

Private Well Program to Protect Public Health: Water Testing Results (2020–2022)

From 2020 to 2022, RCAP Solutions conducted 502 water quality tests across several Massachusetts towns which had a high concentration of private wells. We discovered that approximately 32% of wells had levels of contaminants exceeding state health standards and/or suggesting potential health risks. State health standards are based on federal standards and are adopted by the Massachusetts Department of Environmental Protection (MassDEP).

In comparison, 2020–2022 data from MassDEP shows that only about 4.5% of community public water systems (PWS) throughout the state had instances of contaminants exceeding state health standards and/or suggesting potential health risks.

These results show that sensible, health-based regulations and oversight for drinking water wells would lead to a public health benefit. Our full findings are outlined below.

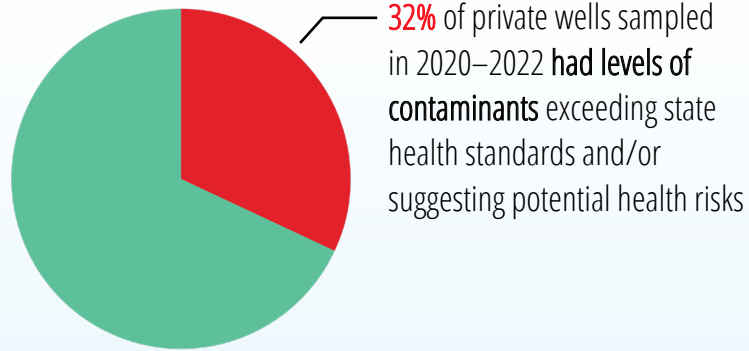


About the Private Well Program to Protect Public Health and the Coalition for Safe Drinking Water

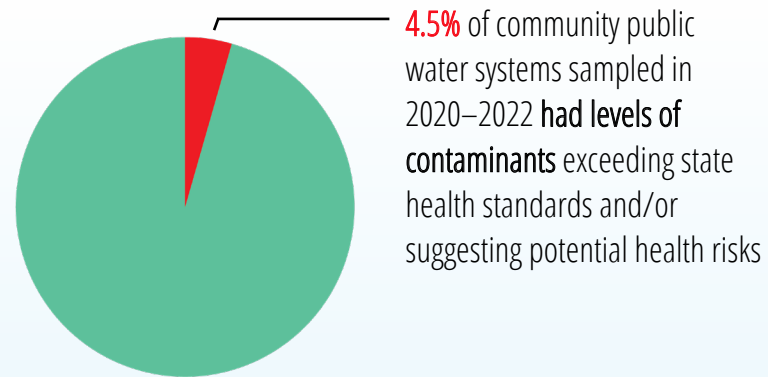
The Private Well Program to Protect Public Health is a community partnership program funded by The Health Foundation of Central Massachusetts. This program has tested well water quality throughout Massachusetts, educated homeowners on what their water test results showed, and worked directly with homeowners if there was a need for remediation efforts.

The program's goal is to move the Massachusetts legislature to enact statewide private well regulations that would ensure all residents have equitable access to healthy drinking water. Thus, the Coalition for Safe Drinking Water has been formed as a way to engage a wide range of stakeholders in working together to ensure safe drinking water for all Massachusetts residents. For more information, visit: WhatsInYourWellWater.org

Private Wells Sampled by RCAP Solutions (2020–2022)



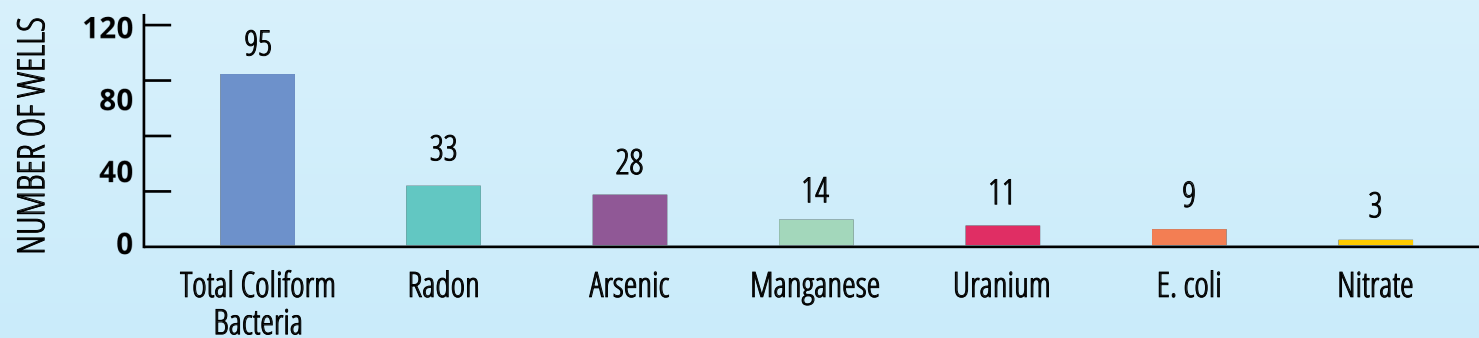
MassDEP Data for Community Public Water Systems in Massachusetts (2020–2022)



Results by Town: Data within each town ranged from 8% to 58% of wells having levels of contaminants exceeding state health standards and/or suggesting potential health risks.

Private wells vs. community public water systems, what's the difference? Private wells usually supply water to an individual residence. These wells, which draw their water from the ground, are not subject to any statewide health-based regulations. Community public water systems supply drinking water to the greater public on a daily basis (e.g., at gas stations, campgrounds, etc.) and are subject to statewide health-based regulations, as are larger-scale public water systems that serve major cities and towns.

Most Common Contaminants Found Exceeding State Health Standards



Water Quality Standards and Potential Health Impacts

Massachusetts Maximum Contaminant Levels (MCLs) are a set of guidance levels for various contaminants that could potentially be found in drinking water. These levels are based on U.S. Environmental Protection Agency (EPA) federal standards for drinking water, though MassDEP has adopted more stringent standards for public water systems in some cases.

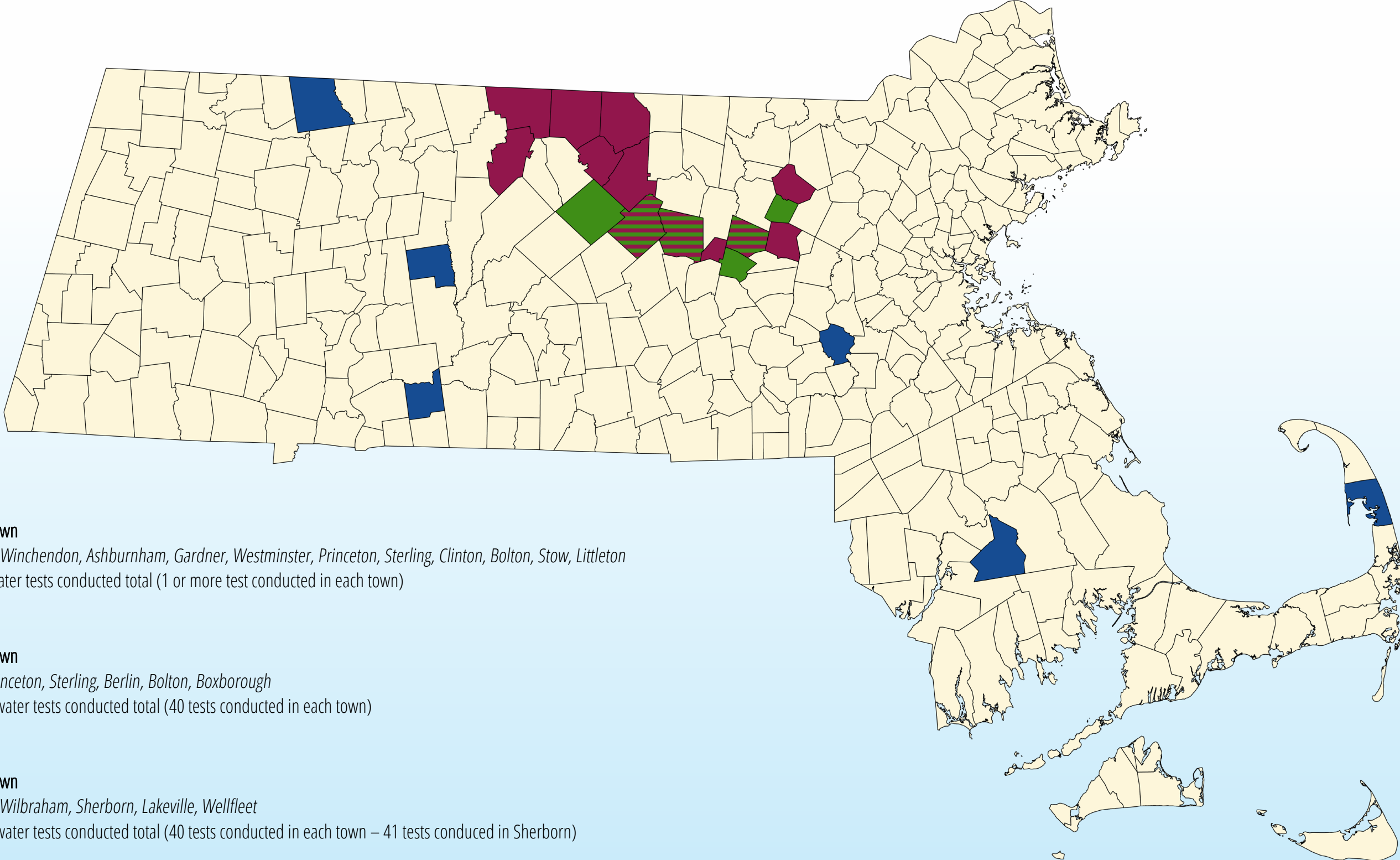
There are several potential health problems that can occur if contaminated water is consumed. In addition, contaminants may impact the aesthetic of drinking water (e.g., taste, color, odor) or a home's infrastructure.

Contaminant	MCL	Examples of Potential Health Risks
Arsenic	.010 mg/L	Cancer, skin damage, circulatory system problems
E. coli	Present/absent	Gastrointestinal illness
Nitrate	10 mg/L	Can cause death in babies younger than 6 months
Radon	10,000 pCi/L	Cancer
Total Coliform Bacteria	Present/absent	Gastrointestinal illness
Uranium	.030 mg/L	Cancer, kidney toxicity
Manganese	.3 mg/L	Neurological effects

Source: EPA and MassDEP. MCLs are measured in parts per liter. "Present/absent" indicates contaminant exceedance is determined by presence or absence.

Private Well Program to Protect Public Health: Water Testing Communities (2020–2022)

From 2020 to 2022 RCAP Solutions conducted 502 water quality tests across several Massachusetts towns which had a high concentration of private wells. The map below highlights the towns in which private well water testing occurred. We discovered that approximately 32% of wells had levels of contaminants exceeding state health standards and/or suggesting potential health risks.



Key:

- 2020 Targeted Town**
Royalston, Athol, Winchendon, Ashburnham, Gardner, Westminster, Princeton, Sterling, Clinton, Bolton, Stow, Littleton
21 private well water tests conducted total (1 or more test conducted in each town)
- 2021 Targeted Town**
Hubbardston, Princeton, Sterling, Berlin, Bolton, Boxborough
240 private well water tests conducted total (40 tests conducted in each town)
- 2022 Targeted Town**
Colrain, Pelham, Wilbraham, Sherborn, Lakeville, Wellfleet
241 private well water tests conducted total (40 tests conducted in each town – 41 tests conducted in Sherborn)