

Resource Needs of Private Well Owners Impacted by Extreme Flooding Events

Andrea Albertin

Virginia Tech: Kelsey Pieper, Kristine Mapili, William Rhoads,
Greg House, Marc Edwards

Texas A&M: Drew Gholson, Diane Boellstorff



Collaborators

UF/IFAS Extension

Roy Beckford – Lee County

Brad Burbaugh – Clay County

Whitney Elmore – Pasco County

Sharon Treen – Putnam and Flagler Counties

Abbey Tyrna – Sarasota County

Yilin Zhuang - Marion County

Department of Health

Mary Garcia – Putnam County

Private Wells in Florida

- 2.5 million (12%) Floridians depend on private wells for home consumption
- Approximately 800,000 wells
- US EPA Safe drinking water regulations do not apply to residential private wells
- Residents are responsible for ensuring the safety of their own drinking water



Photo credit: VAHWQP – VA Tech

Private Wells in Florida

Florida Dept. of Health (FDOH) provide information and water quality testing to well users

- County Health Depts., State Office and website

Wells Surveillance Program:

Identify and monitor areas where contaminated drinking water suspected (FDOH and FDEP)

- Since 2000, close to 185,000 samples taken from 65,780 wells.

What Should I Do if My Well is Flooded?



Guide for Chlorine Bleach Disinfection

This chart is a guide for the amount of chlorine bleach to use for well and plumbing system disinfection. Do not use scented bleach or bleaches containing additives.

The bleach should be diluted with 10 parts water. For example, dilute 1 cup of bleach with 10 cups of water before pouring it into your well.

Well Depth in Feet	Well Diameter in Inches		
	2"	4"	5"
20'	1 cup	1 cup	1 cup
30'	1 cup	1 cup	1 cup
40'	1 cup	1 cup	2 cups
50'	1 cup	2 cups	2 cups
80'	1 cup	2 cups	1 quart
100'	1 cup	3 cups	1 quart
150'	2 cups	1 qt	2 cups
200'	3 cups	1.5 qts	2.5 cups
Conversions	8 oz = 1 cup		16 oz = 1 quart
24 oz = 3 cups	32 oz = 1 quart		48 oz = 1.5 quarts
64 oz = 2 quarts	80 oz = 2.5 quarts		96 oz = 3 quarts

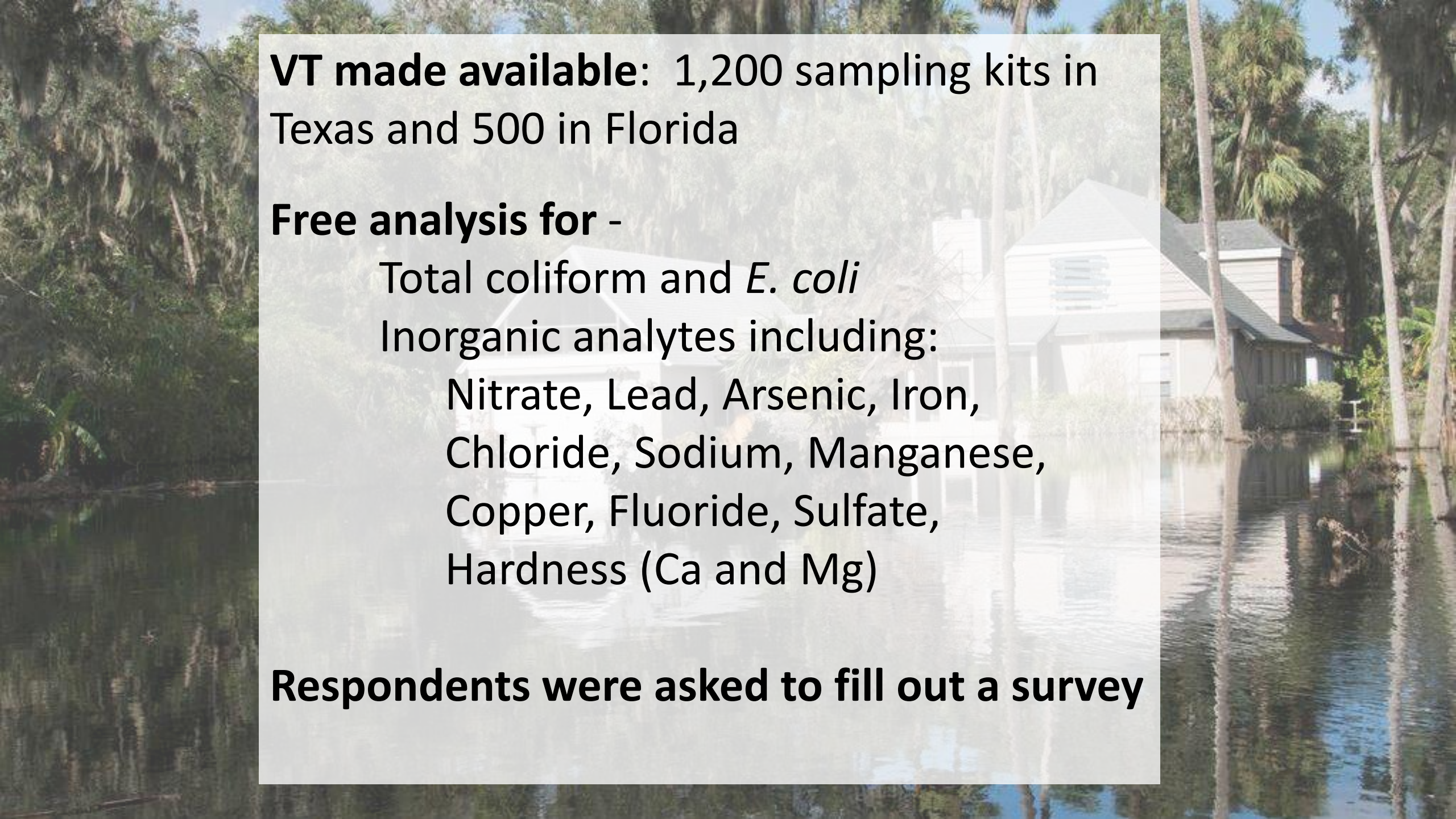
Please contact your county health department or the Florida Department of Health, Bureau of Environmental Health Programs at 850.245.4240, if you have questions regarding the information in this pamphlet.



NSF RAPID RESPONSE RESEARCH GRANT

Were private wells contaminated after Hurricane Irma and what resources did well users want during recovery?





VT made available: 1,200 sampling kits in Texas and 500 in Florida

Free analysis for -

Total coliform and *E. coli*

Inorganic analytes including:

Nitrate, Lead, Arsenic, Iron,
Chloride, Sodium, Manganese,
Copper, Fluoride, Sulfate,
Hardness (Ca and Mg)

Respondents were asked to fill out a survey

How do we organize ourselves to get the message out?

UF Extension was looking for ways to assess:

- UF/IFAS employee and extension office needs
- Clientele - What did people in our counties need?



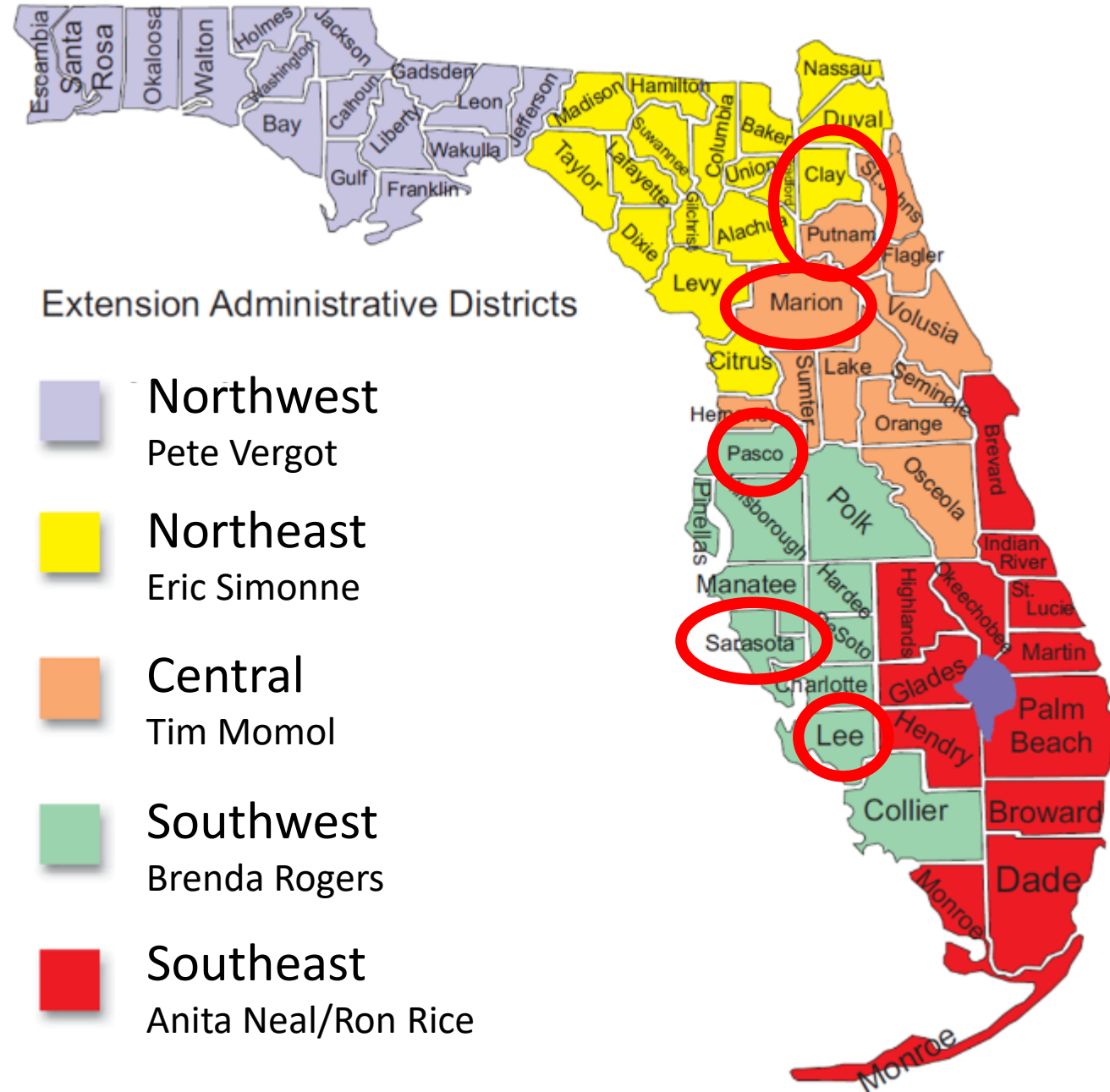
Photo credit UF/IFAS Extension Collier County

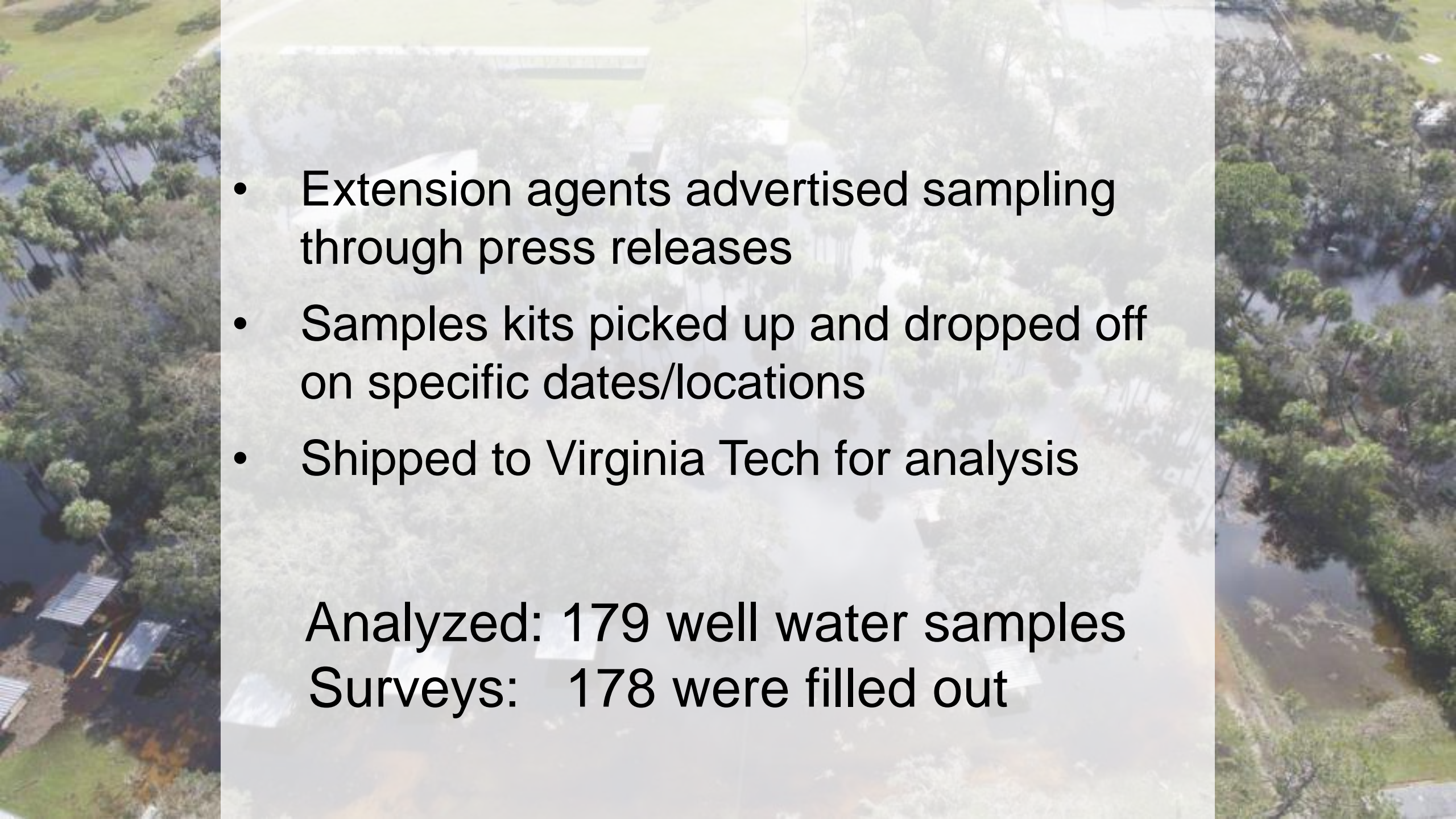
IFAS Extension - Communication Strategy

- Group Me – Group texting App
- County Partnerships
- Water Resource Agents

**Used this to get the message out
about well water sampling**

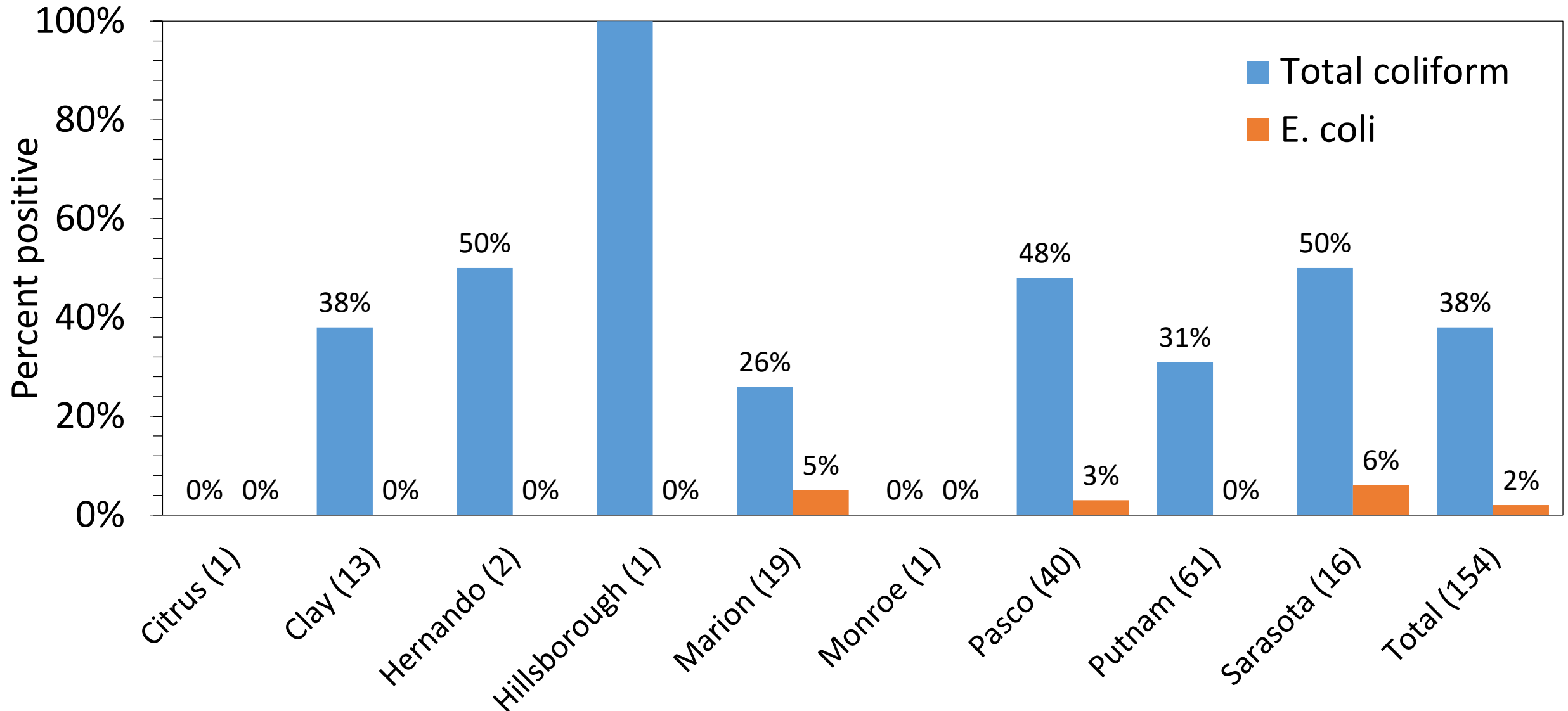
Who responded?



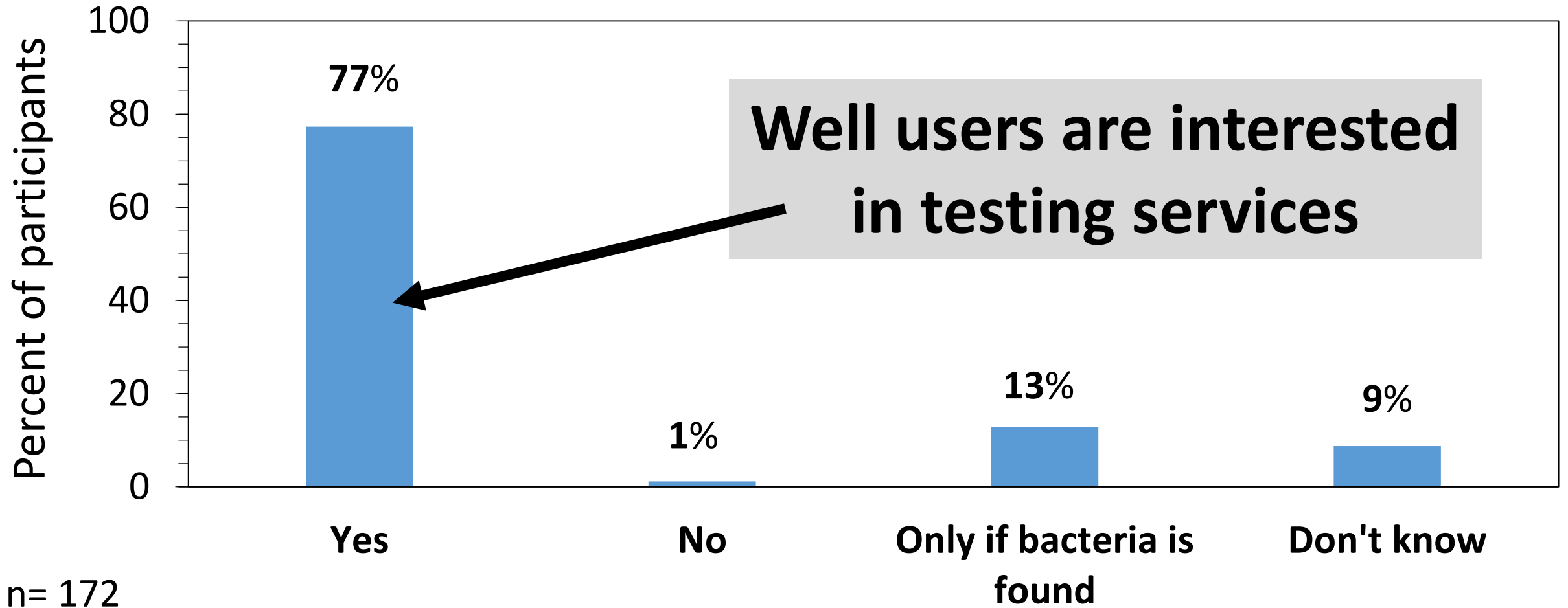
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- Extension agents advertised sampling through press releases
 - Samples kits picked up and dropped off on specific dates/locations
 - Shipped to Virginia Tech for analysis

Analyzed: 179 well water samples
Surveys: 178 were filled out

Microbial water quality results

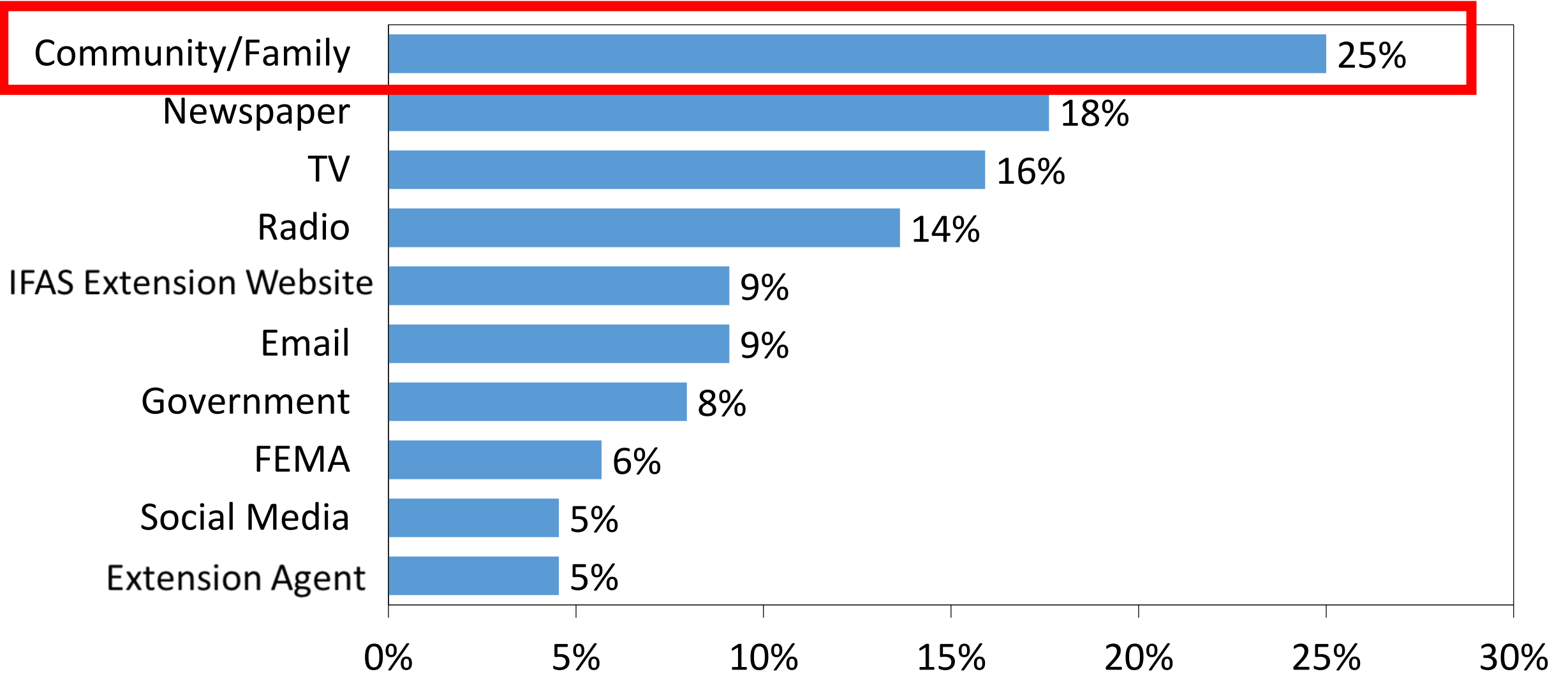


Would you participate in well water testing again?



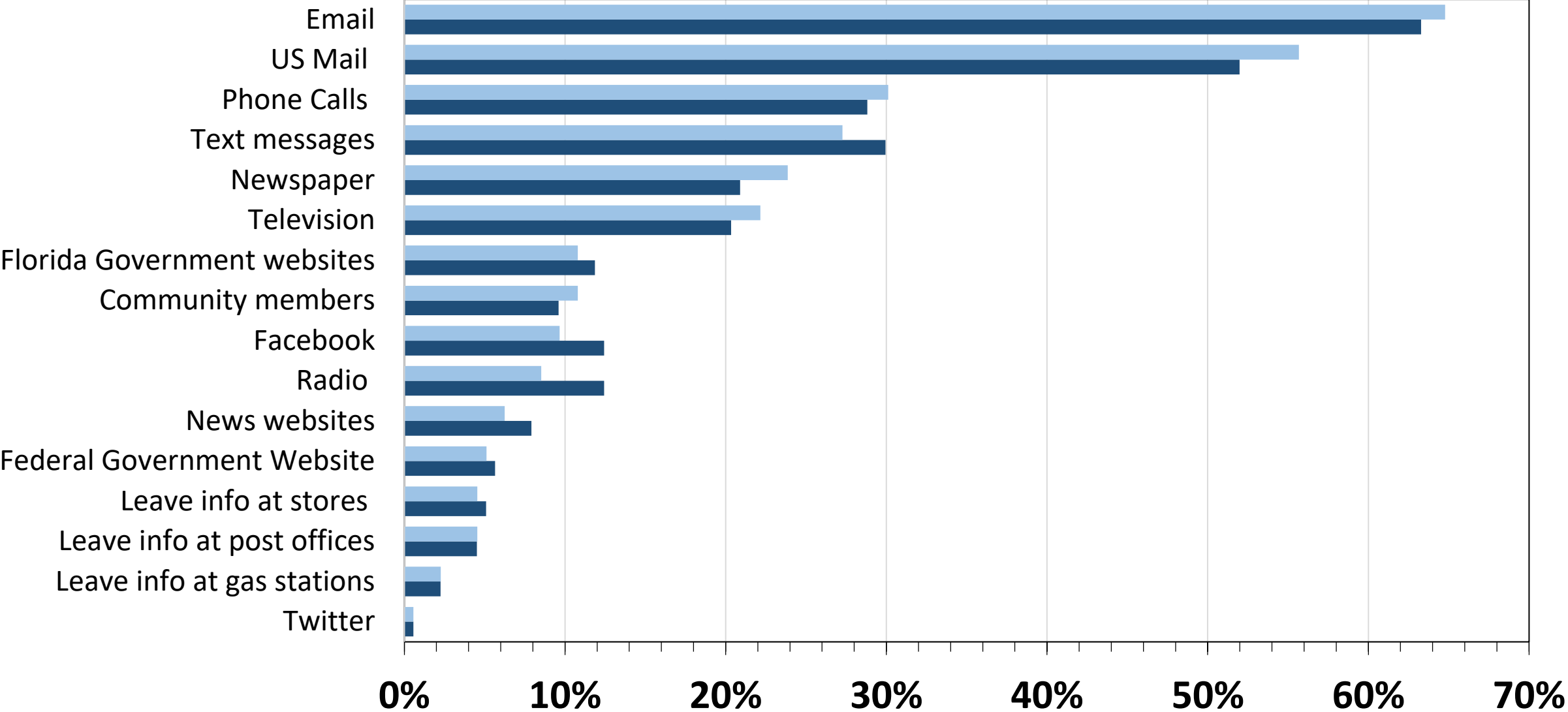
n= 172

How did you hear about this testing opportunity?



n=176 response

What is the best way to provide you with information?

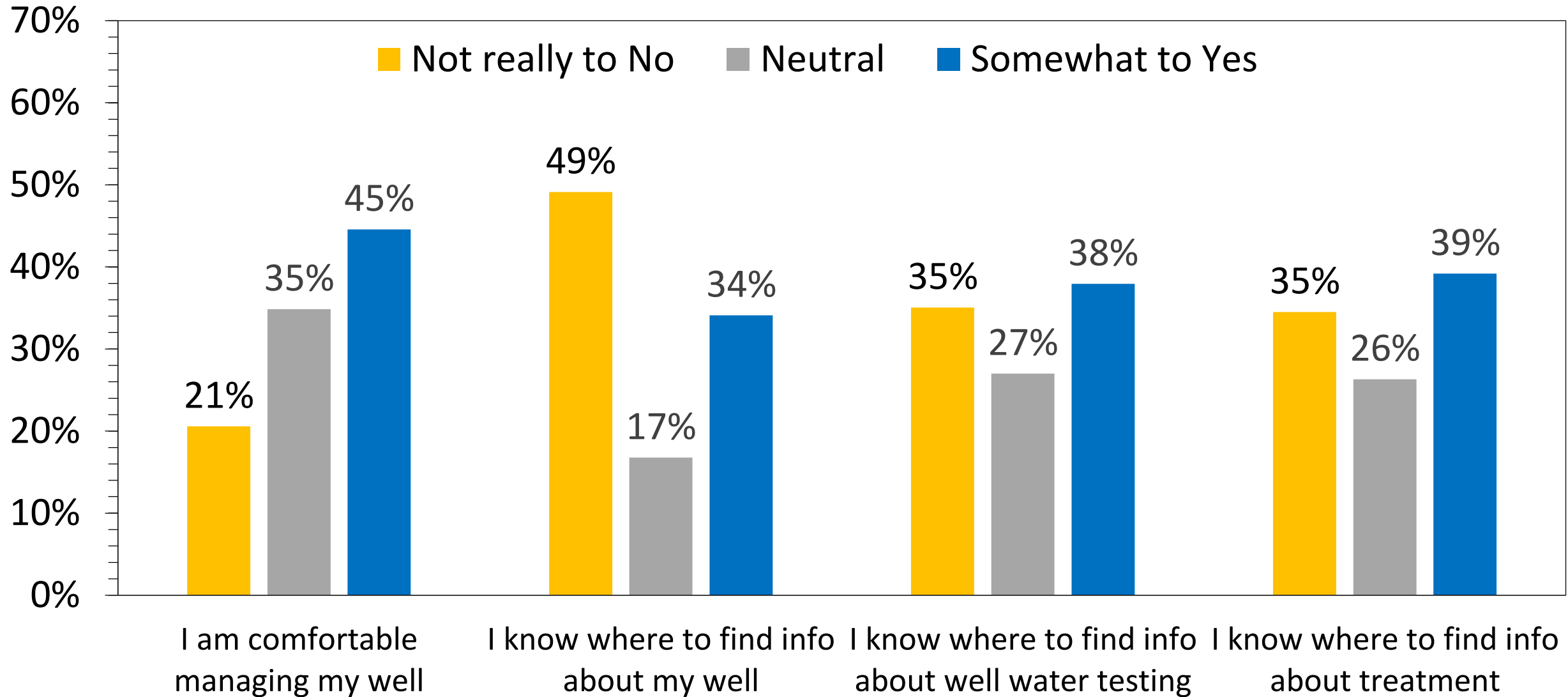


n = 176 responses

■ Before storm

■ After storm

COMFORT WITH WELL OPERATION AND MAINTENANCE



n = 167-176

MOVING FORWARD

**Treatment
options**

**Water quality
testing**

**Maintenance
and well design**

**Water quality
and health**

Florida Well Owner Network

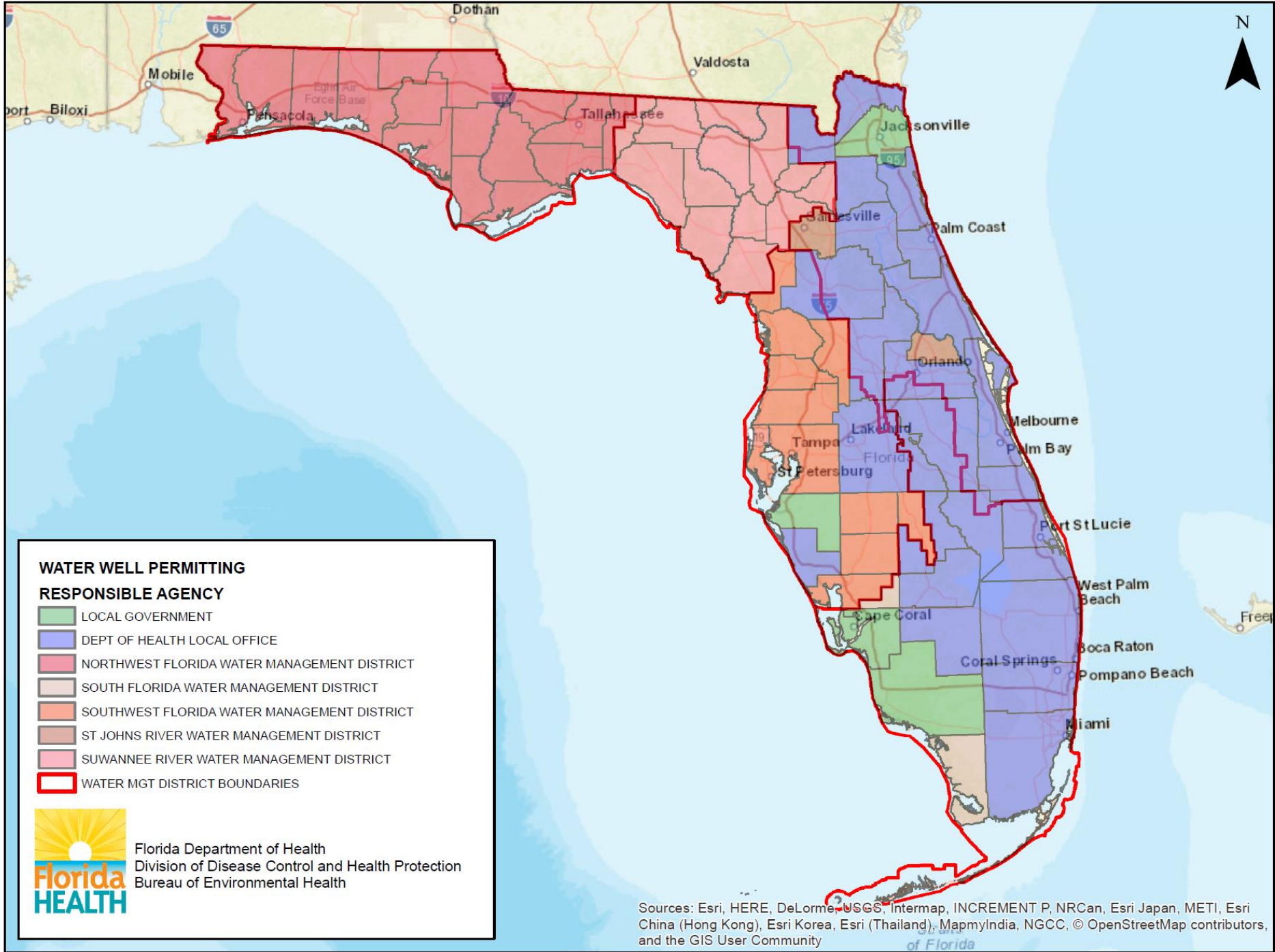
Aim to improve well stewardship
through educational interventions

Thank you!

Andrea Albertin
albertin@ufl.edu
(850) 875-7111

www.uswaterstudy.org

Hurricane well water recovery in Texas and Florida



WATER WELL PERMITTING RESPONSIBLE AGENCY

- LOCAL GOVERNMENT
- DEPT OF HEALTH LOCAL OFFICE
- NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT
- SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
- ST JOHNS RIVER WATER MANAGEMENT DISTRICT
- SUWANNEE RIVER WATER MANAGEMENT DISTRICT
- WATER MGT DISTRICT BOUNDARIES



Florida Department of Health
Division of Disease Control and Health Protection
Bureau of Environmental Health

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

What is the best way to provide you with information?

