

Public Opinion on Water Quality

Results from Surveys of Colorado Residents
2007 & 2014



Agenda

- Background and Methodology (5 minutes)
- Key Findings (30 minutes)
 - Importance of Water
 - Motivations to Protect Water Quality
 - Taking Action to Preserve Water Quality
 - Septic System Maintenance
 - Education and Communications
- Review Key Findings (5 minutes)
- Questions and Answers (20 minutes)



Background and Methodology

Project Objectives

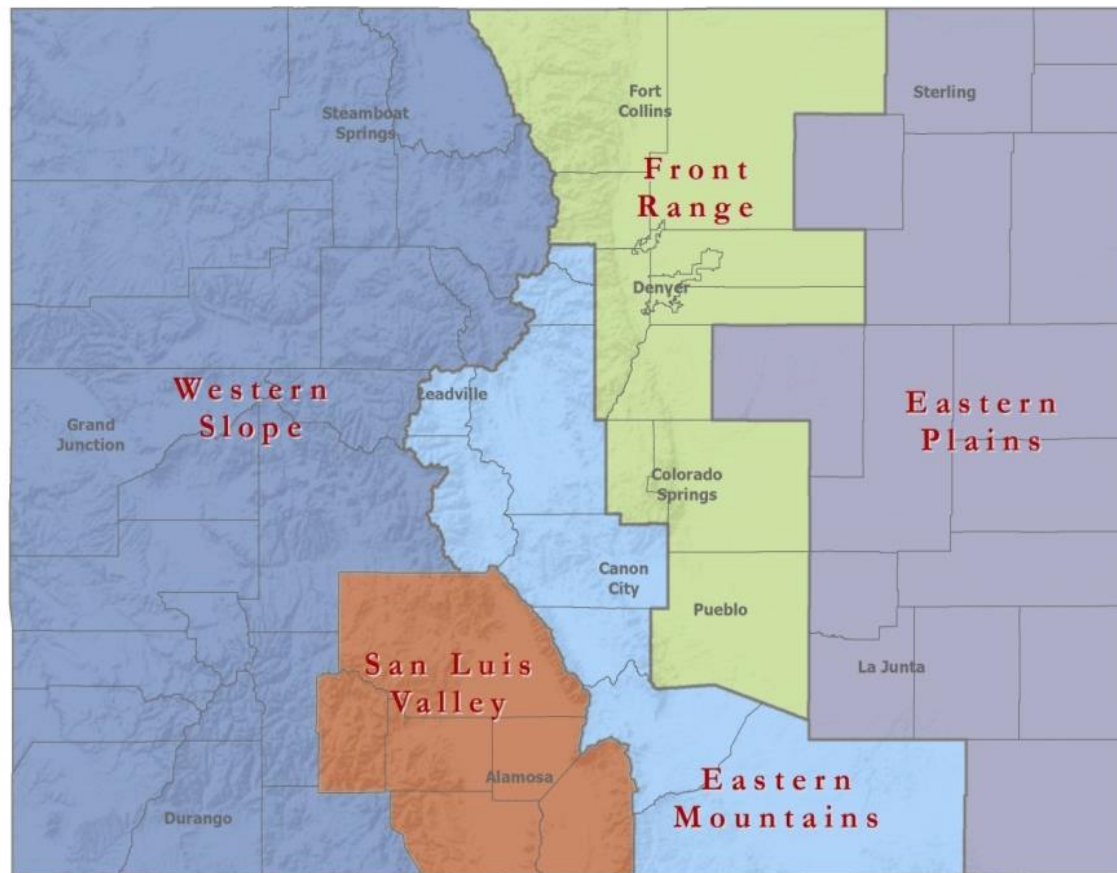
- Understand Colorado residents' opinions and actions towards preserving water quality
- Compare results to the 2007 study to see if and how opinions changed over time
- Provide results on statewide and regional scales

Methodology

- We conducted phone surveys with more than 1,900 individuals throughout Colorado
 - About 400 per region
- We called a mixture of landlines and cell phones
- We weighted the data to correct for known biases

Methodology

Margin of error was generally $\pm 5\%$, statewide and regionally

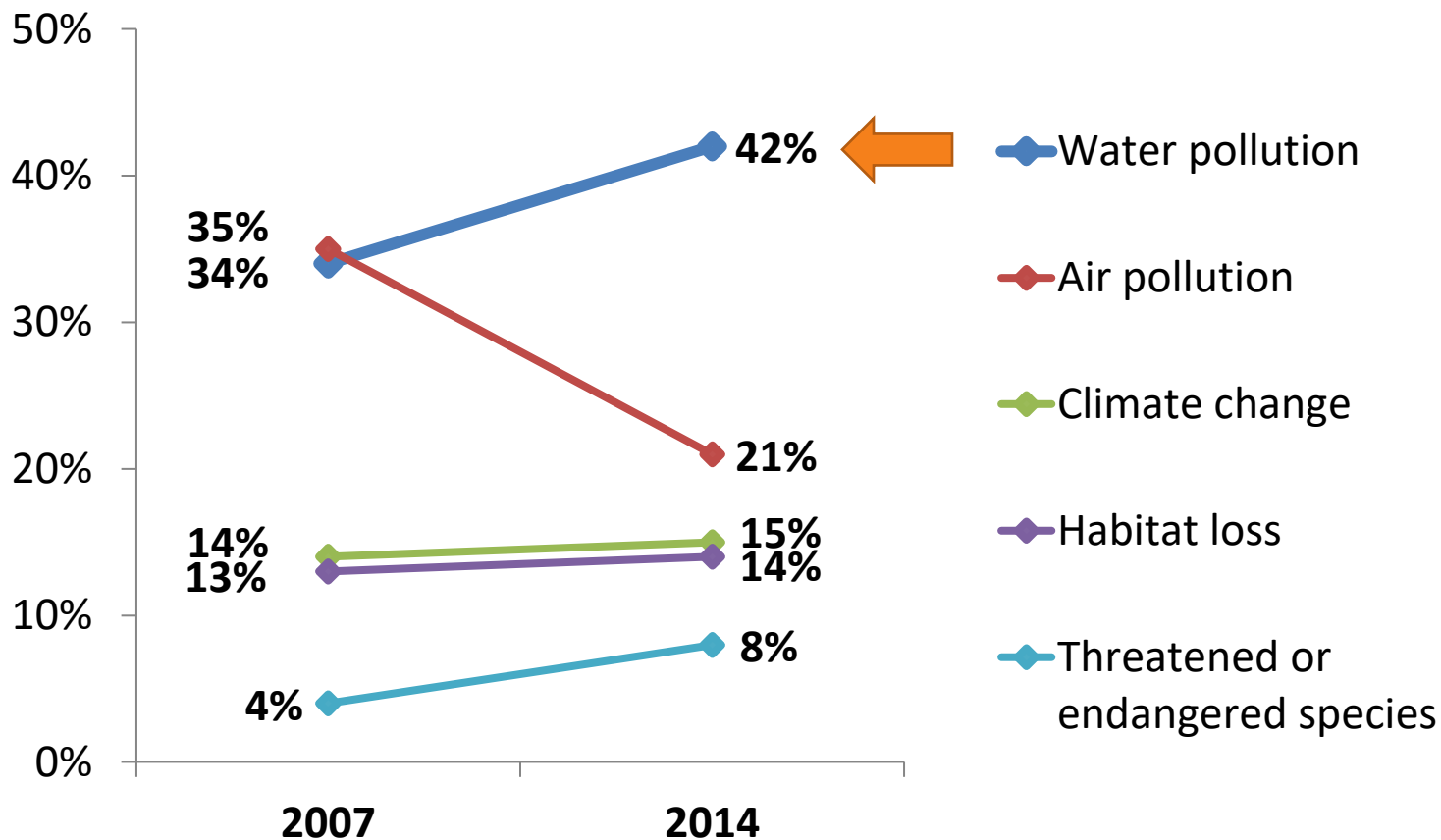


Key Findings

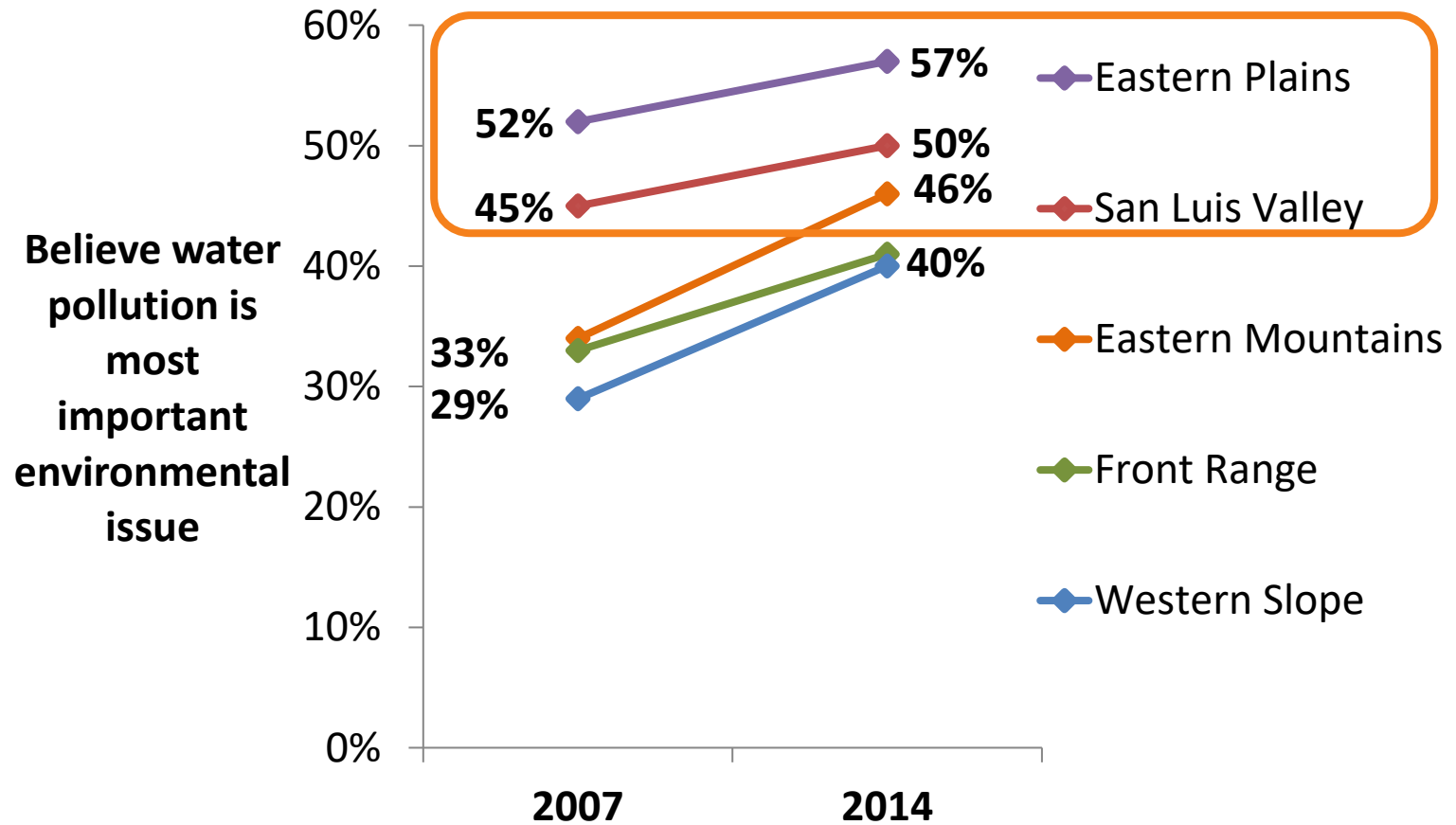


Importance of Water

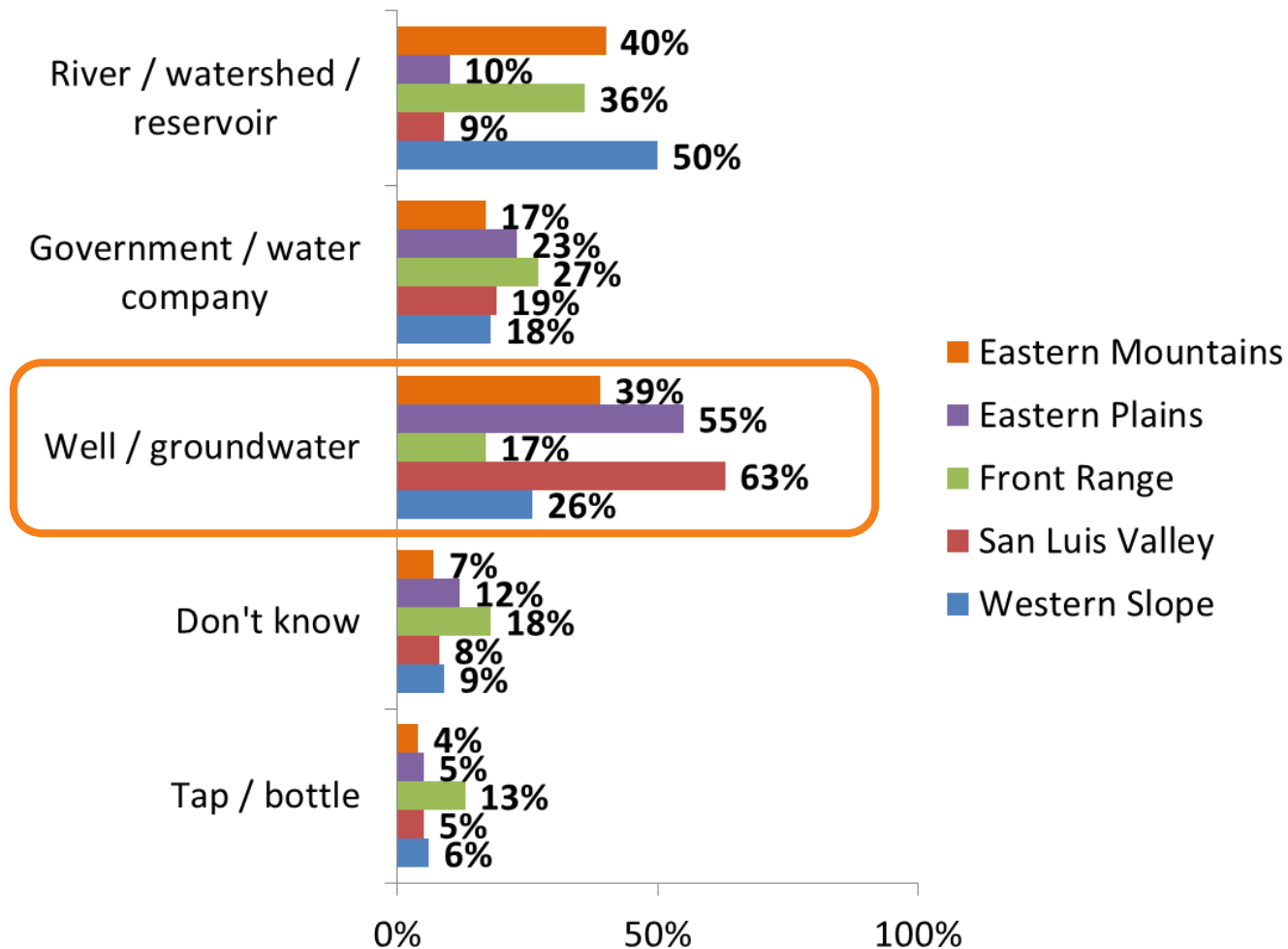
Water pollution was the most important environmental issue we tested



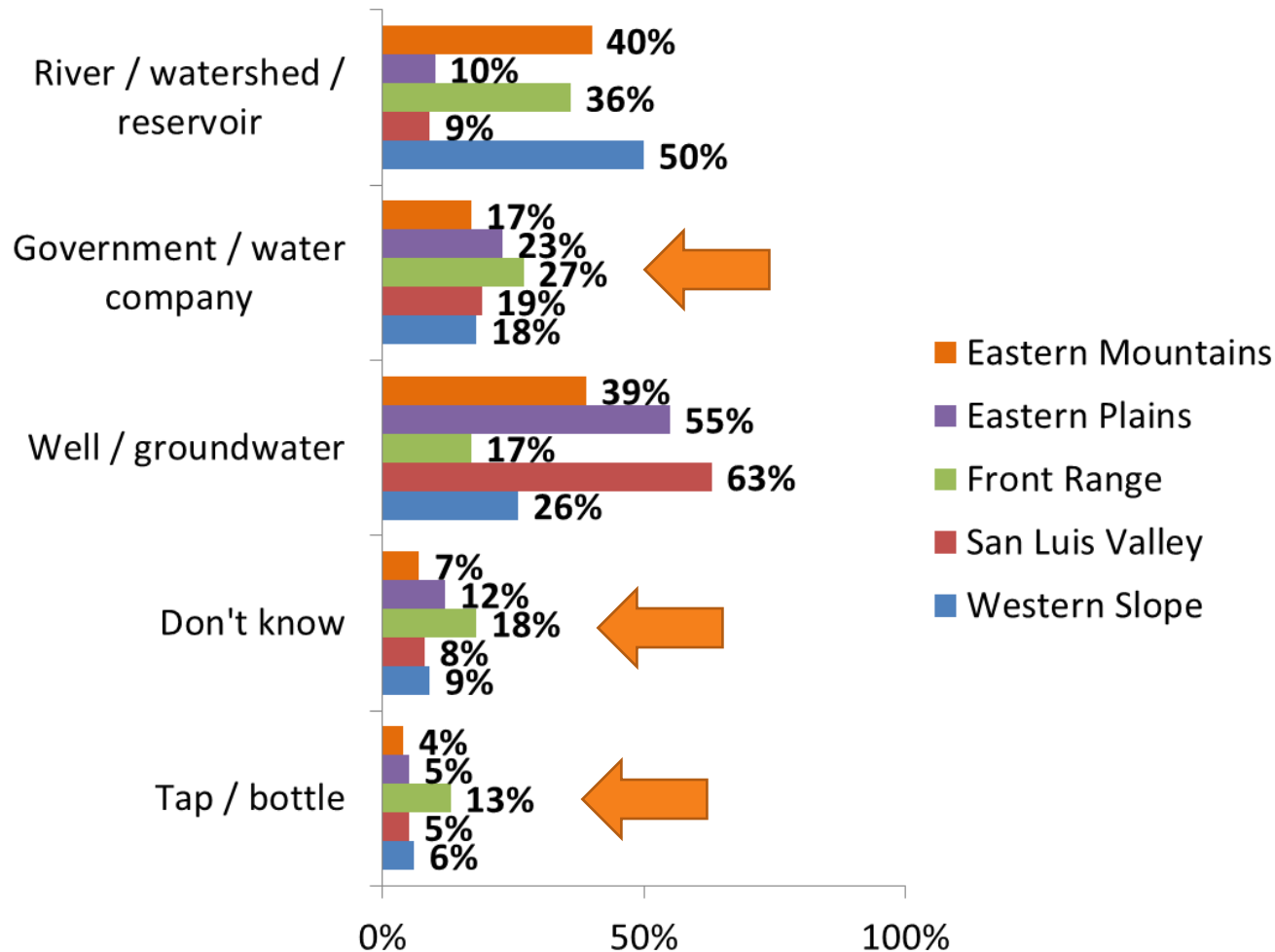
Importance of water pollution was highest in the Eastern Plains and San Luis Valley



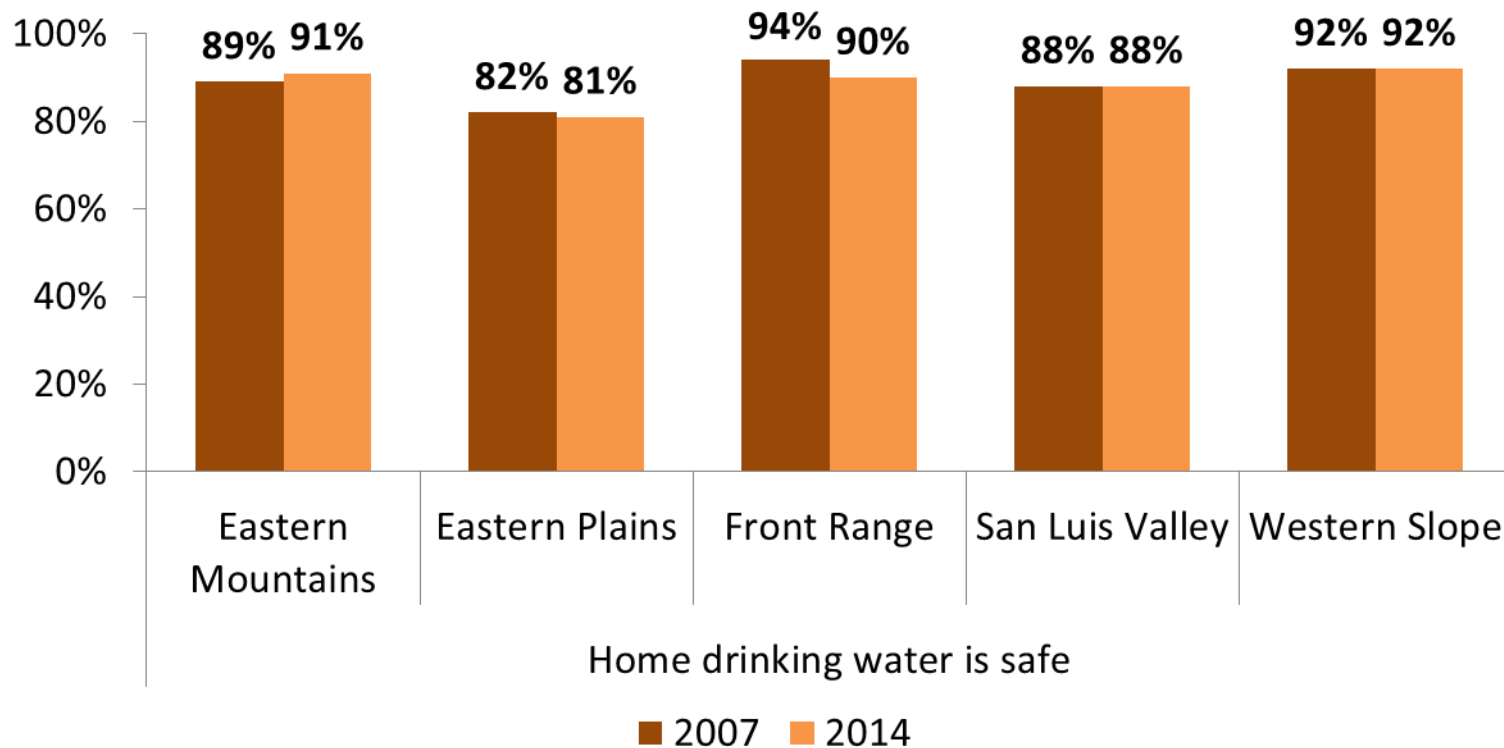
Eastern Plains and San Luis Valley households are most likely to pull well water



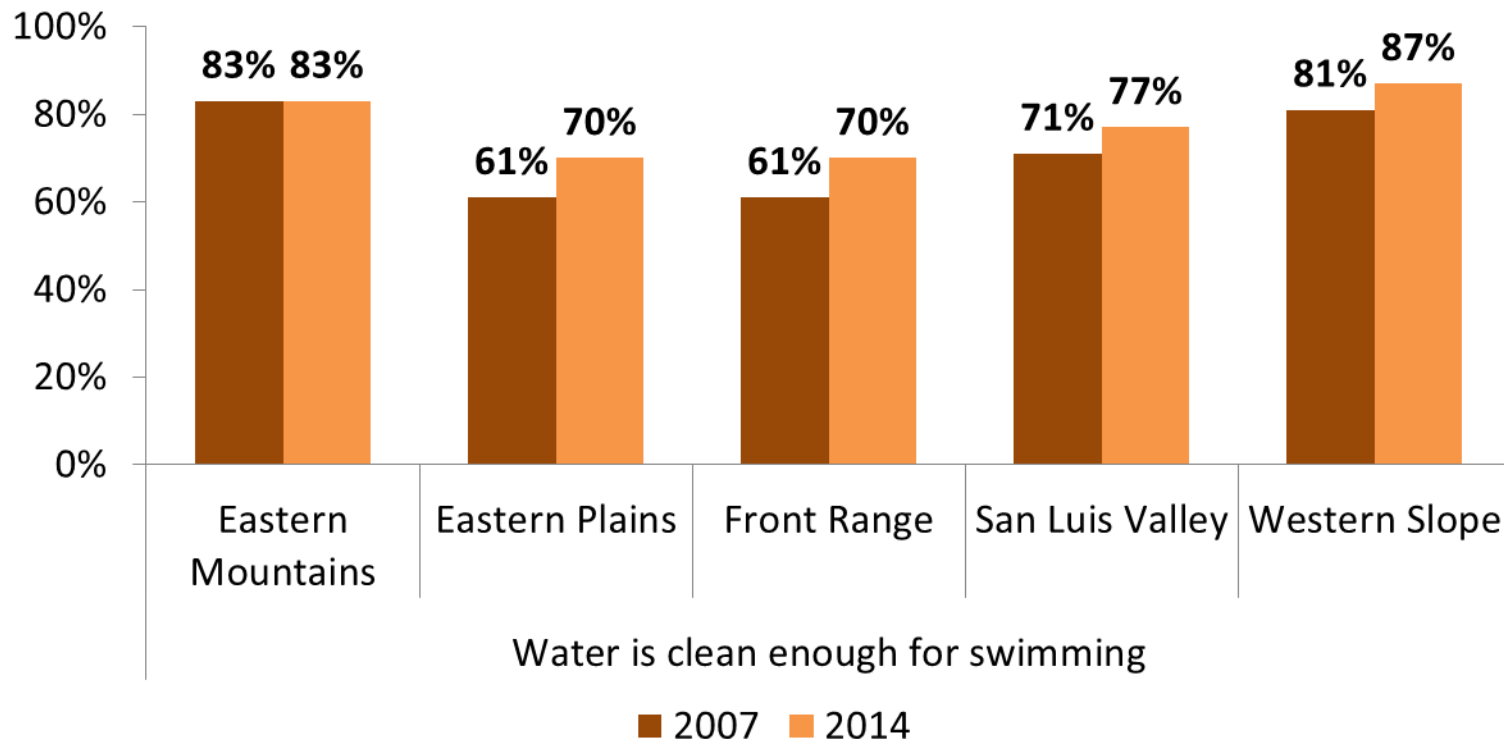
Front Range residents most likely to say water comes from govt, tap, or don't know



Most residents believe home drinking water is safe

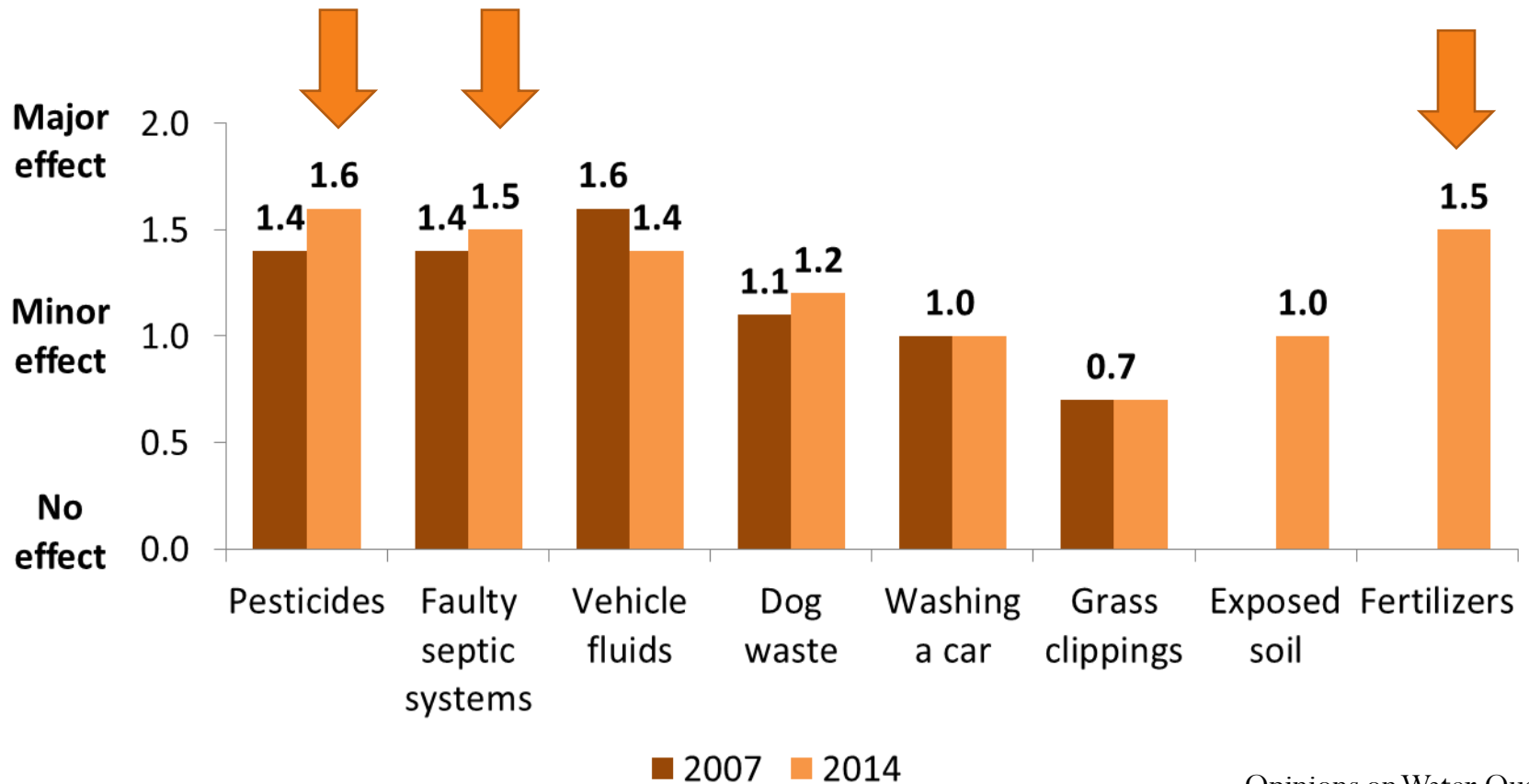


Most residents believe water is clean, but there are some regional differences

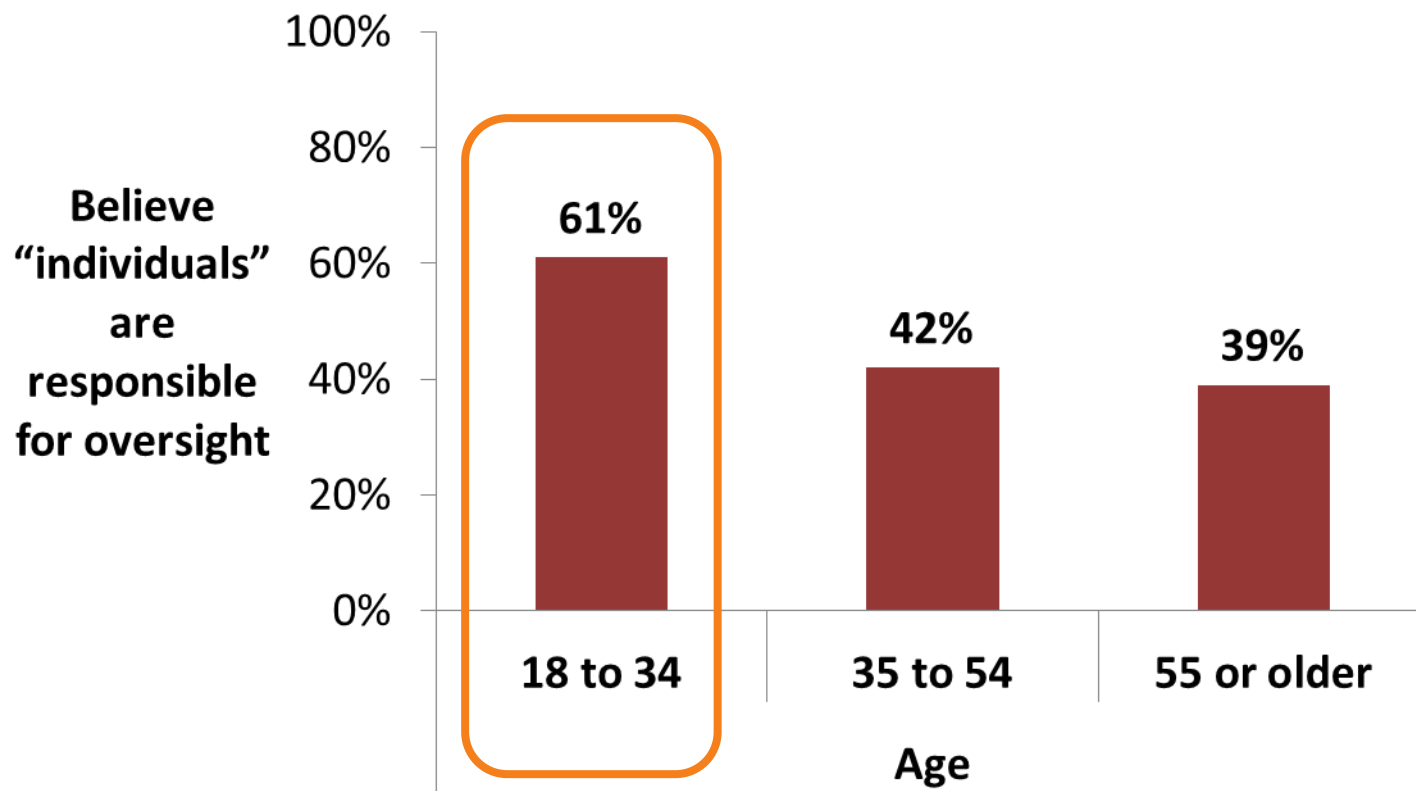


Pesticides, fertilizers, and septic systems are seen as having greatest effect

➔ Front Range residents were most likely to say each pollution source had an effect on water quality



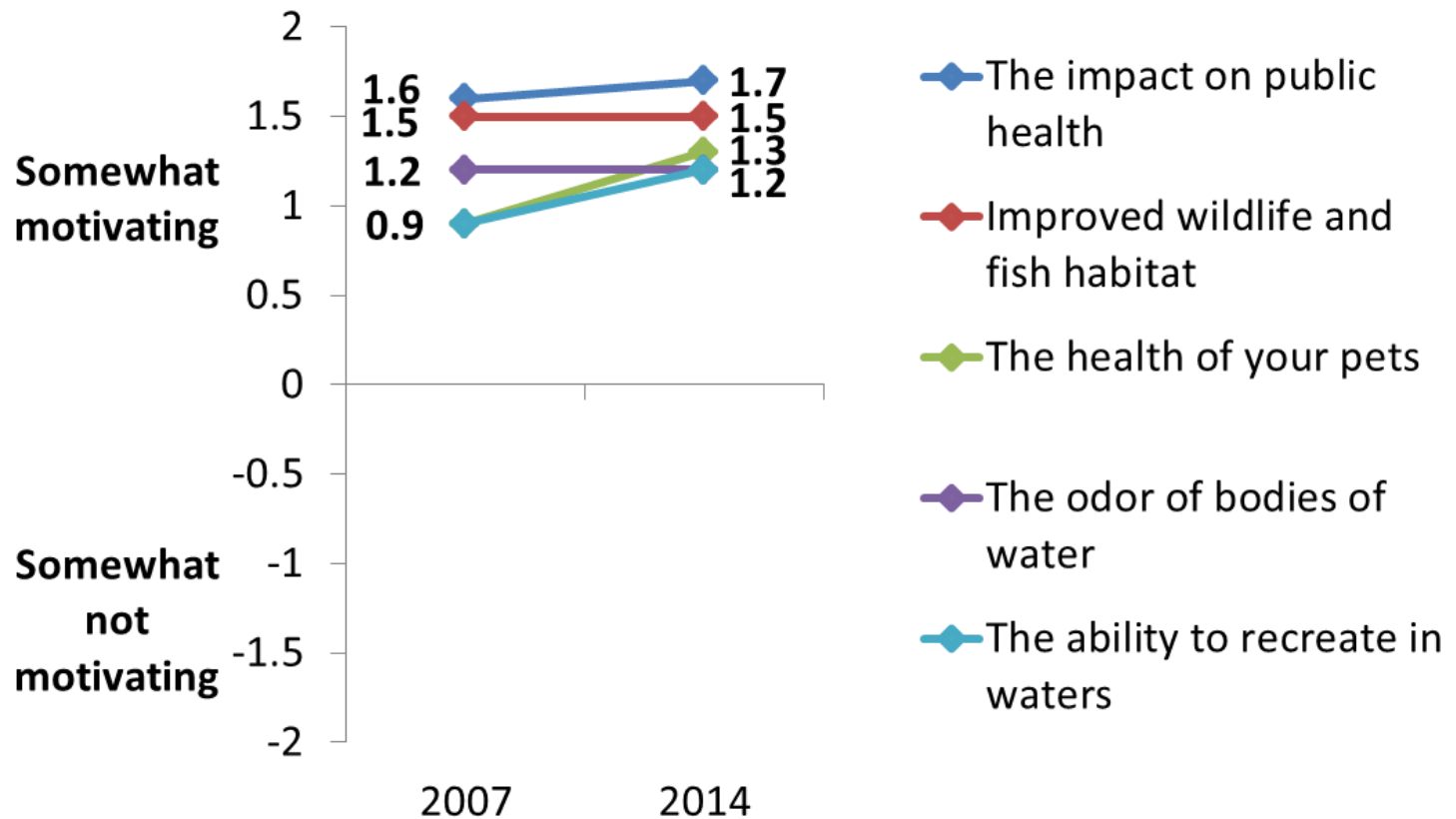
Younger residents are most likely to believe “individuals” are responsible for water quality oversight



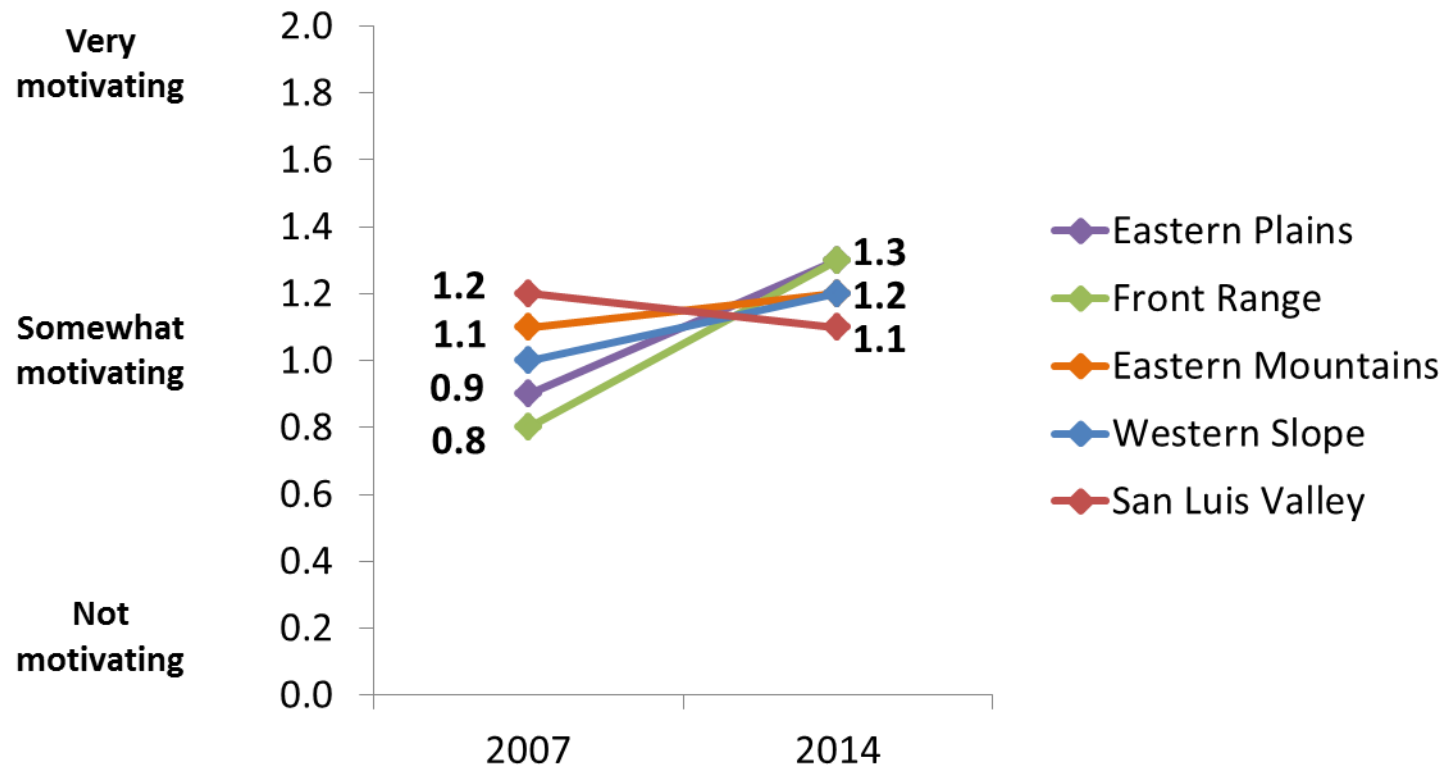


Motivations to Protect Water Quality

For the “impact on public health” is most motivating to improve water quality



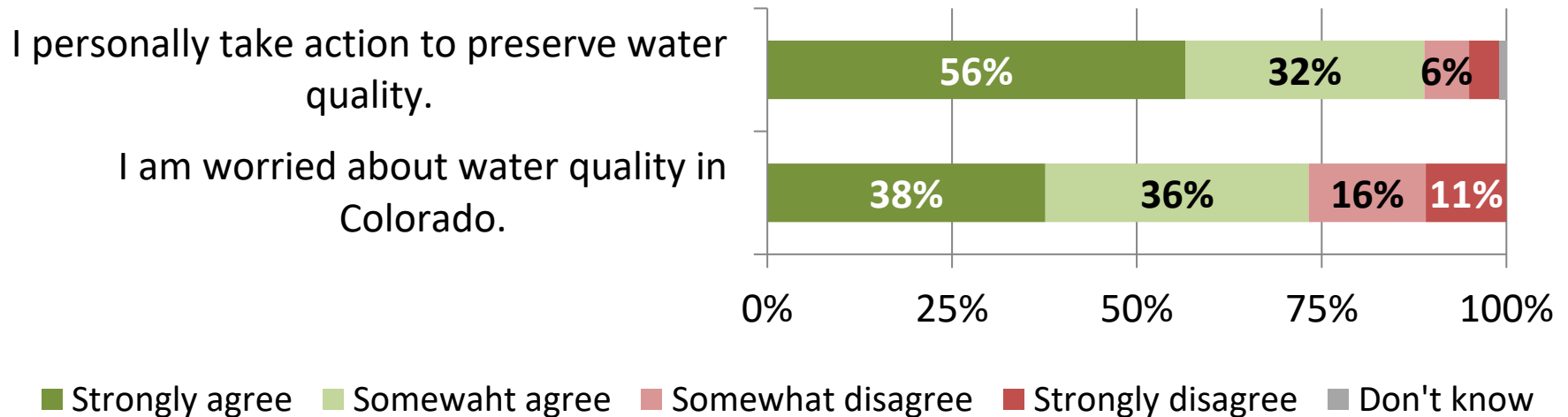
Motivated by pet health increasing quickly in Eastern Plains and Front Range





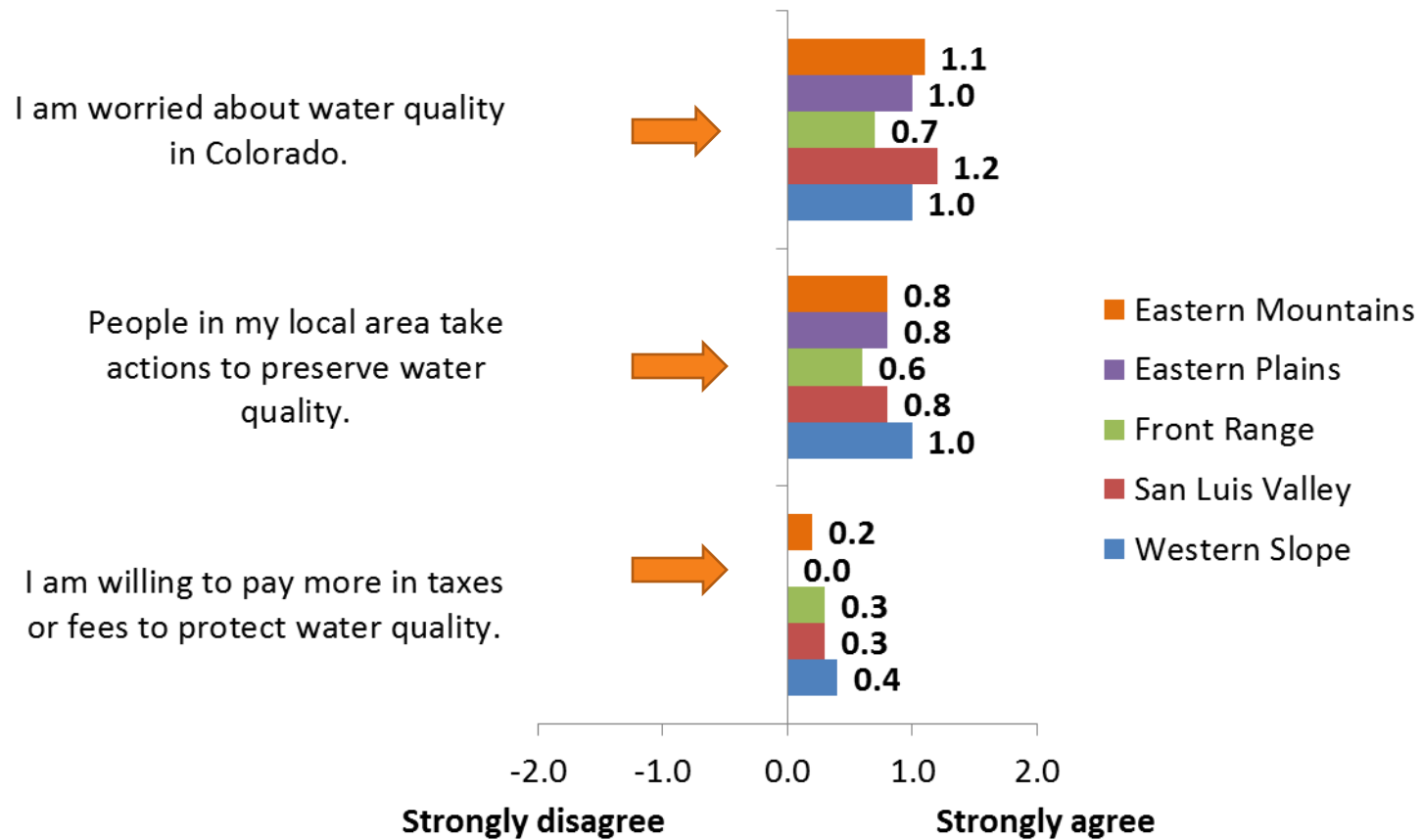
Taking Action to Preserve Water Quality

90% of residents take some action to preserve water quality

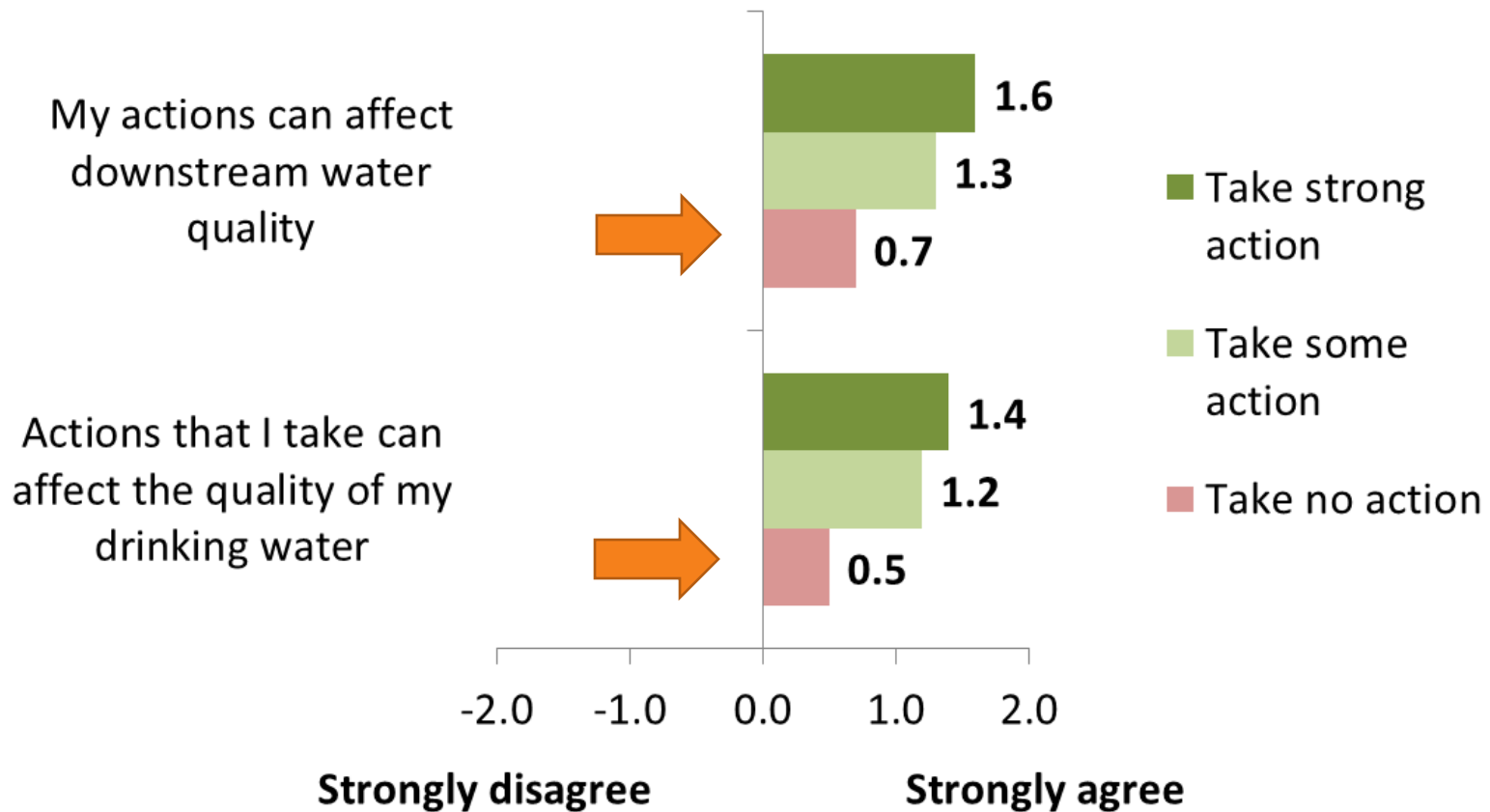


- ➔ Action does not differ by region, sex, or education
- ➔ Females and those with less than a bachelors degree are more worried about water quality than males or those with a bachelors degree

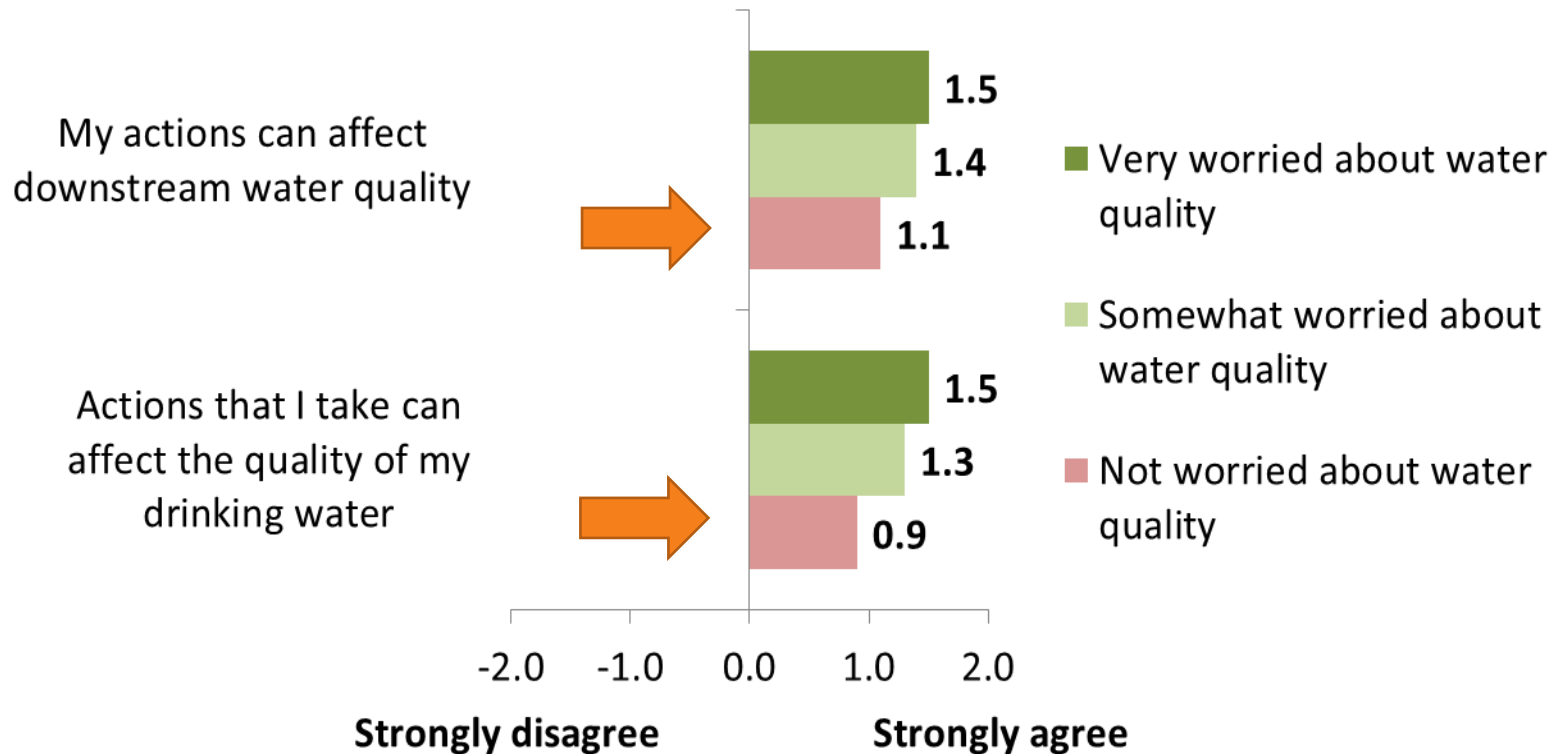
Worry about water quality is lowest in the Front Range – highest in San Luis Valley



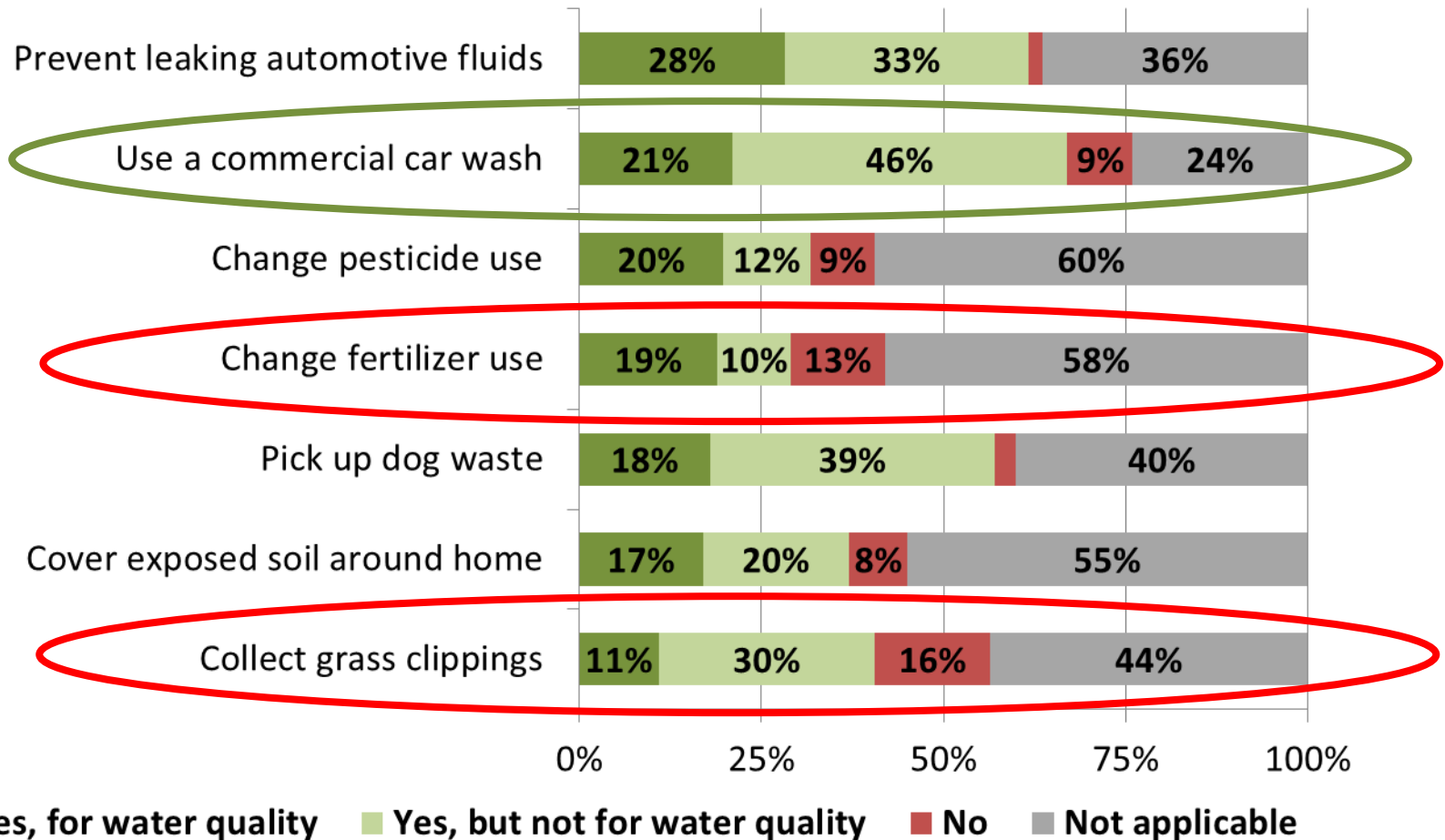
Those who take no action are less likely to believe their actions will make an impact



Those who are not worried are less likely to believe their actions will make an impact

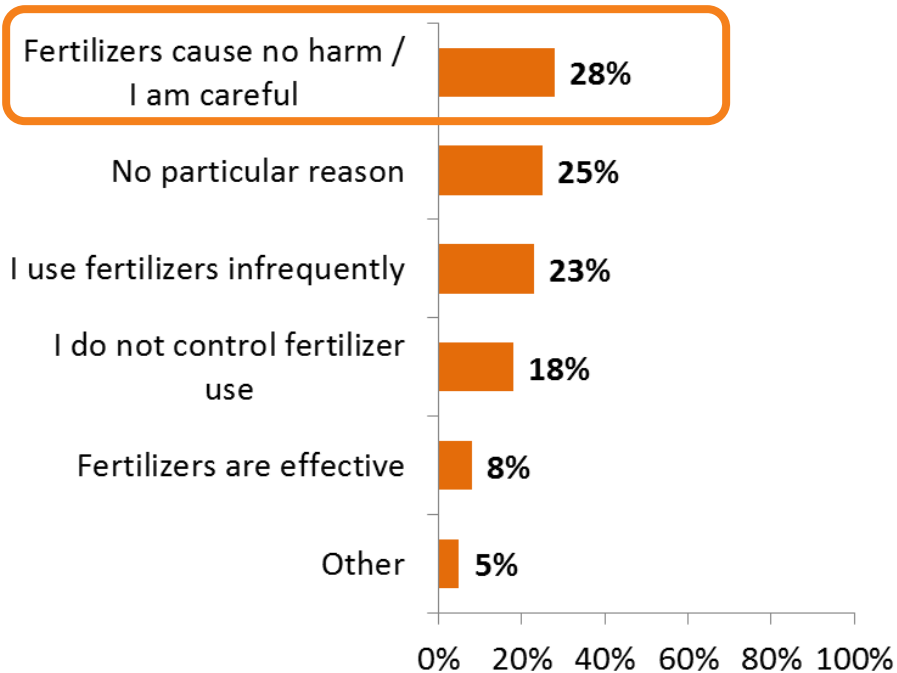


People are most likely to use commercial car wash, and least likely to collect clippings

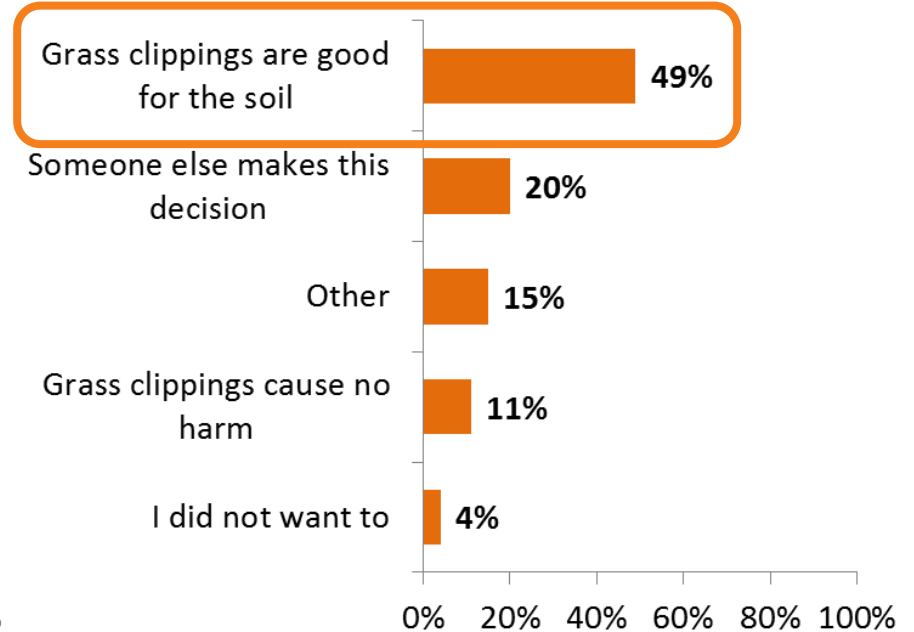


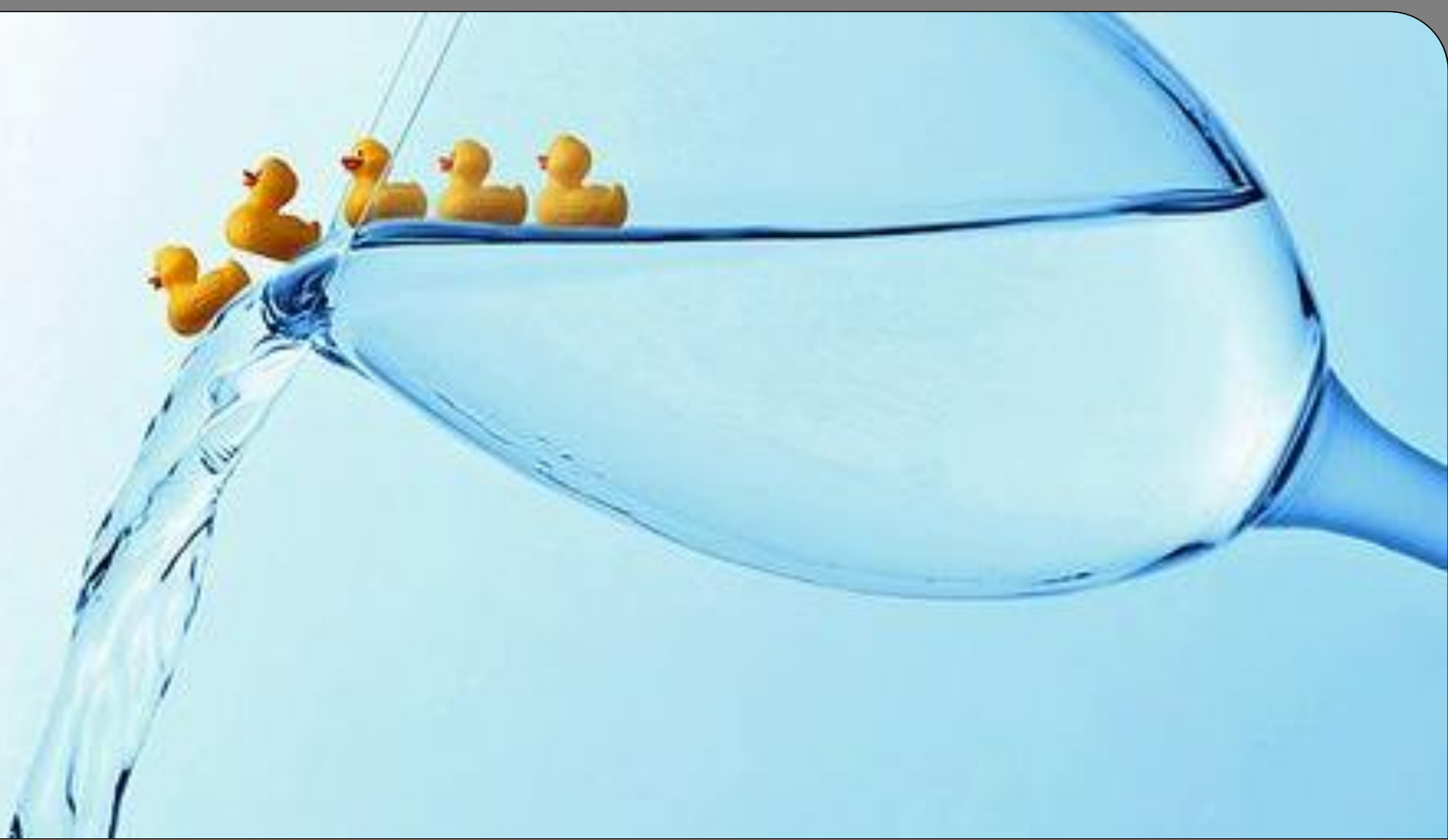
Many residents did not believe actions would help or were necessary

Reason(s) for not changing fertilizer use



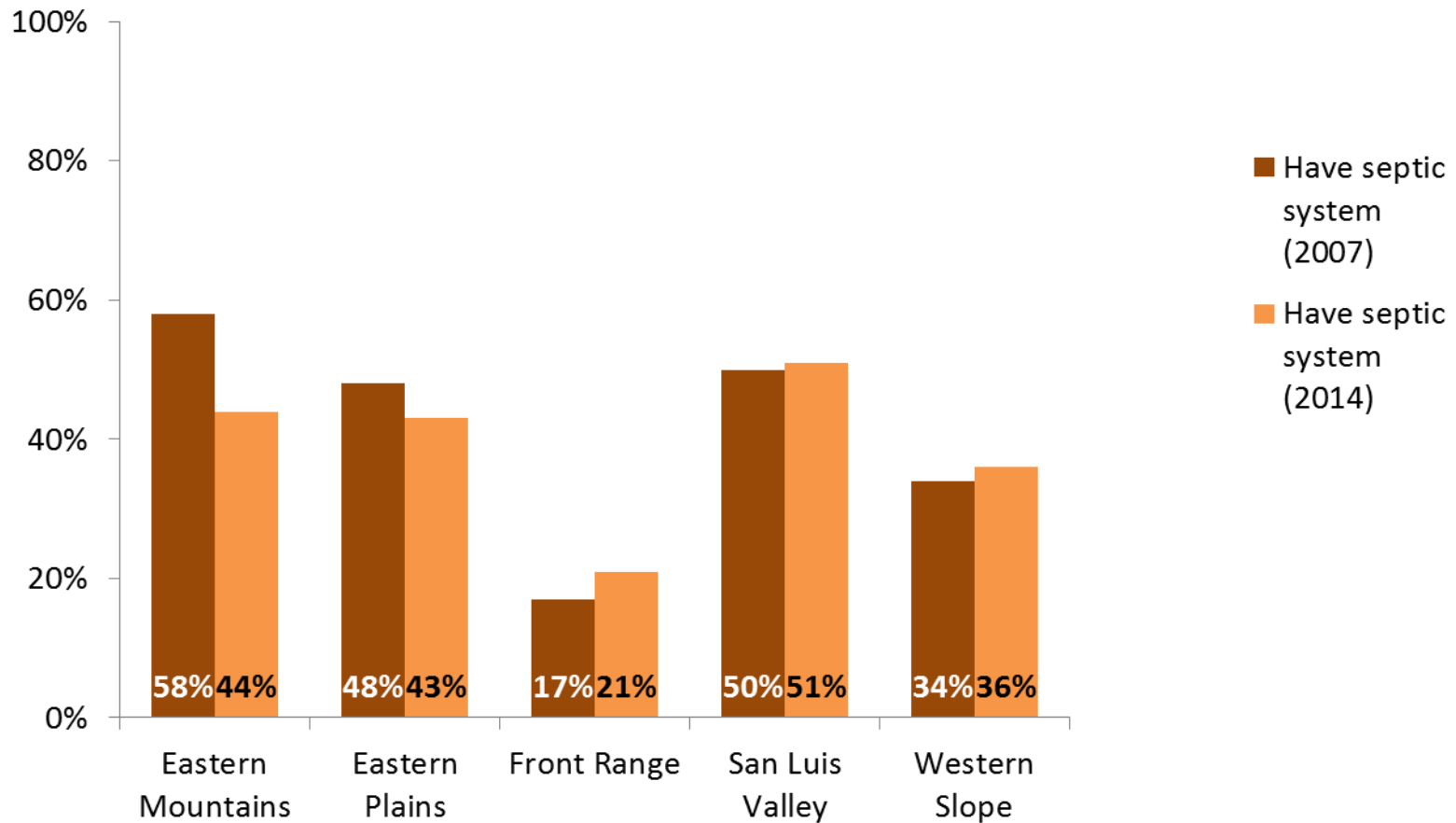
Reason(s) for not removing grass clippings



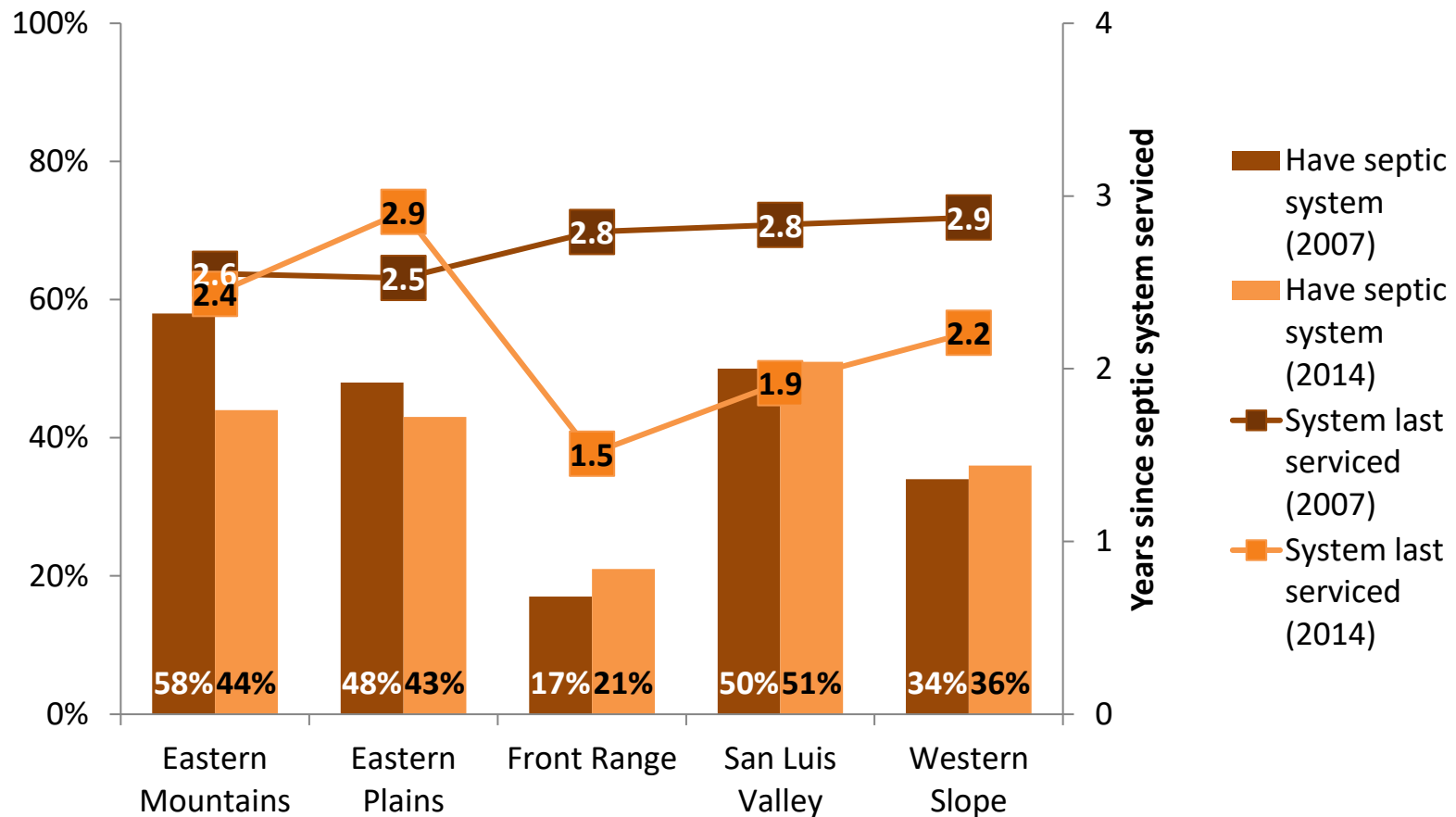


Septic System Maintenance

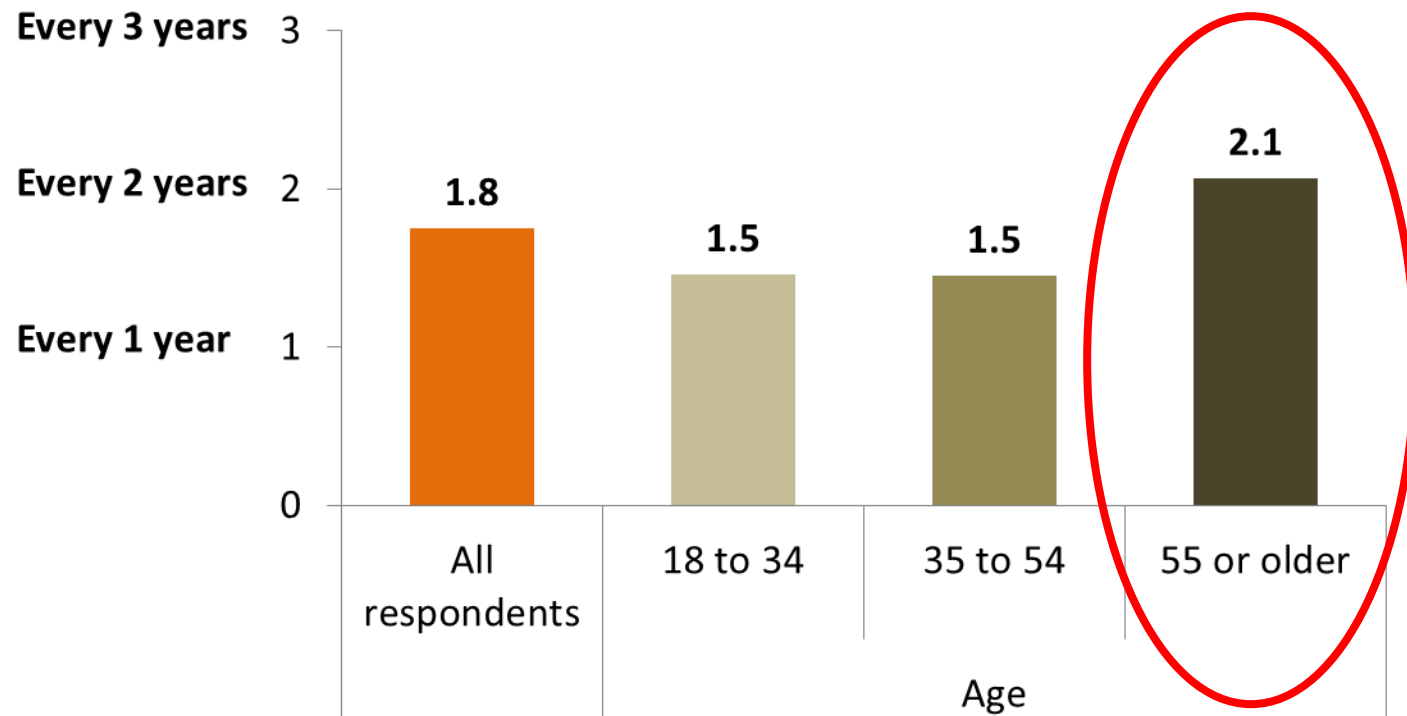
Percent of households with a septic system differed by region



Households increased frequency of servicing their septic systems



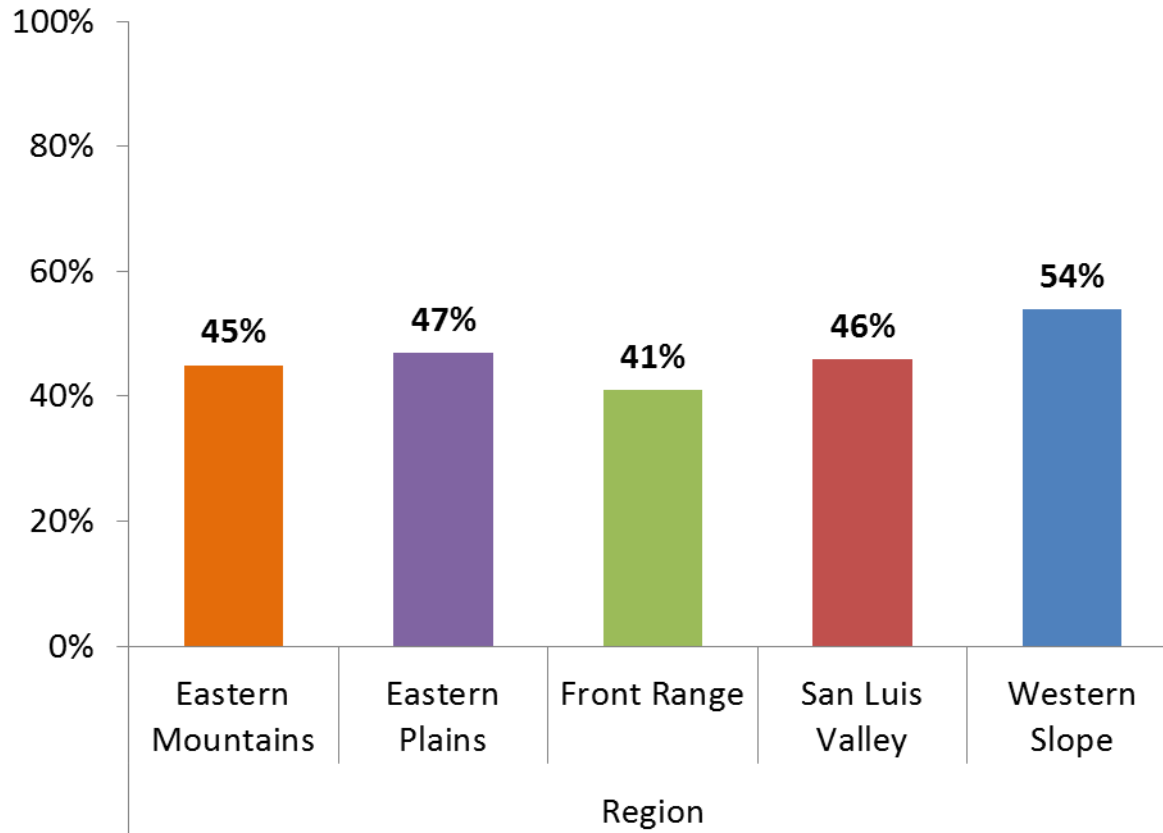
Older residents service their septic system least frequently



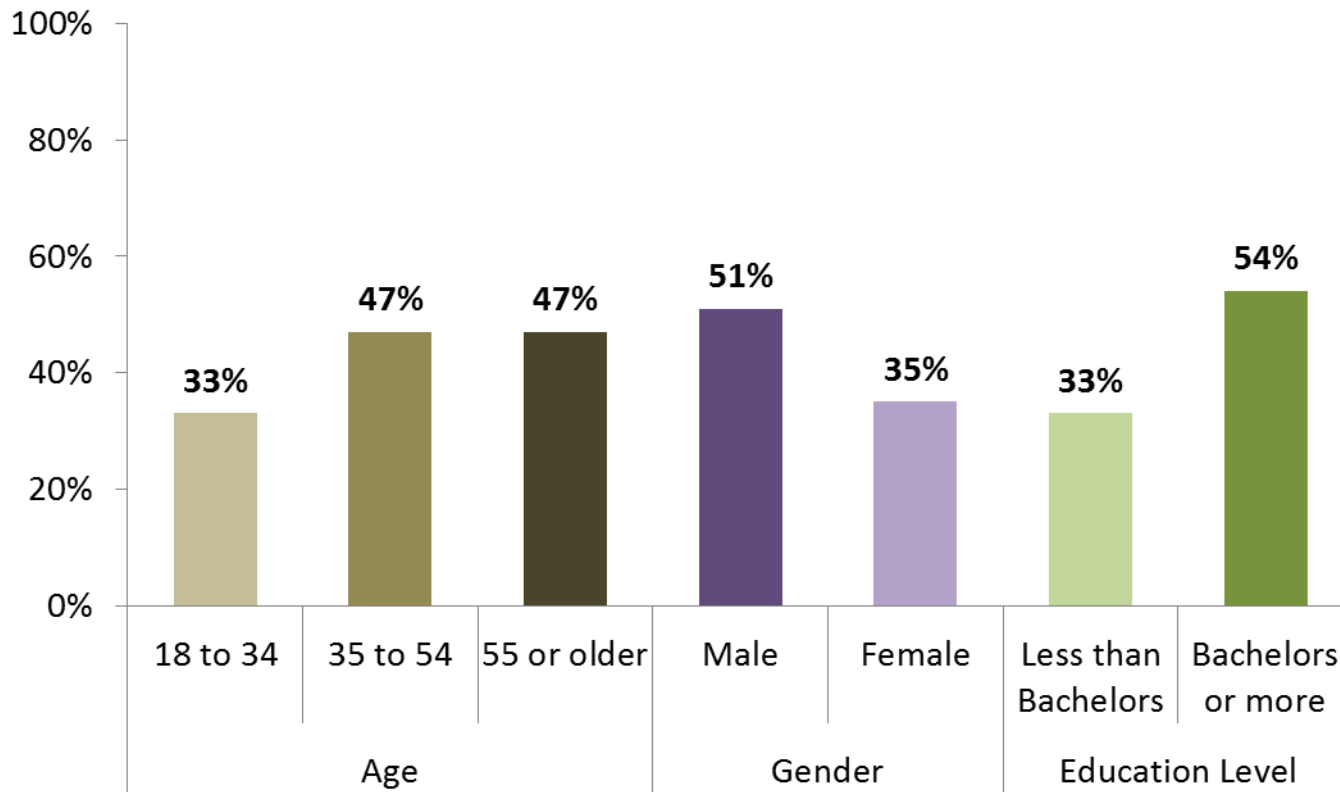


Education and Communication

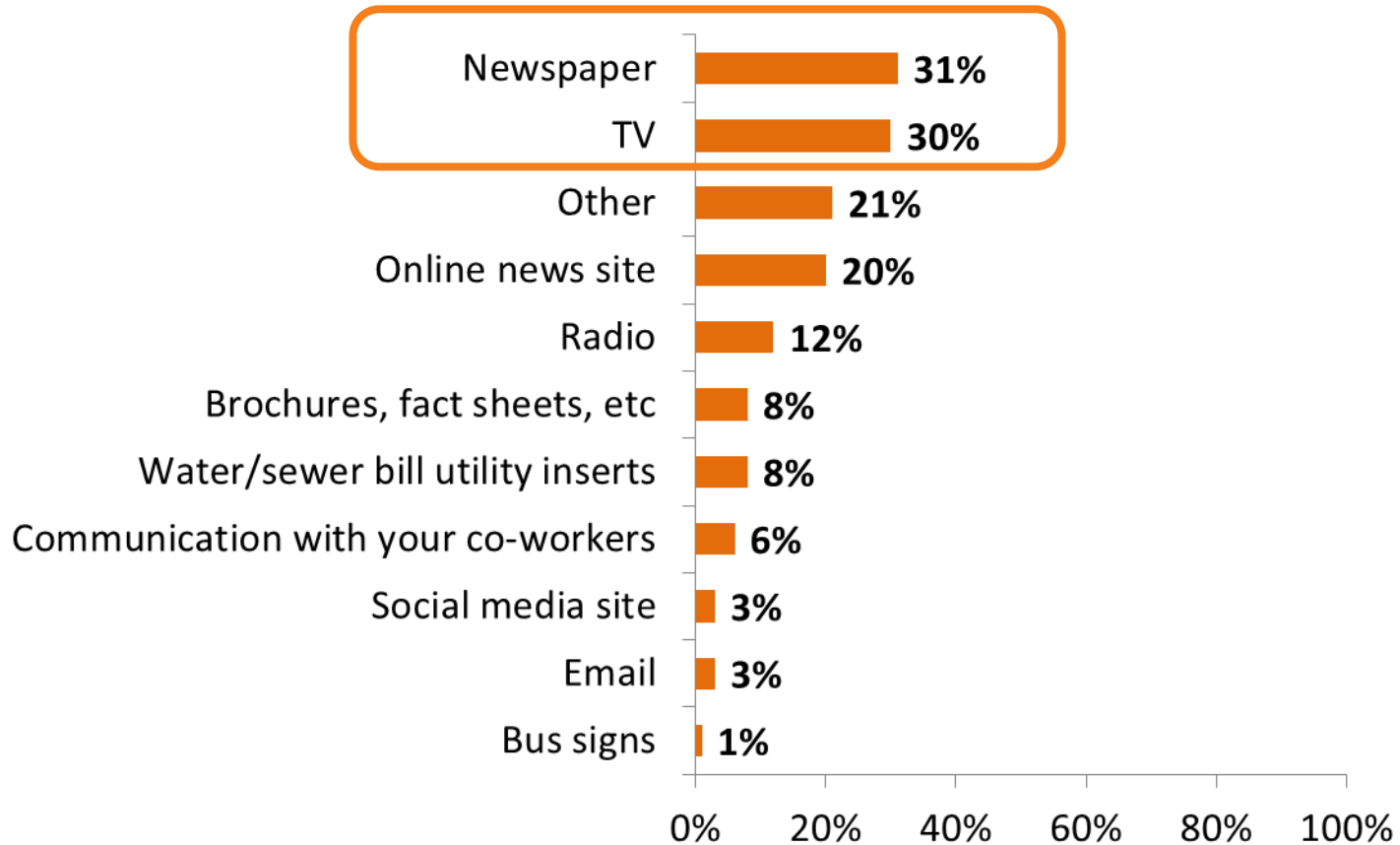
Western Slope residents were most likely to have read, seen, or heard a water quality message



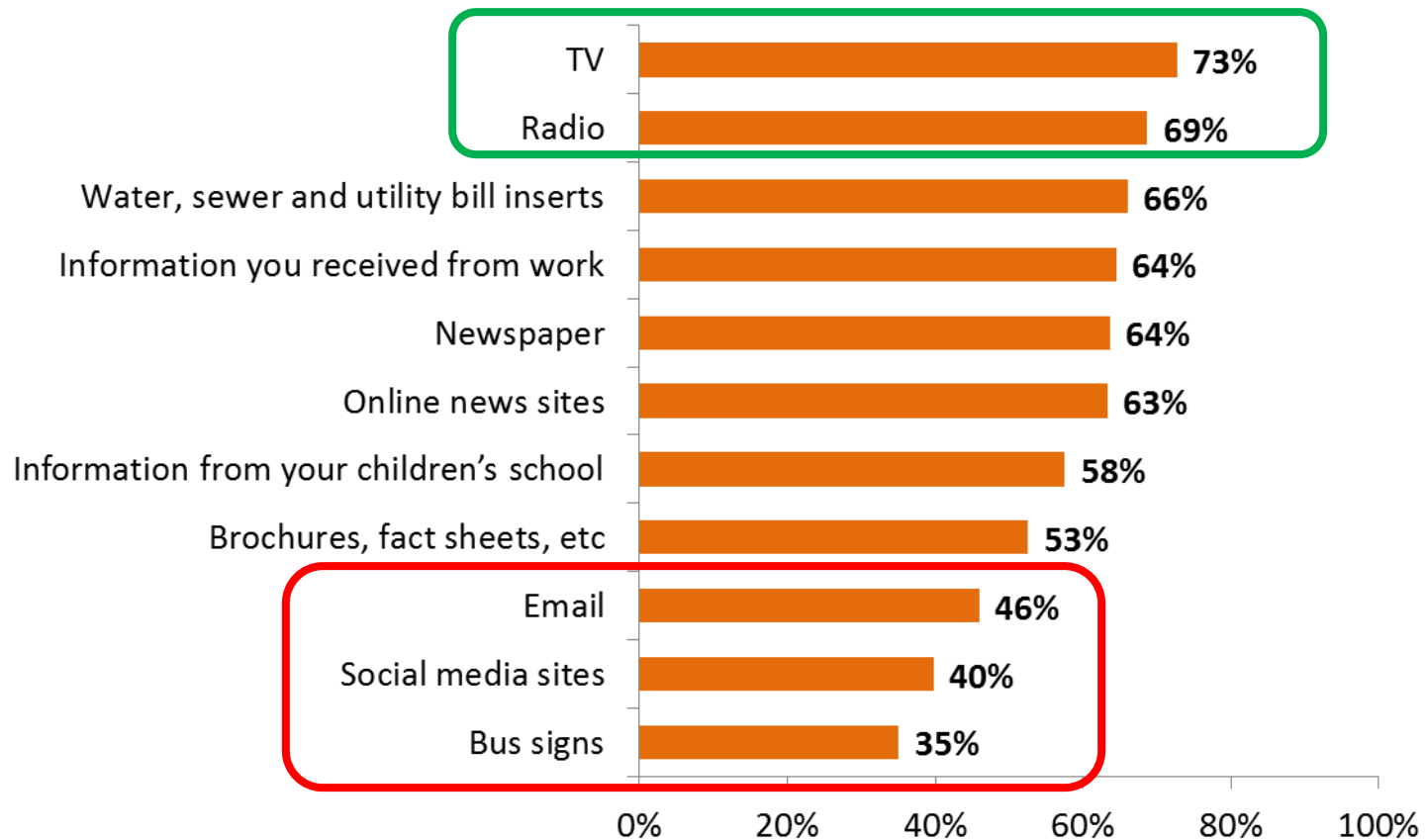
Older adults, males, and those with a Bachelors were most likely to have seen or heard messages



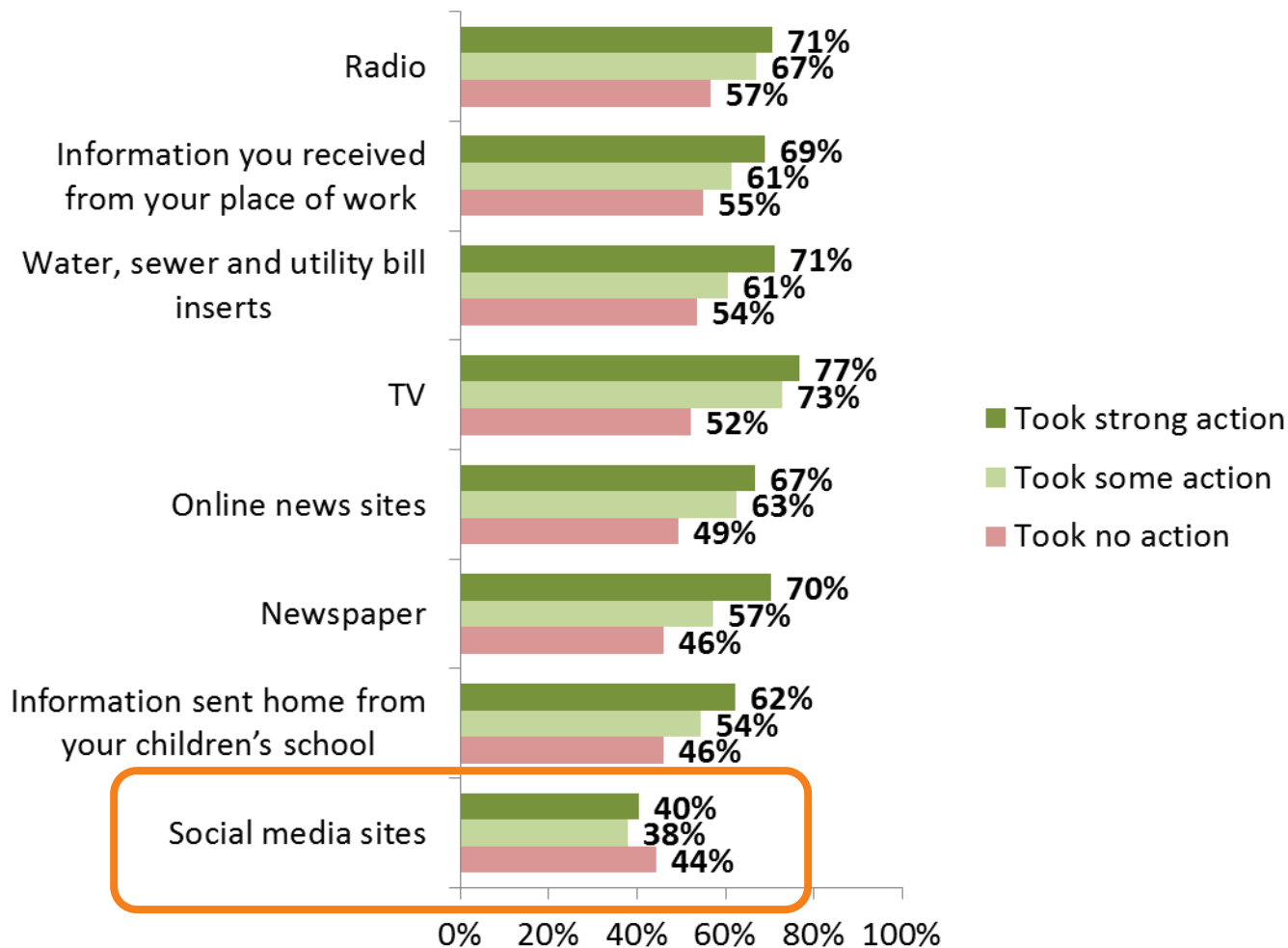
Residents were most likely to hear messages from the newspaper and TV



TV and radio most likely to gain attention; while email, social media, and bus signs are least likely



Generally, those who took no action are least likely to attend to water quality messages



Review of Key Findings

Top-level Findings

- Water quality is the most important environmental issue we tested
- Public health is the greatest motivator to improving water quality
- The vast majority of residents took some personal action to preserve water quality
- Many beliefs about water quality relate to worry over water quality
- Many residents who did not take actions, did so with good intentions

Key Comparisons to 2007

- The importance of water quality increased dramatically
- Residents are more likely to believe water is clean enough for swimming
- Residents believe fertilizers have a minor-major effect on water quality
- For the “health of pets” is growing as a motivation to improve water quality
- Septic systems are being serviced more frequently

Select Regional Results

- Front Range: Least worried about water quality in Colorado and least likely to know their water origin
- Western Slope: most likely to believe local water is clean enough for swimming
- Eastern Plains: believe water pollution is most important and least likely to believe their home drinking water is safe
- San Luis Valley: most likely to have a septic system
- Eastern Mountains: most likely to attend to TV messages

Acknowledgments

- ➔ Colorado Water Resources and Power Development Authority
- ➔ Colorado Water Quality Control Division
- ➔ Colorado Foundation for Agriculture
- ➔ Colorado Foundation for Water Education
- ➔ Colorado Stormwater Council
- ➔ Colorado Water Center of Colorado State University
- ➔ Keep It Clean Partnership
- ➔ Nonpoint Source Colorado
- ➔ One World One Water Center of Metropolitan State University



Questions?



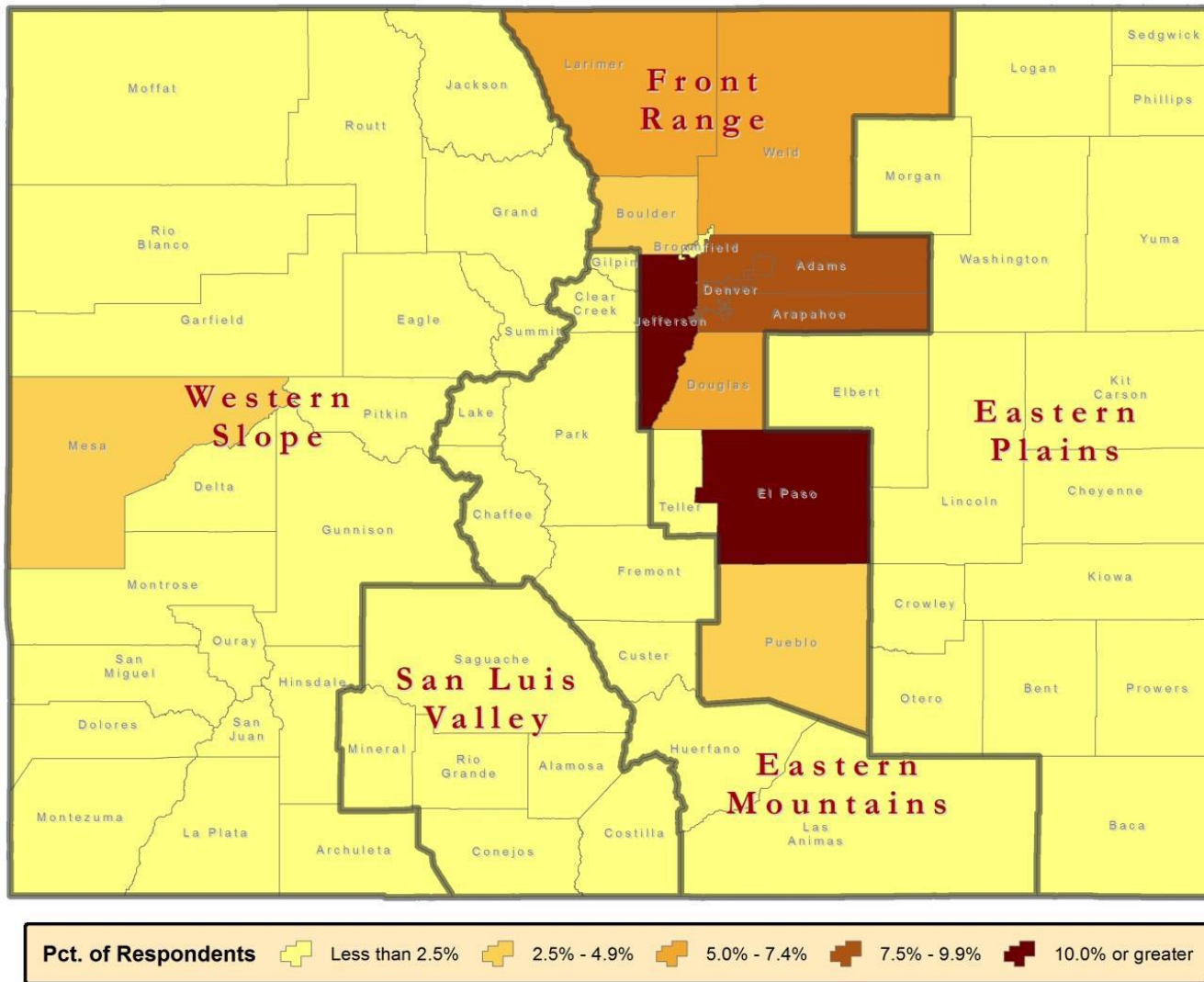
Appendix

Additional Slides

Study Area

Region	Counties
Eastern Mountains	Chaffee, Clear Creek, Custer, Fremont, Gilpin, Huerfano, Lake, Las Animas, and Park
Eastern Plains	Baca, Bent, Cheyenne, Crowley, Elbert, Kiowa, Kit Carson, Lincoln, Logan, Morgan, Otero, Phillips, Prowers, Sedgwick, Washington, and Yuma
Front Range	Adams, Arapahoe, Broomfield, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, Teller, and Weld
San Luis Valley	Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache
Western Slope	Archuleta, Delta, Delores, Eagle, Garfield, Grand, Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit

Percent of responses by county (weighted)



Respondents & Margin of Error

Subpopulation	Survey Respondents	95% MoE
Statewide 18+	1,959	±4.3%
Eastern Mountains	396	±5.0%
Eastern Plains	389	±5.2%
Front Range	388	±5.2%
San Luis Valley	384	±5.3%
Western Slope	402	±5.3%
Males	1,009	±3.3%
Females	950	±3.3%

All reported margins of error are corrected for the weighting effect, which will increase the margin of error in proportion to the size of the applied weights.

Weighting

➔ Telephone surveys, like any other type of survey, rarely reflect the entire population without some adjustments. Older residents, for example, are more likely to respond to telephone surveys than are younger residents. Generational differences in cell phone and landline usage further complicate representativeness. To decrease response bias, we weighed the data based on known population estimates of gender, age (three categories: 18-34, 35-54, 55 or older), and telephone service (landline-only, dual, cell-only) using a process of iterative marginal weighting (i.e., raking or RIM weighting) to develop weights for each respondent.