

# What Americans Learned This Year From Being Unable To Drink Their Water

BY [KILEY KROH](#)  POSTED ON DECEMBER 11, 2014 AT 10:18 AM



*A man helps unload bottled water after 10,000 gallons of crude MCHM contaminated the water.*

CREDIT: FOO CONNER/@IWASAROUND

On January 9, more than 300,000 West Virginia residents were shocked to learn that seemingly overnight their water was declared undrinkable, unusable even, save for flushing the toilet. In the ensuing weeks and months they would discover that a chemical mixture used to clean coal, crude MCHM, had leaked from a neglected storage tank on the banks of the Elk River, just upstream from a major water intake facility.

Despite its proximity to the drinking water supply, very little is known about crude MCHM and its potential impact on humans and the environment. Mixed messages regarding the safety of the water perpetuated the sense of fear among residents, a feeling that lingers nearly a year later, according to Evan Hansen, principal at the Morgantown-based environmental consulting firm Downstream Strategies.

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“I think there are still people in the area that are not drinking the water,” Hansen said. “It is still a concern for some people.”

Half a year and millions of dollars later, another water disaster struck: A toxic algae bloom in Lake Erie contaminated the water for nearly 500,000 residents. Throughout the year, millions of Californians have continued to grapple with the new water-stressed reality accompanying the state’s historic, ongoing drought — one that has forced regulators to not only restrict water use but to scramble to prevent communities from running out of water.

The water disasters of 2014 both exposed additional threats to the nation’s water supply and have left significant unanswered questions about whether anything will be done to prevent these incidents, prolonged or acute, from happening again.

In the wake of the Freedom Industries spill, many within and outside the state were highly critical of West Virginia’s historically lax regulation of the fossil fuel and chemical industries. The state legislature took a positive step toward changing that in March, unanimously passing S.B. 373, the Aboveground Storage Tank Act. The bill seeks to tighten the regulations on chemical storage and bolster sourcewater protection in the state but as Hansen explained, the most important provisions — the actual regulations — are just being written now and proponents foresee a huge fight looming.



*Empty shelves at a local Foodland after the chemical spill was discovered.*

CREDIT: FOO CONNER/@IWASAROUND

“Some of the industries that are most affected by the Aboveground Storage Tank Act,

specifically gas and coal, are gearing up to try to change the act so that it doesn't impact them," Hansen said. "And if that's done, that would be a major change in the bill because so many of the above-ground storage tanks are used by those two industries."

Since the passage of the bill, the state legislature underwent historic changes, with the House of Delegates flipping from Democratic to Republican control for the first time in more than 80 years. But Hansen said he doesn't see the fight for protection against chemical contamination as a partisan one; it's basically about whose interests the legislators have in mind. "It would seem to me that even if the new Republican majority has some objections to parts of the bill that a winning political strategy wouldn't be to make wholesale changes to that bill as soon as you gain the majority, [saying] 'we're basically going to dismantle clean water protections as one of our first acts,'" Hansen said.

In the races for federal office in the state, the chemical disaster was a forgotten, or deliberately ignored, topic. Rather than using the platform to push for substantive changes, candidates from both parties instead chose to focus their zeal on President Obama's "war on coal" and denounce the "callous" EPA.

The outcome of S.B. 373 and the lasting impact of West Virginia's response to the chemical disaster extends beyond the state's borders, Hansen explained, particularly considering "most states still don't have regulations on above-ground storage tanks."

Toledo residents were met with a similar shock in August, when they were told the tap water in their homes had become contaminated. The culprit this time was microcystin, a toxin that leached from a massive algae bloom at the source of the region's water supply and which is poisonous if ingested. As was the case in West Virginia, Toledo officials were left scrambling to address the source of the contamination and give residents consistent information about the safety of their water.

While the situation in Ohio was resolved far quicker than West Virginia, the lack of transparency regarding specific tests conducted and the concentration of harmful substances in the water was similarly exasperating for those affected.



*Algae is seen near the City of Toledo water intake crib in Lake Erie on August 3.*

CREDIT: AP PHOTO / HARAZ N. GHANBARI

“It’s really frustrating,” 30-year-old Perrysburg resident Julia Halm told ThinkProgress shortly before the ban was officially lifted. “I want to trust what they say, but at the same time, I need to know a little more.”

Toxic algae blooms in Lake Erie are not a new phenomenon, but they are worsened by both increased runoff from agricultural and industrial activity and by climate change, as ThinkProgress’ Emily Atkin [explained](#) at the time. Despite numerous warnings over the past several years regarding the risk of worsening algae blooms, serious measures to reduce the phosphorous flowing into the lake never materialized — a fact that fueled [residents’ frustrations](#) in the wake of this summer’s water crisis.

While state and local officials received significant criticism after the incident, Toledo Mayor Michael Collins [told](#) a U.S. Senate panel earlier this month that the federal government needed to do more to help address the failing health of Lake Erie and prevent future algae blooms. “If you did it in the Chesapeake Bay, why can’t you do it in Lake Erie?” Collins said of the executive order that established a plan for cleaning up the long-polluted bay.

Like West Virginia, Toledo is just [one of several places](#) in the U.S. where toxic algae blooms threaten water supplies and recreational areas and where the science regarding the human health impact lags far behind. Most water plants use the World Health Organization’s benchmark for the amount of microcystin that can ‘safely’ be detected in water, but as the Toledo Blade [reported](#), “the science behind the WHO’s guideline is more than 16 years old, applies to only one of 80 known forms of microcystin toxin, and has been considered subject to change since it was developed in 1998.”



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The conflicting information from officials regarding the safety of the water was a key takeaway from the response to both disasters, according to Andrew Whelton, assistant professor of environmental and ecological engineering at Purdue University. “They taught us that we should not any longer make decisions on the fly; there needs to be a scientifically-grounded approach to how you respond to these incidents,” he said. “Responders shouldn’t be improvising when public health is at stake.”

Another part of the problem in West Virginia and Toledo was the fact that both systems relied on a single water source, Whelton explained. “That taught us there needs to be some type of resiliency built in to these systems,” he said. “You need multiple sources [and] interconnections with nearby water systems so you can rely on a neighbor to assist you when possible.”

In California, the severity of the state’s water woes has forced regulators to be proactive in identifying the communities at risk of running out of water and to look for potential emergency interconnections. The prolonged, multi-year drought was a central story throughout 2014, as aquifers plummeted to record lows, historic water restrictions were imposed, and the ripple effects of the water crisis were felt throughout multiple sectors.

The drought has brought many of California’s shortsighted water use practices to the surface — such as the fact that the consumption of water from underground aquifers has been totally unregulated, something the state legislature moved to remedy this year.



*The dry bed of the Stevens Creek Reservoir is seen in March in Cupertino, Calif.*

CREDIT: AP PHOTO/MARCIO JOSE SANCHEZ

The threat to drinking water has become so acute that municipalities large and small are looking for alternatives with a growing sense of urgency. Last month, the San Diego City Council voted unanimously to approve a \$2.5 billion plan to turn sewage water into drinking water.

Projects like wastewater recycling and desalination will likely cost California billions of dollars in the coming years as the communities continue to look for ways to provide residents and businesses with the water they need to survive. In November, Proposition 1 passed easily, authorizing \$7.5 billion “for water quality, supply, treatment, and storage projects.”

According to many of the nation’s top climate scientists, warmer temperatures and the drought bear the fingerprints of climate change, meaning states like California will have to learn to cope with such events now and in the future.

Several other parts of the U.S. and the world face the same prolonged threat to their water supply. A satellite-based analysis conducted by NOAA and released in October found that “the groundwater at some of the world’s largest aquifers — in the U.S. High Plains, California’s Central Valley, China, India, and elsewhere — is being pumped out ‘at far greater rates than it can be naturally replenished.’”

Looking ahead, “the risk of chemical spills to drinking water is increasing,” Whelton said, judging by the sheer number of chemical storage tanks — he’s already identified more than 10,000 in Indiana — along with other threats, like the rise in crude oil pipelines, or contaminants that are formed in nature and exacerbated by industrial activity. However, he doesn’t see these challenges as insurmountable. “We can be better prepared to respond,” Whelton said. “Otherwise, every time there’s an incident you’re going to have a knee-jerk response. In the interest of public health, that’s a terrible strategy.”