

Term Project: Water Problem in Flint, MI

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Summary of Flint, MI Water Crisis

Flint Michigan was once a booming City with around 200,000 residents in its heyday. During this time there was an abundance of local industrial jobs one being General Motors. However, the Flint River became polluted due to several factories disposing of their waste into the river. Later companies started to close, causing the population and economy to decline. To save money, the city switched water sources in 2014 from Detroit Water and Sewage Department, (DWSD), to the Flint River, leading to an unclean, untreated, and corrosive water supply. The corrosive water made lead leach out into thousands of homes, causing many health impacts, such as rashes or even death due to bacteria in the water that caused some residents to contract Legionnaires disease. Key city officials maintained that the water was safe even though they didn't do anything to treat the water. Funding helped the Flint residence get through the 18 months of undrinkable water, because water bottles were given out, and some in-home treatments. Nine people deemed responsible for this injustice were criminally charged with conspiracy, misconduct in office, neglect of duty, involuntary manslaughter and tampering with evidence. As of February 2019, after \$400 million in rebuilding costs, the water was finally safe to drink again.



Figure 1 – Factories polluting the rivers.

History leading up to the Flint, MI Crisis

From 1900 to 1930 Flint Michigan's Population increased 1000% from 13,000 to 156,000, later peaking at around 200,000 in 1960. During the 1960's, industry was rapidly expanding in Flint, MI, which is known as the birthplace of General Motors. In the next century of Industrialization, raw sewage, urban runoff, toxins from landfills, and many more pollutants were disposed of into the Flint River. The pollution was so bad that the river was rumored to have caught fire twice.³ In the 1980s companies struggled due to such things as rising gas prices and laid off many workers. Since then, the population in Flint has dropped to around 100,000 residents, most of which are African Americans, with half living under the poverty line.



Figure 2 – Map of Flint, MI, and the surroundings



Figure 3 – Flint, MI's water treatment plant

Switching to the bacteria/corrosive Flint River

Flint, MI proposed a plan to build a new pipeline which would connect to the Karegnondi Water Authority (KWA), this would save the city \$200 million over 25 years. A press release stated it would be a temporary switch, and not to worry about water quality because there have been many tests conducted, Michael Prysby at the Michigan DEQ Office verified this. Both were lies because shortly after, on April 25, 2014, Flint's water switched from Detroit's water and Sewage systems (DWSD) to the long-time polluted Flint River. The city took a very relaxed approach and instead of testing and treating the water they did nothing which caused;

- pipes to corrode which caused lead to be released into the drinking water.
- E. coli and Total Coliform Bacteria were in the water
- Total trihalomethanes (TTHM) levels violated Safe drinking water act (SDWA)
- Immediately complaints started to pour in about discolored water, malodorous smell, and 70% harder water



Figure 4 – Flint, MI's water vs Detroit's water

Lead tests in Flint, MI

- On Feb. 25 the first water test by the city was taken at Lee Anne Walters' house, and showed 104 ppb, almost seven times the EPA's limit for lead, shortly after Lee's child was diagnosed with lead poisoning. In September, a test found that 4% of children 5 and under had higher lead levels.
- Research done by Virginia Tech in April showed lead levels of 13,200 ppb, which is easily considered hazardous waste. Months later in September after testing hundreds of homes, Dr. Marc Edwards says the lead levels are the worst he has seen in more than 25 years working in the field.³
- The Michigan Department of Environmental Quality, MDEQ, notified the EPA that the water treatment plant was not using corrosion control, however Brad Wurfel from the MDEQ disagreed and called the Lee Walters' house test inaccurate, and later disagreeing with Dr. Marc Edwards research.
- Employees at the MDEQ continued to lie to the public, and even tampered with test results so the water samples would meet federal mandate levels.



Figure 5 – Blood tests for lead at local Elementary

Proof of Corrosive watershed



Figure 6 – Corrosion test on two nails

The picture to the right compares Detroit and Flint's water corrosion levels, and how high corrosion causes lead to be released into the water.

Figure 4 to the left compares two nails that were exposed to water for one month each, the top nail was in Detroit water, and the bottom nail was in the Flint River.

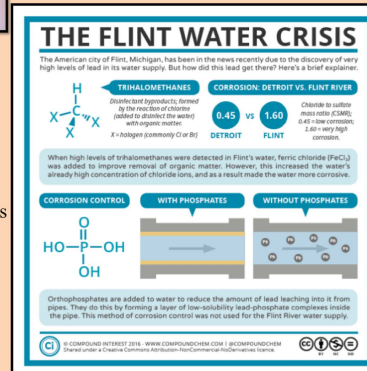


Figure 7 – Effects of high corrosion levels on pipes

Accountability and Reconstruction

- On April 20th, 2016, Stephen Busch and Michael Prysby – Both State officials at MDEQ, and Michael Glasgow – Flint's water quality supervisor, faced felony charges for misconduct, neglect of duty, tampering with evidence, and violating Michigan's Safe Drinking Water Act
- Bill Schuette – Michigan's attorney general, sued Veolia and LAN, two corporations hired to be water-quality consultants in 2015 for the city of Flint, for negligence and public nuisance, also accusing Veolia of fraud on June 22
- Just one month later, on July 29, six officials were charged with misconduct, conspiracy, and requesting water samples that didn't show elevated lead. These people were Liana Shekter-Smith, former director for drinking water and municipal assistance office within the MDEQ, along with two subordinates, Adam Rosenthal, and Robert Cook. The others charged were Nancy Peeler – director of child health, and her subordinates, Robert Scott, and Corinne Miller, state epidemiologist, failed to release a report showing unsafe lead levels.
- In the years following, \$400 million was spent on rebuilding nearly every pipeline to Flint resident's homes, and another \$650 million will be paid out to 95,000 Flint residents for the suffering they endured.

References

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