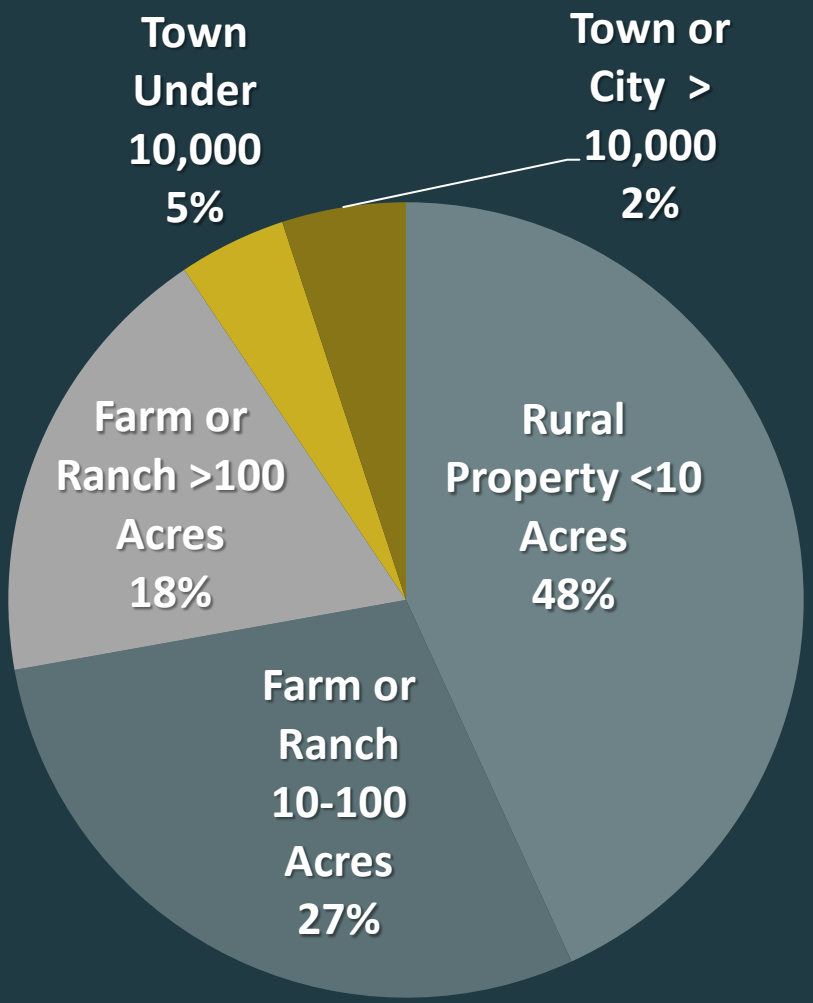
– Knowledge gained

– Satisfaction with program

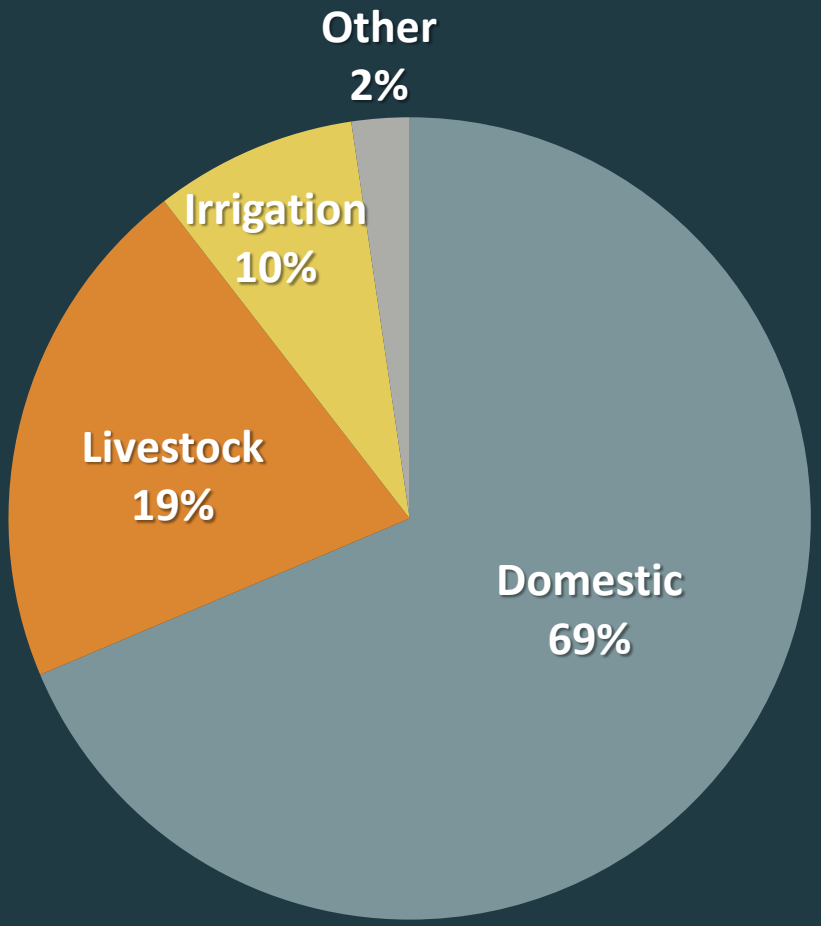
– “Intentions to change”

# Who is our audience?

Primary Place of Residence




Primary Water Use



# Evaluation Results

- *Knowledge Change*
  - Scores increase by 33 points
- *Satisfaction with the program*
  - 99%
- *Intentions to adopt BMPs*
  - Test my water once a year – 85%
  - Pump septic system regularly – 83%
  - Remove possible hazards from well house – 95%
  - Plug or cap any abandoned well on your property–85%

# One Year Follow-up Results

- 90% of those needing to clean out hazards from their well house had done so.
- 74% of participants who had wells near contamination sources (pet shelters, livestock yards, etc.) had moved or removed the sources.
- 36% of participants who needed to, plugged or capped their unused/deteriorated wells.
- 55% of those with septic tanks that needed pumping had pumped their tanks.
- 76% had shared TWON resources/ materials with others not at the training.

TWON
TEXAS
Well Owner
NETWORK

# Questions?

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