A New Legacy Beginning Now

Notes from the Agency of Natural Resources, by Danika Frisbie

Never once have I questioned the integrity of the cold, crisp tap water that is pumped up from the earth to my kitchen sink. It's delicious, refreshing, and seemingly healthy. Living between forested mountain slopes seems to provide me assurance that my water is safe to drink, since forested land acts as a massive filter system for the surface water that seeps downward to bedrock where my well pump slurps it upwards again.

Many of my distant Vermont neighbors in North Bennington, Vermont, also enjoy similar circumstances and sentiments towards remote living. Only this past spring, these same citizens were told to stop drinking their tap water. Even those supremely responsible well owners who receive "clean" test results annually when testing their water supply for problem contaminants were not exempt from the "do not drink" warning. How could a private well be contaminated with a potentially harmful compound residents were never advised to look for?

On February 25, 2016, the Vermont Department of Environmental Conservation (DEC) received testing results showing the presence of an unsuspecting chemical called "PFOA" in groundwater near a former manufacturing plant in North Bennington. PFOA (or *perfluorooctanoic acid*) is part of a group of manmade chemicals that have been used widely in the manufacturing of non-stick, weather resistant materials for household and commercial products. Longtime exposure to these chemicals through drinking water can be associated with health problems like high blood pressure, liver issues, thyroid disease, kidney cancer and testicular cancer.

Richard Spiese collecting a water sample in a North Bennington home. Photo by Peter Crabtree. March 2016. http://petercrabtreephoto.com/

Chemfab, the former plant in town, likely used PFOA in its process to make coatings for industrial fabrics in the decades before it closed in 2002. After a local citizen heard news of PFOA water contamination affecting a community with a similar plant in nearby Hoosick Falls, New York, the Vermont DEC was alerted and decided to coordinate groundwater sampling near the site.

The initial sample results received in late February showed PFOA levels as high as 2,330 parts per trillion in nearby private

wells. Federal and state safe drinking water standards for the chemical are both listed at different levels below 70 parts per trillion. To protect citizens from further exposure to elevated levels of PFOA, the DEC asked residents within a one-mile radius of former Chemfab to temporarily stop drinking tap water until individual wells could be tested and the extent of the PFOA contamination could be defined.

Richard Spiese, a veteran DEC employee who has dealt with investigating and cleaning up hundreds of contaminated sites in Vermont since the 1980's, said, "I've never dealt with a problem this big affecting this many people." The area of concern where DEC staff were sampling wells kept on expanding weekly, often in directions that did not make immediate sense to the scientists looking at the sampling maps. The effort that was needed to respond to the community pushed staff from multiple State agencies, municipalities, and consulting firms to their limits—and the task continues.

Emerging Chemicals of Concern

Fast forward five months, and more than 480 private wells have been sampled in North Bennington and Bennington. 249 wells contain PFOA above the 20 parts per trillion health advisory limit, and wells are still being sampled weekly as plans for an extensive municipal water line extension are being hammered out. PFOA has been also been discovered in groundwater in concentrations above the Vermont health advisory limit in other areas of the State, including Pownal, Shaftsbury, Colchester, South Burlington, and Essex.

In essence, Vermont is in the throes of responding to a statewide, site-based remediation effort to a chemical that most citizens—even some environmental regulators—had never heard of before. It summons one of the most popular and baffling questions asked by anyone becoming familiar to the issue: *how did you not know about this chemical?*

The answer is: there is a much bigger story going on that Vermonters are now intimately a part of. It's the story of approximately 85,000 industrial chemicals sold and used on the American market today and largely untested for safety.

In the 1970's, the U.S. populous woke up to the fact that public health is inextricably linked to clean and protected natural resources. So on the heels of Clean Water Act (1972), the Clean Air Act (1973), and the Safe Drinking Water Act (1974), federal lawmakers also forged the Toxics Substance Control Act (TSCA) in 1976. The goal of TSCA was to protect the public from dangerous chemicals by testing for safety and regulating their use.

The goal of TSCA was well-intentioned, but the reality is that more than 62,000 chemicals were grandfathered into the law without being tested for safety when originally signed. Forty years later, the huge task of "catching up" and reviewing all chemicals for safety remains largely uncompleted. According to a recent blog post by U.S. EPA Administrator Gina McCarthy, "Only a handful of the tens of thousands of chemicals on the market with the law passed have ever been reviewed for health impacts. Only 5 have ever been banned."

As I think back to my own well at home and the list of compounds that responsible well owners should have their drinking water tested for every year, it's relatively simple: heavy metals, bacteria, and other organic compounds that are known to directly impact human health. Individuals are not expected to test their groundwater supply for thousands of chemicals. When TSCA was signed, it essentially confirmed that this should be the role of government—to protect the public from harm by regulating toxics.

PFOA and its chemical relatives are all part of the legacy of the failed system of the TSCA. At this time, 98% of the American population has PFOA in their blood at background levels. Although we are currently dealing with its impacts in communities in Bennington and Pownal, VT, we are also seeing a renewed movement to bring significant reform the system that was designed to regulate this chemical in the first place.

This past May, President Obama signed a TSCA reform bill to leverage more resources and authority for the U.S. EPA to evaluate both existing and new chemicals for health impacts. In Vermont, the Legislature passed a bill this past 2015-2016 session that requires the formation of a task force to evaluate a strategy for prioritizing management and regulations of chemicals of concerns, in concert with renewed U.S. EPA efforts.

Indeed, groundwater movement and air transport are invisible forces of nature that we must strive to protect from the pervasive entry of toxic chemicals. There can be no assurance to families and communities that the air and water we consume are free from harmful chemicals if a greater system is not in place to protect these public goods.

I feel assured that action is being taken now—in our State and at the White House—to begin a new legacy of public and environmental health protection for the next generation.

More about TSCA Reform Bill signed in June 2016: https://blog.epa.gov/blog/2016/06/tsca-reform-a-bipartisan-milestone-to-protect-our-health-from-dangerous-chemicals/

More about PFOA Health Facts: http://healthvermont.gov/enviro/pfoa.aspx