

# H2O Solutions

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## Introduction

One social problem regarding environmental justice is the prevalence of unclean drinking water and the devastating impact it has on low socioeconomic neighborhoods and people of color communities. Access to clean drinking water is directly correlated to factors such as socioeconomic status, race, and ethnicity.<sup>6</sup> Additionally, unclean drinking water has devastating biological and neurological impacts on those who consume the water as well as future generations.<sup>7</sup>

## Research Question

What is the cause and the impact unclean drinking water has on low socioeconomic and people of color communities?

## Methods

- ❖ Each group member focused on a different impact, cause, or solution regarding unclean drinking water.
- ❖ Used a combination of peer-reviewed journal articles, the NRDC website, and reports from News sources.
- ❖ To find journal articles, Google Scholar was used. Common search terms included “unclean drinking water,” “contaminants,” “people of color,” and “low income households.”
- ❖ Similar search terms were used on Google to find relevant News articles.
- ❖ The NRDC, otherwise known as the Natural Resources Defense Council, had resources and articles on their website that were used. These were found using similar search terms on Google.

## Contaminants in Drinking Water

1. **Chlorine treatment by-products**- chemicals used in water disinfection systems which can cause cancer and reproductive issues.
2. **Lead**- leaches into water by the lead plumbing pipes. Causes kidney and heart disease, fertility issues, high blood pressure, seizures, coma, lowers IQ, seizures, and/or death.
3. **Nitrates**- used as a fertilizer at farm factories and travels into the water system. This can cause blue baby syndrome in rare cases, which is a fatal illness preventing oxygen being carried in blood.
4. **Vinyl Chloride**- used to make plastic products such as pipes which could lead to cancer.
5. **Perchlorate**- known to be in rocket fuel and explosives and has been linked to disruption of thyroid hormone production.<sup>4</sup>
6. **Perfluoroalkyl and Polyfluoroalkyl substances (PFAS)**- More regulation has occurred, however it is still located in firefighter foam and has run-off into groundwater. Exposure causes cancer, obesity, thyroid disease and liver damage.<sup>7</sup>

## Causes of Unclean Drinking Water

- ❖ Smaller water utilities, which often serve low socioeconomic communities, have higher levels of arsenic and carcinogenic nitrates and more often struggle with underfunding and aging water systems.<sup>7</sup>
- ❖ There is a high correlation of people of color who live in low socioeconomic communities due to racially discriminatory policies known as “redlining.”
- ❖ Due to redlining, these neighborhoods have a lower number of accessible community resources, higher rates of cancer, and higher rates of mental illness.<sup>2</sup>
- ❖ This is also tied to access to clean drinking water, as it has been stated that low socioeconomic status neighborhoods with a high number of people of color are less likely to have access to clean drinking water.<sup>7</sup>
- ❖ EPA does not regulate all known contaminants that can cause neurological and bodily harm.<sup>4</sup>

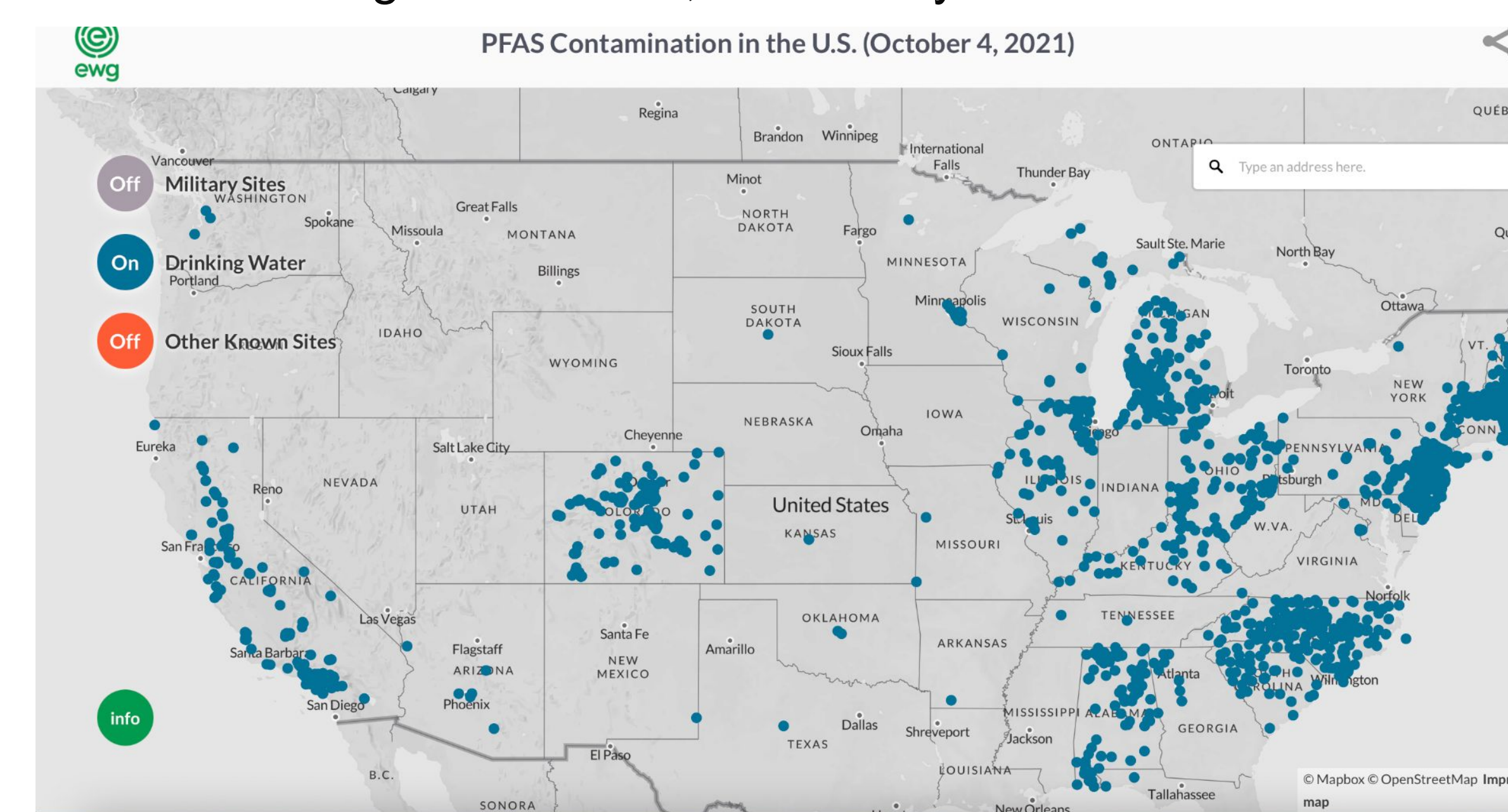
## Results

### Impact of Unclean Drinking Water on People of Color Neighborhoods

- ❖ In people of color neighborhoods, they live longer with drinking water violations compared to other predominantly White and higher socioeconomic status neighborhoods.
- ❖ According to data collected by the EPA, neighborhoods with high concentrations of people of color were 40 percent more likely to have water systems that consistently violated the national water laws.<sup>7</sup>

### Impact of Unclean Drinking Water on Low Income Households

- ❖ The Environmental Working Group's Tap Water Database noticed that when comparing communities with higher socioeconomic status, low socioeconomic communities had poorer quality water with higher amounts of toxic contaminants.
- ❖ The long-term effects of drinking unclean water include cancer, gastrointestinal disease, nervous system damage and issues, and fertility issues.<sup>7</sup>



The map above<sup>1</sup> demonstrates the different states with per-and polyfluoroalkyl substances (PFAS) contamination in the United States. PFAS can be defined as a “...family of potentially thousands of synthetic chemicals that are extremely persistent in the environment and in our bodies.”<sup>3</sup>

## Connection to Social Work

### How Have Social Workers Helped?

- ❖ The NASW Michigan Chapter has created its own task force to brainstorm and implement more long-term solutions for clean drinking water in Flint, Michigan.
- ❖ Social workers provided crisis interventions for residents affected in Flint, Michigan.
- ❖ Social workers located community resources and services for residents in Flint, Michigan who were most high-risk.<sup>5</sup>

### What Else Can Social Workers Do to Continue Advocating for Clean Drinking Water?

- ❖ Advocate for water policies that discuss holding water companies accountable and increasing enforcement policies.<sup>7</sup>
- ❖ Lobby and advocate for increased funding to water infrastructures that directly impact people of color neighborhoods.
- ❖ Advocate for the Clean Water Act and Safe Drinking Water law to expand and update their list of chemical and contaminants that must be regulated.
- ❖ Advocate for the prevention of water contamination caused by the industrial and agribusiness systems.<sup>6</sup>

## Conclusion

Unclean drinking water has negatively impacted neighborhoods and communities across the United States. Two demographics that are especially vulnerable include low income households and neighborhoods with high concentrations of people of color.<sup>7</sup> Although social workers have begun to assist these communities and advocate for clean drinking, there is more macro level work to be completed to make considerable reform to this social issue.<sup>6</sup>

### Reference QR Code

