

## THE FLINT WATER CRISIS: Looking Back...and Ahead

*It is a story that has made the front page of every major newspaper and led national news broadcasts nightly: the lead contamination of drinking water in Flint, Michigan that has exposed city residents—especially thousands of children—to an unprecedented hazardous health crisis. It is a crisis that has laid bare profound public administration challenges, from the breakdown of intergovernmental and interagency communication to government inaction to social and economic inequity.*



*The Flint water crisis also is a story about the tenacity of public administrators—bridging the academic and practitioner communities—who identified the crisis, brought it to public consciousness with concrete evidence and have led the fight for change working with community leaders. Led by principal investigator Marc Edwards, the Virginia Tech Water Study Team is nationally regarded as having brought to light the water crisis. The Washington Post called the team “heroic;” a New York Times article headline read, “As Flint Fought to Be Heard, Virginia Tech Team Sounded the Alarm.”*

*The team recently accepted ASPA’s Public Integrity Award at its 2016 Annual Conference. The award acknowledges an organization that has made outstanding contributions to responsible conduct in service. PA TIMES had the opportunity to interview Edwards and study team member Laurel Strom about the ongoing crisis and the road ahead.*

### How did Virginia Tech originally get involved in the crisis?

Marc Edwards: A mother in Flint, Lee Anne Walters, complained. She had lived there for several years; she and a number of community members became suspicious after the township switched its water source to the Flint River. The water became yellow or orange and children were contracting skin rashes. It was very concerning.

Laurel Strom: Lee Anne had started her own research into lead problems and found out about Marc’s involvement in the Washington, DC lead water crisis that took place 15 years ago. (*Editor’s note: Edwards uncovered, alongside a Washington Post investigation, hazardous corrosion in Washington’s water system that caused lead to seep into the city’s water supply.*) She contacted him and he helped her run an initial test through directions over the phone, not expecting to find anything. When we went to Flint and tested houses, most had more than the legal limit (15 parts per billion), testing at well above 1,000 parts per billion. Her children were lead poisoned due to toxic waste levels of lead.

### Where did the lead come from?

Strom: The lead comes from pipes and plumbing materials in homes and distribution systems—mostly from water mains, as well as the pipes and solder at pipe joints. The water source—in this case, the Flint River—has a high salt level which makes it highly corrosive and Flint does not have proper corrosion controls. It has experienced a large amount of water main breaks due to the corrosion. The color Lee Anne observed is an indication of that corrosion; as the pipes corrode, iron leaches into the water. The iron is not toxic, but lead in the pipes is.

### What is Flint using as its water source? Are residents being charged for it?

Strom: Flint is back to buying water from Detroit, which comes from the Great Lakes and is treated to federal standards. Unfortunately, because it waited so long to do it, the damage has been done to the distribution system. And, yes, residents are paying for it. Flint has the highest water bills in the country due to the deterioration. Its infrastructure is not



adequate; it is more than 50 years old. It had a lot of water main breaks prior to the crisis and residents already had been paying high bills. Switching to the Flint River was supposed to be a cost savings measure and it led to other problems. Now, it is even more expensive. There are just so many other things to fix and Flint does not have the resources. It will take hundreds of millions of federal and state dollars to fix this.

### Can you speak about the decisionmaking levels involved in a crisis of this kind?

Edwards: I think it starts out innocently enough. Perhaps the monitors involved are confused. Then, they do not believe the levels of lead in the water are high when they were once low. Eventually, those involved start to cover up the problem and it crosses the line from incompetence to negligence to criminal obfuscation. In Flint, they decided to fight the consumers who figured out there was a problem, as well as all the outsiders who fought on behalf of those consumers. The Flint situation is very disturbing.

### Can you give us a sense of the size and scope of this crisis?

Edwards: This is a large scale crisis from which it will take Flint and the greater Genesee County area a minimum of two years to recover. Major efforts must be undertaken, including infrastructure repair and upgrades.

Strom: There are 100,000 people in Flint and 9,000 children who could have been exposed. Additionally, more than 40 percent of Flint's residents are below the poverty level. Many of them have a hard time understanding they should not drink the water, so they are still drinking it. Many still bathe their children in the water and while we do not know if the water will cause skin problems, little kids could drink it that way, as well.

### How did this come to the media's attention?

Strom: Our first sampling was taken in August 2015. The media had been talking about it since the first switch because they were concerned about it. No one took the crisis seriously in the beginning because the Michigan Department of Environmental Quality (MDEQ) said it was not a problem. A local EPA agent tested water in July 2015 and expressed concern but neither MDEQ nor EPA did anything. EPA has the power to step in if it feels there is inadequate attention being paid, but it chose not to. Virginia Tech filed a FOIA request to see what the



MDEQ and EPA were saying internally and found statements about how seriously the crisis should be taken; officials had asked, "Should we really go all out for the citizens of Flint?" It only really came to people's attention after our first sample was released.

### How does this compare to the Washington, DC water crisis from 2004, to which many comparisons have been drawn in the media?

Edwards: In terms of duration, number of people exposed and level of lead in water, DC was about 30 times worse. Additionally, in Flint, people learned children were hurt almost immediately; in DC, the Centers for Disease Control (CDC) falsified a report in 2004 claiming no one was hurt. The water utility hired consultants who also wrote falsified peer reviewed papers claiming no evidence of health harm. Our research, published in 2009, demonstrated that thousands of children had elevated blood lead above CDC's current levels of concern.

### How do you account for the difference in media coverage between the Washington, DC crisis and the Flint crisis?

Edwards: Because lying by the federal agencies was incredibly effective. By the time people realized thousands of children were lead poisoned in DC between 2001 and 2004, five years had gone by. At that point it is almost impossible to prove who got hurt. The class action lawsuit filed on this issue was thrown out in 2013 and five kids are still waiting for their day in court, which may happen this summer. They will be out of high school by then.

In Flint, people realized kids got hurt right away and CDC did not play a role in the crisis.

## How can communities avoid these water crises, especially low income ones looking for cost effective water options?

Edwards: We have laws that should have prevented both of these situations from occurring. In both Flint and Washington, EPA, the primacy agency (EPA RIII in DC; MDEQ in MI) and the utility all failed to follow the law. Ultimately, we have to fix these agencies so they can be trusted to do their jobs. It is extremely frustrating because society has deemed this problem so important that we pay people—and pay them well—to protect us. Yet they cheat on the monitoring and hide the problem over and over again while low income communities pay the price.

Our work reveals a dangerous problem in government. There is a disconnect between science agencies and the public, as well as unethical behavior by career civil servants at CDC, EPA and other agencies. We have to change the culture of these agencies so they protect the public welfare and the truth before protecting their reputations.

## What do you most want to convey to public administrators about this emergency?

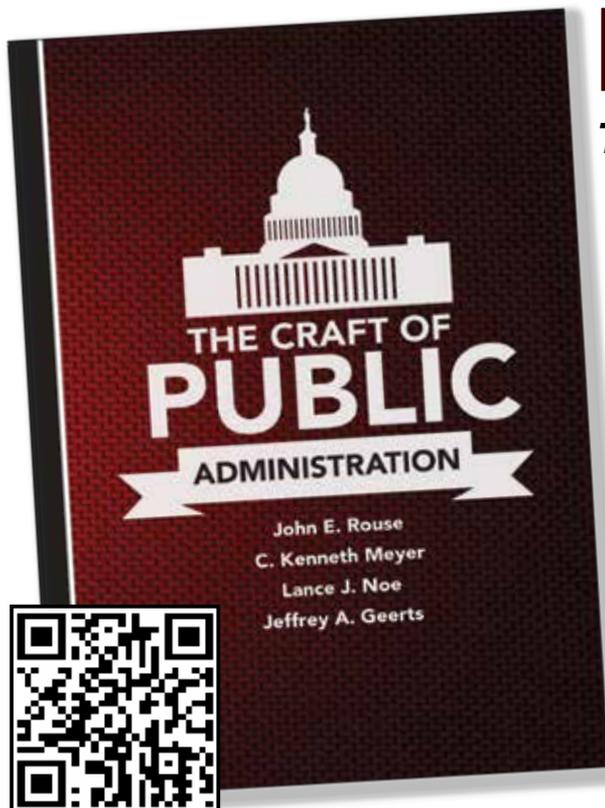
Edwards: Listen very carefully to the community, and perhaps be less trusting of those in authority,

which in this case included the EPA and the state MDEQ. The people were right and the agencies were wrong. It is incredible how much harm government agencies can do when they are staffed by incompetent people in positions of power and trust.

*Marc Edwards is the Charles Lunsford professor of Civil and Environmental Engineering at Virginia Tech. Featured by TIME as one of the United States' most innovative scientists, he was named a MacArthur fellow for "playing a vital role in ensuring the safety of drinking water and exposing deteriorating water delivery infrastructure in America's largest cities." Earlier this year, Edwards was appointed to the Flint Water Interagency Coordinating Committee, a 17-person committee tasked with developing a long-term strategy to address the water crisis.*

*Laurel Strom is a graduate student at Virginia Tech and a member of the research team. She delivered remarks accepting the Public Integrity Award at the ASPA 2016 Annual Conference.*

For more information on the Virginia Tech Research Team, go to [www.flintwaterstudy.org](http://www.flintwaterstudy.org).



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