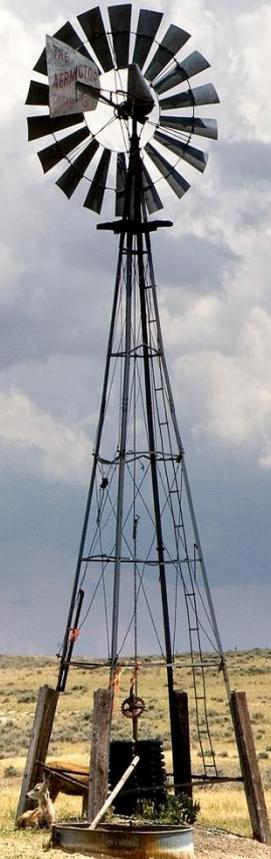


Texas Well Owner Network

*PRIVATE WELL MANAGEMENT TO PROTECT HUMAN
HEALTH AND AQUIFER INTEGRITY*

Diane Bellstorff
Texas AgriLife Extension Service

Texas Groundwater Protection Committee
July 14, 2010



Private Wells: Drinking, Irrigation, Livestock

1. Over 1,000,000 private water wells in Texas.
 2. About 8% of the total population and 20% of the population living outside of city limits drink well water
 3. Twenty to 30% of private wells contain fecal coliform bacteria. MCL = 0.
 4. Two to 50% exceed nitrate MCL depending on region (TWDB 2003-2008 data for 3,861 wells).
- 
- A tall, metal windmill structure stands in a grassy field under a cloudy sky. The windmill has a spiral of blades at the top and a ladder-like structure leading up to it. The background shows rolling hills and a bright sky with scattered clouds.

Water Issues in Texas

- *A Survey of Public Perceptions and Attitudes about Water*
 - 59-item survey sent to 1,275 Texans
 - City: 73%
 - Outside City, but not Farming: 23%
 - Farm/Ranch: 4%



Water Issues in Texas:

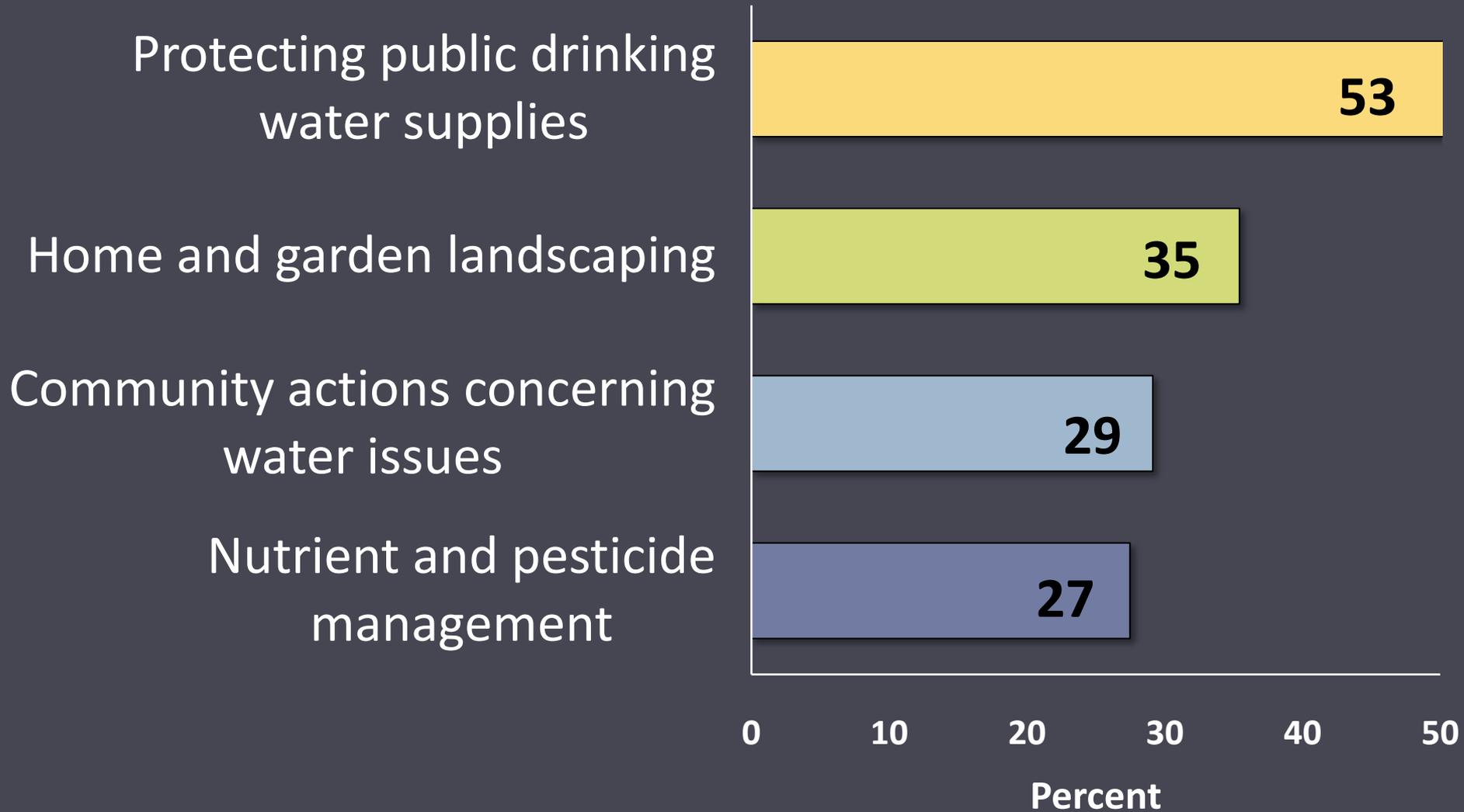
A Survey of Public Perceptions and Attitudes about Water



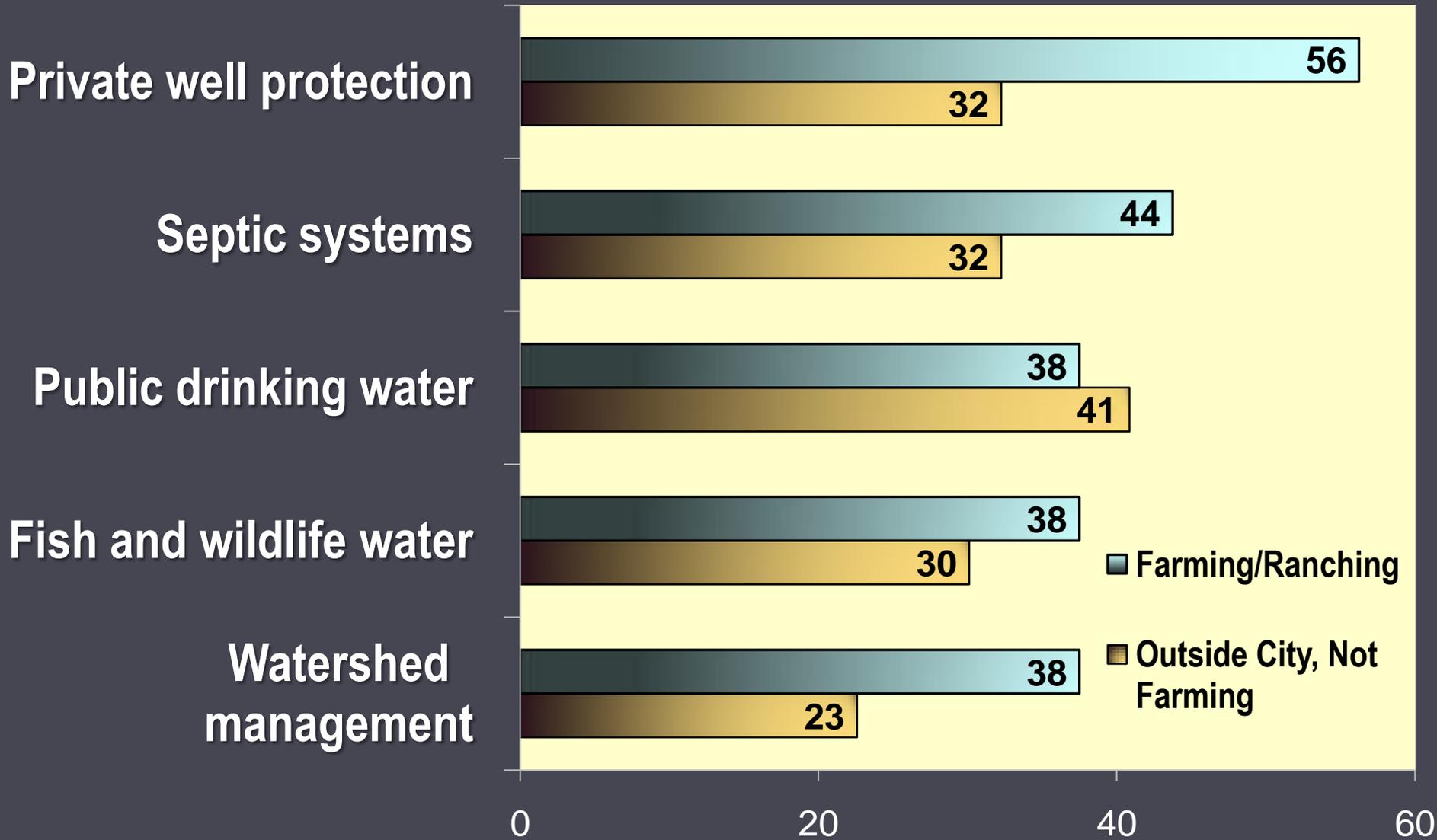
A network that responds to water resource issues by advancing knowledge through research, education and extension projects.

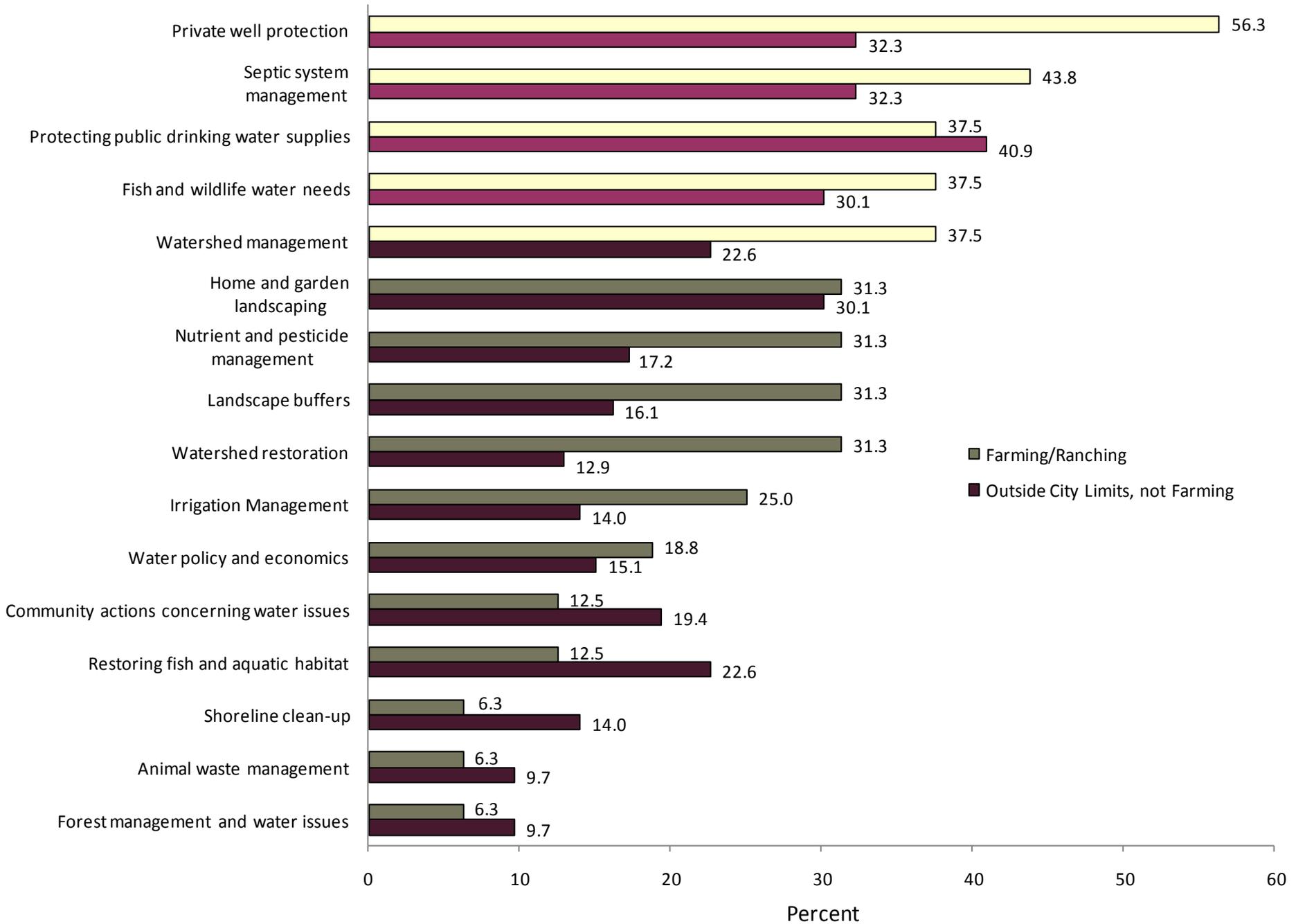
The
Land-Grant
University
System

What Would You Like to Learn More About...?

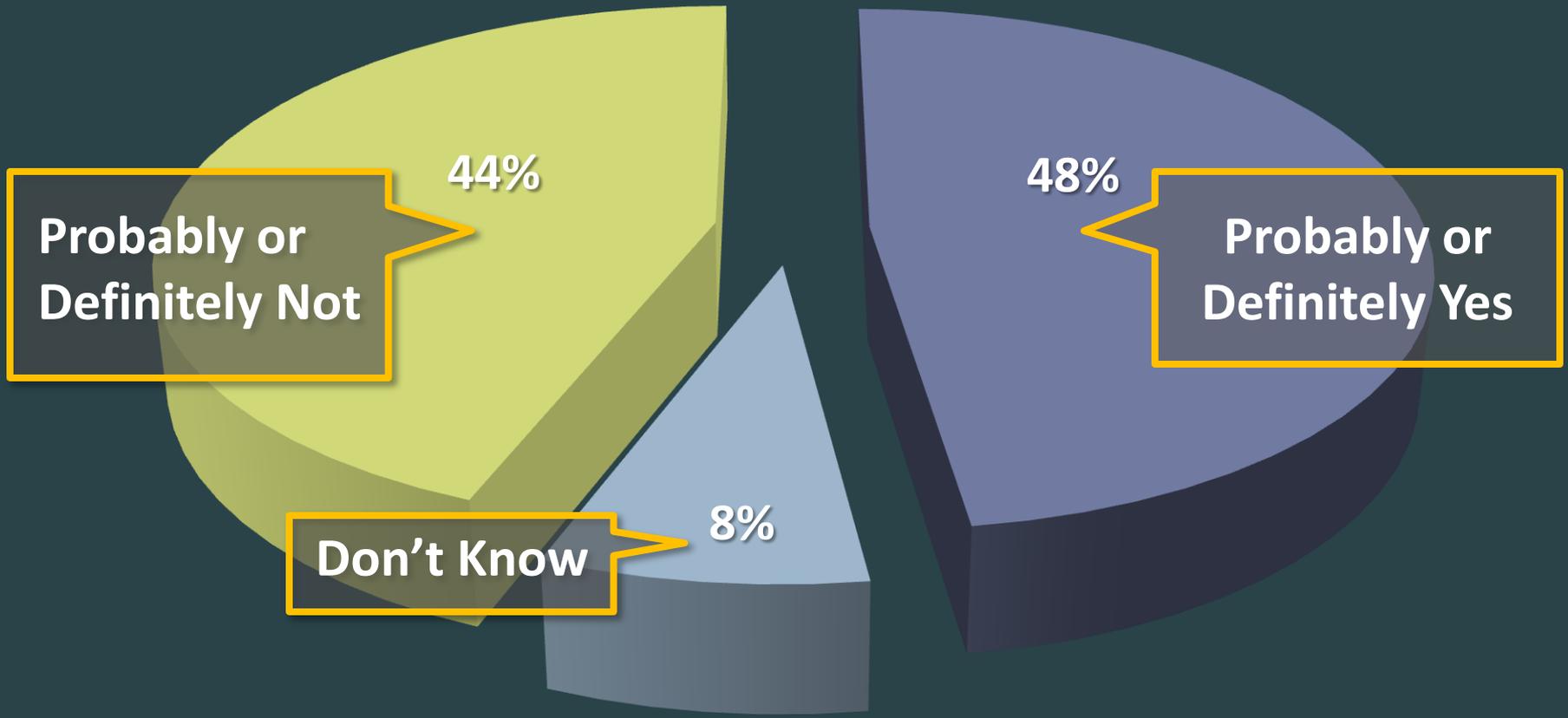


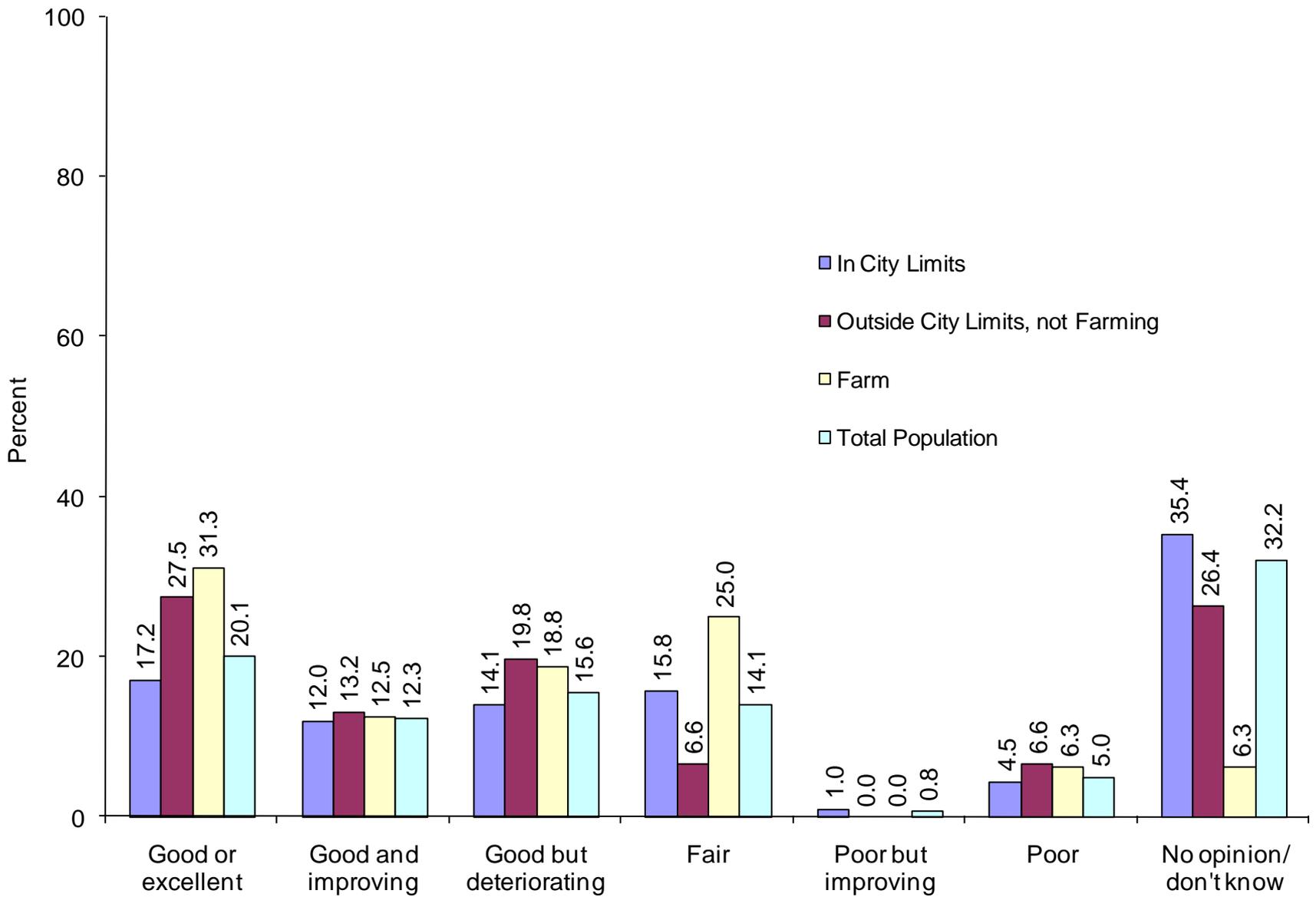
Outside City Limits Topics Preferences



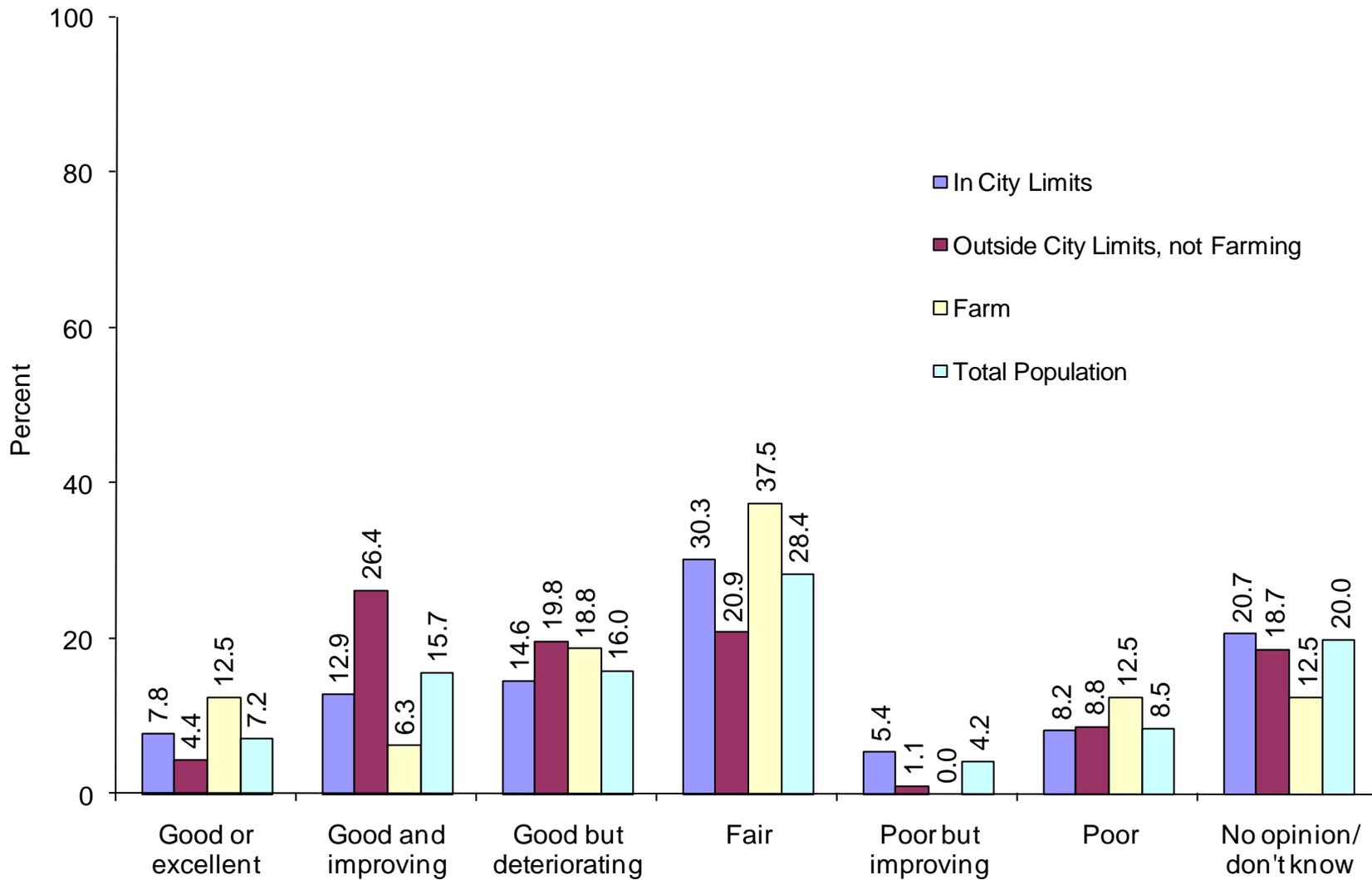


Is Water Quantity a Problem Where You Live?

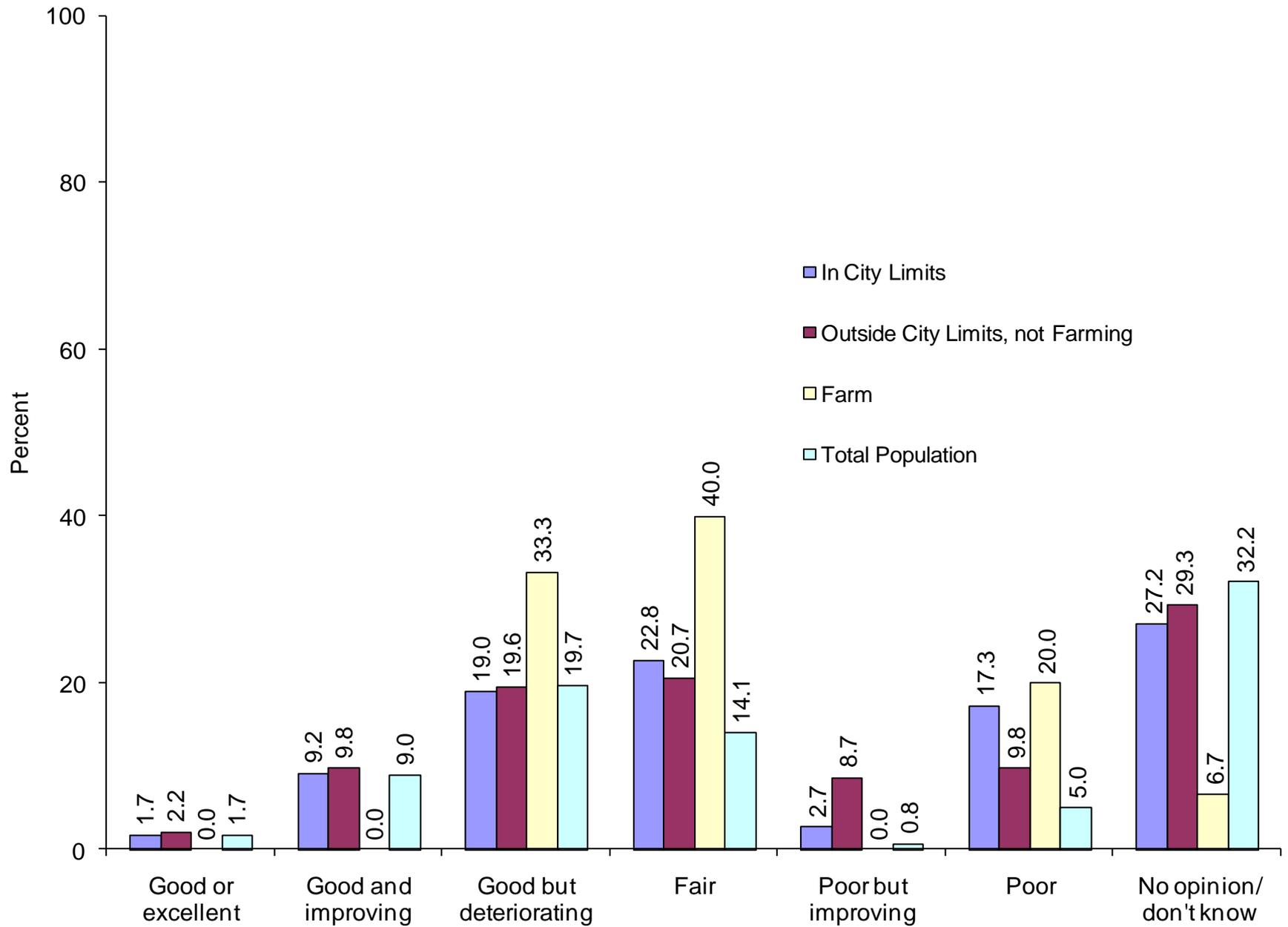




What is the Quality of Groundwater Where You Live?



What is the Quality of Surface Water in Your Area?

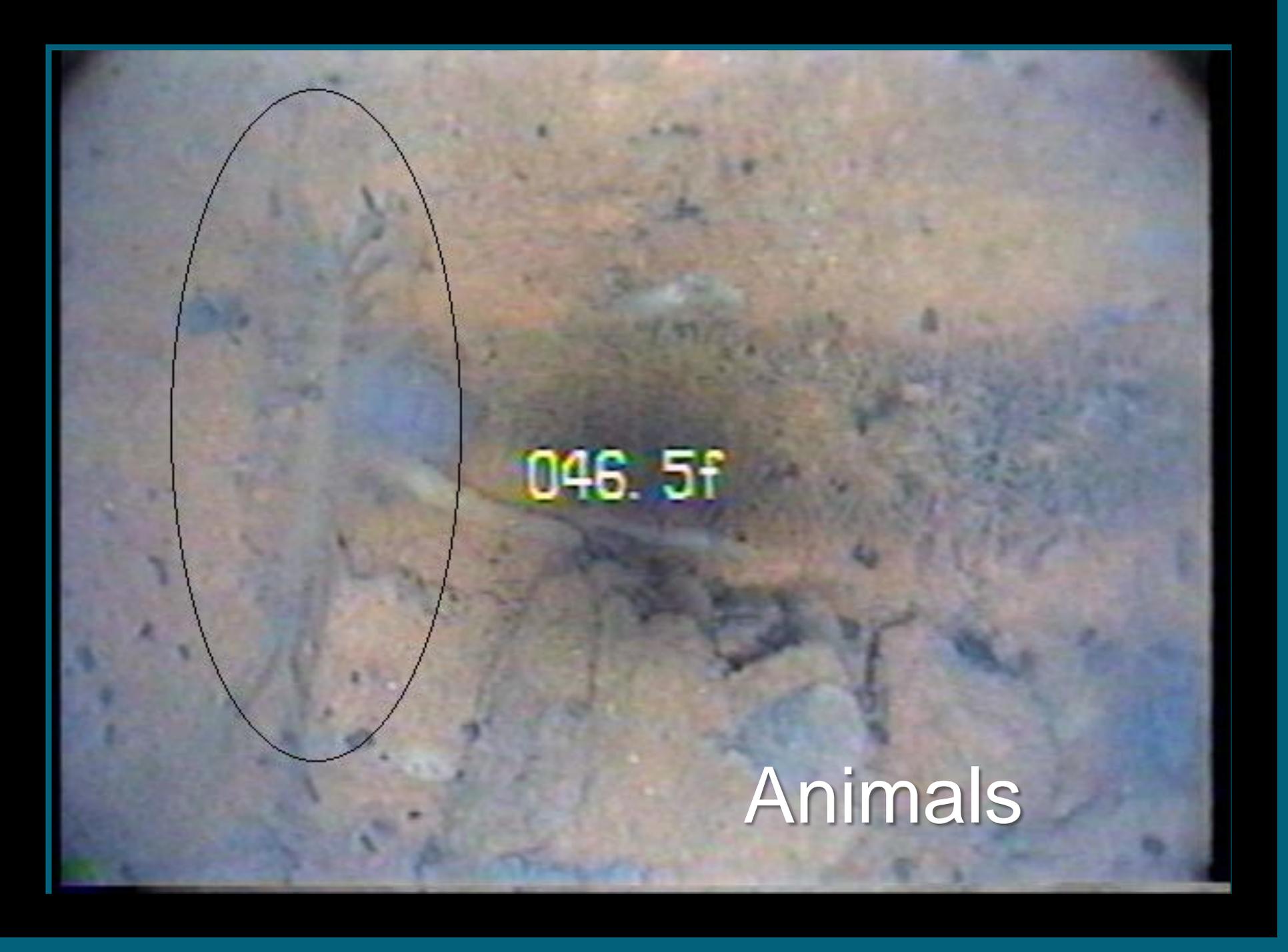


What is the Quality of Ocean Waters off the Coast of the Southern States?



159.5f

Junk



046.5f

Animals

028.8f

More animals

Roots

020. 2f

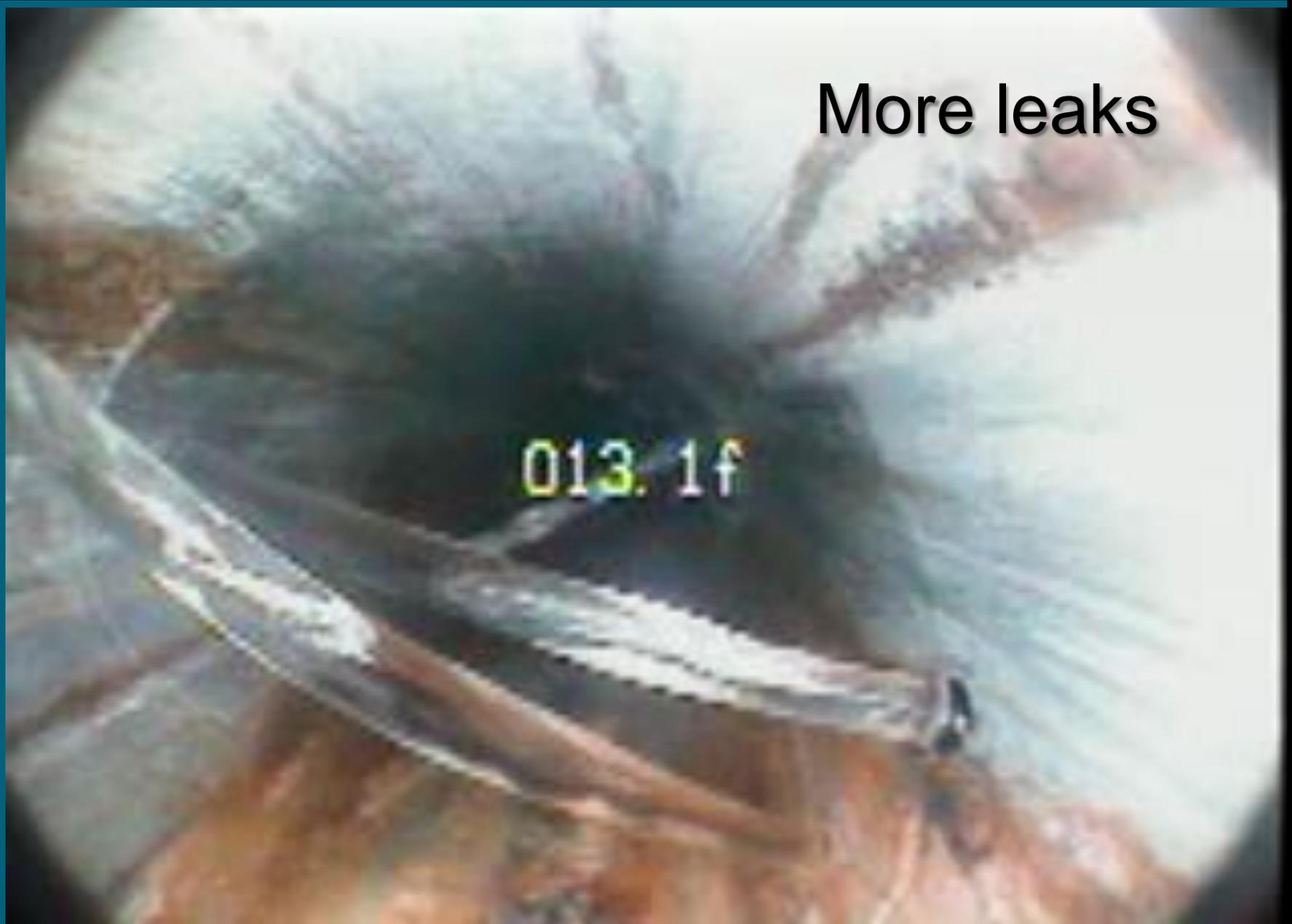


Leaks



More leaks

013.1f

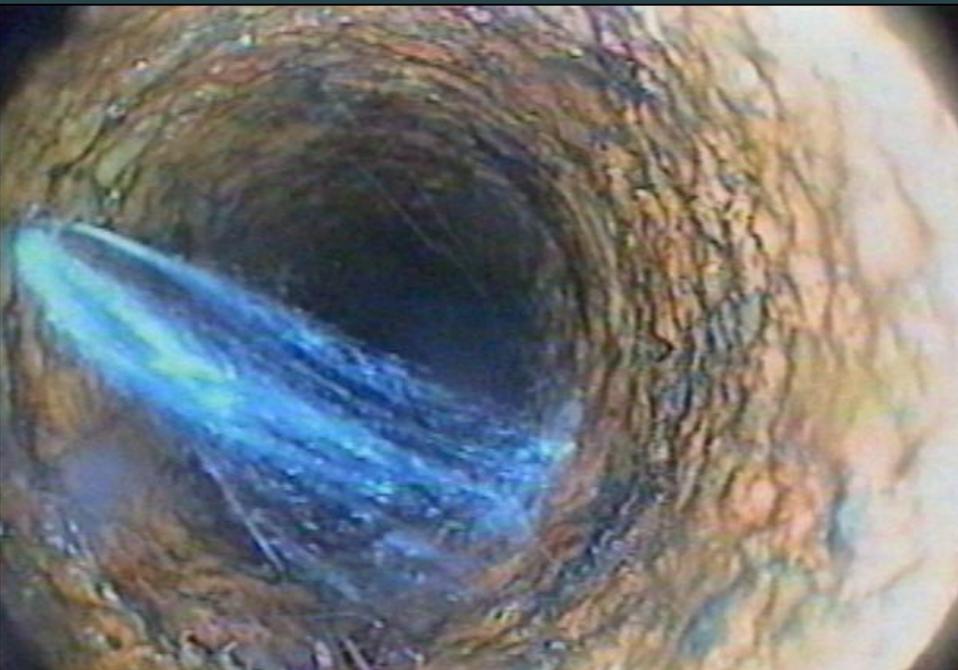


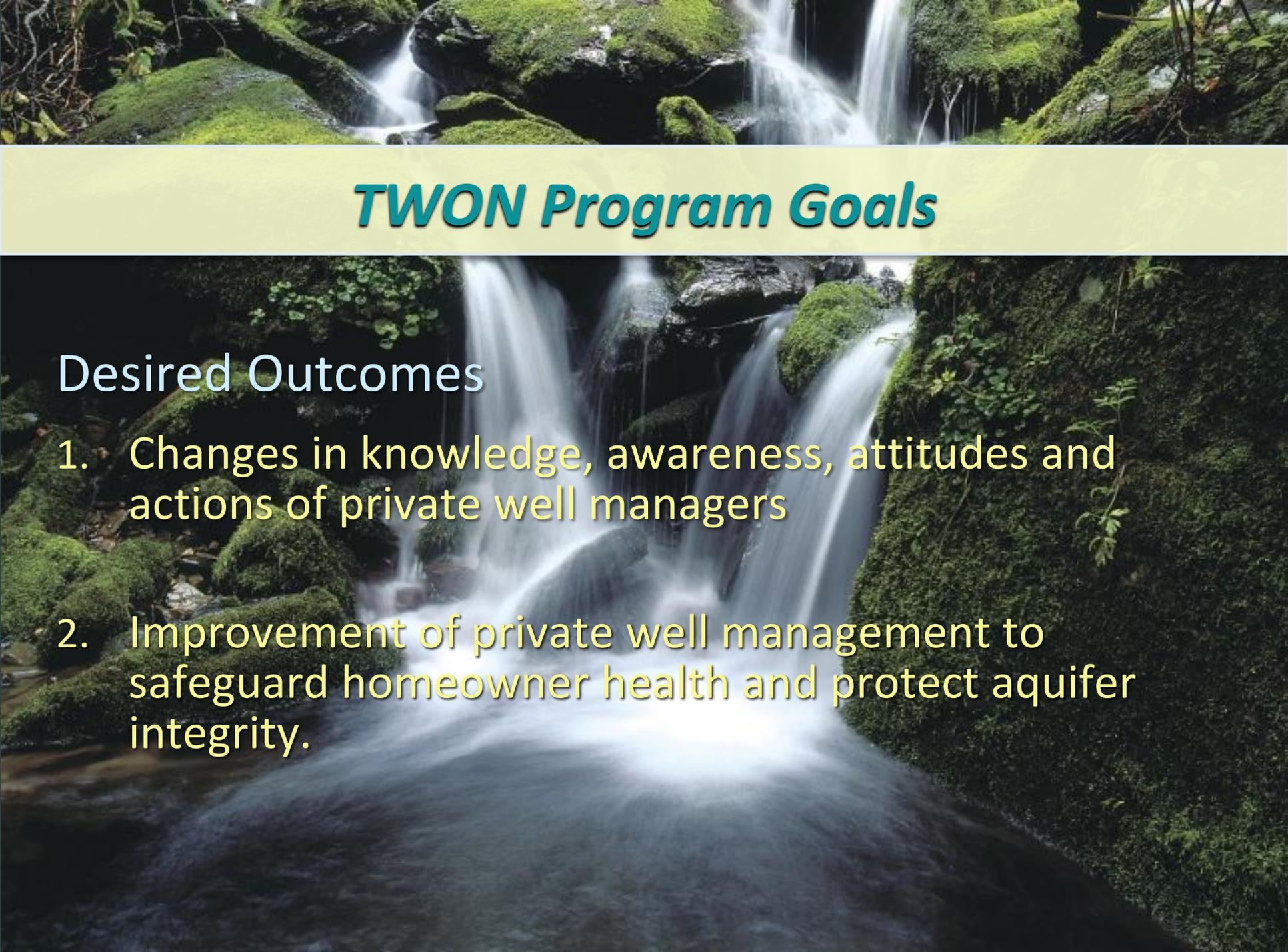






Thirsty?



A lush green forest with a waterfall cascading over mossy rocks. The water is white and frothy as it falls, surrounded by vibrant green moss and foliage. The scene is captured in a long-exposure style, giving the water a soft, ethereal appearance.

TWON Program Goals

Desired Outcomes

1. Changes in knowledge, awareness, attitudes and actions of private well managers
2. Improvement of private well management to safeguard homeowner health and protect aquifer integrity.

Approach and Methods



Lessons learned from very successful, established programs

- Pennsylvania MWON
- Mid-Atlantic MWON including the Virginia MWON
- Montana Well Educated

Modify existing state publications: TEX*A*Syst

Approach and Methods

Find and hire TWON Coordinator

Texas Well Owner Handbook

Develop TWON presentations

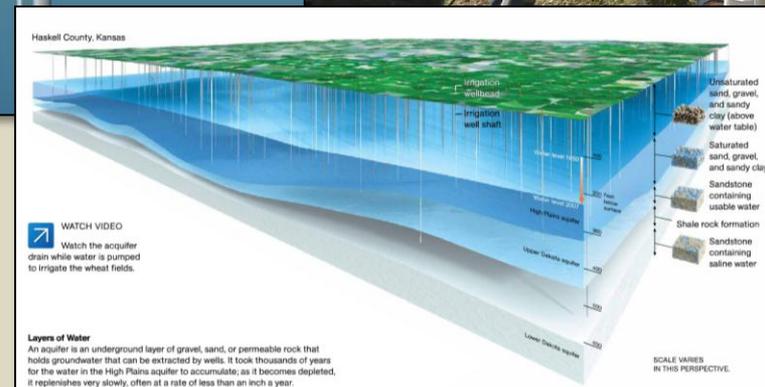
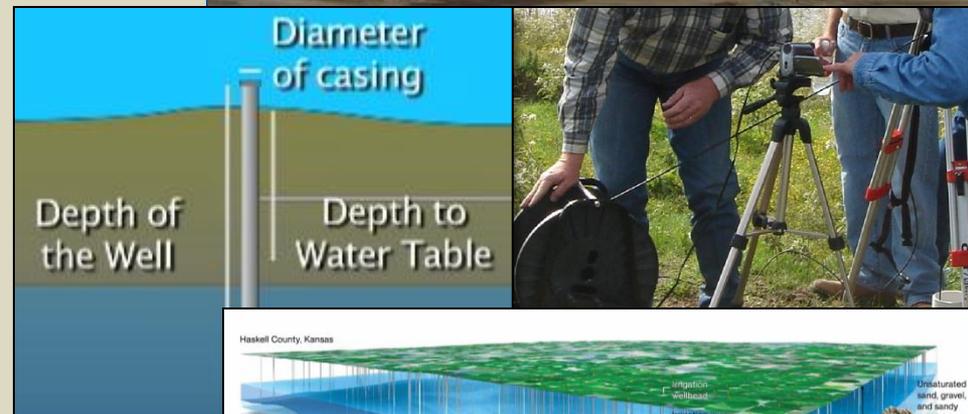
Adapt existing fact sheets

Needs analysis and develop additional materials



TWON EDUCATIONAL TRAINING

- 1-day training (~6 hours)
 - Reach a broad audience
 - No “master” requirements
 - Stimulate initial interest and responsibility
- Powerpoints ‘plus’
 - Screenings
 - Groundwater model
 - Down-well camera
 - Demonstration and educational videos: e.g., shock chlorination



Training Topics and Activities

- **Well water screening for fecal coliform, nitrates and TDS**
- **Watershed and groundwater hydrology**
- **Proper and productive siting of drinking water wells**
- **Proper maintenance of the wellhead**
- **Household waste management**
- **Aging and failure of well construction materials**
- **Locating and properly plugging abandoned wells**
- **On-site wastewater treatment systems**
- **Effects of land use changes on well water quality**
- **Successful methods of sharing TWON**

IF YOU HOST IT, THEY WILL COME, RIGHT??

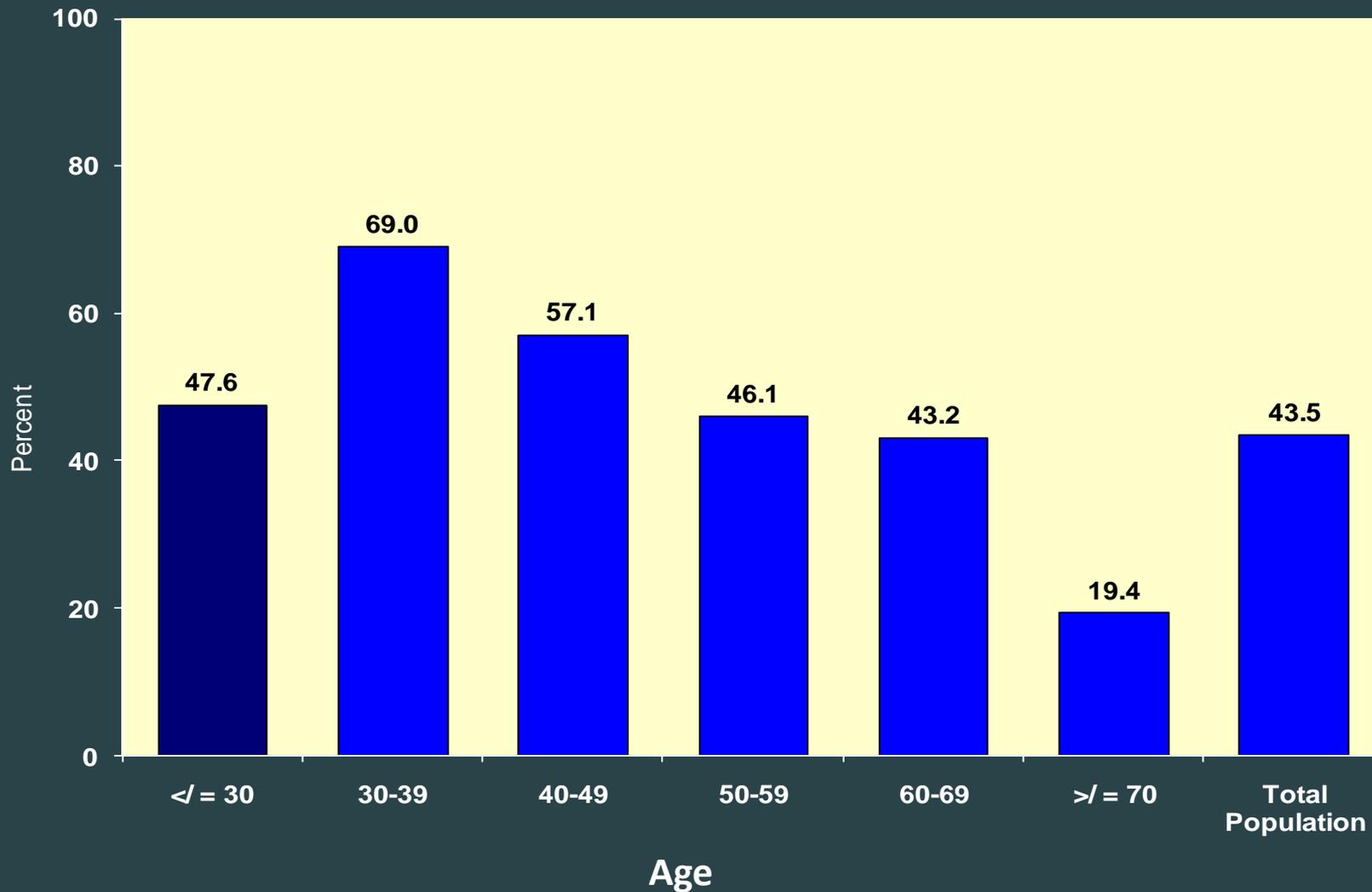
- Not exactly....



PROGRAM MARKETING

- Media campaign (3 months in advance)
 - Newspapers; Local/regional magazines (Agriculture)
 - CEA, MG, MN, HOA newsletters
 - TV/radio
 - Social media
- Local events
 - Fact sheets, brochure
 - Post cards (for direct mail)
 - Project poster and banner

Would You Visit a Website for Water Information?



Evaluation of Program Effectiveness

- Pre- and post-training surveys measuring knowledge increases
- Behavior change/intentions to adopt BMPs through post-training and follow-up surveys
- Well remediation water quality results





Questions?

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