

June 2012-April 2013: Flint Looks For Cheaper Water

Flint officials explore whether the city can save money by switching from its current provider, the Detroit Water and Sewerage Department (DWSD). City and state officials weigh an alternative: Flint could build its own pipeline to connect to the Karegnondi Water Authority (KWA). That option was projected to save the region \$200 million over 25 years, according to City Council meeting minutes.

On April 16, Flint Emergency Manager Ed Kurtz tells the state treasurer that the city is going to join the KWA. A day later, Detroit's water system tells Kurtz it is terminating service to the city effective a year later, in April 2014.

April 25, 2014: Switch To The Flint River

Until Flint's pipeline connecting to the KWA is operational, the city needs an interim source of water and turns to the Flint River, which was also its main water source until the 1960s.

Flint River water starts flowing to the city on April 25.

In a press release, the city characterized it as a temporary switch and aimed to ease resident concerns about the water quality. [Here's an excerpt:](#)
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"Even with a proven track record of providing perfectly good water for Flint, there still remains lingering uncertainty about the quality of the water. In an effort to dispel myths and promote the truth about the Flint River and its viability as a residential water resource, there have been numerous studies and tests conducted on its water by several independent organizations. ... Michael Prysby of the Michigan DEQ Office of Drinking Water verified that 'the quality of the water being put out meets all of our drinking water standards and Flint water is safe to drink.'

...

" 'It's regular, good, pure drinking water, and it's right in our backyard,' said Mayor [Dayne] Walling, 'this is the first step in the right direction for Flint, and we take this monumental step forward in controlling the future of our community's most precious resource.' "

Officials did not immediately treat the Flint River water to ensure it didn't cause corrosion in the pipes — instead, they took [what Michigan Radio characterized as a](#) "wait-and-see" approach.

May: Residents Complain

Some Flint residents complain about the smell and color of the new water, which is 70 percent harder than its previous water source, [according to MLive](#).

August: E. coli And Total Coliform Bacteria Detected

E. coli and total coliform bacteria are detected in Flint's water, prompting multiple advisories for residents to boil their water.

[An informational document](#) from Michigan's Department of Environmental Quality (MDEQ) says the city addressed the problem by increasing chlorine levels in the water.

Oct. 13: General Motors Stops Using Flint River water

General Motors says it will stop using Flint River water, fearing corrosion in its machines. "Because of all the metal ... you don't want the higher chlorine water (to result in) corrosion," GM spokesman Tom Wickham [tells MLive](#). "We noticed it some time ago (and) the discussions have been going on for some time."



A nail after one month of exposure to Detroit water (above) and Flint River water (below) Each nail was rinsed in flowing water before taking the picture.

Courtesy of FlintWaterStudy.org

Jan. 2, 2015: Disinfection Byproducts Detected

Flint is [found to be in violation](#) of the Safe Drinking Water Act because of the level of total trihalomethanes, or TTHM, in the water. TTHM are disinfection byproducts that occur when chlorine interacts with organic matter in the water. Some types are possible carcinogens for humans, [the CDC says](#).

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In response, the state starts buying bottled water for its employees at government offices. This continues even after TTHM levels returned to compliance with the Safe Drinking Water Act in September 2015, [MLive reported](#).

Feb. 25: Tests Show High Lead Levels In Home

A city test "reveals high lead content in the water of a Flint resident's home." [As Michigan Radio reported](#), the water at Lee Anne Walters' home "turns up with a lead content of 104 parts per billion. Fifteen parts per billion is the [Environmental Protection Agency]'s limit for lead in drinking water."

In April, Walters says her child was diagnosed with lead poisoning. An independent test done by Virginia Tech researchers [finds lead levels at 13,200 ppb](#) — water is considered hazardous waste at 5,000 ppb.

April: State Agency Notifies EPA That Flint Did Not Implement Corrosion Controls

The EPA [says it was notified](#) by the MDEQ on or about April 24 "that the City did not have corrosion control treatment in place at the Flint Water Treatment Plant."

July 13: 'Anyone Who Is Concerned About Lead ... Can Relax'

A [leaked internal memo](#) from the EPA expresses concern about lead levels, including the level at Lee Anne Walters' home. The ACLU picks up the report.

Michigan Radio [reaches out to](#) the MDEQ for comment about the memo, and spokesman Brad Wurfel says, "Let me start here — anyone who is concerned about lead in the drinking water in Flint can relax."

He adds that he hasn't seen the memo, but that preliminary tests show the Walters test was an "outlier." Wurfel tells Michigan Radio, "It does not look like there is any broad problem with the water supply freeing up lead as it goes to homes."

Aug. 20: Lead-Level Samples Excluded From Report

The MDEQ dropped two samples from its initial report on lead levels from the city, which put the result within federally mandated levels.

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"If the state had just dropped one high sample, Flint still would have been over the federal action level," [Michigan Radio reports](#). "But dropping two samples put them below the action level."

Officials said the two samples did not meet federal criteria — because one of the samples had a water filter and another came from a business rather than a home, Michigan Radio reports.

September: Virginia Tech Team Finds 'Serious' Lead Levels In Flint

[A team from Virginia Tech](#) tests hundreds of homes for lead in Flint, and says that "preliminary tests show 'serious' levels of lead in city water."

"The levels that we have seen in Flint are some of the worst that I have seen in more than 25 years working in the field," Dr. Marc Edwards, a member of the Virginia Tech team, [tells Michigan Radio](#).

Officials such as MDEQ spokesman Brad Wurfel dismiss the Virginia Tech results. He [tells Michigan Radio](#): "I don't know how they're getting the results they're getting. ... I know that it doesn't match with any of the other surveillance in the area."

In an email to MLive journalist Ron Fonger, Wurfel says:

"It's scientifically probable a research team that specializes in looking for lead in water could have found it in Flint when the city was on its old water supply. We won't know that, because they've only just arrived in town and quickly proven the theory they set out to prove, and while the state appreciates academic participation in this discussion, offering broad, dire public health advice based on some quick testing could be seen as fanning political flames irresponsibly. Residents of Flint concerned about the health of their community don't need more of that."

[In a September interview with NPR](#), Edwards says: "Flint is the only city in America that I'm aware of that does not have a corrosion control plan."

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Sept. 24: Study Finds Elevated Lead Levels In Children

[A study from the local Hurley Medical Center](#) found that 2.1 percent of children age 5 and under had elevated blood lead levels prior to the switch to Flint River water, compared to 4.0 percent after the switch. A spokeswoman for the Michigan Department of Health and Human Services said the elevated lead level results may be a [result of seasonal changes](#), rather than the change in the water source.



Registered Nurse Brian Jones draws a blood sample from Grayling Stefek, 5, at the Eisenhower Elementary School in Flint in January. The students were being tested for lead after elevated levels were found in the city's drinking water.

Carlos Osorio/AP

Sept. 25: City Lead Advisory

[Flint issues a lead advisory to residents](#). "While the City is in full compliance with the Federal Safe Drinking Water Act, this information is being shared as part of a public awareness campaign to ensure that everyone takes note that no level of lead is considered safe," it reads.

That same day, Gov. Snyder's chief of staff, Dennis Muchmore, [writes in an email](#) that the MDEQ and Department of Community Health "feel that some in Flint are taking the very sensitive issue of children's exposure to lead and trying to turn it into a political football claiming the departments are underestimating the impacts on the population and particularly trying to shift responsibility to the state."

Oct. 2: Water Filters And Testing

An action plan [released by Snyder](#) says the city and state will provide free filters and water testing for Flint residents, among other things.

Oct. 16: Switch Back To Detroit Water Supply

Flint switches back to the Detroit water supplier, [which is now called the Great Lakes Water Authority](#). The governor's office said in press briefing notes that the Detroit water "will be easier to manage. It comes from a more stable source than the river, it is fully optimized for corrosion control, and it is clear that residents of Flint have more confidence in this water source."

Oct. 18: State Regulator Cites Confusion About Federal Protocol

[In an email to a Detroit News reporter](#), MDEQ Director Dan Wyant discusses why there were no corrosion controls in place when the city started using Flint River water. He seems to chalk up the lack of corrosion controls to a misunderstanding:

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"What has become clear in recent weeks is that the staff believed they were handling the situation in accordance with the proper protocol for a water provider using a new source, but the federal Lead and Copper rule has a particular provision for communities over 50,000 people; that the system operator must continue treating with full corrosion control even as they test the water.

"What the staff did would have been the proper protocol for a community under 50,000 people. None of the DEQ staff in this division had ever worked on a water source switch for a community over 50,000 people — it's uncommon for big communities to switch sources.

"It's increasingly clear there was confusion here, but it also is increasingly that DEQ staff believed they were using the proper federal protocol here and they were not."

Wyant adds that lime had been added to the water but provided "insufficient corrosion control."

[A December email](#) from Snyder's communications director, Meegan Holland, also said that Flint never tested the impact of the Flint River water on the distribution system.

Dec. 14: Mayor Declares State Of Emergency

Flint Mayor Karen Weaver declares a state of emergency over the elevated lead levels in the city's water. "I am requesting that all things be done necessary to address this state of emergency declaration, effective immediately," [Weaver tells the City Council, according to MLive.](#)

Weaver, who vowed to fix the water crisis, beat out incumbent Dayne Walling in an election the previous month.



Flint Mayor Karen Weaver speaks at a press conference in March.
Geoff Robins/AFP/Getty Images

Dec. 29: State Regulation Officials Resign

MDEQ Director Dan Wyant and spokesperson Brad Wurfel resign, [MLive reports.](#) This comes a day after the Flint Water Advisory Task Force, created by the governor, releases a preliminary report on the crisis and concludes that primary responsibility rests with the MDEQ.

The report says that in the agency's interactions with the public about their concerns, its response "was often one of aggressive dismissal, belittlement, and attempts to discredit these efforts and the individuals involved."

Jan. 2016: Snyder and Obama Declare State Of Emergency

Michigan Gov. Rick Snyder [declares a state of emergency](#) in Genesee County due to the lead in Flint's drinking water.

President Obama declared a state of emergency less than two weeks later. The move "means FEMA is authorized to provide equipment and resources to the people affected. Federal funding will help cover the cost of providing water, water filters and other items," [as we reported](#).

Jan. 21: EPA Issues Emergency Order

The EPA issues an emergency order to take action on the Flint water crisis. "EPA has determined that the City of Flint's and the State of Michigan's responses to the drinking water crisis in Flint have been inadequate and that these failures continue," [the emergency order reads](#).

Feb 3: Testimony From Flint Officials And Experts

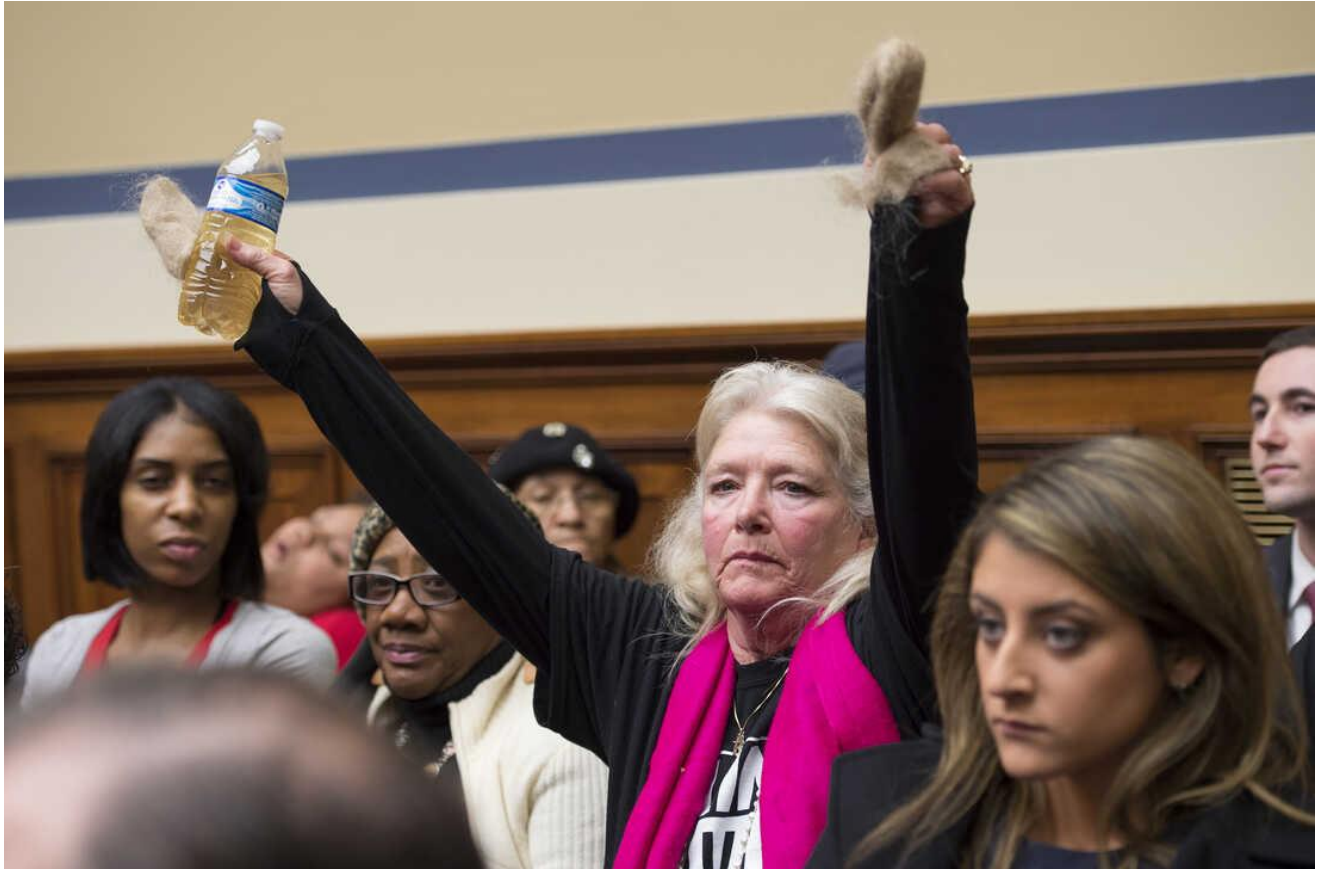
The House Committee on Oversight and Government Reform [hears testimony from several Flint officials and experts](#).

But much attention has focused on who *wasn't* testifying at the hearing: Gov. Snyder and city emergency managers who presided over the change in Flint's water supply.

Feb. 17: Gov. Snyder Testifies

Snyder, along with EPA Administrator Gina McCarthy, testifies before the House Committee on Oversight and Government Reform.

"Let me be blunt," the governor says in his opening statement. "This was a failure of government at all levels. Local, state and federal officials — we all failed the families of Flint."



Flint resident Glaydes Williamson holds up a bottle of water from the city and hair pulled from her drain during a House Oversight and Government Reform Committee hearing in Washington, D.C., in February.

Molly Riley/AP

March 21: 'Next Steps' For Flint

Snyder [outlines state agencies' goals](#) in addressing the Flint crisis.

The action plan includes providing professional support for children under 6 with elevated lead levels, replacing water fixtures in public facilities, replacing the city's 8,000 lead service lines, and increasing resources for schools.

March 23: Independent Probe Pins Blame On State Officials

Supporting its preliminary conclusion, the task force charged with investigating the causes of the Flint water crisis [says in its final report that the MDEQ bears primary responsibility](#).

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Task force member Chris Kolb tells reporters:

"From a regulatory standpoint, to a protection of human health and the environment standpoint, they missed the boat completely. And it is extremely troublesome to me that an agency whose primary role, once again, is to protect human health and the

environment came to these decisions, and they never backed off these decisions, no matter how many red flags they saw."

Others are also to blame, the report says, including the state's Department of Health and Human Services, the city's emergency managers and the governor.

April 12: Researchers Say Flint's Water Is Still Unsafe

Despite improved lead levels in Flint's water, it remains unsafe to drink without a filter, according to results [released from Virginia Tech researchers](#). (Though Gov. Snyder later [pledged to drink filtered Flint water](#) for 30 days.)

That's partially because residents have been using very little of the tainted water. [As the Two-Way has reported](#), "in an unfortunate cycle, the water additives that would 're-scale' corroded pipes in the water system, thereby preventing lead from leaching into the water, are not reaching the pipes because people in Flint don't want to pay for contaminated water that they can't use."

[MLive reports](#) that in December, Flint began adding phosphates to the water that would "rebuild the protective coating inside transmission lines."

April 20: Criminal Charges Filed Against 3 Officials

Michigan's attorney general, Bill Schuette, announces that three people will face charges — the first criminal charges leveled against officials over the lead crisis.

Stephen Busch and Michael Prysby are state officials at the MDEQ. City employee Michael Glasgow is Flint's water quality supervisor. As [the Two-Way reported](#), the three "face felony charges including misconduct, neglect of duty and conspiracy to tamper with evidence. They've also been charged with violating Michigan's Safe Drinking Water Act."

June 22: Lawsuit Filed Against 2 Corporations

Schuette announced that his office is suing two companies involved in Flint's crisis, and he says the damages could reach hundreds of millions of dollars.

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Veolia, a French company, was hired by the city as a water-quality consultant in 2015. Texas-based firm Lockwood, Andrews & Newnam was originally hired in 2011 and helped to operate the water treatment plant using the Flint River. The civil lawsuit accuses both firms of negligence and public nuisance, and also accused Veolia of fraud.

"In Flint, Veolia and LAN were hired to do a job and failed miserably," Schuette told reporters at a news conference. "They failed miserably in their job — basically botched it, didn't stop the water in Flint from being poisoned. They made it worse, that's what they did."

July 29: Criminal Charges Filed Against 6 Officials

Schuette [announced criminal charges](#) against six more current and former state employees, bringing the total number of people charged to nine.

Liane Shekter-Smith is the former director of the drinking water and municipal assistance office within the MDEQ. She and two subordinates, Adam Rosenthal and Patrick Cook, allegedly misled officials about Flint's water treatment plant, which was not in compliance with lead and copper rules.

The other three people charged are current or former employees of the Michigan Department of Health and Human Services. The director of the child health unit, Nancy Peeler, her subordinate, Robert Scott, and a state epidemiologist Corinne Miller allegedly failed to release a report that showed unsafe lead levels in the blood of Flint children.

All six are charged with misconduct in office, conspiracy, and willful neglect of duty. Rosenthal is also charged with tampering with evidence, for allegedly requesting water tests that did not show elevated lead.