



Seidenberg School of Computer
Science and Information Systems

Center for Technology, Policy, and the Environment

**Response to National Primary Drinking Water Regulations:
Consumer Confidence Report Rule Revisions**

Docket ID: EPA-HQ-OW-2022-0260

Regulation Identifier Number (RIN): 2040-AG14

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Summary

The stated goals of the U.S. Environmental Protection Agency's revisions to the Consumer Confidence Report Rule (CCR) are:

- improve public health protection;
- improve "right-to-know" provisions;
- assure that customers of community water systems can make informed decisions about their health and the health of their families.

The rule revisions fail to accomplish these goals. If adopted as proposed, they will: continue substantial delays in the communication of vital water quality information to customers; run afoul of traditional "right-to-know" legal principles; prevent meaningful, informed decision-making by consumers; and promote confusion about right to know guarantees that are already assured by federal and state freedom of information laws.

CCR rules should strictly apply "right to know."

Assuring water consumers' "right to know" is essential for the protection of human health. It can be achieved only through methods that guarantee the delivery of information to consumers in the shortest amount of time possible.

This lesson has been learned time and again throughout U.S. history, often at the cost of human lives and health. Actions taken in response to those threats have included: product labeling, food ingredient listings, workplace hazard advisories, tobacco warnings, storm warning systems, toxic waste site locations, NPDES discharge locations, and more. Such measures for the protection of human health and safety have been long memorialized in labor, occupational, food and drug, health, environmental, and freedom of information laws, dating to the U.S. poison labeling laws of last century.¹ It is overdue that they be applied to drinking water.

UNESCO elaborates on the importance of such fundamental protections in its report, “Right to Know”:

Timely access to information empowers people by allowing them to participate in an informed way in decisions that affect them, while also holding governments and others accountable. It enables individuals to learn about their rights and so exercise them and act against their infringement.ⁱⁱ

The Clinton Administration seemed to make a stride in that direction with its 1996 announcement regarding its revisions to the Safe Drinking Water Act, though key elements were ultimately not implemented. The administration’s announcement delineated in part:

Giving the American people the right to know about tap water contaminants: The Clinton Administration proposed improvements in consumer information about local tap water in 1995. The Administration actively supported strong requirements now in the new law that will make more information public than ever before, giving Americans access to direct, simple information--sent directly to their homes in water utility bills--about local water quality, contaminants, water sources, and whether the water poses a risk to health.ⁱⁱⁱ

In 2008, Veronica Blette, program manager of EPA’s WaterSense Branch, took the 1996 goals a step further, writing, “EPA is guided by the basic premise that consumers have a right to know what is in their drinking water . . . *before they turn on the tap.*” (emphasis added)^{iv}

But EPA retreated from both the 1996 and 2008 declarations, instead falling back on a 1970’s approach to information delivery that impedes speedy communication of water quality data and contamination emergencies – under the current rules allowing up to 18 months’ delay in reporting annual water quality to customers, and, in the event of a water contamination emergency, encouraging the use of news releases, radio announcements, posters, and telephone trees, rather than electronic alerts.^v

The CCR revisions barely advance right to know or consumer protection. They do not require the use of commonplace electronic means of communication, such as messaging, email, and cellular systems and devices. Instead, the rule will only “encourage” their use, despite two decades of automated and immediate alert systems that have been in place for purposes ranging from severe storm alerts to Amber Alert.^{vi} Pace University’s electronic emergency alert system is already 12 years old, and its website provides an archive of five years’ water quality reports, as well as detailed explanations and an animated map of water sources.

EPA should establish a national water quality reporting system that will provide information to consumers in a timely manner.

Regarding Revision 2, “Update delivery timing and methods to require community water systems that serve 10,000 or more persons to provide reports biannually.” Simply put, under this new rule a consumer’s access to water quality data will be delayed more than one year after they have consumed their water. In practical terms, compared to the existing rule, biannual is a distinction without a difference.

As described in the CCR Factsheet, biannual report #1 and report #2 would “[summarize] information about the quality of drinking water for January through December of the previous year.”^{vii} Like the current annual reporting, the biannual system does not substantially improve on current annual reporting because both schemes provide consumers with data from the previous year. Without current and regular water quality information, it is simply impossible for consumers to make informed decisions about their health regarding potential threats they may have already been consuming regularly.

The prevalence of waterborne illnesses in the U.S. points up the need for immediate notifications. CDC estimates that 7.15 million people in the United States contract illnesses from contaminated drinking water each year.^{viii} A more comprehensive study by Dr. Kelly Reynolds of the University of Arizona estimated the number of illnesses due to pathogenic contamination of drinking water to be 19.5 million annually, or an average of 53,000 illnesses daily.^{ix} While at the University of Illinois, EPA epidemiologist Stephanie DeFlorio-Barker and her team reported that 90 million illnesses were caused by recreational waters, many of which are also drinking water sources.^x

EPA must change the thinking that is common to the agency, the public and community water systems that real-time knowledge and information need not apply to drinking water. The National Institute of Health defines food poisoning (foodborne illness) as “an infection or irritation of your digestive tract that spreads through food or drinks. Viruses, bacteria, and parasites cause most food poisoning. Harmful chemicals may also cause food poisoning.”^{xi} Waterborne illnesses should be treated in a similar effect and severity. Like food poisoning, pathogenically contaminated water can spread disease rapidly and cause illness quickly, as illustrated by the incidence of cryptosporidium poisoning in Milwaukee in 1993 that sickened 403,000 people, and killed 69.^{xii} Just as the U.S. Food and Drug Administration requires ingredient labels on food products,^{xiii} EPA should require regular advanced access to water quality data to assure the public is protected from potential health and safety threats.

But the financial and technical burden of advanced water quality reporting should not fall on community water systems, water districts, municipalities, or states. EPA should move to create a national water quality reporting system, in which community water systems can participate. Meanwhile, we recommend a phase-in of monthly reporting, leading to a permanent reporting system that is automatically updated as data are acquired.

EPA should establish a national water alert system for drinking water emergencies.

Regarding Revision 2, “Update delivery timing,” EPA’s plans to enhance risk communication. In addition to the creation of a national water quality reporting system, we recommend the creation of a federal water alert system that will allow immediate outreach to an affected community in the event of a contamination emergency.

Incidents of drinking water contamination that are reported via “old school” methods, such as news releases, postal mail, and radio announcements, unnecessarily prolong health threats to water consumers. The examples are abundant. U.S. Navy personnel in Pearl Harbor, Hawaii

suffered stomach pain, vomiting and diarrhea before they were told of laboratory analyses that found gasoline and diesel products in their water. In response to toxic PFAS and PFOS in Newburgh, NY and Hoosick Falls, NY long-term health monitoring programs had to be created for affected consumers. Across that east to west span of the United States scores of other incidents have endangered community water systems. In each instance, frightened water consumers ask why they were not alerted to the dangers immediately.

Even routine notifications allowed by current rules, and which could be used under the proposed rules, are a danger to consumers. An example is demonstrated by a letter (included at the conclusion of the comments) from the Town of Carmel Engineer to a resident who receives water from the Mahopac Hills Public Water System. The letter, an alert about a PFOA maximum contaminant level exceedance of 10 ppt, is dated January 13, 2023, but arrived at the consumer's residence on January 20, 2023. Assuming a week of sampling, analysis, and quality control, it is likely the residents had already consumed the water for two weeks before being alerted to the danger. Further, the notice was inaccurate, stating, "exposure from drinking water and food preparation is well below PFOA/PFOS exposures associated with health effects."

To enable water consumers to minimize their exposure to dangerous contaminants immediate notification must be required in the event of a water contamination emergency. To accomplish this, EPA should establish a national water alert system, using the Amber Alert communications network as a model.^{xiv} The Federal Protect Act codified Amber Alert and established a National Amber Alert Coordinator who works with the U.S. Department of Justice, the U.S. Department of Transportation, the National Center for Missing and Exploited Children, broadcasters, and law enforcement officers for national advisory. Similarly, EPA should lead a federal initiative to establish a water alert system in partnership with federal, state, and local agencies, to meet the diverse needs of community water systems, and assure technological compatibility across systems.

Community water systems should be instructed to create a voluntary registration for mobile alerts, and EPA should seek funding to provide local technological assistance.

Regarding Revision 2: "allow electronic delivery methods consistent with the 'Safe Drinking Water Act–Consumer Confidence Report Rule Delivery Options' issued by the EPA on January 3, 2013." EPA should establish a one-year phase-in of a rule that requires community water systems to create a voluntary registry for the collection of electronic communication information from their water consumers. In furtherance of the recommendations above regarding a national alert system, and to streamline and accelerate notifications in the event of a contamination emergency, community water systems can begin the collection of digital addresses from their consumers – e.g., email, cellular numbers, and preferred messaging. EPA should seek funding from Congress to assist community water systems that lack the financial or technical resources to accomplish this.

EPA must face the inevitability of this and the preceding recommendation. Current methods are insufficient because of their lack of reach, and delay of receipt. It is not credible, in a world accustomed to immediate notifications ranging from pollen alerts to severe weather alerts, that

EPA would do anything other than begin preparation for a nationwide electronic alert system for the protection of water consumers.

This is neither new science nor technology. For example, Pace University established an electronic emergency alert system 12 years ago. It reaches more than 18,000 users, including students, employees, staff, and other individuals such as parents and contract employees. It sends immediate alerts regarding any campus emergency, using email, text, and automated calling to mobile and home numbers. The system protects the university community and, after its upfront costs, has been routine to operate and maintain. In fact, its automated operation has made it a money and time saver.

Consumer Confidence Reports should be explicit about water sources, delivery infrastructure, and laboratory testing.

Regarding Revision 1, “increase the readability, clarity, and understandability of the information presented in consumer confidence reports.” We agree and recommend doing so by requiring CCRs to be more explicit in their description of drinking water sources, delivery infrastructure, and laboratory testing. Our random review of CCRs revealed the use of boilerplate language and descriptions that are not specific to the reporting water system.

Here is an example of generic language that is often repeated in CCRs, whether or not the particulars are relevant to the community water system:

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities.

From the outset, a CCR should describe its water source(s) with specific locations, and landmarks familiar to the consumer. It should describe the geolocation of the water facility, and the infrastructure that delivers water throughout the community. If a community water system has mapped and dated its infrastructure, that information should be included as well.

Pace University has developed a website that allows anyone to access the annual water quality reports since 2017, including the requirements for reports are, how to read the report, and a summary of each year’s compliance with the water quality regulations. The website also provides descriptions of key contaminants, how they are tested, and their effect on health. Additionally, legal regulations and resources used to monitor water quality are explained in the website to inform consumers, with links to key EPA documents. In addition, the website includes an animated map to visualize the path our drinking water travels. Students in our Blue CoLab program created the site.^{xv}

The proposed CCR rules should acknowledge the applicability of freedom of information laws and create a water quality reporting template for community water systems to follow when responding.

States, and many municipalities, have freedom of information laws that guarantee access to public information. The provisions of those FOI laws resemble that of our home state of New York^{xvi} and should be interpreted to require access on demand to water quality data generated by a community water system.

However, because the CCR rule revisions will continue to allow significant delays in public reporting of drinking water quality – 12 months for the previous January data on the December semi-annual reporting deadline – it fosters confusion about the public’s right of access to that information.

By example, our FOIL requests for recent data from community water systems yielded contradictory results – though both proved the same point about EPA’s troublesome interpretation of right to know. Two examples: the City of Lockport, NY responded to our November 2022 FOIL request with its most recent laboratory testing, while the Town of Scarsdale, NY denied our request until May 2023 when it will have compiled the previous year’s data for its Annual Water Quality Report (New York’s version of a CCR).

These cases undermine “right to know” as described in the CCR. Lockport was able to comply with our request immediately with water data via email attachment, which begs the question why an EPA rule makes a customer wait until the following year for the same information. Scarsdale denied the request, thereby outright denying the accepted definition of public right to know. Apparently Scarsdale is operating under the misapprehension that the CCR rules take precedent over the New York State Freedom of Information Law.

Information is not trapped in paperwork and file cabinets any longer. In contemporary practice, certified laboratories catalogue water testing results digitally and immediately, which means those data are also accessible digitally -- as confirmed by the response from Lockport, and our recent meeting with a regional water testing and consulting firm. The ready availability of data, taken together with existing guarantees for public information access, demand that EPA generate a template for proper and clear reporting by community water systems in response to freedom of information requests, and acknowledge that legal route and opportunity in the CCR.

Further, the CCR rule revision should make clear that all state reporting to EPA under the CCR provisions must be provided to the public in response to a Federal Freedom of Information Act request.^{xvii}

Beyond CCR rulemaking.

Though not of immediate relevance to the proposed rule revision, we are taking this opportunity to bring EPA’s attention to additional recommendations that go beyond Consumer Confidence Reports, and in some cases EPA’s own authority. We are presenting them here in listed form only, and welcome a discussion with EPA at a future date:

- A “best available technology” goal should be established for real-time water monitoring in the Safe Drinking Water Act, as was established for industrial discharge treatment in the Clean Water Act.
- Right-to-know water quality should be statutorily established as a formal U.S. policy.
- Automated health warnings to water consumers should be required statutorily.
- Congress should establish a research and development fund to innovate real-time detection technologies.
- Congress should implement business incentives to foster innovations by the real-time water monitoring industry.
- EPA should convene a national meeting of health and technology experts to identify innovation priorities in detection, information, and notification innovations for the next decade.

Attachments continue on following pages:

- Letter to Mahopac resident warning of PFOA and PFOS exceedances in drinking water, dated January 13, 2013, received by the resident on January 20, 2013.
- Excerpts from Pace University website regarding its NYS Annual Water Quality Reports (CCRs).

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Town Engineer



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Office of the Town Engineer
60 McAlpin Avenue
Mahopac, New York 10541

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

PFOA MCL Exceedance at CWD 9 – Mahopac Hills

Why are you receiving this notice/information?

You are receiving this notice because testing of our public water system found the chemical perfluorooctanoic acid (PFOA)/perfluorooctanesulfonic acid (PFOS) in your drinking water at 10.9 ppt and 14.2 ppt respectively. A resample was collected and found PFOA at 12.2 ppt and PFOS at 13.9 ppt. The results are above New York State's maximum contaminant level (MCL) of 10 ppt for PFOA in public drinking water systems. Per the New York State Department of Health (NYSDOH) consuming drinking water with a PFOA at or somewhat above the MCL does not pose a significant health risk and your water continues to be acceptable for all uses.

The Town of Carmel has contracted a consultant who is in the process of assessing additional studies to reduce levels below the MCL. In the interim, the Town will continue to monitor these compounds on a quarterly basis. The Town will continue to keep the Putnam County Department of Health apprised of the study and sampling results.

What are the health effects of PFOA/PFOS?

The available information on the health effects associated with PFOA/PFOS, like many chemicals, comes from studies of high-level exposure in animals or humans. Less is known about the chances of health effects occurring from lower levels of exposure, such as those that might occur in drinking water. As a result, finding lower levels of chemicals in drinking water prompts water suppliers and regulators to take precautions that include notifying consumers and steps to reduce exposure.

PFOA/PFOS has caused a wide range of health effects when studied in animals that were exposed to high levels. Additional studies of high-level exposures of PFOA/PFOS in people provide evidence that some of the health effects seen in animals may also occur in humans. The most consistent findings in animals were effects on the liver and immune system and impaired fetal growth and development. The United States Environmental Protection Agency considers PFOA/PFOS as having suggestive evidence for causing cancer based on studies of animals exposed to high levels of this chemical over their entire lifetimes.

Per the NYS DOH at the level of PFOA/PFOS detected in your water, exposure from drinking water and food preparation is well below PFOA/PFOS exposures associated with health effects.

What is New York State doing about PFOA/PFOS in public drinking water?

The NYS DOH has adopted a drinking water regulation that requires all public water systems to test for PFOA/PFOS. If found above the MCL of 10 ppt, the water supplier must take steps to lower the level to meet the standard. Exceedances of the MCL signal that steps should be taken by the water system to reduce contaminant levels.

Tel: (845) 628-1500 Fax: (845) 628-7085 email rjf@cti.carmel.ny.us

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January 13, 2023

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IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
PFOA MCL Exceedance at CWD 9 Mahopac Hills

What is being done to meet the MCL?

The Town of Carmel has contracted a consultant who is in the process of assessing additional studies to reduce levels below the MCL. In the interim, the Town will continue to monitor these compounds on a quarterly basis. The Town will continue to keep the Putnam County Department of Health apprised of the study and sampling results.

Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation due to exceedance of an MCL. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible.

Where can I get more information?

For more information, please contact the NYSDOH at 518-402-9759. You may also contact Richard Franzetti, PE, Town Engineer at (845)-628-1500 extension 181. Putnam County Department of Health at (845) 808-1390.

If you have additional questions about these contaminants and your health, contact the NYSDOH or talk to your health care provider who is most familiar with your health history and can provide advice and assistance about understanding how drinking water may affect your personal health.

NYSDOH Resources:

https://www.health.ny.gov/environmental/water/drinking/emerging_pfas_publicwater.htm

https://www.health.ny.gov/environmental/chemicals/chemicals_and_health/

<https://www.health.ny.gov/environmental/water/drinking/pfasinprivatewells.htm>

Public Water System ID# 3903648

Date: January 13, 2023

Excerpt #1 from Pace University Pleasantville campus drinking water website

Pace Pleasantville Drinking Water

by Joseph Turner, Vincent Ret, Leanna Machado and Kenji Okura

Learn about your campus drinking water, its origins, its quality and the law.

Below is a guide to campus drinking water, beginning with a description of its sources, and the applicable drinking water rules, followed by an easy to navigate table with an animated map, and information about water quality and water testing. Answers to commonly asked questions can be found in the **"FAQ" tab**. For required yearly Water Quality Reports dating back to 2017, click on the **"Annual Reports" tab**. Explanations on example contaminants for which testing is required can be found under the **"Contaminant Info" tab**. For regulations and resources used to monitor water quality, click on the **"EPA Manuals" tab**. See the map below for an animation of the route Pace Pleasantville drinking water travels.



Pace Pleasantville water originates in the Catskill Mountains, from New York City's [Ashokan Reservoir](#) (see image), 91 miles away! The Croton Reservoir in Westchester County is our secondary source. The Catskill water flows down the west side of the Hudson River through deep underground aqueducts, then underneath the river and down the east side to the Town of Mount Pleasant and then the Town of New Castle Water District and to our campus.

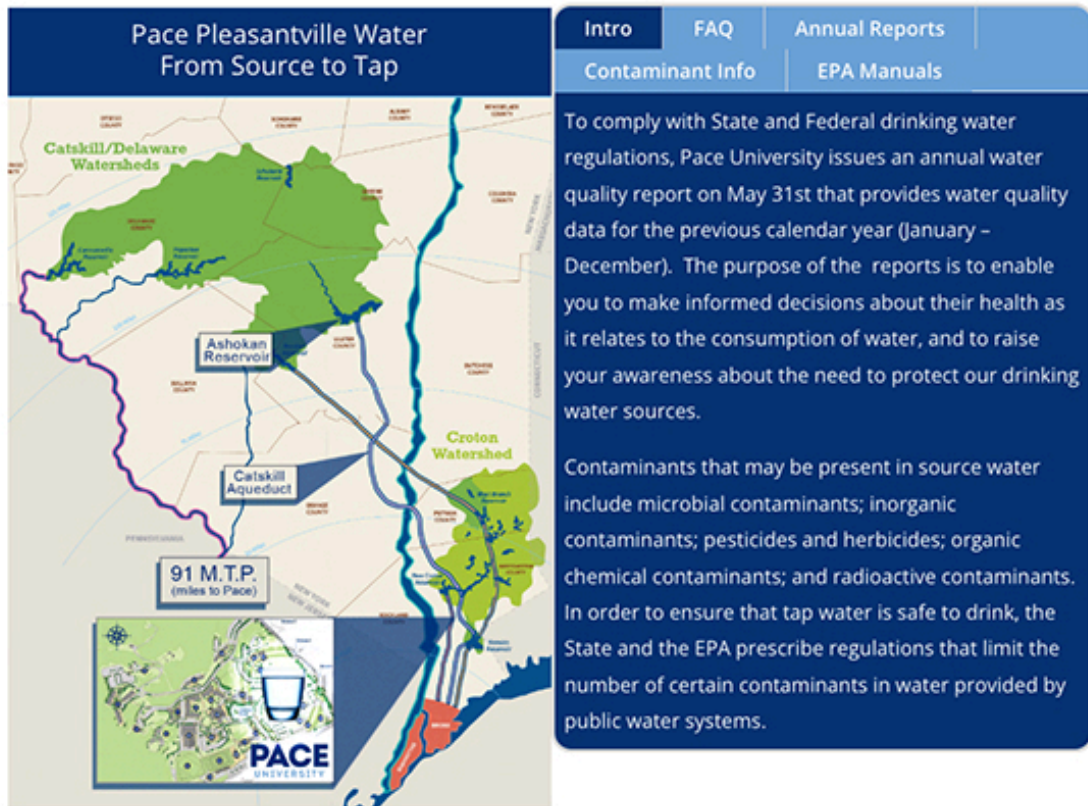
➤ More here about the [NYC reservoir and aqueduct system](#).

Because Pace Pleasantville manages the local collection and distribution of its drinking water we are considered a "community water system" under federal and state law. Pace must therefore comply with governmental testing and reporting requirements.

➤ More here about the [Federal Safe Drinking Water Act](#)

➤ More here about the [New York State Sanitary Code](#).

Excerpt #2 from Pace University Pleasantville campus drinking water website



The screenshot displays the website's navigation menu and a map. The navigation menu includes: Intro, FAQ, Annual Reports, Contaminant Info, and EPA Manuals. The map, titled "Pace Pleasantville Water From Source to Tap", shows the Catskill/Delaware Watersheds, Ashokan Reservoir, Catskill Aqueduct, and Croton Watershed. A callout indicates "91 M.T.P. (miles to Pace)". An inset map shows the Pace University campus with a glass of water and the Pace University logo.

To comply with State and Federal drinking water regulations, Pace University issues an annual water quality report on May 31st that provides water quality data for the previous calendar year (January – December). The purpose of the reports is to enable you to make informed decisions about their health as it relates to the consumption of water, and to raise your awareness about the need to protect our drinking water sources.

Contaminants that may be present in source water include microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations that limit the number of certain contaminants in water provided by public water systems.

ⁱ Federal Caustic Poison Act, 16 C.F.R. § 1500.129

ⁱⁱ <https://uncaccoalition.org/resources/access-to-info/freedom-of-information-the-right-to-know-unesco.pdf>, p. 16

ⁱⁱⁱ <https://www.epa.gov/archive/epa/aboutepa/president-clinton-signs-legislation-ensure-americans-safe-drinking-water.html>

^{iv} Blette, V. (2008). Drinking water public right-to-know requirements in the United States. *Journal of water and health*, 6(S1), 43-51. https://bit.ly/Blette_EPA

^v https://www.epa.gov/sites/default/files/2015-08/documents/effective_risk_and_crisis_communication_during_water_security_emergencies.pdf

- ^{vi} <https://www.findlaw.com/criminal/criminal-charges/amber-alerts.html#:~:text=Law%20enforcement%20must%20have%20reason,vehicle%20to%20issue%20an%20alert.>
- ^{vii} https://www.epa.gov/system/files/documents/2023-04/CCR3_NPRM%20Public%20Factsheet_3.13.23_508.pdf
- ^{viii} <https://www.cdc.gov/healthywater/surveillance/burden/index.html>
- ^{ix} Reynolds KA, Mena KD, Gerba CP. Risk of waterborne illness via drinking water in the United States. *Rev Environ Contam Toxicol.* 2008;192:117-158. doi:10.1007/978-0-387-71724-1_4.
- ^x <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-017-0347-9>
- ^{xi} <https://www.niddk.nih.gov/health-information/digestive-diseases/food-poisoning/definition-facts>
- ^{xii} Gradus, Stephen. Milwaukee, 1993: The Largest Documented Waterborne Disease Outbreak in U.S. History. *Water and Health.* Water Quality and Health Council. 10 Jan 2014. <https://waterandhealth.org/safe-drinking-water/drinking-water/milwaukee-1993-largest-documented-waterborne-disease-outbreak-history/>
- ^{xiii} <https://www.fda.gov/food/food-labeling-nutrition>
- ^{xiv} https://amberalert.ojp.gov/sites/g/files/xyckuh201/files/media/document/protect_act.pdf
- ^{xv} <https://bluecolab.pace.edu/pacewater>
- ^{xvi} <https://opengovernment.ny.gov/system/files/documents/2023/01/foil-law-text-01122023.pdf>
- ^{xvii} <https://www.foia.gov/>