Memorandum: Analysis of the Safe Drinking Water Act (1974)

New York City's Department of Design and Construction

Town+Gown: NYC Water In and Water Out Innovative Water Research Working Group

Madeline Kim

I. Introduction

The Safe Drinking Water Act (SDWA or Act) of 1974 established nationwide standards to maintain safe drinking water supplies for nearly all U.S. public water systems. Like many other federal environmental laws passed during this time, the SDWA aims to address issues that arise from both natural and man-made interferences with the environment. However, the SDWA uniquely focuses on the impact of these issues on human health and serves as a significant safeguard against the proliferation of harmful contaminants in drinking water. Unlike the Clean Water Act (CWA), another federal law that addresses issues regarding pollutants in U.S. waters, the SDWA pertains to drinking water consumed or used by humans.[1] For 51 years, the SDWA sustained the delivery of clean and safe drinking water across the U.S. and established funding and technical assistance programs to support ongoing improvements to water-related infrastructure projects. This memorandum analyzes the SDWA only and includes case studies for Flint, Michigan and New York.

II. Analysis of the SDWA

Background

Historically, the U.S. Public Health Service (PHS) regulated drinking water quality federally as early as 1914.[2] These standards mainly regulated contaminants known to cause contagious disease and only applied to interstate carriers of drinking water.[3] Over time, these standards became the benchmark for managing drinking water quality and were adopted by all 50 states with varying levels of adherence.[4] Nonetheless, the 1960's and 70's saw rising national

[1] For an analysis of the Clean Water Act for Town+Gown, see Nathaly Cota's 2025 memo
[2] The History of Drinking Water Treatment
[3] The History of Drinking Water Treatment
[4] The History of Drinking Water Treatment

interest in environmentalism in response to concerns over environmental harms that followed advances in industrialization and agriculture, and the PHS standards were no longer sufficient to protect drinking water supplies.[5] In 1969, results from a PHS water system survey indicated that "only [60%] of the systems surveyed delivered water that met all [PHS] standards" and many had "major deficiencies" related to drinking water treatment.[6] That same year, the infamous fire on the polluted Cuyahoga River in Ohio exemplified water pollution issues in the U.S. and led to new federal efforts to clean up water systems and abate water pollution.[7] During this period, the Nixon administration established the Environmental Protection Agency (EPA) (1970), which spearheaded water research programs that eventually supported the passage of the CWA in 1972 and SDWA in 1974. Other related environmental laws passed during this time include the Ocean Dumping Act (1972) and Toxic Substances Control Act (1976).

A. The 1974 SDWA

In 1974, Congress, under the Ford administration, enacted the SDWA as an amendment to the Public Health Service Act (PHSA), a federal statute that grants authority to the Secretary of the Department of Health and Human Services to enforce quarantine regulations, develop plans to respond to epidemics or other public health emergencies, and prevent the spread of diseases.[8] When Congress originally adopted the PHSA in 1944, which President Roosevelt approved, the PHSA consolidated the entire body of existing public health laws, the earliest law being a 1798 law pertaining to sailors' health insurance.[9]

[5] The History of Drinking Water Treatment
[6] The History of Drinking Water Treatment
[7] Safe Water Resources Research Milestones, 1960s
[8] Safe Drinking Water Act (1974)
[9] The Public Health Service Act, 1944

The SDWA directly regulates drinking water quality in the U.S. by authorizing the EPA to establish minimum standards to protect public water systems from harmful contaminants, establish treatment programs, finance water infrastructure projects, and enforce the law to ensure compliance.[10] The purpose of the current iteration of the SDWA – to protect U.S. drinking water supplies from contaminants – and the framework used to do so is the same as the original law passed in 1974. However, the SDWA has been significantly amended over the years to aid in administration of the law, with notable amendments occurring in 1986, 1996, 2002, and 2018.

Overall, the SDWA aims to keep drinking water supplies safe through a general framework of regulations or rules (these terms can be used interchangeably) that regulate contaminants that are or may be present in drinking water supplies. The Act also contains additional rules regarding other related aspects of drinking water systems, such as the Lead and Copper Rule,[11] Ground Water Rule,[12] and Surface Water Treatment Rule,[13] or other consumers' right-to-know rules, like the Public Notification Rule.[14]

Regulation of Public Water Systems

The SDWA regulates the delivery of safe drinking water through public water systems. As defined in 42 U.S.C. §300f, a public water system means any system that:

(1) Provides water to the public for human consumption,

(2) Delivers water through pipes or other constructed conveyances, and

[10] Summary of the Safe Drinking Water Act, Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements
[11] Lead and Copper Rule
[12] Groundwater Rule
[13] Surface Water Treatment Rules
[14] Public Notification Rule

(3) Has at least fifteen service connections or regularly serves at least twenty-five individuals.[15]

This definition includes any "collection, treatment, storage, and distribution facilities under control of the [system that are] used primarily in connection with such system, and any collection or pretreatment facilities" that are not under the control of the system but "used primarily in connection with such system."[16] A public water system can be further categorized as a community water system, which "serves at least [fifteen] service connections used by year-round residents of the area served by the system, or regularly serves at least [twenty-five] year-round residents," or a noncommunity water system, which is a public water system that does not meet the definition of a community water system.[17]

The SDWA authorizes the EPA to create national primary drinking water regulations (PDWR) that all public water systems must comply with, with some exceptions.[18] The EPA establishes these regulations in section 141 of Title 40 of the C.F.R.[19] Public water systems that do not need to adhere to PDWR include those that only consists of distribution and storage facilities and do not have any collection and treatment facilities, do not sell water, and are not a carrier that conveys passengers in interstate commerce.[20] Other instances where public water systems may not be required to adhere to PDWR occur when those systems are subject to variances (per 42 U.S.C. § 300g-4) or exemptions (per 42 U.S. § 300g-5).

Under the SDWA, the EPA must promulgate a PDWR for a contaminant if the Administrator determines that:[21]

[15] 42 U.S.C. § 300f
[16] 42 U.S.C. § 300f
[17] See Appendix A for a visual representation of the public water system categories; 42 U.S.C. § 300f
[18] 42 U.S.C. § 300f
[19] 40 C.F.R. Part 141
[20] 42 U.S.C. § 300f
[21] 42 U.S.C. § 300 g-1(a)

(1) The contaminant may have adverse health effects;

(2) The contaminant is present or likely to be present in public water systems at a level that may pose health risks; and

(3) Regulation of the contaminant will reduce health risks for people that receive water from that public water system.

PDWR consist of three elements:[22]

(1) It specifies a contaminant that the Administrator (of the EPA) determined may pose health risks.

(2) It specifies for a contaminant either:

   a. A maximum contaminant level (MCL), or

   b. If the MCL cannot be feasibly determined based on economical or technological limitations, each treatment technique that would reduce the presence of the contaminant to a safe level.

(3) It "contains criteria and procedures to ensure a supply of drinking water dependably complies with such [MCL]," including monitoring and testing procedures, treatment requirements, and system operation and maintenance procedures.[23]

MCL means "the maximum permissible level of a contaminant in water which is delivered to any user of a public water system."[24] MCLs are enforceable, in contrast to a Maximum Contaminant Level Goal (MCLG). A MCLG, which is a non-enforceable public health target that means the level at which "no known or anticipated adverse health effects occur."[25] The EPA determines the MCL that may be present in public drinking water supplies to

[22] 42 U.S.C. § 300 g-1
[23] 42 U.S.C. § 300 g-1
[24] 42 U.S.C. § 300f
[25] 42 U.S.C. § 300g-1(b)(4)

ensure that "no known or anticipated adverse effects on the health of persons occur," allowing for an adequate margin of safety.[26] Currently, PDWR exist for six categories of contaminants: (1) microorganisms; (2) disinfectants; (3) disinfection byproducts; (4) inorganic chemicals; (5) organic chemicals (EPA historically excluded per- and poly-fluoroalkyl substances (PFAS) but now regulate PFAS under this category since 2024); and (6) radionuclides.[27] Currently, over 90 contaminants are regulated under the SDWA, and some notable rules include:[28]

- **Surface Water Treatment Rules**: Requires public water systems to filter and disinfect surface water sources.[29] Some water systems, including the Catskill/Delaware water supply in New York, do not need to filter because their surface water sources "meet criteria for water quality and watershed protection."[30]
- **Lead and Copper Rule**: Requires public water systems to follow an established treatment technique and "monitor drinking water at customer taps," not just prior to distribution, and establishes sampling and reporting procedures.[31]
- **PFAS Rule**: Requires public water systems to monitor for PFAS and establishes funding sources to assist public water systems with improving infrastructure and establishing testing and treatment procedures to ensure compliance.[32]
- **Groundwater Rule**: Requires monitoring procedures for both the public water system and source water and establishes treatment techniques and surveys to protect against fecal contamination.[33]

[26] 42 U.S.C. § 300f(3)
[27] National Primary Drinking Water Regulations
[28] Drinking Water Regulations
[29] Surface Water Treatment Rules
[30] See pg. 20 for more information on New York's Filtration Avoidance Determination; Surface Water Treatment Rules
[31] Lead and Copper Rule
[32] PFAS Rule
[33] Ground Water Rule: A Quick Reference Guide

Additionally, every five years, the EPA must publish a list of unregulated contaminants that are known to occur or may occur in public water systems that may need to be regulated in the future.[34]

Primacy

Like many other federal environmental laws, including the CWA, the SDWA adopts a cooperative federalism model to administer the law. It relies on the EPA for regulation and delegates primary implementation and enforcement authority to the states.[35] Under this model, a state may assume primary enforcement authority per regulation – referred to as "assuming primacy" – through the Public Water System Supervision Program (PWSS) so long as their drinking water program complies to the minimum standards set forth by the EPA.[36] This includes reporting procedures, recording maintenance standards, and enforcement.[37] The PWSS also awards grants to assist states with implementation and enforcement of regulations to ensure they stay compliant with federal regulations.[38]

Per the requirements listed in 40 C.F.R. § 142, the EPA determines primacy by the state's adoption of drinking water regulations (rule by rule or regulation by regulation) that are "no less stringent" than the PDWR; the state's enforcement, inspection, and monitoring procedures; recordkeeping and reporting; and contingency plans in case of emergency.[39] Once states adopt primacy by establishing drinking water programs that contain rules that are no less stringent than SDWA regulations, they must maintain it by adopting any new or revised PDWR by submitting

[34] 42 U.S.C. § 300g-1(b)(1)
[35] 42 U.S.C. § 300g-2
[36] Public Water System Supervision Grant Program
[37] Public Water System Supervision Grant Program
[38] 40 C.F.R. Chapter 1, Subchapter B, Part 35, Subpart A, § 1443(a)
[39] Primary Enforcement Responsibility for Public Water Systems

proposed regulation revisions to the EPA, who can approve or disapprove the proposal.[40] The EPA maintains oversight over public water systems within states that have not assumed primacy.[41] Currently, all states and U.S. territories except for Wyoming, have assumed primacy for the PWSS program on a regulation-by-regulation basis.[42]

Variances and Exemptions

A state with primacy may grant variances to a public water system within its jurisdiction if it cannot meet the requirements of a PDWR, despite its best abilities to do so.[43] The issuance of variances relies on whether a public water system within a state cannot meet a MCL despite using the best available technology due to source water characteristics or if the state can demonstrate that a required treatment technique is unnecessary due to the nature of its water source.[44] A small public water system, generally defined as a system serving less than 10,000 people, might also seek a variance if it could not afford a required treatment technique that would result in compliance.[45]Approved variances must not "result in an unreasonable risk to health," require public hearings before adoption, and are subject to enforcement actions if they are not followed.[46] The EPA retains authority to review and revoke variances.[47]

Additionally, in an exercise of its enforcement authority, a state that has assumed primacy may temporarily "exempt any public water system within [its] jurisdiction" from a PDWR if "compelling factors," including economic factors, prevent it from complying with the regulation

[40] 40 C.F.R. 142.12
[41] 42 U.S.C. § 300g-4; 2019 Analysis of State Drinking Water Programs' Resources and Needs
[42] Wyoming and the District of Columbia currently do not have primacy; Public Water System Supervision Grant Program
[43] 42 U.S.C. § 300g-4
[44] 42 U.S.C. § 300g-4
[45] Small Drinking Water System Variances
[46] 42 U.S.C. § 300g-4
[47] 42 U.S.C. § 300g-4

and exemption would "not result in an unreasonable risk to health."[48] These exemptions must be subject to public hearing prior to its approval and the EPA must be notified of any approved exemptions.[49] The EPA maintains authority to propose "revocations of specific exemptions" or other changes to exemption schedules if it determines that a state, in its efforts to seek an exemption, did not comply with the law.[50]

Compliance and Enforcement

A key feature of the SDWA is the Public Notification Rule. Under this rule, if the EPA determines that a state is not compliant with a PDWR, the EPA must notify the noncompliant state and provide technical assistance to bring it back into compliance.[51] Once a state learns that it is not compliant, or if a state determines noncompliance independently, the state must notify consumers of the public water system in violation of a PDWR and must specify whether the violation is one regarding the MCL, treatment techniques, or testing procedures.[52] The nature of the violation determines the procedure for public notification: (1) minor violations that do not directly impact health may be included in an annual notice; (2) intermediate violations of PDWR related to safety that do not immediately impact health must be reported to consumers within thirty days; and (3) major violations that have the potential to cause harm must be reported to consumers immediately.[53]

Noncompliance with notice rules may result in fines.[54] The EPA retains enforcement power and may take civil action to ensure compliance when a state is determined to be non-

[48] 42 U.S.C. § 300g-5
[49] 42 U.S.C. § 300g-5
[50] 42 U.S.C. § 300g-5
[51] Public Notification Rule
[52] 42 U.S.C. § 300g-3
[53] Public Notification Rule
[54] 42 U.S.C. § 300g-3

compliant with a NPDWR or variance (if it assumed primacy) and the state has not indicated that it will take action to remedy its noncompliance in a timely manner.[55] Prior to any civil action, the EPA must provide a non-compliant state with notice and offer technical assistance.[56] If, after 30 days from the initial notice, the state is still non-compliant, the EPA may issue a public notice.[57] If, after 60 days from the initial notice, the state is still non-compliant, the EPA may proceed with civil action, including injunctions and penalties, particularly if the state fails to submit a plan or has been found to have abused its discretion.[58]

Like many other federal environmental laws,[59] the SDWA also contains a provision that allows citizens to bring forth civil suits against any person or agency allegedly in violation of the SDWA, including the United States or EPA.[60] Prior to filing suit, a citizen (or class of citizens) must provide notice of the violation and may not officially proceed with civil action until 60 days after the official notice.[61] Professor Camille Pannu, Associate Clinical Professor of Law at Columbia Law School, noted that many lawsuits arising from the SDWA pertain to challenges to regulations by water providers, such as local governments, states, or other entities that operate public water systems.[62] Other lawsuits, such as the lawsuit to enforce the SDWA that arose from the water crisis in Flint, Michigan, exist as well, but lawsuits related to direct pollution of water sources usually fall under the CWA. [63]

---

[55] 42 U.S.C. § 300g-2
[56] 42 U.S.C. § 300g-3
[57] 42 U.S.C. § 300g-3
[58] 42 U.S.C. § 300g-3
[59] Including, but not limited to, the CWA (1972) and Clean Air Act (1963); Notices of Intent to Sue the U.S. Environmental Protection Agency
[60] Safe Drinking Water Act: A Summary of the Act and Its Major Requirements; Notices of Intent to Sue the U.S. Environmental Protection Agency
[61] 42 U.S.C. § 300g-3
[62] People Places Planet Podcast: Safe Drinking Water Act, Explained, 24:07, Camille Pannu, Associate Clinical Professor of Law at Columbia Law School
[63] See pg. 15 for Flint case study; People Places Planet Podcast: Safe Drinking Water Act, Explained, 24:07, Camille Pannu, Associate Clinical Professor of Law at Columbia Law School

Underground Sources of Drinking Water

Many public water systems obtain their water from groundwater systems.[64] Since groundwater systems share space with other utility services, such as gas or sewer, the SDWA created the Underground Injection Control (UIC) program to prevent contamination of groundwater drinking systems from injection wells.[65] Injection wells are used to place fluids, including water, wastewater, or other chemicals, in the subsurface.[66] The UIC program outlines minimum requirements for the construction, operation, and closure of injection wells and prohibits any underground injection without a permit.[67] The UIC program applies to all entities, including federal agencies.[68]

Notably, whether groundwater sources function as "a hydrological connection between a discharge [of pollutants] and navigable waters," thus subject to a National Pollutant Discharge Elimination System (NPDES) permit under the CWA, was addressed by the Supreme Court in *County of Maui, Hawaii v. Hawaii Wildlife Fund et al*.[69] In *Maui*, the Court stressed that regulatory authority of groundwater sources remains with the states and found that the many states have adopted programs that sufficiently reduce contamination in their groundwater sources.[70]

[64] Underground Injection Control Regulations
[65] Underground Injection Control Regulations; General Information About Injection Wells
[66] Underground Injection Control Regulations; General Information About Injection Wells
[67] Underground Injection Control Regulations
[68] 42 U.S.C. § 300h
[69] See Barron et al., Post-*Maui* Survey of "More Stringent Than" States
[70] *County of Maui, Hawaii v. Hawaii Wildlife Fund et al*.

Emergency Powers

The EPA may issue emergency orders, take civil actions, or impose penalties for willful noncompliance if it determines that a contaminant presents and imminent and substantial danger to public health and local authorities have failed to act.[71]

Other General Provisions

The SDWA allows the EPA to conduct and fund research on safe drinking water practices. The EPA may research to improve methods for contaminant identification and quality control, underground water contamination from wells, pesticides, and surface disposal; and safe drinking water delivery methods.[72] These reports must be periodically submitted to Congress.[73] The EPA may issue grants to agencies and other institutions and may enter into contracts to research.[74] The EPA may also issue grants to states to assist with the establishment and maintenance of public water supervision programs and to protect underground water sources.[75] Grant eligibility depends on state primacy, program schedules, and total costs.[76]

B. 1986 Amendment

In 1986, Congress and the Reagan administration expanded the EPA's enforcement authority and expectations regarding safe drinking water standards. The 1986 Amendment to the SDWA expanded the authority of the EPA to enforce the SDWA and ensure compliance by authorizing the EPA to issue compliance orders and civil suits as well as "criminal and civil

[71] 42 U.S.C. § 300i; See discussion of Flint on pg. 15
[72] 42 U.S.C. § 300j-1
[73] 42 U.S.C. § 300j-1
[74] 42 U.S.C. § 300j-1
[75] 42 U.S.C. § 300j-2
[76] 42 U.S.C. § 300j-2

penalties for tampering with a public water system."[77] The 1986 Amendment revised many of the provisions of the original law and added new ones, including new disinfection and filtration rules; the establishment of a wellhead protection program; rules related to underground injection wells; and limitations on the use of lead for new public water systems.[78] The 1986 Amendment also sped up the frequency at which the EPA regulated contaminants by requiring the EPA to publish regulations for "83 specified contaminants [within three years of the Amendment] and for 25 additional contaminants every three years thereafter."[79] The EPA faced challenges to meet these new congressional demands and standards, which ultimately led to the 1996 reforms.[80]

C. 1996 Amendment

In 1996, Congress and the Clinton administration responded to the challenges by withdrawing the stricter 1986 Amendment provisions that required the consistent creation of new standards.[81] The 1996 amendment adopted a less stringent approach and granted the EPA with flexibility to produce regulations based on their own analyses and timeline, and also allowed for greater regulatory flexibility for small public water systems. [82] The amendment also amended the Act to include a cost/benefit analysis for all new PDWR – prior to 1996, cost was not considered.[83] Now, the Administrator must set an MCL that "maximizes health risk reduction benefits at a cost justified by the benefits."[84] These amendments continued to expand the EPA's enforcement authority by allowing it to issue administrative orders and fines independently.[85]

[77] Safe Drinking Water Act Amendments of 1986
[78] Safe Drinking Water Act Amendments of 1986
[79] Safe Drinking Water Act: A Summary of the Act and Its Major Requirements
[80] Safe Drinking Water Act: A Summary of the Act and Its Major Requirements
[81] Safe Drinking Water Act Amendments of 1996
[82] Safe Drinking Water Act Amendments of 1996
[83] Safe Drinking Water Act Amendments of 1996
[84] Safe Drinking Water Act Amendments of 1996
[85] Safe Drinking Water Act Amendments of 1996

Importantly, Congress also authorized a Drinking Water State Revolving Loan Fund (DWSRF) program to help states finance infrastructure projects that help them to comply with PDWR.[86] The DWSRF program cannot be used by states to fund their drinking water programs generally.

D. 2002 Amendment

Besides the major reforms brought by the 1986 and 1996 amendments, the 2002 Amendment to the SDWA brought important security-related changes. 2002, the 107th Congress and the Bush administration passed the Public Security and Bioterrorism Preparedness and Response Act in response to the September 11, 2001 attacks in New York. This amendment mandated vulnerability assessments and created emergency response plans, conducted and prepared by the EPA, with the intent to protect water systems against potential bioterrorism.[87]

E. America's Water Infrastructure Act (2018)

In 2018, Congress enacted the America's Water Infrastructure Act (AWIA), which President Trump signed into law, which included significant amendments to the SDWA.[88] The AWIA expanded the EPA's ability to issue grants for drinking water infrastructure projects in small and underserved communities, lead contamination programs, and other programs that aim to improve public health through increased compliance to PDWR.[89] The AWIA also amended the SDWA to make it easier to repay loans by extending the repayment period.[90]

[86] Safe Drinking Water Act Amendments of 1996
[87] A Water Security Handbook: Planning for and Responding to Drinking Water Contamination Threats and Incidents
[88] America's Water Infrastructure Act of 2018
[89] America's Water Infrastructure Act of 2018
[90] America's Water Infrastructure Act of 2018

III. Case Studies

A. Flint, Michigan Water Crisis

The Flint, Michigan water crisis and the ongoing efforts to remedy the situation highlighted the detrimental consequences of repeated SDWA violations. In 2011, Flint faced a $25 million deficit and was under the controversial leadership of an emergency manager.[91] Amidst this backdrop, Flint set out to cut costs by creating its own water pipeline to Lake Huron, ceasing its decades-long relationship with the Detroit Water and Sewage Department (DWSD).[92] Flint began to temporarily pump water from the Flint River to meet the city's water needs until the pipeline was built, but Flint officials failed to properly treat the highly corrosive water resulting in lead contamination of the city's drinkable water supply.[93] Although city and state officials assured residents that the water was safe, the contaminated water "looked, smelled, and tasted foul" and residents reported experiencing harms to their health, including skin conditions and digestive issues.[94] The discrepancy between officials' assurances of water safety and persistent health issues experienced by residents was due to inconsistent and unreliable testing methods, such as "pre-flushing," the practice of running a tap for five minutes and waiting six hours before obtaining a water sample, which "flushes" out the pipes and artificially lowers the amount of lead present in the water.[95]

Ultimately, two events specifically violated the SDWA and significantly exacerbated the water crisis in Flint. First, the Flint water system violated the Lead and Copper Rule requirements when it failed to install corrosion control treatment, and the Michigan Department

[91] Flint Water Crisis: Everything You Need to Know
[92] Flint Water Crisis: Everything You Need to Know
[93] Flint Water Crisis: Everything You Need to Know
[94] Flint Water Crisis: Everything You Need to Know
[95] Flint Water Crisis: Everything You Need to Know

of Environmental Quality (MDEQ), as the primary enforcement agency, failed to take action to enforce compliance.[96] Second, the EPA, which "retains oversight and enforcement authorities to [assure] that states with primacy comply with [SDWA] requirements," failed to actionably respond to the crisis in a timely manner after it was clear that both Flint and the MDEQ violated the Lead and Copper rule and did not remedy the situation.[97]

After nearly two years of visibly contaminated water, conflicting reports on the safety of Flint's drinking water supply, and health issues, "a coalition of local citizens and national groups" petitioned the EPA in 2015 to take emergency action pursuant to § 300i of the SDWA, which authorizes the EPA to take necessary actions to protect the health of residents subject to contaminated public water systems when the EPA receives information that "state and local authorities have not acted" in a timely or appropriate manner.[98] After the EPA failed to intervene in a timely manner, in 2015, residents and groups filed suit in the U.S. District Court for the Eastern District of Michigan against city and state officials, alleging that high levels of lead present in Flint's drinking water supply violated the maximum contaminant level determined by the SDWA.[99] In 2017, the District Court judge approved a $97 million settlement that required the State of Michigan to replace its lead water lines and maintain funding for health programs for vulnerable populations affected by the water crisis.[100] As of 2025, "nearly 11,000 lead pipes" have been replaced.[101]

Beyond the response within Flint and Michigan, broadly, the crisis resulted in changes to the SDWA, such as the 2018 revision of the Lead and Copper Rule, which required all cities,

[96] Management Weaknesses Delayed Response to Flint Water Crisis
[97] Management Weaknesses Delayed Response to Flint Water Crisis
[98] 42 U.S.C. § 300i; Groups Petition EPA for Emergency Response to Flint, MI Drinking Water Contamination
[99] A Fix for Flint: Groups File Federal Lawsuit to Secure Safe Drinking Water in Flint
[100] Judge Approves $97 Million Settlement to Replace Flint's Water Lines
[101] Flint Finishes Lead Pipe Replacement in Historic Milestone

including Flint, to replace all lead water service lines by 2041; the 2018 revision that created "water system advisory councils for all systems serving communities of at least 50,000 people"; and the 2023 passage of Michigan's Filter First laws, which requires "schools and childcare centers to install lead-reducing filters" regardless of whether lead is determined to be present in the water.[102] Federally, the EPA during the Biden Administration issued a rule requiring that public water systems "identify and replace lead pipes within 10 years,"[103] but the rule currently faces legal challenges.[104]

B. New York City

In the 2024 New York City (NYC) Drinking Water Supply and Quality Report, Rohit T. Aggarwala, the NYC Department of Environmental Protection (NYC DEP) Commissioner, claimed that "[NYC] water is the champagne of tap water!"[105] His claim is not completely without merit, as NYC water also placed first in 2018 at the New York State Regional Metro Tap Water Taste Test competition.[106] Regardless of how seriously these claims and accolades may be taken, NYC consistently maintains systems to ensure that the quality of its drinking water remains high.

The New York State Department of Health (NYS DOH) oversees the state's drinking water program, the Drinking Water Protection Program (DWPP), to ensure that public water systems deliver safe water that meets the standards set forth by the EPA.[107] There are nearly

[102] Flint, 10 Years Later
[103] Biden-Harris Administration Issues Final Rule Requiring Replacement of Lead Pipes Within 10 Years, Announces Funding to Provide Clean Water to Schools and Homes
[104] EPA v. American Water Works Association; Providing for congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to "National Primary Drinking Water Regulations for Lead and Copper: Improvements"
[105] New York City Drinking Water Supply and Quality Report 2024
[106] NYC Water Takes First Place in Regional Taste Test
[107] Drinking Water Protection Program

9,000 public water systems in New York,[108] and the state maintains primacy through the DWPP, which operates through partnerships with county health departments, and for NYC, NYC DEP, to ensure the delivery of safe drinking water to people as well as maintain emergency plans.[109] Several interagency collaborations and programs across different governmental levels work to ensure compliance with SDWA rules and maintain the delivery of safe drinking water through public water systems:

- The "Drinking Water Quality Council provides recommendations to NYS DOH on emerging contaminants in drinking water." [110]
- The Source Water Assessment Program, mandated by the SDWA, ensures that proper assessments are conducted for all surface and groundwater sources used for public water systems.[111] The NY "Source Water Assessment Plan was approved by the [EPA] in November 1999."[112] These assessments "provide information on the potential contaminant threats to public drinking water sources."[113]
- The NY Wellhead Protection Program utilizes information from the Source Water Assessment Program to protect "groundwater sources and wellhead areas that supply public drinking water systems from contamination."[114] NY utilizes several agencies and organizations within both the public and private sector to apply existing federal, state, and county programs that protect groundwater.[115]

[108] Drinking Water Program: Facts and Figures
[109] Drinking Water Protection Program
[110] Drinking Water Protection Program
[111] Information Sheet for Consumers Served by Long Island Public Water Systems
[112] Information Sheet for Consumers Served by Long Island Public Water Systems
[113] Information Sheet for Consumers Served by Long Island Public Water Systems
[114] Wellhead Protection Program
[115] Wellhead Protection Program

- The Drinking Water Source Protection Program (DWSP2) is a "locally led, state-supported program" that eligible municipalities may apply for and, upon acceptance, receive assistance with the development and implementation of their own Drinking Water Source Protection Program.[116]

Within NYC, the NYC Water Supply System (NYC WSS) supplies drinking water to nearly half of the population of New York State daily,[117] which includes mostly NYC residents as well as select residents in Westchester, Putnam, Orange, and Ulster counties.[118] NYC receives water from three surface-level watershed ("watershed" means an area of land that drains into a specific body of water[119]) systems via aqueducts.[120] The majority of its water comes from surface water systems with the predominant share coming from the Catskill/Delaware system, but some comes from the Croton system.[121] NYC "also has a permit to operate a groundwater supply in southeast Queens, [but] water from that system has not been delivered to customers in many years."[122]

The SDWA defined the requirements of the Surface Water Treatment Rule (SWTR) in 1989.[123] Since the promulgation of the rule, the Catskill/Delaware system has met the SWTR requirements without the need for filtration, which allows the system to operate under a filtration waiver known as a Filtration Avoidance Determination (FAD). This makes the NYC WSS "the largest unfiltered water supply in the United States."[124] The Catskill/Delaware water supply is still treated to ensure safety: the addition of chlorine and use of ultraviolet light (UV) disinfects;

[116] Drinking Water Source Protection Program (DWSP2)
[117] New York City Watershed Program
[118] Water Supply
[119] Water Bodies
[120] New York City Watershed Program
[121] Water Supply
[122] New York City Drinking Water Supply and Quality Report 2024
[123] New York City Filtration Avoidance Determination
[124] New York City Watershed Program

phosphoric acid prevents metal in pipes from leaching into the water; sodium hydroxide provides corrosion control; and fluoride is added for dental benefits.[125] It is also critical to note that potential changes to the Catskill/Delaware supply or the possibility of stricter regulatory requirements in the future may result in the need for filtration in the course of time. In the 2025 Long-Range Vision plan, the NYC DEP addressed the need to plan for the prospect of filtration if the FAD is not approved in the future and the significant economic implications this has.[126]

The Croton supply is filtered at an underground plant located in the Bronx and is also treated with the same chemicals used to treat the Catskill/Delaware water supply.[127] NYC DEP regularly samples and monitors the water supply and water sources to ensure compliance with state and federal regulations and publishes an annual NYC Drinking Water Supply and Quality Report.[128]

[125] New York City Drinking Water Supply and Quality Report 2024
[126] DEP's Long-Range Vision 2025
[127] New York City Drinking Water Supply and Quality Report 2024
[128] New York City Drinking Water Supply and Quality Report 2024

Appendix A

Acronyms and Definitions

Definitions are directly obtained from 42 U.S.C. § 300f.

- **Administrator** means the Administrator of the Environmental Protection Agency.
- **Agency** means the Environmental Protection Agency.
- **Connection**, under the SDWA, refers to a pipe or other constructed conveyance that is connected to a public water system and delivers water. However, a pipe or other constructed conveyance that meets those criteria is not considered to be a connection if:
    - The water is not used for residential uses;
    - The water supply necessary for residential uses is sufficiently provided for by a different connection or system; or
    - The water supply will be treated by the provider, separate from treatment for the public water system, before it is used for residential uses.
- **Contaminant** means any physical, chemical, biological, or radiological substance or matter in water.
- **CWA** means the Clean Water Act. The bill passed in 1972 after bipartisan majorities in both the House of Representatives and the Senate overrode President Nixon's veto.[129]
- **EPA** means the Environmental Protection Agency, which was established in 1970.
- **Feasible** means feasible with the use of the best technology, treatment techniques and other means which the Administrator finds, after examination for efficacy under field

[129] History of the Clean Water Act

conditions and not solely under laboratory conditions, are available (taking cost into consideration).

- **MCL** means maximum contaminant level and refers to the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. The EPA determines the MCL that may be present in public drinking water supplies to ensure that no known or anticipated adverse effects on the health of persons occur, allowing for an adequate margin of safety.
- **NYC DEP** means the New York City Department of Environmental Protection.
- **Primacy** means the primary implementation and enforcement authority granted to a state with a drinking water program that complies to minimum standards set forth by the EPA.
- **NYS DOH** means the New York State Department of Health.
- **PDWR** means primary drinking water regulations. PDWR apply to all public water systems, with some exceptions, and identify and regulate contaminants present or potentially present in public water systems that may have an adverse effect on human health. PDWR may be used interchangeably with NPDWR, which means national primary drinking water regulations. PDWR consist of three elements:

  (1) Specifies contaminants which, in the judgment of the Administrator, may have an adverse effect on the health of persons

  (2) Specifies for each contaminant either

      a. A MCL, if, in the judgement of the Administrator, it is economically and technologically feasible to ascertain the level of such contaminant in water in public water systems, or

b. If, in the judgment of the Administrator, an MCL is not economically or technologically feasible to so ascertain the level of such contaminant, each treatment technique known to the Administrator which leads to a reduction in the level of such contaminant sufficient to satisfy the requirements of section 300g-1 of the SDWA.

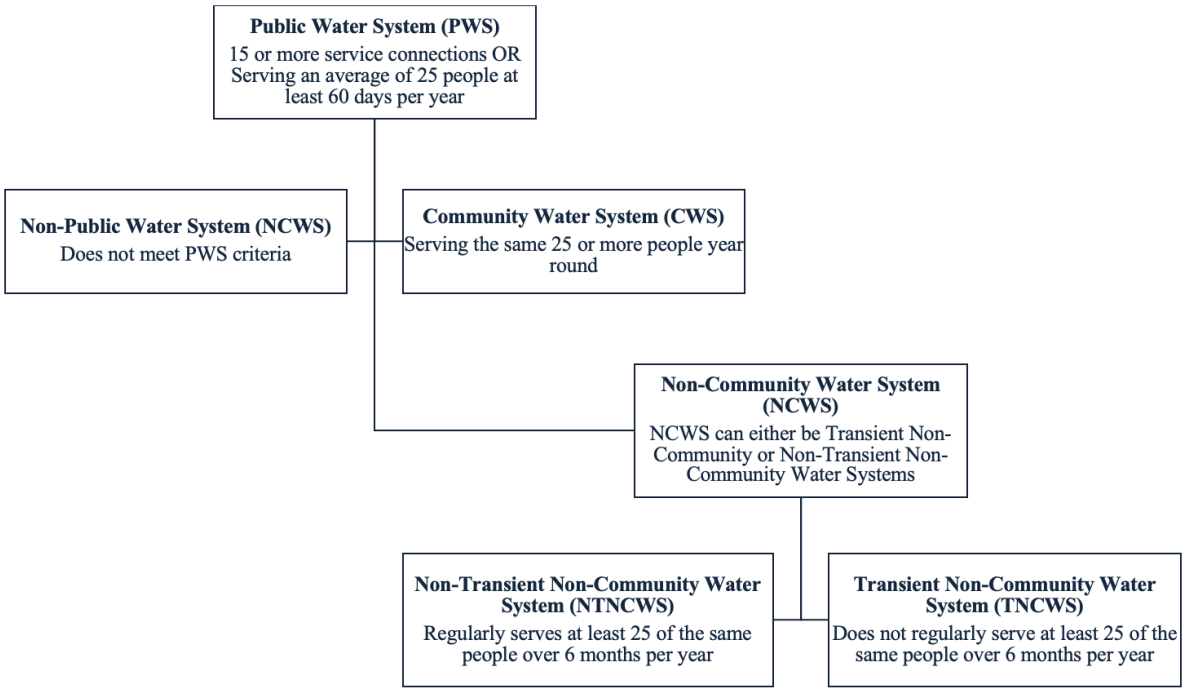
(3) Contains criteria and procedures to ensure a supply of drinking water dependably complies with such MCL; including accepted methods for quality control and testing procedures to ensure compliance with such levels and to insure proper operation and maintenance of the system, and requirements as to (i) the minimum quality of water which may be taken in to the system and (ii) siting for new facilities for public water systems.

a. The Administrator can add equally effective quality control and testing procedures" in the Federal Register as need. These procedures will serve as alternatives for quality control and testing procedures listed in the regulation to be utilized by public water systems.

- **Public water system** means any system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. This definition includes any collection, treatment, storage, and distribution facilities under control of the system and used primarily in connection with such system, and any collection or pretreatment facilities that are not under the control of the system but used primarily in connection with such system. All public water systems must comply with

NPDWR. A public water systems can further be categorized as a community water system or a noncommunity water system.

- A community water system serves at least fifteen service connections used by year-round residents of the area served by the system, or regularly serves at least 25 year-round residents.
- If a public water system does not meet the definition of a community water system, it is a noncommunity water system.



[130]

- **Residential uses of water** under the SDWA consist of drinking, bathing, cooking, or other similar uses.
- **SDWA** means the Safe Drinking Water Act.
- **SDWR** means secondary drinking water regulations. SDWR regulate the MCL of identified contaminants that may produce adverse effects on the taste, odor, or appearance

[130] Adapted from Figure: Public Water Supply Systems on U.S. Fish & Wildlife Service

of drinking water. SDWR can apply to any contaminant in the drinking water of public water systems that might result in people using that public water system to discontinue use or otherwise adversely affect the public welfare, but these regulations can vary depending on geographic and other circumstances. Since the MCL of SDWR do not present a health risk, SDWR act as guidelines rather than enforceable standards for public water systems to follow.

- **State**, under the SDWA, includes the 50 states and the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Northern Mariana Islands, the Virgin Islands, American Samoa, and the Trust Territory of the Pacific Islands. However, in section 300j-12 regarding loan funds, “state” means the 50 states, the District of Columbia, and Puerto Rico, only.
- **Supplier of water** means any person who owns or operates a public water system.
- **UIC** means Underground Injection Control.
- **Watershed** means an area of land that drains into a specific body of water.