NEW HAMPSHIRE DEPARTMENT OF Environmental Services

Environmental Dashboard

Trends in New Hampshire's Environment

Drinking Water: Private Wells

Currently, about 40% of New Hampshire residents rely on private wells for drinking water, and the number of wells drilled continues to grow. While public drinking water is closely monitored and tested for health-based contaminants, there are *no federal or state requirements for testing private well water*. Some water contaminants, including arsenic and radon, have been linked to cancer and toxicity, posing a risk to human health. Arsenic and radon naturally occur in New Hampshire water—sometimes in high amounts—but homeowners can cost-effectively treat their well water to make it safe. However, first they must test their water to know if there is a problem.

Current Condition

DES estimates that 20% of private wells exceed the federal level (10 parts per billion) for arsenic, and 55% exceed DES's recommended level (2,000 Pico curies per liter) for radon.

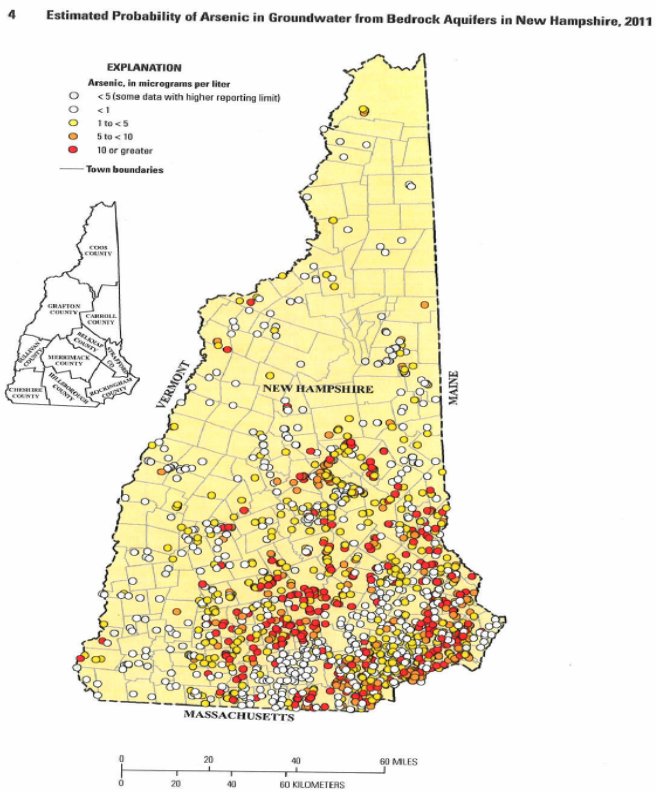
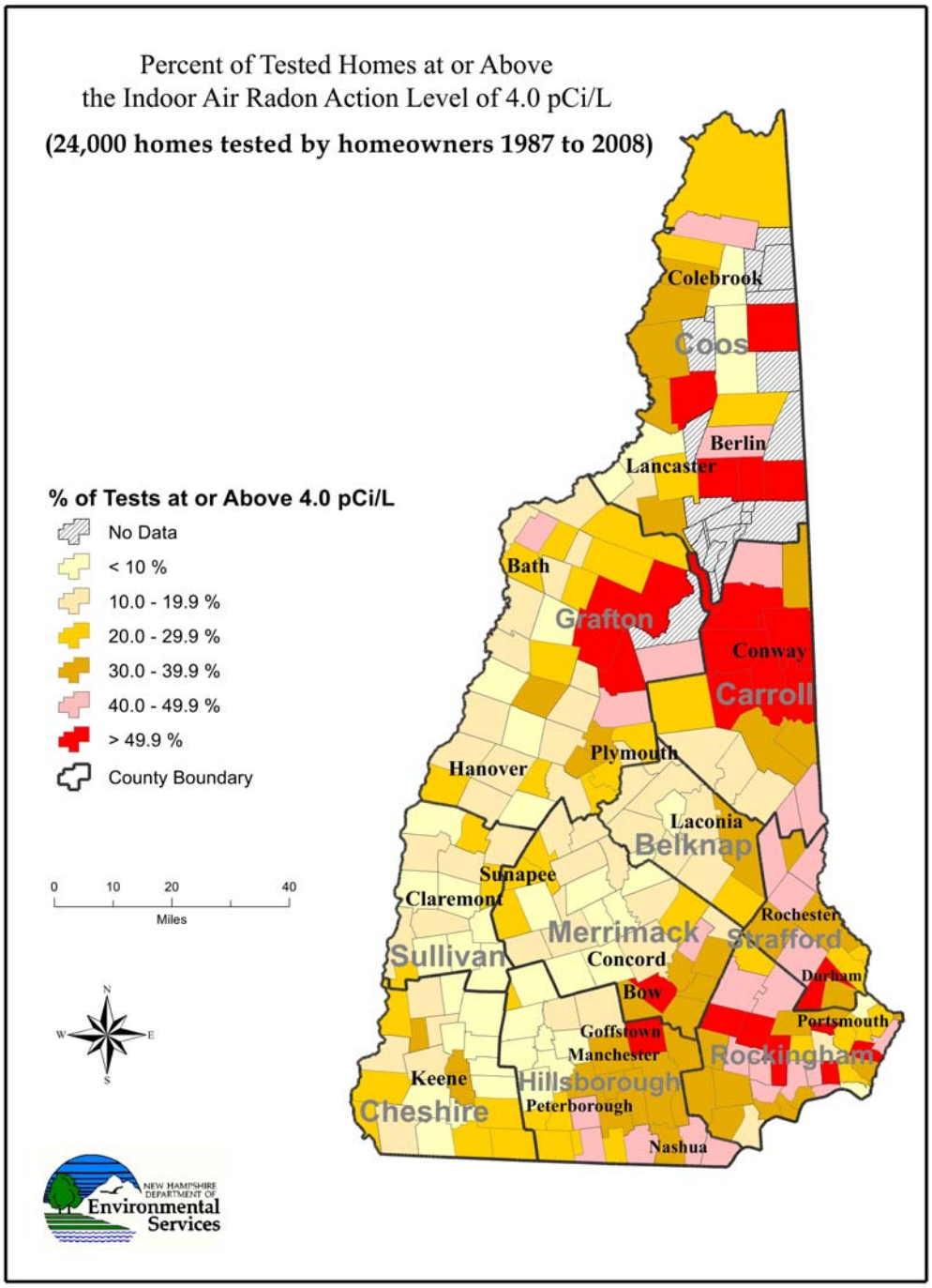


Figure 1. Locations and concentrations of 1,715 samples of arsenic in groundwater from bedrock aquifer wells in New Hampshire.

[1] see endnote



Explanation of Indicator and Trend.

Although, nearly 40% of New Hampshire residents use private wells for their drinking water, most residents do not test their water on a regular basis. The increasing number of private wells providing drinking water in New Hampshire increases the concern about lack of testing for possible contaminants such as arsenic and radon. Although public water systems are regulated and required to test for and report on a wide range of contaminants. there are no federal or state monitoring or treatment requirements for private wells. Further, only a handful of municipalities in New Hampshire require testing of private wells.

Radon and arsenic are not the only contaminants for which private well owners should test. Recent studies have also raised concern about the health risks of elevated manganese and

fluoride in some areas. Dug wells are often contaminated by bacteria if they are improperly maintained or constructed, or if wells are located where contaminants might enter due to flooding, nearby animal pens, manure piles, etc. Salt from roads or salt piles is also a contaminant which may render a well unsuitable for drinking.

How Does DES Address This Issue?

DES strongly encourages that all private wells be tested, and provides in-depth information on how and why to test and treat drinking water wells. Through periodic testing, residents can detect immediate health risks from bacteria, as well as longer term health risks from contaminants such as arsenic, radon and manmade pollutants. The State Laboratory, located in the DES building in Concord, provides cost-effective water testing services for a variety of pollutants.

Links to More Information, Including What You Can Do to Help

DES Private Well Testing Program
http://des.nh.gov/organization/divisions/water/dwgb/well_testing/index.htm
Annual Compliance on Public Water System Violations, January 1, 2010- December 31, 2010 http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-11-17.pdf
Private Drinking Water Wells, USEPA http://water.epa.gov/drink/info/well/index.cfm

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[1] Ayotte, J.D., Cahillane, Matthew, Hayes, Laura, and Robinson, K.W., 2012, Estimated probability of arsenic in groundwater from bedrock aquifers in New Hampshire, 2011: U.S. Geological Survey Scientific Investigations Report 2012–5156, 25 p., at http://pubs.usgs.gov/sir/2012/5156/.