



OVERVIEW OF REGULATORY ACTIVITY

As of January 20, 2021

This document provides a review of the ongoing and recent regulatory actions that impact drinking water and/or wastewater sectors. This document covers new legislation and regulation relevant for AWWA members.

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What's New?

Since the last Overview of Regulatory Activity update (September 2020), the following noteworthy activities took place, and are now reflected in this document. **As the Biden Administration starts it will both freeze regulatory developments that are not yet complete, reassess both regulatory priorities and the substance of actions that continue in the new Administration.** The following reflect the state of regulatory development at the close of the Trump Administration.

- Several laws were signed:
 - [Internet of Things \(IoT\) Cybersecurity Improvement Act](#) directs the National Institute of Standards and Technology (NIST) to develop standards and security requirements for IoT devices.
 - [National Defense Authorization Act for Fiscal Year 2021](#) (NDAA 2021) included additional provisions on per- and polyfluoroalkyl substances (PFAS).
 - [Water Resources Development Act](#) (WRDA) focused only on funding for US Army Corps of Engineers (USACE) projects and did not include policy directions as has been the case in previous bills.
- EPA published the following final rules:
 - The final revisions to [the Lead and Copper Rule](#).
 - Final Toxic Substances Control Act (TSCA) [Risk Evaluation for 1,4-Dioxane](#).
 - [Effluent Guidelines Program Plan 14](#).
 - [Interim decision for re-registration of chlorine](#), classifying all uses of chlorine gas other than for municipal water and wastewater treatment as restricted uses.
- EPA published the following guidance documents:
 - Draft [Interim Guidance](#) on the Destruction and Disposal of Perfluoroalkyl and Polyfluoroalkyl Substances and Materials Containing Perfluoroalkyl and Polyfluoroalkyl Substances.
 - [Guidance Memo](#) intended to clarify when a National Pollutant Discharge Elimination System (NPDES) permit is necessary considering the recent *County of Maui v. Hawaii Wildlife Fund* court decision in cases where groundwater discharges reach Waters of the United States (WOTUS).
 - Final 2021 [Financial Capacity Assessment for Clean Water Act](#) (CWA) Obligations.
- Several actions are in late states of finalization prior to being published to the Federal Register:
 - The proposed Fifth [Unregulated Contaminant Monitoring Rule](#) (UCMR 5).
 - Notice to Propose Rulemaking (NPRM) for Effluent Limitations Guidelines and Standards for the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category: [PFAS Discharges](#).
 - NPRM for [designating PFAS as hazardous substances](#) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
 - [Final Regulatory Determinations](#) for Contaminants including Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) to OMB for review.
 - [Final toxicity value](#) for perfluorobutanesulfonic acid (PFBS) and related PFBS salts.
- The EPA is expected to deliver the “Study on Intractable Public Water Systems Serving Fewer Than 1,000 People: Compliance with National Primary Drinking Water Regulations, Barriers, and Case Studies to EPA Administrator” for approval and submission to Congress per [America’s Water Infrastructure Act \(AWIA\)](#) Section 1459C soon.

Regulations are not official until they are published in the Federal Register. There is the potential that the Federal Register notice could be postponed or withheld by the transition in Presidential Administrations.

- EPA initiated re-evaluation of microbial / disinfection byproduct (M/DBP) risk management measures by hosting a [stakeholder meeting](#) about the risks of microbial/disinfection byproducts (M/DBPs).
- The Center for Disease Control and Prevention (CDC) published a white paper titled "[Estimate of Burden and Direct Healthcare Cost of Infectious Waterborne Disease in the United States](#)", which includes an overall estimate of disease associated with water including disease from recreational activities and biofilm-associated organisms (such as *Legionella*).
- The Government Accountability Office (GAO) released [a report](#) that provides recommendations for the US Department of Homeland Security (DHS) to use EPA data to plan outreach to facilities, such as water systems, that produce, use, or store hazardous chemicals that could be targeted by terrorists.

Administrative Priorities

How the incoming Biden Administration's priorities will affect implementation of final rules, influence the completion of regulations currently under development, or set new priorities for agency actions will come into focus once there is a confirmed EPA Administrator and the new administration gets underway.

The Biden campaign emphasized both infrastructure renewal and environmental justice. The Biden Infrastructure Plan includes a commitment to "...investing in the repair of water pipelines and sewer systems, replacement of lead service pipes, upgrade of treatment plants, and integration of efficiency and water quality monitoring technologies...".

The campaign's [Environmental Justice Plan](#) highlights:

- Addressing PFAS through the designation of PFAS as a hazardous substance(s), establishing a drinking water standard, prioritizing substitutes through procurement, and accelerating toxicity research.
- Reducing lead in drinking water through accelerating of the process to test for and address the presence of lead in drinking water and housing and providing funds for lead service line replacement.
- Improving affordability through targeted state revolving funds and Rural Utility Service funding for disadvantaged communities.
- Directing the Office of Science and Technology Policy to publish a report within 100 days identifying the climate strategies and technologies that will result in the most air and water quality improvements and update analytical tools to ensure that they accurately account for health risk and benefits.

Priority Topics

Policy topics with significant implications for the water sector that are receiving considerable attention from policymakers include the following.

Affordability

In October 2017, the National Academy of Public Administration (NAPA) released a Congressionally-mandated [report](#), *Developing a New Framework for Community Affordability of Clean Water Services*. The report, mandated in the FY16 Appropriations bill, included recommendations for how and why EPA should

revise its methodology for evaluating affordability across its Clean Water Act (CWA) and Safe Drinking Water Act (SDWA) programs.

In April 2019, AWWA, the National Association of Clean Water Agencies (NACWA), and Water Environment Federation (WEF) provided EPA with a report outlining a new approach to evaluating affordability and financial capability in the water sector, [Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector](#). In September 2020 EPA sought public comment on a [proposed revision of current financial capability assessment guidance](#). AWWA, NACWA and WEF filed joint comments as well as individual association comments on the proposed [CWA affordability guidance](#). EPA released the [pre-publication version of the final rule](#) on January 12, 2021.

“Affordability is a pressing concern for water and wastewater utility customers, even more so in this time of pandemic. The American Water Works Association (AWWA) is pleased that EPA has released this proposal for public review and comment. It is a genuine effort to ensure that clean and safe water is affordable for low-income customers,” said AWWA Executive Director of Government Affairs G. Tracy Mehan.

Cyanotoxins

EPA released 10-day health advisories for microcystin and cylindrospermopsin in June 2015. Alongside the health advisories, EPA provided accompanying recommendations for water systems. In November 2015, EPA also published the [Algal Toxin Risk Assessment and Management Strategic Plan](#) for Drinking Water.

Cyanotoxins are a recurring group of contaminants in each of the four SDWA [Contaminant Candidate List \(CCLs\)](#) and included in the [Fourth Unregulated Contaminant Monitoring Rule \(UCMR4\)](#). Out of more than 9,300 finished water samples collected to-date, only 60 (0.64%) had cyanotoxins above method reporting levels, with even fewer reporting above reference levels.

Under CWA, EPA issued [recreational criteria and swimming advisory levels](#) for microcystins and cylindrospermopsin, and [proposed numeric nutrient criteria’s](#) drinking water endpoint is based upon expected microcystins levels.

Since 2015, individual states have taken steps to increase data collection, draw utility attention to the cyanotoxin management, and in some instances set regulatory requirements. A 2019 summary of state actions can be found in [Yeager and Carpenter](#).

Disinfection Byproducts

EPA currently regulates disinfection byproducts (DBPs) under the Stage 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules (DBPR). These rules were developed alongside revisions to the Surface Water Treatment Rule (SWTR) to balance the risks of microbial pathogens and DBP. Compliance includes complying with a treatment technique requiring removal of total organic carbon, it also includes MCLs and associated monitoring for total trihalomethanes (THMs), the sum of five haloacetic acids (HAAs), chlorite, and bromate. In 2019, EPA prepared a report titled [“In-Depth Analysis: Stage 2 DBPR and Consecutive Systems Compliance Challenge”](#) since the highest number of health-based violations for community water systems in 2018 were associated with the Stage 2 DBPR. The report provides recommendations of best practices from states to enhance implementation of the SDWA.

The “Deep Dive” analysis builds on EPA’s Third Six Year Review analysis. Revision of existing DBP and microbial rules was identified by EPA during the [Third Six Year Review](#) and for evaluation, A consent order in [Waterkeeper Alliance v. EPA](#) signed in 2020 set a firm deadline for proposing additional risk reduction measures (or a decision not to take action) in 2024. The HAA data being collected by water systems through the UCMR 4, will be influential as EPA considers potential revisions.

In October 2020, EPA hosted a [virtual stakeholder meeting](#) in what is expected to be a series of stakeholder meetings expected to continue in 2021 to inform this decision-making process. EPA framed a broad array of issues with an emphasis on maintaining or improving water quality in distribution systems but also including treatment and source water considerations.

Fluoride

EPA solicited advice from the National Academy of Sciences on the risks posed by fluoride in drinking water and in 2006 NAS prepared [“Fluoride in Drinking Water”](#). EPA’s second six-year review identified the current fluoride MCL for potential revision in 2010. In 2011 the Agency [updated its analysis](#) of the portion of fluoride exposure attributable to drinking water. Subsequently in its [notice for the third six-year review](#), EPA found that “revision of the fluoride NPDWR is a lower priority that would divert significant resources from the higher priority candidates for revision that the Agency has identified.”

On January 30, 2017 the CDC issued a [Statement on the Evidence Supporting the Safety and Effectiveness of Community Water Fluoridation](#). On July 13, 2018 the CDC [proposed guidance](#) regarding the operational control range around optimal fluoride concentration. The CDC’s proposed operational range was 0.6 – 1.0 mg/L around an optimal target fluoride dose of 0.7 mg/L.

In August 2019 [“Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada”](#) was published in JAMA Pediatrics. Rivka et al. found maternal exposure to higher levels of fluoride during pregnancy was associated with lower IQ scores in children aged 3 to 4 years. In October 2019 the National Toxicology Program [released a draft monograph](#) that also concluded that there may be an association between higher fluoride exposure and decreased IQ or other cognitive impairments in children. The National Academy of Sciences, however, [released a peer review](#) on March 5, 2020 finding that the monograph had insufficient basis for that finding and emphasized that further analysis or reanalysis is needed to support this finding. A [revised draft monograph](#) (Sept 16, 2020) states that “NTP concludes that fluoride is presumed to be a cognitive neurodevelopmental hazard to humans.” This finding is based on available human studies demonstrating effects at fluoride concentrations >1.5 mg/L.

In a parallel development, litigation of EPA’s negative response to a TSCA Section 21 [Petition by the Fluoride Action Network](#) requesting that EPA prohibit the addition of fluoridation chemicals to drinking water continues has resulted in the petitioner’s re-submitting their petition, in keeping with the direction of the Court.

CDC continues to recommend [community fluoridation](#).

An [August study](#) by the United States Geological Survey (USGS) surveyed water wells and found that only 0.9% of public drinking water supply wells studied contained fluoride above EPA’s 4.0 mg/L MCL in the untreated groundwater. Additionally, the study found that more than 85% of the public water supply wells

studied had fluoride concentrations below the optimal concentration of 0.7 mg/L. Fluoride concentrations in untreated groundwater were generally higher in the western US in comparison with the eastern US.

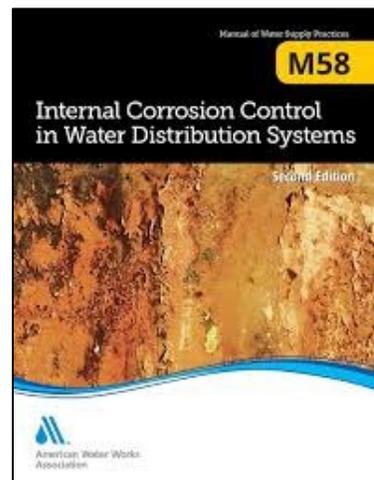
Lead

While lead exposure levels have steadily declined over the past few decades, reducing potential exposure to lead remains a priority as reflected in the federal [Lead Action Plan](#) (2019). In addition to programs focused on [lead abatement, air emissions, and in products](#) EPA has advanced efforts to address lead exposure from drinking water. EPA released an [updated 3-Ts Toolbox](#) for schools and childcare facilities addressing lead in water in October 2018. Importantly, EPA did not include a level of lead in drinking water that is acceptable. The initial EPA guidance under the Lead Contamination Control Act and subsequent guidance prior to this document had included a school-specific sampling protocol and 20 µg/L action level for remediation of drinking water outlets in schools.

In October 2019, EPA and its partner organizations including AWWA renewed a [Memorandum of Understanding \(MOU\)](#) on Reducing Lead Levels in Drinking Water in Schools and Childcare Facilities. The MOU addresses supporting activities for education and training, development of tools, and collaboration to test and address lead in these facilities. Additionally, EPA published an [interactive guide](#) to help schools and child-care providers identify potential funding sources for lead remediation and water quality-related projects. The guide reviews four federal programs, 79 state programs, and 115 foundations/companies providing funding opportunities.

EPA published the Use of [Lead-Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water in](#) August 2020. EPA went on to release the final revisions to the [Lead and Copper Rule](#) December 22, 2020. The rule will become official when published in the [Federal Register](#). The final rule requirements parallel the November 13, 2019 proposal. Important aspects of the proposal and final rule:

1. Pursuing full lead service line replacement.
2. Developing lead service line (LSL) inventories and lead service line replacement plans
3. Tier 1 public notice after exceeding the lead action level.
4. More stringent expectations for corrosion control studies (CCSs) and additional triggers to initiate CCSs.
5. Monitoring protocol and sample pool requirements were modified to increase the number of systems experiencing lead action level exceedances.
6. Expanded public education requirements that involve monitoring in schools and childcare facilities.



The final rule includes additional measures that increase the number of systems that will be impacted by the rule as well as changes affecting practical implementation, the most significant change being the requirement to draw a 5th liter sample when compliance monitoring site has a lead service line.

Other changes include:

1. Public education monitoring is focused on elementary schools and childcare facilities.

2. Sample pool tiers now explicitly include a tier for buildings with galvanized service lines preceded by lead pipe.
3. Recognition that an array of corrosion control study options will be needed to effectively comply with the rule. And, specifying that pipe loop studies using harvested lead pipe must be used in CCSs if lead service lines are present.
4. The rule requires communication reach building occupants with respect to lead service line notification requirements.

Legionella

On June 7, 2016, the CDC released “[Developing a Water Management Program to Reduce *Legionella* Growth & Spread in Buildings](#).” This guide is not regulatory. It is designed to help people understand which buildings and devices need a *Legionella* water management program to reduce the risk for Legionnaires’ disease, what makes a good program, and how to develop it.

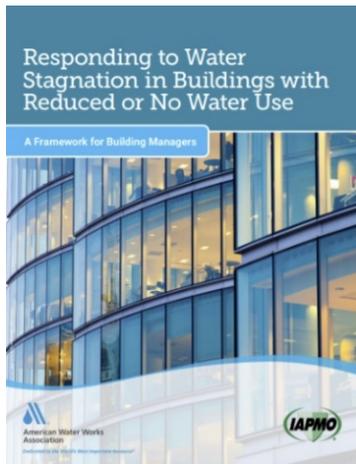
EPA released its [final literature review](#) on technologies for *Legionella* control in premise plumbing systems for *Legionella* September 21, 2016. Some large facilities (e.g., hospital, hotels, nursing homes, etc.) have had to contend with *Legionella* outbreaks. Therefore, some buildings install secondary disinfection systems or other treatment systems within their premise plumbing.

EPA’s [third six-year review notice](#) (January 11, 2017) highlights an opportunity to further reduce the risk posed by *Legionella*. The Agency implies a linkage between maintaining a secondary disinfectant residual and reducing the risk posed by *Legionella*. Later in July, 2017 the Centers for Medicare and Medicaid Services published a memorandum that has been subsequently updated. The [CMS memorandum](#) requires hospitals, critical access hospitals and long-term care facilities to conduct a risk assessment, develop a water management program and implement that program.

In February 2018 National Academies of Sciences, Engineering, and Medicine (NASEM) began a project on the management of *Legionella* in water systems. This 18-month study is funded by EPA, Veterans Affairs, and the Centers for Disease Control and Prevention. In August 2019, NASEM released the [final report](#). A few of the main recommendations highlighted by the panel included:

- Requiring building water management plans.
- Expanding current Center for Medicare / Medicaid Services memo to require monitoring for *Legionella* in hospitals and health care facilities.
- Registering and monitoring cooling towers.
- Maintaining minimum disinfection residuals throughout public water system distribution systems.
- Providing guidance for threshold levels of *Legionella* that should trigger action.
- Encouraging collaboration among multiple entities to control *Legionella*.

One of the difficult issues associated with managing *Legionella* in buildings is the regulatory oversight burden placed on building owner-operators and state regulatory agencies. The Association of State Drinking Water Administrators [developed a white paper](#) on this issue in June, 2019.



On October 1, 2020 AWWA and the International Association of Plumbing and Mechanical Officials (IAPMO) published the guide “[Responding to Water Stagnation in Buildings with Reduced or No Water Use](#)” to assist in the re-opening of buildings during the COVID-19 pandemic. While the guide was developed with COVID-19 building impacts in mind, the management of biofilm growth and *Legionella* management was a consistent theme.

As a result of the Third Six-Year Review, EPA is considering revisions to *legionella* regulation in drinking water. These revisions are part of a broader effort by EPA to update regulations for M/DBPs. Potential revisions must be proposed by 2024.

The CDC recently published an article titled “[Estimate of Burden and Direct Healthcare Cost of Infectious Waterborne Disease in the United States](#)”, which is the first of a series of articles scheduled to be published on the issue. In this article, the following findings are raised:

- Most waterborne disease cases are associated with recreational water (swimmer’s ear);
- The most significant morbidity and associated health care expenses are due to biofilm associated pathogens, such as *Legionella*. Biofilm associated pathogens account for 80,000 hospital visits, \$1.1 billion in medical expenses, and > 6,500 deaths annually.
- Potable water and building water systems are a significant aspect of exposure to biofilm associated pathogens.

A subsequent article is planned for publication by CDC that will expand upon these findings and focus on distinguishing the drinking water-related risks.

Manganese

Manganese was included on the [First Contaminant Candidate List](#) (CCL1) and considered for a regulatory determination in 2003. EPA determined at that time manganese did not represent a significant health risk in drinking water based on the current science. Manganese returned to the list of contaminants for evaluation for regulation in the fourth CCL.

At present, there is a federal secondary (aesthetic) standard at a level of 50 ppb manganese based on taste and color. In 2004 EPA did set a lifetime health advisory value of 300 µg/L. In 2019 Health Canada finalized a [new guideline value](#) for manganese in drinking water of 120 µg/L and an aesthetic value of 20 µg/L.

Monitoring of manganese is occurring now as part of [UCMR 4](#). To date, manganese has been detected in 1.9% of water systems above the health advisory level. In response to EPA guidance several states are now requiring public notice and other actions to manage exposure when systems observe manganese above the current EPA health advisory level. In EPA’s [Fourth Regulatory Determinations proposal](#) (March 2020), noted that the Agency does not have adequate data yet to prepare a determination for manganese given the incomplete status of the occurrence monitoring and ongoing development of an updated health assessment.

Perchlorate

The Natural Resource Defense Council (NRDC) [filed suit](#) in February 2016 seeking declaratory and injunctive relief against EPA for its failure to fulfill the Agency's nondiscretionary duties under SDWA. Specifically, NRDC and EPA reached a negotiated settlement that commits the Agency to (1) complete all peer review efforts by October 18, 2017; (2) issue a proposed regulation by October 31, 2018; and (3) meet a deadline for a final regulatory decision by December 2019.

In January 2017, a peer review panel reviewed EPA's draft Biologically Based Dose-Response (BBDR) model for the metabolism of perchlorate. EPA prepared this model in response to [recommendations made by the Science Advisory Board](#) in 2013. Based on the peer review panels comments, the Agency will determine if the BBDR model is adequate to support a proposed perchlorate maximum contaminant level goal (MCLG).

In September 2017, [EPA sought public comment](#) on a second peer-review panel and the materials for the selected panelists to review as EPA tried to determine the appropriate approach for understanding the adverse health impacts of perchlorate in drinking water. The draft MCLG approach document presented two options for peer review consideration:

1. EPA's principal approach characterizes the relationship between perchlorate exposure on thyroid hormone levels (fT4) in pregnant mothers during early gestation and the potential for changes in neurodevelopmental outcomes (IQ) in their offspring.
2. EPA's alternative population-based approach estimates the shift in the population of hypothyroxinemic pregnant women that may result from perchlorate exposure.

This second peer-review met in January 2018, and the summary report was released April 4, 2018. In the report, the reviewers generally agreed that the models were a reasonable basis for developing the MCLG with minor alterations. Among the recommendations, reviewers also agreed that the focus on the early gestation period of the fetus was appropriate but that other life stages also needed to be considered in developing the MCLG.

On August 30, 2018 EPA filed a motion requesting a 6-month extension, which was granted on December 11th. The deadline to propose a rule was extended to May 28, 2019 following the approval of the extension and the impact of the government shutdown.

On June 26, 2019 EPA published the [proposed rule](#), which sets a MCLG of 56 ug/L and requests public comment on three alternatives: (i) setting an MCL and MCLG at 18 ug/L, (ii) setting an MCL/MCLG at 90 ug/L. or (iii) whether EPA should withdraw the Agency's February 11, 2011 determination to regulate perchlorate based on new occurrence data. The period for public comment closed on July 26.

On October 1, 2019 EPA and NRDC agreed to a 6-month extension for issuing a final rule. On June 18, 2020, EPA signed a [final action](#) on perchlorate, in which EPA determined that perchlorate does not occur "with a frequency and at levels of public health concern" within the meaning of the SDWA. Additionally, in the judgment of the Administrator, regulation of perchlorate does not present a "meaningful opportunity for health risk reduction for persons served by public water systems." It was also determined that the benefits of all the proposed MCLs would not justify the potential costs. Accordingly, EPA withdrew the 2011 determination and made a final determination to not regulate perchlorate.

Per- and Polyfluoroalkyl Substances

EPA, individual states, and lawmakers are focused on reducing exposure to PFAS. In the early 2000s, EPA worked with the major manufacturers of perfluoroalkyl sulfonates to implement a voluntary phase out of production and use. In 2009 provisional health advisories were released for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) and guidance for clean-up sites released later in the year. EPA released final [health advisories](#) for PFOA and PFOS on May 19, 2016. The lifetime health advisory for each compound is 0.07 µg/L. The advisory value is applicable to each compound individually or in combination. Additionally, six PFAS were included in monitoring under the [Third Unregulated Contaminant Monitoring Rule \(UCMR 3\)](#). By January 2017 UCMR3 sampling showed that approximately 1.3% of water systems were contaminated with PFOA and PFOS at levels above EPA's health advisory. EPA [guidance](#) directs systems with historical PFOA or PFOS observations above the advisory values to take additional samples to assess the level, scope and source of contamination to inform next steps.

Systems with confirmed occurrence are directed to contact their state primacy. EPA recommends systems provide consumers with information about the levels of PFOA and PFOS in their drinking water. Specific information for expecting parents, breast-fed infants and bottle-fed infants includes use of alternative water supplies.

CDC's Agency for Toxic Substances and Disease Registry (ATSDR) is developing its own toxicity profiles for PFOA, PFNA, PFHxS, and PFOS. The draft [Toxicological Profile for Perfluoroalkyls](#) was released June 21, 2018 for comment. When circulated for review, ATSDR did not have sufficient information to prepare minimal risk levels for ten other PFAS evaluated. ATSDR has communication materials on its website based on the draft profiles.

In May 2018, EPA hosted the National Leadership Summit for PFAS and sought feedback from the National Drinking Water Advisory Council. Subsequently EPA published the [PFAS Action Plan](#), which incorporated these feedback and recommendations. EPA's PFAS Action Plan provides a multi-barrier series of approaches to address PFAS, which includes the following:

- Expansion of EPA approved methods for measuring PFAS and GenX chemicals. A revised [EPA Method 537.1](#) to capture 18 PFAS analytes including GenX was released in November 2018 and in June 2019 EPA released draft [EPA Method 8327](#) for public comment. EPA Method 8327 quantifies 24 PFAS analytes in non-potable water matrices (surface water, groundwater, and wastewater). Method 8327 was developed under EPA's [solid waste analytical method development regime \(SW-846\)](#) rather than SDWA or CWA method development processes. In December 2019 EPA released [EPA Method 533](#) for immediate use for detected PFAS in drinking water. This method expands the current list of PFAs that can be detected using an EPA Method from 18 to 29. AWWA has compiled a [summary](#) of EPA Methods 533, 537.1, and 8327 to compare PFAS analytes that can be detected with each of the methods. EPA has not yet announced efforts to develop a PFAS method under CWA. EPA has begun to develop a total organic fluorine method to inform treatment evaluation.
- Advancement of toxicological research on PFAS research. EPA is currently [finalizing human health toxicity values](#) for perfluoro-2-propoxypropanoic acid (GenX) and has released a pre-publication version of the [final toxicity value for PFBS](#) – replacement chemicals for PFOA and PFOS. Additionally, EPA initiated the process to develop reference values for perfluorononanoic acid (PFNA), perfluorobutyrate (PFBA), perfluorohexanoic acid (PFHxA), perfluorohexanesulfonic acid (PFHxS), and

perfluorodecanoic acid (PFDA) in November 2019 through the Integrated Risk Information System (IRIS) Program. Drafts assessments [are scheduled](#) to be prepared for public comment in 2021 and 2022. Additionally, the Office of Research and Development in collaboration with the National Toxicology Program is currently evaluating the toxicity of approximately 150 PFAS through the [Responsive Evaluation and Assessment of Chemical Toxicity \(REACT\) framework](#). This approach utilizes in vitro toxicology and computational methods to accelerate characterizing the risk posed by targeted contaminants.

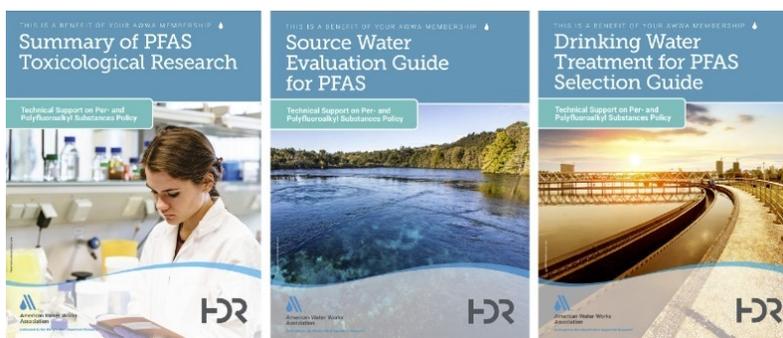
- Development of recommendations and standards for remediation and clean-up efforts under the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). On December 19, 2019 EPA released final RCRA/CERCLA clean-up [interim recommendations](#) for addressing groundwater contaminated with PFOA and/or PFOS. The interim screening level was finalized at 40 ng/L for PFOA and PFOS individually and a preliminary remediation goal of 70 ng/L for both PFOA and PFOS (combined when contamination poses a threat to a drinking water supply) were proposed. Additionally, in the final hours of the Trump Administration the Agency released a pre-publication draft of notices to collect input and data towards [designating PFOA and PFOS as hazardous substances](#) and [establishing effluent limitation guidelines and standards for certain PFAS discharges](#).
- Consideration and development of regulatory drinking water standards is also included. In March 2020, EPA proposed a positive determination for PFOA and PFOS and released a pre-publication version of the [final determinations](#) on January 19th, 2021.

EPA is currently exploring these and other regulatory and/or guidance efforts for PFAS. For instance, in December 2020 EPA published the [“Interim Guidance on the Destruction and Disposal of PFAS”](#), which provides an overview of destruction and disposal techniques available for PFAS as well as a brief overview of their performance for managing PFAS as well as the research effort in progress to fill knowledge gaps for this topic. EPA is accepting public comments on the guidance until February 22, 2021.

Some [33 individual states](#) have regulations or are considering whether to regulate PFAS in either source water and/or finished drinking water. Different states are focusing on one or more regulatory programs including groundwater clean-up standards, primary drinking water standards, and wastewater permit requirements. The specific PFAS compound(s) and level of health concern varies from state-to-state. At present six states have established MCLs for two or more PFAS in drinking water with several others working towards their own.

AWWA continues to develop resources on PFAS including brief fact sheets, an [“AWWA Briefing on PFAS”](#), and most recently in November 2020 several detailed reports. The reports are titled “Source Water Evaluation Guide for PFAS”, “Drinking Water Treatment for PFAS Selection Guide”, and a

“Summary of Toxicological Research for PFAS”. These resources, along with others, are all available on the [AWWA PFAS Resource Page](#) and are available at no charge to AWWA members.



Conservation Title and Source Water Protection

On March 17, 2020 the National Resource Conservation Services (NRCS) issued a [National Funding Announcement](#) for the new Alternative Funding Arrangement (AFA) option within the RCPP, with \$50 million in funding available. As authorized in the 2018 Farm Bill, NRCS can now handle up to 15 projects per year under the AFA option, which is designed to function more like a traditional grant than the classic RCPP structure (the classic RCPP does not have a limit on the number of projects, subject to available funds). This could allow water and wastewater utilities (which are named in the announcement as eligible entities) to run a source water protection project geared toward agricultural conservation measures (which include best practices, easements, conservation plans and more) in a format similar to other grant programs. Although the 2020 application period has passed, another round of funding under this program is expected in early 2021. Additionally, on April 8, 2020, NRCS [issued a directive](#) to its state offices regarding the National Water Quality Initiative (NWQI). [NWQI](#) provides extra focus and funding for water quality and source water protection concerns in small watersheds through the Environmental Quality Incentives Program (EQIP). Similar calls are expected in the future Utilities with source water protection concerns that might benefit from NWQI should reach out to their [state conservationist](#) for possible inclusion in the program.

“The Milford RCPP is an unprecedented partnership that brings together both agricultural producers and downstream stakeholders in an effort to preserve our shared resources,” said Mike Armstrong, WaterOne’s general manager. “As a water utility, we have a special understanding of the concept that when it comes to water quality, everyone lives downstream.”

On June 1, 2020 NRCS posted a [national bulletin](#) on “Refining Source Water Protection Local Priorities for FY 2021”. The bulletin further refines the Source Water Protection (SWP) areas that NRCS developed last year.

Utilities interested in developing applications for Farm Bill conservation programs should contact their NRCS state conservationist and can also contact Adam Carpenter in AWWA’s DC Office (acarpenter@awwa.org)

AWWA has provided resources on [how to work with NRCS](#), plus [information about the conservation programs](#). There are periodic opportunities under the Regional Conservation Partnership Program (RCPP Classic), where the NRCS contribution to projects can range from \$250,000 to up to \$10 million. AWWA can support utilities interested in developing an application. Although an application period closed at the end of November 2020, there

are expected to be future RCPP rounds in 2021 and beyond, as well as other opportunities throughout the year across other programs. In addition to working directly with NRCS, you can contact [Adam Carpenter](#) in the AWWA DC Office to discuss your ideas.

Overview of Legislative Activities

Internet of Things Cybersecurity Improvement Act (IoT CIA)

In an effort to begin securing the embedded internet connection of sensors, software, and other technologies now being added to everyday devices Congress passed and the president signed [Public Law No: 116-207](#) on Dec. 4, 2020. IoT CIA targets supply chain risk posed by insecure IoT devices. The law directs

the National Institute of Standards and Technology (NIST) to develop and publish within 90 days standards on the appropriate use and management of IoT devices owned or controlled by a federal agency and/or connected to information systems owned or controlled by a federal agency. This includes minimum information security requirements for managing cybersecurity risks associated with such devices.

These NIST standards will provide an important baseline for guiding procurement decisions by water utilities and other critical infrastructures. The anticipated NIST standards will be particularly important for application of automation technologies, including the deployment of 5G connectivity. IoT devices are currently a recognized cybersecurity risk and viewed as low-hanging fruit for criminals interested in stealing sensitive data and accessing exposed networks.

Per- and Polyfluoroalkyl Substances

The House and Senate have introduced a variety of bills to address PFAS contamination in the United States. To date, only two bills have been successfully passed with provisions for PFAS.

Last year, Congress finalized the National Defense Authorization Act for Fiscal Year 2020 (NDAA 2020) and it was [signed into law](#) on December 20, 2019. Provisions require that the Department of Defense (DOD): (1) stop using PFAS-based aqueous firefighting foam (AFFF), replace such foams with non-PFAS AFFF, and develop appropriate disposal practices; (2) share information about PFAS contamination with affected water systems; and (3) enter cooperative agreements with states to expedite PFAS contamination investigation and remediation. NDAA 2020 also included several provisions requiring EPA to: (1) Add certain PFAS to the Toxics Release Inventory (TRI); (2) issue a Significant New Use Rule (SNUR) for long chain perfluoroalkyl carboxylates and sulfonates; and (3) include PFAS for which a validated EPA analytical method for drinking water exists under UCMR 5. USGS is directed to conduct nationwide monitoring for PFAS in natural waters.

In December 2020, Congress finalized the NDAA for Fiscal Year 2021 (NDAA 2021). NDAA 2021 includes fewer PFAS provisions than its NDAA 2020 counterpart. Generally, NDAA 2021 provides additional funding for remediation and cleanup, health research for PFAS, as well as research on PFAS-free firefighting agents.

Continued legislative action on PFAS remains possibly. Through 2020, Congress has continued to introduce bills with specific PFAS provisions as well as more comprehensive bills focusing on various PFAS provisions. For example, [H.R. 535 – PFAS Action Act of 2019](#) was passed by the United States House of Representatives in January 2020. This bill included requirements for EPA to address PFAS by designating certain PFAS as hazardous substances, promulgation of a national drinking water regulation for PFAS and health advisories for PFAS not regulated, considers materials containing PFAS to be hazardous waste, and imposing other requirements. PFAS is expected to continue to be a priority in 2021 even with a new Congress.

Consolidated Appropriations Act of 2021

As 2020 drew to a close Congress wrapped a host of annual spending measures into one omnibus spending bill in December. Unique features of CAA 2021 include: \$638 million to help low-income customers pay their water bills and \$25 billion in rental assistance funding which may also be used to help with utility bills. These measures were added to provide financial assistance to citizens suffering economically due to the COVID-19 pandemic.

The [5,593-page bill](#) combined an omnibus spending bill for the remainder of fiscal year 2021 with pandemic relief, biannual water resources legislation and some extensions of tax provisions. The U.S. Department of Health and Human Services will administer the program for water customers (see pages 1096-97 of the bill text).

The bill also provided more than \$1.1 billion for the drinking water state revolving loan fund program and \$60 million for the Water Infrastructure Finance and Innovation Act program, level that are similar to last year's funding, as well as around \$53 million for scientific and regulatory work on PFAS.

Other program funding and policy direction of note in CAA 2021 are:

- \$250,000 for EPA's homeland security efforts in monitoring and bolstering physical security and cyber security of the nation's water systems.
- \$49 million for EPA to continue acting on PFAS, including addressing contamination, conducting research and undertaking needed regulatory actions.
- EPA is directed to provide a briefing to the U.S. Congress on the rule's environmental and health impacts, including how the final rule addresses health equity disparities.
- Congress encourages EPA to expeditiously continue assessing the maximum contaminant level for hexavalent chromium and to keep Congress apprised of its review.
- \$1.45 billion for loans and loan guarantees for rural water and waste disposal projects, plus \$621 million for loan subsidies and grants. The loan amounts are level with the previous year, while grants are \$38 million lower.
- \$25 million for the U.S. Army Corps of Engineers to conduct demonstration programs to determine causes of and measures to detect and eliminate harmful algal blooms in water resources development projects.

Agriculture Investment Act of 2018 (Farm Bill)

The Agricultural Act of 2018 (2018 Farm Bill) enhanced the [Regional Conservation Partnership Program \(RCPP\)](#). RCPP was first created in the 2014 Farm Bill to provide financial and technical assistance for voluntary conservation projects that protect water and other natural resources. The program now has about \$300 million in funding annually to tackle large agricultural conservation projects, including those related to source water protection.

The 2018 Farm Bill for the first time identified protection of sources of drinking water as a specific goal of the agricultural conservation programs. This includes \$4 billion (10% of spending over the next 10 years) to help protect drinking water sources through the use of the agricultural conservation programs. The bill also allows state NRCS offices to increase incentives for agricultural producers to implement practices that benefit Source Water Protection and authorizes state technical committees for agricultural programs to work with community water systems to identify local priorities for source water protection. NRCS is still implementing these provisions, recognizing that attention will soon focus on the next iteration of the Farm

Bill. In the next reauthorization AWWA intends to focus on both continuing and enhancing the provisions related to source water protection to assure that the funds are utilized as effectively as possible.

Water Infrastructure Improvements for the Nation Act (WIIN)

The 2016 WIIN Act established [three grant programs](#) aimed at addressing, supporting, and improving the nation's drinking water infrastructure. These grant programs include grants for "Assistance for Small and Disadvantaged Communities", "Reducing Lead in Drinking Water", and "Lead Testing in School and Child Care Drinking Water Program". The first round of State allotments were [announced](#) in April 2019. More recently in February 2020, EPA announced the "[WIIN Grant: Reduction in Lead Exposure Via Drinking Water under SDWA Section 1459B](#)". Applications were due June 1, 2020. EPA expects to award four to fifteen assistance agreement awards -- one to three awards will address Infrastructure and treatment improvements (an estimated total of \$17,100,000) and three to twelve will target lead in drinking water at schools and childcare facilities (an estimated total of ≤\$22,800,000).

In [April 2019 EPA announced](#) the state allotments for funding to assist small and disadvantaged communities. Nationwide the program totals \$42.85 million for FY 2018 and 2019 Appropriation bills for FY2020 in the House allocated \$25 million and the Senate allocated \$25.8 million.

America's Water Infrastructure Act (AWIA) of 2018

The passage of America's Water Infrastructure Act (AWIA) of 2018 included a number of provisions, particularly the requirements for risk and [resiliency assessment and response plans](#). AWIA also required EPA to promulgate a rule on [water system restructuring](#).

There is also statutory direction to propose a rulemaking to improve the understandability of consumer confidence reports, codify electronic reporting guidance, and require distribution of CCRs twice per year. EPA has sought input from NDWAC but has not stated a schedule for promulgation of a rule. The [current CCR rule](#) remains in effect until that rule is proposed and subsequently finalized.

Overview of Regulatory Activities

Regulatory Landscape

Under the Trump Administration, regulatory reform was a core principle. [Executive Order 13771](#) (issued February 24, 2017) established a regulatory budget of zero net costs for all Agency regulatory actions for FY 2017 and each fiscal year thereafter. The Biden Administration will take its own approach moving forward, but at present the EPA is undertaking four rulemakings specifically focused on the rulemaking process:

1. January 2021, EPA published a final rule titled "[Strengthening Transparency in Regulatory Science](#)." This proposal, referred to by some as the "secret science rule" received considerable attention. This is a highly politicized and polarized rulemaking. While supporters emphasized the rulemaking strengthening EPA's use of science in decision-making and transparency (especially with regards to dose-response data) by prioritizing studies where the full data sets are available, opponents argued the proposal will obstruct the use of appropriate scientific information. The final rule applies to a considerably narrower range of activities than the earlier proposals. Regardless of this rulemaking, SDWA includes provisions that require the use of the best available data ([42 U.S. Code § 300g-1\(b\)\(3\)\(A\)](#)).

2. In June 2018, EPA began a rulemaking process titled “[Increasing Consistency and Transparency in Considering Costs and Benefits in the Rulemaking Process.](#)” The Fall 2020 Unified Agenda of Regulatory and Deregulatory Actions currently includes plans for several rules that are focused on specific statutes (i.e., [SDWA](#), CWA, and Resource Conservation and Recovery Act (RCRA)).
3. All EPA program offices have a duty under existing executive orders to conduct cost and benefit analyses. That analysis varies based on underlying statutory language and the history of policy under each enabling statute. This initiative is being coordinated by EPA’s Office of Policy rather than the individual program offices. In November, EPA [formed an ad hoc committee](#), the Economic Guidelines Review Panel, under the SAB. This committee was tasked with providing a peer review of the [draft guidelines](#). In November 2020 the panel discussed a [draft report](#).
4. In February 2019, EPA issued a proposed rulemaking titled “[National Emissions Standards for Hazardous Air pollutants; Coal and Utility Steam Generating United – Additional Post-Promulgation Actions](#)” Although the direct impacts of this rule for the water sector are limited to source water protection implications from the control of emissions from power plants, the rule is in many ways a regulatory process proposal. It proposes revising the cost-benefit analysis of an existing air emission rule that has already gone into effect, greatly reducing the allowable “co-benefits” (benefits that related to emissions reductions other than the emission targeted by the rule). Applying this methodology to other rules could make it more difficult to pass benefit-cost requirements, further slowing the regulatory pace (and increasing the deregulatory pace). The underlying issues in this dialogue are relevant beyond PM_{2.5} and the Clean Air program.
5. In May 2020, EPA issued a [proposed rulemaking](#) “EPA Guidance; Administrative Procedures for issuance and Public Petitions.” This rulemaking about guidance documents sets forth a series of standards that EPA will need to use when developing, updating, and rescinding guidance documents. This rulemaking is partially in response to [Executive Order 13891](#) “Promoting the Rule of Law Through Improved Agency Guidance Documents” addressing perceived needs of concerns around guidance documents that act as de facto rulemakings and challenges in identifying all currently active guidance documents. EPA and many other federal agencies are developing [guidance portals](#) to centralize all guidance documents that are in effect. The proposed rule includes provisions on clearly designating EPA’s authority for developing the document, including all active guidance documents on the portal, procedures to ensure internal consistency across EPA regions, and for a subset of “significant” guidance documents, requirements for notice and comment prior to issuance and a petition process for review if stakeholders believe there is a problem with the guidance.

Safe Drinking Water Act

SDWA is EPA’s primary regulatory authority for drinking water. SDWA has numerous facets encompassing source water protection, delegation of authority to states, citizen suits, revolving loan funds, and other aspects of a cohesive regulatory program for drinking water. Importantly SDWA provides EPA with the authority and framework for developing primary drinking water standards.

The statute as amended in 1996 includes (1) a commitment to prospectively collecting information to identify contaminants that might warrant risk management by controlling exposure via drinking water, (2) a program of regularly collecting contaminant occurrence data to inform risk management decisions, (3) criteria for development of sound primary standards, and (4) a recurring duty to evaluate existing regulations in light of current data.

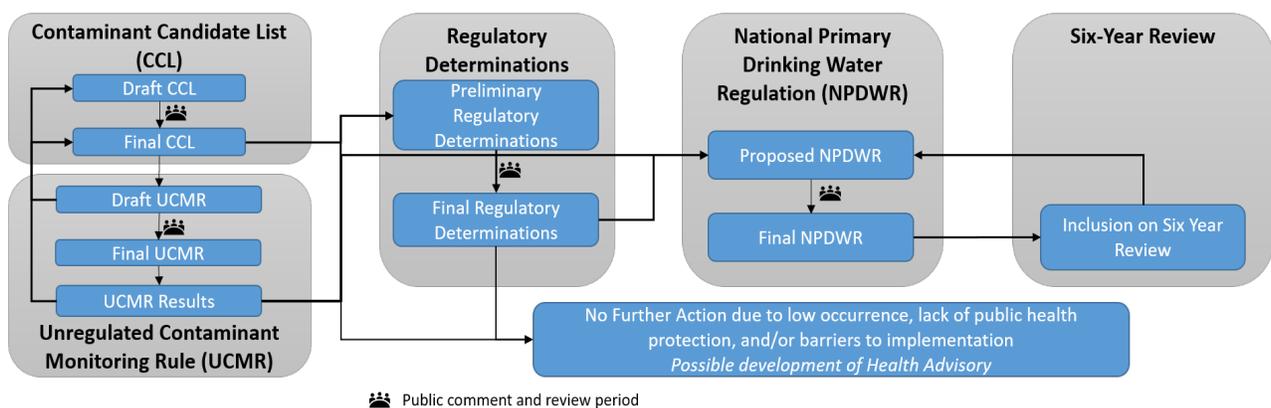
[The Contaminant Candidate List \(CCL\)](#) is a list of drinking water contaminants that are known or expected to occur in drinking water and are not yet subject to drinking water regulations. The CCL serves to prioritize contaminants for evaluation. A new CCL is developed every five years. The CCL guides subsequent data collection activities.

The [Unregulated Contaminant Monitoring Rule \(UCMR\)](#) is the regulatory mechanism through which drinking water systems sample for unregulated contaminants to obtain an understanding of occurrence. Like the CCL, EPA develops a new UCMR every five years.

To assure that the Agency commits to evaluating setting additional standards when warranted, EPA is charged with making regulatory determinations for at least five contaminants from the CCL every five years. Regulatory determinations are based on potential health impacts, treatment feasibility, and the occurrence of the contaminant in drinking water supplies. Following a positive regulatory determination, the Agency will conduct an in-depth analysis of these factors to develop a national primary drinking water regulation and establish drinking water standards.

Regulations for contaminants are reviewed as part of the Six-Year Reviews. During Six-Year Reviews, EPA reviews occurrence, health effects information, and treatment information in order to determine if the regulatory standard should be updated.

To date EPA has completed four CCLs and three UCMRs. Monitoring under the fourth UCMR (UCMR 4) is currently ongoing and EPA is preparing to propose the fifth CCL (CCL 5) and the fifth UCMR (UCMR 5) this summer. Additionally, EPA has completed 3 rounds of the Six-Year Review of current primary drinking water standards and finalized the fourth Six-Year Review process in 2019. SDWA also provides EPA with the authority to develop health advisories with contaminants not regulated by national primary drinking water regulations. Health advisories are non-regulatory. Health advisories serve as informal technical guidance for unregulated drinking water contaminants to assist Federal, State and local officials, and managers of public or community water systems in protecting public health as needed.



Recent Regulatory Activities

National Primary Drinking Water Regulations: Lead and Copper Rule Revisions

At present, states are following up on EPA's March 2016 [letters to state primacy agencies](#) to implement the LCR per EPA guidance including instructing systems to use the clarified LCR [compliance sample protocol](#) and being sure that compliance samples are drawn from structures that meet the rule criteria. EPA also encouraged states to increase the transparency of LCR implementation to the public (e.g., encouraging systems to make sample results available, mapping lead service line locations, etc.) In March 2016 EPA also issued [Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems](#).

The proposed Lead and Copper Long-Term Revisions rule was [published in the Federal Register](#) November 13, 2019. [AWWA](#), member sections and almost 80,000 other individuals and organizations submitted comments. On December 22nd, 2020 EPA published the pre-publication version of the final revisions to the LCR. Below are a few of the specific changes that the Lead and Copper Long-Term Revisions rule includes:

- New “trigger level” for lead at 10 ug/L (based on 90th percentile observation in compliance monitoring);
- Re-optimization of existing corrosion control treatment (CCT) or, for systems lacking CCT, a corrosion control study if trigger level is exceeded;
- Notify by phone or electronic means residents of structures where compliance samples are taken of observed values greater than lead action level (15 ug/L) within 24 hours of learning value;
- Execute Tier 1 public notification for exceedance of lead action level;
- Requirements for systems to inventory lead service lines (LSLs) and prepare LSL replacement (LSLR) plan;
- Requirements for systems to take tap samples at elementary schools and childcare facilities; and
- Expanded risk communication requirements.

National Primary Drinking Water Regulations: Perchlorate

The Natural Resource Defense Council (NRDC) [filed suit](#) in February 2016 seeking declaratory and injunctive relief against EPA for its failure to fulfill the Agency's nondiscretionary duties under the Safe Drinking Water Act. Specifically, NRDC and EPA reached a negotiated settlement that commits the Agency to (1) complete all peer review efforts by October 18, 2017; (2) issue a proposed regulation by October 31, 2018; and (3) meet a deadline for a final regulatory decision by December 2019.

In January 2017, a peer review panel reviewed EPA's draft Biologically Based Dose-Response (BBDR) model for the metabolism of perchlorate. EPA prepared this model in response to [recommendations made by the Science Advisory Board](#) in 2013. Based on the peer review panels comments, the Agency will determine if the BBDR model is adequate to support a proposed perchlorate maximum contaminant level goal (MCLG).

In September 2017, [EPA sought public comment](#) on a second peer-review panel and the materials for the selected panelists to review as EPA tried to determine the appropriate approach for understanding the adverse health impacts of perchlorate in drinking water. The draft MCLG approach document presented two options for peer review consideration:

1. EPA's principal approach characterizes the relationship between perchlorate exposure on thyroid hormone levels (fT4) in pregnant mothers during early gestation and the potential for changes in neurodevelopmental outcomes (IQ) in their offspring.
2. EPA's alternative population-based approach estimates the shift in the population of hypothyroxinemic pregnant women that may result from perchlorate exposure.

This second peer-review met in January 2018, and the summary report was released April 4, 2018. In the report, the reviewers generally agreed that the models were a reasonable basis for developing the MCLG with minor alterations. Among the recommendations, reviewers also agreed that the focus on the early gestation period of the fetus was appropriate but that other life stages also needed to be considered in developing the MCLG.

On August 30, 2018 EPA filed a motion requesting a 6-month extension, which was granted on December 11th. The deadline to propose a rule was extended to May 28, 2019 following the approval of the extension and the impact of the government shutdown.

On June 26, 2019 EPA published the [proposed rule](#), which sets a MCLG of 56 ug/L and requests public comment on three alternatives: (i) setting an MCL and MCLG at 18 ug/L, (ii) setting an MCL/MCLG at 90 ug/L. or (iii) whether EPA should withdraw the Agency's February 11, 2011 determination to regulate perchlorate based on new occurrence data.

On October 1, 2019 EPA and NRDC agreed to a 6-month extension for issuing a final rule. The new deadline is June 19, 2020. On June 18, 2020, EPA signed a [final action](#) on perchlorate, in which it determined that it does not occur "with a frequency and at levels of public health concern" within the meaning of the SDWA. Additionally, in the judgment of the Administrator, regulation of perchlorate does not present a "meaningful opportunity for health risk reduction for persons served by public water systems." It was also determined that the benefits of all the proposed MCLs would not justify the potential costs. Accordingly, the EPA withdrew the 2011 determination and made a final determination to not regulate perchlorate.

Fourth Regulatory Determinations

On March 10, 2020 EPA published preliminary positive determinations for PFOA and PFOS and six preliminary negative determinations for 1,1-dichloroethane, acetochlor, methyl bromide, metolachlor, nitrobenzene, and royal demolition explosives (RDX). EPA also provided an update on strontium, 1,4-dioxane, and 1,2,3-trichloropropane; the Agency has delayed these determinations further based on either pending research activities and/or lack of supporting data. As part of this proposal, EPA also requested public comment on:

- Additional PFAS that should be considered during the regulatory process.
- Potential regulatory approaches for PFOA, PFOS, and additional PFAS including evaluated PFAS on an individual basis, as part of a group, or a treatment technique.
- Potential monitoring frameworks to reduce the monitoring burden on water systems.

The [final regulatory determination](#) pre-publication draft was released January 19th, 2021. The notice indicates the Agency will be initiating evaluation of regulations for PFOA and PFOS only. For PFAS beyond

PFOA and PFOS, the notice describes making regulatory determinations for additional PFAS when sufficient information is available but prior to the Fifth Regulatory Determination's statutory deadline (2026).

Fourth Unregulated Contaminant Monitoring Rule

The [final UCMR4](#) published on December 20, 2016, is the latest iteration of the SDWA process to evaluate occurrence prior to deciding to regulate a new contaminant. This cycle utilizes 11 analytical methods for 30 chemical contaminants/groups consisting of; ten cyanotoxins/groups; two metals; eight pesticides plus one pesticide manufacturing by-product; three brominated haloacetic acid groups of disinfection by-products (DBPs); three alcohols; and three semivolatile organic chemicals. All systems serving more than 10,000 persons and smaller systems in a sample selected by EPA participate in UCMR 4 monitoring started in January 2018.

A list of laboratories approved for UCMR analysis is posted on [EPA's website](#). In early May 2018 [EPA posted health-based "reference concentrations"](#) for analytes for which water systems are required to monitor. The reference concentrations for microcystins (individually and in total) and cylindrospermopsin are based on short-term exposure; manganese and tebuconazole are based on chronic and short-term exposure, and reference values for cylindrospermopsin, manganese, microcystins and tebuconazole include specific consideration of infants or young children.

The [most recent release of UCMR4 data](#) came in October 2020. Of the 30 total contaminants monitored under UCMR 4 seven were detected at levels above the reference concentration. The percentage of public water systems with at least one value over the reference concentration is 8.3% for disinfection byproduct haloacetic acids, 1.9% for manganese, 1.4% for quinoline, 0.5% for alpha-hexachlorocyclohexane, 0.2% for total microcystins, 0.1% for profenofos, and 0.03% for cylindrospermopsin.

Fifth Contaminant Candidate List

EPA is preparing to propose the fifth CCL in 2021 and is expected to finalize the fifth CCL by July 18, 2022, based on a [draft Settlement Agreement](#) between Waterkeeper Alliance and EPA. On October 5, 2018 EPA [requested public nomination](#) of contaminants for inclusion in CCL5. EPA has described the CCL5 as a complete CCL development process akin to that used for CCL3, rather than the more limited refresh conducted for the second and fourth CCLs.

Fifth Unregulated Contaminant Monitoring Rule

EPA hosted a pre-proposal public meeting and webinar to discuss the potential approach to UCMR 5 on July 16, 2019. During the webinar EPA reconfirmed a commitment that the Agency would include monitoring for PFAS analytes in UCMR 5. Under SDWA, each UCMR round is limited to no more than 30 analytes.

As part of the NDAA 2020 requirements described above, EPA is required to monitor for PFAS for which a method to measure the level in drinking water has been validated. Currently there are two methods that meet those criteria, [EPA Method 537.1](#) and [EPA Method 533](#). In total, this requires EPA to monitor for 29 PFAS as part of UCMR 5. NDAA allows EPA to require PFAS monitoring in addition to the 30 UCMR analytes.

On January 19 EPA released a pre-publication version of the proposed UCMR 5. The proposal as anticipated incorporates EPA methods 533 and 537.1. The Total Organic Fluorine method was considered and determined to not be a viable analytical method due to insufficient laboratory capacity and since the

method does not solely capture organic fluorine associated with PFAS. The proposal would also require monitoring to be conducted by all community and non-transient non-community water systems serving more than 3,300 persons; a representative sample of smaller systems would also be included. In UCMR, EPA bears the cost of sample analysis for systems serving less than 10,001 persons. In addition to monitoring data, systems will be asked to provide additional data related to PFAS such as information regarding potential PFAS sources, previous PFAS detections, and installed treatment targeting PFAS.

Second Six-Year Review

The [Second Six-Year Review](#) queued up regulations for review that the Agency has not yet acted upon, like acrylamide, epichlorohydrin, tetrachloroethylene (perchloroethylene: PCE), and trichloroethylene (TCE). The January 2017 notice EPA concludes that revising the acrylamide and epichlorohydrin standards offer limited potential health benefits and given other burdens are considered a low priority and no longer candidates for revision. The PCE and TCE standards were not reviewed as they are included in a separate regulatory effort, a group carcinogenic volatile organic compound rule. There is no indication that the cVOC rule is progressing.

Third Six-Year Review (2017)

EPA published the [third Six-Year Review notice](#) for comment on January 11, 2017. This notice is an assessment of which existing regulations should be revisited, taking advantage of new information to achieve additional risk reduction under SDWA. The notice contained a number of anticipated themes including: (1) further risk reduction by controlling brominated and nitrogenous disinfection byproducts, (2) additional microbial risk reduction by setting a numeric secondary residual requirement, and (3) managing chlorite (largely through management strategies to avoid sodium hypochlorite degradation). EPA also raised the concept of revisiting source water characterization with microbial risk in mind, in particular. The specific standards identified for review were chlorite, *Cryptosporidium*, *Giardia lamblia*, haloacetic acids (HAA5), heterotrophic bacteria, *Legionella*, total trihalomethanes, and viruses.

EPA did not use the notice to address [UCMR3 hexavalent chromium occurrence](#) by revisiting the total chromium standard. As it has to-date, EPA cited the need to wait for completion of an [ongoing risk assessment for Cr\(VI\)](#). The most recent IRIS Work Program places initial release of a draft risk assessment for Cr(VI) in summer 2021. According to the [draft settlement agreement](#) between the Waterkeeper Alliance and EPA, within 3 years following the completion of EPA's final IRIS assessment EPA shall make a determination for whether the existing regulation is appropriate (Waterkeeper Alliance, Inc v Wheeler, 1:19-cv-00899).

According to a [settlement agreement](#), EPA will propose revised regulations (or a decision not to revise) for microbial and disinfection byproducts contaminants by July 31, 2024 with a final regulation published in the *Federal Register* by September 30, 2027. Both deadlines can be extended by 12 months if the Agency seeks recommendations from a federal advisory committee or by 18 months if EPA conducts an information collect information rule to inform the proposal.

Arsenic was not evaluated for further action in the third Six-Year Review Notice, as there is a risk assessment underway. A draft assessment is expected in early 2022.

Fourth Six-Year Review

Data is currently accruing from EPA’s June 3, 2020 EPA data call-in letter to all primacy agencies requesting voluntary submission of contaminant occurrence data and treatment technique information collected from 2012 to 2019 for all regulated contaminants. The next Six-Year Review is expected to be published in early 2023.

Recent Amendments to SDWA

Use of Lead-Free Pipes, Fittings, Fixtures, Solder and Flux for Drinking Water

September 1, 2020, EPA published the final rule, “[Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water](#)” which was initially proposed in January 2017. The rule implements the 2011 [Reduction of Lead in Drinking Water Act](#) as modified by the [Community Fire Safety Act of 2013](#) which further amended the SDWA Section 1417 to include fire hydrants in the list of exempted plumbing devices. The statutory requirements came into effect January 4, 2014.

EPA continues to reference a [frequently asked questions document](#) provided in 2013. AWWA, in collaboration with the International Association of Plumbing and Mechanical Officials, National Sanitation Foundation, Plumbing Manufacturers International and the Association of State Drinking Water Administrators, prepared a [factsheet](#) describing how the agency’s final rule incorporates and modifies current practice.

Community Water System Risk and Resilience

AWIA includes a provision, section 2013, which amends SDWA section 1433, effectively updating the requirements from the Bioterrorism Act of 2002. AWIA section 2013 requires all community water systems serving a population of 3,300 or more to (1) conduct a risk and resilience assessment and (2) prepare or revise an emergency response plan. A utility must then certify to EPA that each has been completed based on the statutory deadlines for each system size category.

| CWS Size (persons served) | Initial Deadline to Certify Risk and Resilience Assessment (no later than) | Initial Deadline Certify Emergency Response Plan (≤ 6 months of RRA but no later than) |
|------------------------------|---|---|
| >100,000 | Mar 31, 2020 ✓ | Sep 30, 2020 ✓ |
| 50,000 – 99,999 | Dec 31, 2020 ✓ | Jun 30, 2021 |
| 3,300 – 49,999 | Jun 30, 2021 | Dec 30, 2021 |

The new requirements provide for an all-hazards approach that seeks to balance the assessment of risk from malevolent and natural hazard threats that may impact utility operations, including increased consideration of cybersecurity threats to business and process control systems. Cybersecurity has been designated as the #1 national security threat to critical infrastructure. The National Institute of Standards and Technology (NIST) developed a Cybersecurity Framework in 2014 under [Executive Order 13636](#): Improving Critical Infrastructure Cybersecurity. In 2014, AWWA issued [guidance and a supporting use-case tool](#) to provide utilities with actionable information on cybersecurity. This guidance & tool have been

updated to align with new AWIA provisions and an updated NIST Cybersecurity Framework. EPA, DHS and NIST have supported application of AWWA's cybersecurity resources by water utilities. AWWA has developed a [Utility Risk & Resilience Certificate Program](#), which is based on the application several AWWA standards (G430, J100 and G440) to facilitate AWIA compliance and means to demonstrate due diligence.

Water System Restructuring Rule

This rulemaking is mandated under AWIA, section 2010(a). EPA has a statutory deadline to promulgate a rule by October 2020. Recognizing that this deadline has already passed, EPA is working towards the issuance of a rule that will authorize primacy agencies to require an assessment of restructuring options for a public water system that frequently violates health-based standards and is unwilling or unable to take feasible corrective actions to return to compliance or that has unsuccessfully attempted feasible and affordable actions to return to compliance. Currently the regulatory agenda anticipates publication of a proposal in early 2022 and a final rule in fall 2023.

Clean Water Act

Effluent Guidelines Program Plan 14

As part of the EPA's [PFAS Action Plan](#), published 2019, the EPA indicated an ongoing effort to examine readily available information about PFAS discharges to identify industrial sources that may warrant further study for potential regulation through Effluent Limitation Guidelines. On October 24, 2019 EPA published [preliminary Effluent Guidelines Program Plan 14](#), noting that "there were limited data on discharges of PFAS into the environment, in part due to the lack of analytical methods to detect these compounds in wastewater."

On January 11, 2021 EPA published the final Effluent Guidelines Program Plan 14. The finalized plan includes a description of activities to collect data and information on the PFAS presence and treatment of PFAS in discharges from the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category, which includes an effort to develop [Effluent Limitations Guidelines and Standards for PFAS discharges](#) applicable to this category. Currently this ELG applies to facilities within five specific SIC codes: 2821, 2823, 2824, 2865, and 2869.

Effluent Limitations Guidelines and Standards for the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category: PFAS Discharges

The current (Fall 2020) Unified Agenda of Regulatory and Deregulatory Actions includes an EPA action to initiate the rulemaking process to revise Effluent Limitation Guidelines for PFAS discharges from facilities under the Organic Chemicals, Plastics and Synthetic Fibers category.

On January 19 EPA released a pre-publication version of the advance notice. The [advance notice](#) requests public comment on the data collected to date in support of this effort and for additional information regarding discharges of PFAS from these facilities.

Pesticide General Permit

The [draft Pesticide General Permit](#) will if finalized replace the existing 2016 Pesticide General Permit. It applies to states and territories where EPA has direct jurisdiction but is also influential with respect to state NPDES program practice. The general permit is for point source discharges from the application of pesticides to waters of the United States (e.g. application of copper sulfate for algae control). The current

general permit expires October 31, 2021. The draft general permit has the same requirements and conditions as the 2016. With publication in the January 15 [Federal Register](#), EPA solicited comments through March 15, 2021.

Nationwide Permit

In 2017, the U.S. Army Corps of Engineers (USACE) reissued all nationwide permits (NWP) and determined that an Endangered Species Act (ESA) consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (the “Services”) was not required. On April 15, 2020 the Montana federal district court issued an Order in Northern Plains Resource Council v. USACE, No. 4:19-cv-00044-BMM (D. Mont.) (NPRC v. USACE) finding that USACE’s failure to consult under ESA Section 7 means the permit is not valid and the USACE may not authorize work under the terms and conditions of NWP 12. A subsequent order vacated NWP 12 as it relates to the construction of new oil and gas pipelines pending completion of the consultation process and compliance but allowed NWP 12 to remain in place for non-pipeline construction activities and routine maintenance, inspection, and repair activities on existing NWP 12 projects.

Consequently, USACE [drafted and finalized a proposed revision](#) to NWP 12 that “divides NWP 12 that authorizes utility line activities into a series of separate NWPs. [January 13, 2021](#) v USACE reissued and modified 12 existing NWPs and issuing four new NWPs. For these 16 NWPs, USACE also reissued and modified the NWP general conditions and definitions. Several of these new NWPs are relevant to water systems. The new permit conditions will alter current NWP 12 practice for water systems. The new permits and associated conditions take effect March 15.

401 Certification Process

On June 1, 2020, EPA published the final “Clean Water Act Section 401 Certification Rule” designed to streamline the processes around state certifications to federally permitted projects under Section 401 of CWA. Under these authorities, states certify or deny certification for projects seeking federal permits that the project is or is not protective of water quality under CWA and relevant state provisions. The extent to which states utilized this authority, and the time each state took to process such applications, varied considerably from one to another, and the revised rule limits both the scope of these reviews and the timeline under which states are allowed to conduct the reviews, as well as limitations on information that states can request about projects. This means that implementation of the certification process may change considerably in some states (but with limited impact in others) if this rule goes fully into effect.

The Agency action [was challenged](#) by four environmental groups as well as by 20 states and the District of Columbia in the U.S. District Court for the Northern District of California (American Rivers et al v Andrew R. Wheeler, Case No.: Case 3:20-cv-04636 and State of California et al v Andrew R. Wheeler, Case No.: 3:20-cv-4869). Six other environmental groups challenged the rule in U.S. District Court for South Carolina, District of Charleston (South Carolina Coastal Conservation League et al v. Andrew R. Wheeler, Case No.: 2:2020cv03062). Litigation is ongoing. January 11, 2021 the Office of Water distributed a [memorandum to EPA regions](#) on implementation of this provision.

Hazardous Substances Spill Prevention

In 2015, EPA was sued for failure to conduct a rulemaking for chemicals under CWA 311(j)(1)(C). This litigation was settled and a consent decree was filed with the court in February 2016 (Environmental Justice Health Alliance for Chemical Policy Reform v. U.S. EPA). The proposed rule was published to the Federal Register June 25, 2018, in which the Agency made a determination that additional regulation was not

necessary. The [final “no-action” rule](#) was published September 3, 2019 and became effective October 3, 2019.

In March 2019, EJHACPR filed a separate action alleging a failure to comply with CWA 311 (j)(5)(A)(i) (U.S. District Court, Southern District of New York, 19 Civ. 2516 (VM)). CWA requires EPA to issue a regulation requiring specific non-transportation-related facilities to prepare and submit plans for responding to a worst-case discharge of hazardous substances (and substantial threat of such a discharge). On February 3, 2019 EPA [solicited comment](#) on a consent decree in this case. The Consent decree requires EPA to publish a proposed rulemaking within 24 months of the final decree and publish a final action within 30 months of that proposal.

Peak Flow Management

April 17, 2018 Administrator Pruitt committed to EPA preparing a new rule that that would clarify CWA policy on blending at municipal wastewater treatment plants. A [series of stakeholder listening sessions](#) were held October 2018. EPA originally anticipated publishing a proposed rule in 2019 and the final rule in 2020, but the proposed rule has not yet reached OMB.

The rulemaking is intended to address ongoing inconsistencies in regulatory implementation following [Iowa League of Cities v. EPA, 711 F.3d 844](#) (8th Cir. 2013) which vacated the 2011 Blending Rule and Mixing Zone Rule, after the Court of Appeals for the District of Columbia’s [February 2017 decision](#) not to extend the 8th Circuit interpretation nationwide and a subsequent decision in February, 2018 by the U.S. Supreme Court to not hear the case.

This is the third time EPA has taken on blending. EPA has been relatively silent publicly on this rulemaking, and EPA failed to meet its stated schedule.

Effluent Limit Guidelines for Oil and Gas Production

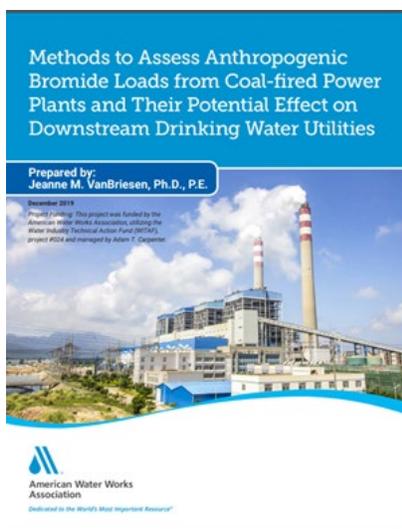
In October 2018 EPA held an [initial stakeholder meeting](#) to gather information related to potentially eliminate the discharge ban on oil and gas waste. Currently, discharge isn’t allowed; so the typical disposal strategy is Class II Underground Inject Control disposal wells. The oil and gas industry would like treatment standards to be developed for NPDES discharges to surface waters for wastewater streams from conventional and unconventional oil and gas extraction practices. EPA conducted a [study](#) to better understand if support exists for potential regulations that would allow for broader discharge of oil and gas extraction wastewater to surface waters under NPDES. The Groundwater Protection Council also released a [report](#) on the [potential reuse of produced water from oil and gas operations](#).

Effluent Limit Guidelines for Steam Power Plants

In September 2015, EPA finalized the previous version of [the Effluent Limitation Guidelines for Steam Power Plants](#). The rule set federal limits on the levels of selected toxic metals and nutrients in wastewater effluents that can be discharged from power plants. EPA recognized the potential downstream impacts on drinking water treatment plants from bromide discharged from these facilities, with one of the chief concerns being bromide discharges and their impacts on disinfection byproduct (DBP) formation in downstream drinking water facilities. In the 2015 rule, the Agency recommended but did not require that NPDES permit writers include bromide limits in permits and provide notification of water suppliers when drinking water intakes are located downstream from steam power plants.

Petitions were filed by electric power utilities challenging the ELG; environmental organizations have filed petitions to intervene in those lawsuits. AWWA filed a petition in collaboration with the National Association of Water Companies seeking further strengthening of the protections provided to drinking water suppliers.

A delay of compliance dates was published in the [Federal Register](#) on September 18, 2017, delaying most deadlines by two years (many to November, 2020) as EPA reconsidered portions of the rule. On November 22, 2019 EPA published a revised proposed rule for public comment, focused on flue gas desulfurization wastewater and bottom ash transport water. The proposed rule creates a Voluntary Incentive Program (VIP) for facilities that allows for more time to implement new standards and limitations in exchange for adopting additional process changes and control to achieve more stringent limitations. However, the proposed rule only established bromide limitations for facilities that choose the VIP option. EPA finalized the rule in [October 2020](#) with the same general structure as the proposal.



Recognizing that regardless of the outcome of the federal ELG, many of the challenges of addressing bromide discharges and their impacts on DBP formation would fall to state NPDES permitting agencies, AWWA worked with a nationally recognized expert on bromide impacts (Dr. Jeanne VanBriesen) and a steering committee of state drinking water offices, state NPDES offices, and utilities to develop [“Methods to Assess Anthropogenic Bromide Loads from Coal-fired Power Plants and Their Potential Effect on Downstream Drinking Water Utilities.”](#) This extensive WITAF funded report details the issues around bromide discharges, discusses available data (and data that states can request), and provides example pathways that states can use to identify NPDES permits that may need review, assess specific circumstances, and identify methods to mitigate these concerns.

National Pollutant Discharge Elimination System: Applications and Program Updates

On May 18, 2016, EPA [proposed revisions](#) to the NPDES program to “eliminate regulatory and application form inconsistencies; improve permit documentation, transparency and oversight; clarify existing regulations; and remove outdated provisions.” The proposal updates 15 elements of the NPDES program including permit applications; the water quality-based permitting process; permit objection, documentation and process efficiencies; the vessels exclusion; CWA section 401 certification process; and creates a new EPA authority to designate some administratively continued permits as proposed permits. The comment period ended August 2, 2016. [EPA published a final rule](#) February 12, 2019.

NPDES: Updates to eRule Data Elements to Reflect MS4 Remand Rule

On April 30, 2019, EPA proposed [rule revisions](#) to the [NPDES eRule](#) that apply to regulated municipal separate storm sewer systems (MS4s). These changes are necessary given the promulgation of the MS4 General Permit Remand [Rule](#), which made several MS4-related data elements in the NPDES eRule no longer accurate. These changes were [finalized](#) April 15, 2020.

NPDES: Water Quality Trading Credits

Water quality trading under CWA is an option for compliance with a water quality-based effluent limitation in a NPDES permit. According to EPA, water quality trading can provide better flexibility on the timing and level of technology a facility might install, reduce overall compliance costs, and encourage voluntary participation of non-point sources within the watershed. In 2003, EPA issued its Water Quality Trading Policy, which included guidance for permitting authorities and stakeholders to consider in the development of water quality trading programs. In 2007 and 2009, EPA released and updated a [toolkit for permit writers](#). February 6, 2019 EPA issued a memorandum titled "[Water Quality Trading Policy to Promote Market-Based Mechanisms for Improving Water Quality](#)."

On September 19, 2019 the [EPA published the request for comment](#) on policy approaches for addressing "baseline" issues in watersheds with EPA-approved total maximum daily loads. Subsequently in November 2020, EPA distributed "[Water Quality Trading on a Watershed Scale](#)" to EPA Regions.

A notice for a rule to establish a "Baseline in Market-Based Approaches, Including Water Quality Trading, under the National Pollutant Discharge Elimination System Program" is at OMB in review.

Waters of the United States

The Obama Administration definition of "Waters of the United States" was [published in the Federal Register \(PDF\)](#) on June 29, 2015. The rule became effective only in some states in a patchwork due to ongoing litigation, and the Trump Administration proposed both a [repeal](#) of the 2015 rule and in February 2019 a separate [new rule](#), using a more limited definition of WOTUS. On October 22, 2019 EPA and the Department of the Army [published the final rule](#), proposing to repeal the 2015 Clean Water Rule: "Waters of the United States" rule and to restore the regulatory text that existed prior to the 2015 Rule. On April 21, 2020, the final revised rule was published (the "[Navigable Waters Protection Rule](#)." In August 2020 [USACE released implementation guidance](#) for the published rule. There are numerous ongoing court cases with action initiated by states, environmental groups, and tribes.

NPDES: Releases from Point Sources to Groundwater

[EPA issued an Interpretative Statement](#) clarifying the application of CWA permitting requirements to groundwater in April 2019. Releases of pollutants to groundwater are categorically excluded from CWA's permitting requirements. This statement is not consistent with ninth and fourth U.S. district circuit court decisions. A [supreme court case, Hawaii Wildlife Fund v. County of Maui \(1:12-cv-00198\)](#) ruled that the impacts of discharges to groundwater that impact waters of the United States must be considered, although the extent of changes resulting from this ruling are not yet known.

On December 10th, 2020 EPA [published draft guidance](#) intended to clarify how the Supreme Court's decision should be applied under the CWA NPDES permit program. The guidance specifically clarifies when a permit is necessary in light of the recent County of Maui v. Hawaii Wildlife Fund court decision in cases where groundwater discharges reach Waters of the United States (WOTUS). EPA [published a notice](#) on January 21, 2021 announcing finalization of [this guidance](#) was released electronically on the morning of January 20.

Water Quality Criteria

At present the regulatory agenda does not include EPA releasing any new national water quality criteria.

In 2016 EPA completed several of its planned action items including proposing revised copper criteria for salt water, and proposing ambient water criteria / swimming advisories for [microcystins and cylindrospermopsin](#).

Development of a coliphage recreation water criteria continued with a [workshop in March 2016](#). To-date the expert feedback recognizes that coliphages are an indicator of fecal contamination, just as *Escherichia coli* (*E. coli*) and enterococci, but additional study would be necessary to set numeric values for such a coliphage criteria.

On July 29, 2016, EPA [proposed Estuarine/Marine Copper Aquatic Life Ambient Water Quality Criteria](#). The draft incorporates use of the saltwater biotic ligand model (BLM), a bioavailability model allows users to account for individual water quality variables (temperature, pH, dissolved organic carbon, and salinity) that influence the bioavailability and toxicity of copper.

In 2015 EPA [published final updated ambient water quality criteria](#) for the protection of human health for 94 chemical pollutants. These updated recommendations reflect the latest scientific information and EPA policies including updated body weight, drinking water consumption rate, fish consumption rate, bioaccumulation factors, health toxicity values and relative source contributions. Due to outstanding technical issues, EPA did not update human health criteria for the following chemical pollutants at that time: antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium (III or VI), copper, manganese, methylmercury, nickel, nitrates, nitrosamines, N-nitrosodibutylamine, N-nitrosodiethylamine, N-nitrosopyrrolidine, N-nitrosodimethylamine, N-nitrosodi-n-propylamine, N-nitrosodiphenylamine, polychlorinated biphenyls (PCBs), selenium, thallium, zinc, or 2,3,7,8-TCDD (dioxin).

EPA released the [Final Aquatic Life Criteria for Aluminum in Freshwater](#) on December 21, 2018 to reflect the latest science and to provide users the flexibility to develop criteria based on site-specific water chemistry (pH, hardness, and dissolved organic carbon). Depending on site-specific water chemistry, the criteria for aluminum may increase or decrease.

On December 19, 2016 [EPA published](#) draft recreational water quality criteria / swimming advisories for comment (total microcystins, 8 µg/L and cylindrospermopsin, 15 µg/L) where the observations above these levels persist for 1 in 10 days assessment period not more than 3 times in a recreational season each year. [EPA](#) used the same health effects information used to underpin the health advisories for cyanotoxins to [develop recreational water criteria](#) under CWA. In this instance cyanotoxin concentrations in the water are higher than those in drinking water, but the risk assessment reflects much smaller volumes of ingested water and therefore less stringent levels than the drinking water health advisories. June 6, 2019 EPA [published the criteria as final in the Federal Register](#). On December 16, 2019, EPA issued [draft state implementation guidance](#).

On September 30, 2019, EPA released the revised [Aquatic Life Benchmarks table](#), which includes both new and updated aquatic life benchmark values for registered pesticides. New benchmarks have been added to represent newly available toxicity endpoints and EPA plans to add to these benchmarks on an annual basis.

There is an ongoing inter workgroup led by the National Oceanographic and Atmospheric Association (NOAA) derived from the Harmful Algal Bloom and Hypoxia Research and Control Act that aims to facilitate research coordination among the federal agencies, posted its latest [progress report](#) in November 2020.

On September 16, 2019 EPA published a [Federal Register notice](#) requesting public comment to inform the development an Agency policy for determining if a harmful algal bloom or hypoxia event in freshwater is an “event of national significance”. Recent amendments to the [Harmful Algal Bloom and Hypoxia Research and Control Act](#) (HABHRCA) provide EPA with the statutory authority to make such a determination, which would enable mobilization of federal resources to assess and mitigate detrimental effects.

Additionally, there is [increasing focus](#) at the state level on harmful algal blooms and recreational water use (e.g., [California](#), [Florida](#), [Ohio](#), [Oregon](#), [Indiana](#), [New York](#), and [Wisconsin](#)).

In May, 2020, EPA issued a [notice of availability and request for comments](#) for “draft ambient water quality criteria recommendations for lakes and reservoirs for the conterminous united states: information supporting the development of numeric nutrient criteria”. This notice includes models to assess total nitrogen and total phosphorus in lakes and reservoirs and compare them with metrics designed to be protective of aquatic life, recreation, and drinking water source protection. Although this proposal does not in itself change the regulations or requirements upon permit writers, it does lay the foundation for increased use of numeric nutrient criteria in the future.

Emergency Planning and Community Right-To-Know Act

The [Emergency Planning and Community Right-To-Know Act](#) (EPCRA) was passed in 1986 and introduced requirements for emergency planning and response and public access to certain environmental releases. To implement these requirements, each state has a [State Emergency Response Commission](#) (SERC) and Local Emergency Planning Committees (LEPCs) each with specific responsibilities.

Emergency Planning and Response

Under EPCRA, covered facilities with specified chemicals on-site are required to notify the appropriate SERC and LEPC. Comprehensive emergency response plans are to be maintained by each LEPC. In the event of releases of extremely hazardous substances that requires notification, covered facilities must accordingly notify the LEPC. As part of the reporting requirements, facilities must provide an inventory of chemicals on-site. Tier I information is required on an annual basis and is aggregate information for hazardous chemicals in categories of health and physical hazards as set under the Occupational Safety and Health Act of 1970. Additionally, facilities must prepare Tier II information that is more comprehensive and provides more detailed information such as chemical names, stored quantities, and facility locations.

Amendments by AWIA 2018

America’s Water Infrastructure Act (AWIA) of 2018 includes a provision, Section 2018, that amends the Emergency Preparedness and Community Right-to-Know Act (EPCRA) in a manner intended to support source water protection. This provision requires prompt notification of community water systems, by the State, of a release potentially impacting a delineated source water area. EPA developed [outreach materials](#) to support awareness of this new provision with state agencies.

AWIA also grants community water systems with need-to-know access to EPCRA Tier 2 data for facilities within their delineated source water area. EPCRA Tier 2 is an annual inventory of hazardous chemicals. Both actions enhance source water protection and emergency response planning for community water systems.

Toxics Release Inventory

Another requirement of EPCRA is that maintenance of Toxic Chemical Release Forms, also known as the Toxics Release Inventory (TRI). Under this requirement, covered facilities (in SIC codes 212 Mining, 221 Utilities, 31 - 33 Manufacturing, All Other Miscellaneous Manufacturing (includes 1119, 1133, 2111, 4883, 5417, 8114), 424 Merchant Wholesalers, Non-durable Goods, 425 Wholesale Electronic Markets and Agents Brokers, 511, 512, 519 Publishing, and 562 Hazardous Waste). must monitor and keep records of environmental releases of certain chemicals when releases exceed specific thresholds. The purpose of the TRI is to serve as a resource for learning about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities. The TRI supports informed decision-making by communities, government agencies, companies, and others. Drinking water and wastewater facilities are not subject to these requirements but drinking water facilities can benefit from this information to track potential environmental releases in their watersheds.

Addition of Certain PFAS to TRI

As part of the PFAS Action Plan from February 2019, EPA indicated intent to add certain PFAS to the TRI list. On December 4, 2019 EPA published an [Advance Notice of Proposed Rulemaking \(ANPRM\)](#) to the Federal Register. The notice requested public input to identify candidate PFAS that meet the criteria for listing. On December 20, 2019 the NDAA was [signed into law](#), requiring EPA to list 172 PFAS in the TRI with an initial reporting threshold of 100 pounds per year.

In accordance with the provisions from the NDAA 2020, TRI reporting of these PFAS applies to 2020; required filings are due in 2021. On June 22, 2020 EPA published its [final rule](#). The final rule includes a de minimus exemption mechanism for releases containing less than 0.1% (1,000 ppm) of PFOA and 1% (10,000 ppm) for all other PFAS. Applicable facilities will be required to submit information by July 1, 2021, for calendar year 2020.

According to NDAA 2020, additional PFAS must be added to the TRI if certain criteria are met. These criteria include the completion of a final toxicity value, inclusion under an existing or new Significant New Use Rule, and/or its addition as an active chemical substance.

Toxic Substance Control Act

The [Toxic Substances Control Act \(TSCA\)](#) provides EPA with the authority to manage risks associated with chemicals used in manufacturing and commerce. EPA authorities under TSCA includes prioritization of chemicals, risk evaluations, and issuing regulations to manage risks, such as Significant New Use Rules.

TSCA was updated by Congress in June of 2016 and requires EPA to install a new process to review chemicals already existing in commerce. To-date EPA implementation does not provide a clear demonstration that the 2016 TSCA Amendments are providing improved protection of drinking water. Examples include [EPA's risk assessment framework for the initial ten risk assessments](#) prepared for chemicals already in commerce.

On June, 2018, EPA released [guidance on expanded access to TSCA confidential business information](#). It is possible that water systems may obtain information through "local government" access, but water systems are not named entities.

Recent Actions under TSCA

Risk Evaluation for 1,4-Dioxane

On July 1, 2019 EPA published a draft TSCA risk evaluation for 1,4-dioxane. In the proposal, EPA proposed draft findings on potential unreasonable risks to the general population and workers through various routes of exposure. In this draft evaluation, however, EPA excluded risks to environmental media regulated by other EPA statutory authorities such as ambient water (regulated by CWA) and drinking water (regulated by SDWA). EPA published a [supplemental analysis](#) to the draft risk evaluation. The supplemental analysis expanded the evaluation to include risks arising from exposure to ambient water. The [final TSCA Risk Evaluation for 1,4-dioxane](#) was [published January 8, 2021](#). The final Risk Evaluation still does not include risks to the general population from drinking water. The next step for EPA is to evaluate risk management alternatives to address the unreasonable risks that were identified by the risk evaluation.

Risk Evaluation for Perchloroethylene

On May 4, 2020 EPA published a draft TSCA Risk Evaluation for perchloroethylene. In the proposal, EPA requested public comment and requested a peer review by the Science Advisory Committee on Chemicals. Perchloroethylene is used in a variety of settings but typically for dry cleaning and degreasing metals. Notably, the draft risk evaluation did not include a consideration of exposure from ingestion of contaminated drinking water. The [final risk evaluation](#) was [published](#) December 18, 2020. The final Risk Evaluation still does not include risks to the general population from drinking water.

Risk Evaluation of Asbestos

[Evaluation of Asbestos](#) under section 6(b)(4) of the Toxic Substances Control Act (TSCA). Asbestos was identified as a priority chemical for re-evaluation. Public comments were due June 2, 2020 for this docket. EPA finalized its risk assessment in December 2020, [publishing](#) it January 4, 2021. The next step for EPA is to evaluate risk management alternatives to address the unreasonable risks that were identified by the risk evaluation.

The recent evaluation addresses in part direction from litigation of EPA's 2019 "[Restrictions on Discontinued Uses of Asbestos; Significant New Use Rule](#)." As part of that rulemaking, EPA evaluated the U.S. pipe market to be sure that new asbestos pipe was not being installed. The Asbestos Disease Awareness Organization (ADAO) filed suit (N.D. Cal. No. 19-cv-00871-EMC). Eleven state Attorneys General filed a similar lawsuit, California v. EPA, N.D. Cal., No. 19-cv-3807, seeking to require EPA to collect data on asbestos importation and use. On December 31, 2019 Judge Edward Chen consolidated the above cases and reached a final ruling December 22, 2020. The Court directed EPA to address loopholes in current data collection requirements under TSCA for asbestos, including exemptions for asbestos in articles, as an impurity in products, and when present as a naturally occurring substance. The order directs processors to participate in reporting and reduces the threshold amount for reporting to 10 pounds. Of particular interest is the continued use of asbestos in the production of chlorine and caustic soda, as well as, remaining incidental presence in construction products.

Risk Management for Fluoride

In February 2017 [EPA denied](#) a TSCA Section 21 petition (November 23, 2016) filed by the Fluoride Action Network and others to "prohibit the purposeful addition of fluoridation chemicals to U.S. water supplies." EPA concluded that the petition was not adequate and in 2017 the petitioners [filed a civil action](#) (N.D. Cal. No. 17-cv-02162-EMC) seeking an order compelling EPA to initiate a rulemaking. The case went to oral

arguments in June 2020. In November 2020 the petitioners re-submitted their petition, in keeping with the direction of the Court.

Significant New Use Rule for Certain PFAS

In March 2020, [EPA published a supplemental proposal](#) for the significant new use rule on long-chain perfluoroalkyl carboxylate and perfluoroalkyl sulfonate chemical substances for public comment. In the supplemental proposal, EPA narrows down the Significant New Use Notification requirements for articles where long-chain perfluoroalkyl carboxylates are used as a surface coating. The rule was [finalized](#) July 27, 2020. The rule requires notification to EPA of significant new uses for covered PFAS.

Federal Insecticide, Fungicide, and Rodenticide Act

Chlorine Gas

Disinfectants used for drinking water treatment are pesticides under FIFRA and subject to FIFRA label restrictions. On April 6, 2020 EPA proposed an interim registration review decision for chlorine gas. On October 23, 2020 EPA [finalized the interim decision](#) for re-registration of chlorine gas. The final decision classified all uses of chlorine gas other than for municipal water and wastewater treatment as restricted uses.

Sodium Hypochlorite, Potassium Hypochlorite, and Calcium Hypochlorite

May 1, 2018 EPA made an interim decision to improve and clarify the FIFRA label for drinking water uses. The [interim decision](#) allows manufacturers to propose label language that (1) removes conflicts with disinfection practice under SDWA and (2) references practices that control the formation of chlorate formation. On September 21, 2018 EPA sent out a notice of necessary [label changes](#) which included precautionary statements for drinking water uses.

Atrazine

The chlorotriazines (Atrazine, Propazine, and Simazine) have been the topic of a lengthy and active re-registration review process. The most recent development is the [Interim Decisions](#) for the triazines.

In November 2020 EPA [solicited comments](#) on draft biological evaluations for the registration review of atrazine, simazine, and propazine. Comments are due February 19, 2021. Depending on the final biological opinions, they could impact where and at what rate these pesticides are applied.

Modelling Pesticide Exposure

In registering pesticides, EPA must determine safe and effective application rates and practices. A part of this process is modelling the potential impact of pesticide use on drinking water. In December 2019 EPA solicited public comment on [alternatives to its current approaches](#).

Glyphosate

Glyphosate is the active ingredient in Roundup and the topic of extensive litigation. The MCL for glyphosate dates back to 1995 and is set at 0.7 mg/L based on potential kidney and reproductive damage. In January 2020 EPA released an [interim registration decision](#) for glyphosate, concluding that it is not a carcinogen in humans. EPA [finalized the interim decision](#) in February 2020. In November 2020 [EPA solicited](#) public comment on biological evaluation of glyphosate. Comments are now due March 21, 2021.

Clean Air Act

Risk Management Plan (RMP)

January 13, 2017, EPA [finalized amendments](#) to the Risk Management Plan requirements under the Obama administration. The RMP rule was first issued in 1996 to implement Section 112(r) of the Clean Air Act. The purpose of this section is to prevent accidental offsite releases of regulated substances and reduce the severity of those releases that do occur. Gaseous chlorine, ammonia, and other chemicals that represent risks to populations surrounding regulated facilities are the focus of RMP requirements. This particular rule is pertinent to drinking water and wastewater facilities that store and use covered chemicals, such as gaseous chlorine for disinfection.

The January 2017 “Amendments” rule was issued in response to [Executive Order 13650](#): Improving Chemical Facility Safety and Security. The “Amendments Rule” would have imposed extensive requirements mostly focus on post-incident review, and additional exercises and coordination with emergency responders. Public information disclosure and oversight of facility processes were also broadened.

Following the final rule EPA received three petitions for reconsideration of the February 2017 rule including one filed by 11 state Attorneys General. EPA subsequently published a proposed and [final rule](#) to delay the effective date of the RMP Amendments Rule to February 19, 2019, in order to give EPA time to conduct a reconsideration proceeding. On August 17, 2018, the U.S. Court of Appeals for the D.C. Circuit Court vacated EPA’s delay of the RMP Amendments Rule implementation. EPA published a [final rule](#) on December 3, 2018 implementing the Court’s decision. This action puts the 2017 RMP Amendment Rule back into effect, if only on a temporary basis. On May 30, 2018, while the delay rule was being litigated, EPA proposed the [RMP Reconsideration Rule](#), proposing to rescind many of the provisions in the 2017 Amendments rule.

The [final Reconsideration Rule](#) was promulgated December 19, 2019.

Federal Communications Commission

Proposed Unlicensed Use of the 6 GHz Band

The FCC effort to open the 6 GHz band for unlicensed use continues. Prior to the recent rules, the band was reserved for licensed use only, including water utilities and energy utilities. On April 23, 2020 the FCC [adopted new rules](#) for the 6 GHz band, releasing 1,200 megahertz of the spectrum (5.925 – 7.125 GHz) for unlicensed use. Incumbent users remain concerned that the FCC order does not provide additional testing to prevent interference from occurring or enforcement processes to resolve interference that does occur.

Congress adopted [language](#) in the recent Consolidated Appropriations Act for Fiscal Year 2021, sought by a multi-stakeholder group – which included AWWA -- that ensures incumbent users of the 6 GHz band are protected. According to the bill text, “...the agreement expects the FCC to ensure its plan does not result in harmful interference to incumbent users or impact critical infrastructure communications systems...expects the FCC to ensure any mitigation technologies are rigorously tested and found to be effective...”.

State-Specific Standards

There are several states legislatures that have initiated lawmaking processes to require their respective regulatory authorities to develop drinking water regulations.

1,4-Dioxane

Like asbestos, 1,4-dioxane [is being evaluated](#) as a priority existing chemical under TSCA.

In proposing its fourth round of regulatory determinations, EPA indicated that it had not determined if there was a meaningful opportunity to protect public health through a federal drinking water standard and that the Agency would wait on an IRIS risk assessment that is currently in development.

In a letter to EPA (February 11, 2017), New York Governor Andrew Cuomo sought EPA action to establish limits for 1,4-dioxane. On December 18, 2018 the New York Drinking Water Quality Council recommended a drinking water MCL of 1 ppb for 1,4-dioxane. The New York Department of Health proposed the limit on July 8, 2019 and the [proposed rulemaking](#) was published for public comment on July 17th.

On October 27, 2016, Michigan lowered the clean-up criteria for ground water from 85 µg/L to 7.2 µg/L. The Massachusetts MCL for 1,4-dioxane, which dates back to 2011, is 0.3 µg/L. In July 2019, New York's Department of Health proposed a 1 µg/L 1,4-dioxane MCL. California currently has a notification level of 1 µg/L and a response level of 35 µg/L. On March 27, 2020 the California Office of Environmental Health Hazard Assessment announced plans to initiate [development of a Public Health Goal](#) for 1,4-Dioxane. Information to assist in the development of the Public Health Goal is currently being collected until May 27th. On April 10th, 2020 Virginia passed a [state law](#) directing the Virginia Board of Health to develop an MCL for 1,4-dioxane.

1,2,3-Trichloropropane (1,2,3 TCP)

On March 3, 2017, the California State Water Resources Control Board proposed setting an MCL of 5 ng/L for 1,2,3-TCP. In 2009, the Office of Environmental Health Hazard Assessment (OEHHA) established a Public Health Goal (PHG) for 1,2,3-TCP of 0.7 ng/L based on cancer risk. California finalized the 5 ng/L MCL with an effective date of December 14, 2017. On September 4, 2018 New Jersey finalized its MCL for 1,2,3-TCP at 30 ng/L. Hawaii is the only other state to have an MCL for 1,2,3-TCP; it was promulgated in 2005 at 600 ng/L. In November 2019, Washington State Board of Health published [draft rule language](#) to establish a State Action Level for 1,2,3-TCP of 21 µg/L.

Hexavalent Chromium (Cr(VI))

In July 2011 California established a [Public Health Goal for Cr\(VI\) of 0.02 µg/L](#). Then, on May 28, 2014, California completed the administrative process for a final MCL of 10 µg/L. Three years later on May 31, 2017, the Superior Court of California [remanded the California MCL for hexavalent chromium](#) to the State Water Resources Control Board with an order to withdraw the [MCL](#) and establish a new MCL that takes into account costs to small water systems. On September 11, 2017 the California Waterboard clarified that the MCL was no longer in effect.

California's Office of Environmental Health Hazard Assessment is [currently reviewing](#) the 0.02 µg/L public health goal concurrently with Water Board efforts to propose an MCL and [respond to](#) the Court's concerns regarding the inadequacy of the State's benefit-cost analysis. In February 2020, California's Water Board

published a [white paper discussion](#) on “Economic Feasibility Analysis in Consideration of a Hexavalent Chromium MCL”.

On April 10th, 2020 Virginia passed a [state law](#) directing the Virginia Board of Health to develop an MCL for Cr(VI).

Manganese

Manganese is routinely reported to the public through consumer confidence reports and is also being monitored in UCMR4. [As noted above](#) EPA released reference values to accompany UCMR4 monitoring results. The UCMR reference value for manganese was based on a [2004 EPA health advisory](#). The health advisory recommends reduction of manganese below 50 µg/L in drinking water, setting a one-day / 10-day health advisory at 1 mg/L and a lifetime health advisory at 300 µg/L.

In August 2017 Ohio EPA announced its intention to more actively manage manganese by contemplating making a finished water concentration of 50 µg/L a violation, requiring health department involvement at 300 µg/L, and issuing a “do not drink advisory” at 1 mg/L. This approach contrasts sharply with the [current federal secondary standard](#) of 50 µg/L. More recently other states have taken administrative steps to facilitate or require Tier 1 public notification when manganese is observed above the advisory level. States in this list include Idaho, Iowa, Massachusetts, Michigan, and Oregon.

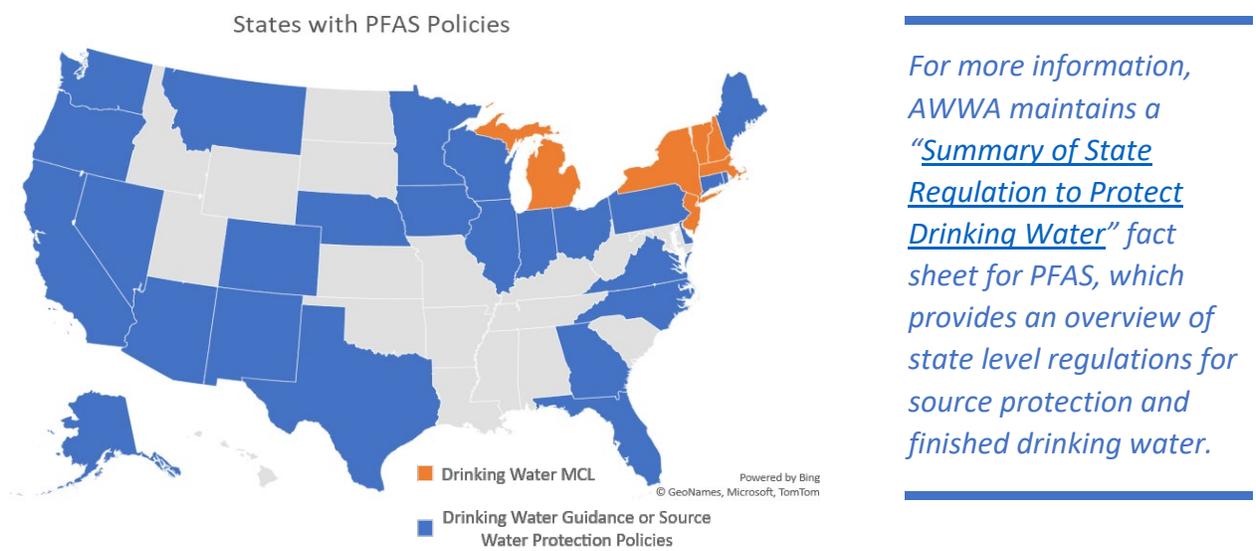
Per- and Polyfluoroalkyl Substances

While EPA is working to implement its PFAS Action Plan, states have begun implementing their own regulation of PFAS in drinking water. New Jersey established a MCL of 13 ng/L for perfluorononanoic acid (PFNA) in 2018 and In May 2020 finalized [MCLs](#) of 14 and 13 ng/L for PFOA and PFOS, respectively. In May 2019, Vermont enacted Senate Bill 49, which established an interim drinking water MCL of 20 ppt for the sum of PFOA, PFOS, PFNA, PFHxS, and perfluoroheptanesulfonic acid (PFHpA); these standards were finalized in February 2020. New Hampshire finalized rules [establishing MCLs for PFHxS, PFNA, PFOS, and PFOA](#); these MCLs update the state ambient groundwater quality standards that will apply wastewater effluent discharges to groundwater. Shortly thereafter, a judge halted the implementation of New Hampshire’s MCLs until further economic evaluation is completed. On July 8, 2019 the New York Department of Health proposed adoption of one of the nation’s strictest MCLs of 10 ng/L for PFOA and PFOS each. On October 11, 2019 the Michigan Department of Environment, Great Lakes, and Energy (EGLE) [announced](#) it would move forward with formal rule making on limits for PFNA, PFOA, PFHxA, PFOS, PFHxS, PFBS, and GenX. Massachusetts proposed a MCL of 20 ppt for the sum of PFOA, PFOS, PFNA, PFHxS, PFHpA, and perfluorodecanoic acid (PFDA) in December 2019. Pennsylvania and Washington are still in the pre-proposal development phase working towards identifying target PFAS and the specific MCL(s).

In addition to MCLs, many states including Alaska, California, Connecticut, Maine, Minnesota, North Carolina, Pennsylvania, Rhode Island, and Vermont have adopted health based advisory values for PFAS in drinking water supplies. While most of these states have adopted health advisories based on EPA’s lifetime health advisory, some states have expanded the scope of compounds included and others have implemented more stringent values. North Carolina is currently the only state with a health advisory level for the GenX compound.

In addition to MCLs and advisory levels for PFAS, some states taken further steps to better characterize the PFAS contamination in drinking water supplies throughout the state. In 2018, Michigan conducted a [state-wide sampling](#) of all public water systems, schools with their own wells, and tribal systems. At the same time, New York conducted [groundwater sampling](#) at remediation sites. California has mandated [monitoring for PFAS](#) targeted at facilities with a higher risk of PFAS contamination (such as airports, landfills, and fire training facilities). Pennsylvania initiated a similar [sampling program](#) earlier this year, that is aimed at better assessing the occurrence of PFAS in drinking water sources. New Hampshire and New York have also begun the process of conducting expanded sampling throughout the state.

On April 10th, 2020 Virginia passed a [state law](#) directing the Virginia Board of Health to develop an MCLs for PFOA, PFOS, and other PFAS. In support of this effort, a separate law has passed that [establishes a workgroup](#) to evaluate occurrence of certain PFAS in the state and help develop recommendations for MCLs.



Strontium

In May, 2019 Health Canada’s Federal-Provincial-Territorial Committee on Drinking Water (CDW) a drinking water [guideline and guideline technical document on strontium](#) in drinking water. The final guideline mirrors the initial consultation document, with a maximum acceptable concentration (MAC) of 7.0 mg/L in drinking water, based on bone effects in rats and other supporting information.

In January 2016 EPA’s [third Regulatory Determination](#) notice delayed action on a preliminary positive regulatory determination finding. [Currently EPA’s](#) lifetime health advisory level is 4 mg/l and one-day health advisory level is 25 mg/L. In proposing its [fourth round of Regulatory Determination](#) (March 10, 2020) EPA once again delayed action.

Canadian Drinking Water Guidelines

The latest summary table of [“Guidelines for Canadian Drinking Water Quality”](#) is dated September 2020. The status of several individual guideline values is reviewed here. Others that have received recent reviews include: *Giardia* and *Cryptosporidium* (2019), enteric viruses (2019), *Escherichia coli* (2020), cadmium (2020).

1,4-Dioxane

In 2018, Health Canada's Federal-Provincial-Territorial Committee on Drinking Water (CDW) assessed available information on 1,4-dioxane with the intent of establishing a drinking water guideline. The [draft guideline](#) technical document proposed to establish a maximum acceptable concentration (MAC) of 50 µg/L, based on liver effects in rats that occur before the development of cancer.

Aluminum

The existing Health Canada guideline on aluminum, was developed in 1998, recommended operational guidance values for treatment plants using aluminum-based coagulants as follows: less than 100 µg/L for conventional treatment plants and less than 200 µg/L for other types of treatment systems (e.g., direct or in-line filtration plants, lime softening plants). A health-based guideline was not established at that time, as there was no consistent, convincing evidence that aluminum in drinking water could cause adverse health effects in humans.

In June 2019 the CDW circulated a [consultation draft](#) proposing a MAC of 2,900 µg/L for total aluminum in drinking water, based on neurological effects observed in rats. An operational guideline value of (50 µg/L) was proposed for total aluminum to optimize water treatment and distribution systems.

Barium

In 2018 available information was assessed for Barium and the CDW proposed increasing the MAC from 1.0 mg/L, established in 1990, to 2.0 mg/L. The existing MAC was determined based on the absence of adverse effects on blood pressure in humans. A review of scientific data and information resulted in the [proposed MAC of 2.0 mg/L](#) based on kidney effects in male mice.

Boron

In 2020, the CDW published a report for consultation on the drinking water guideline for boron. Last updated in 1991, the boron MAC of 5 mg/L was based on testicular atrophy in a 2-year dog study and took into consideration limitations in treatment technology. Based on an assessment of new scientific data and information the CDW proposed reducing the [MAC to 2 mg/L](#), accounting for improved treatment achievability.

Chloramines

In 2018 the CDW assessed the need to update the drinking water guideline for chloramines. As a result of the assessment, the CDW determined that it a drinking water guideline was no longer necessary. The [CDW's report](#) proposed eliminating the existing MAC of 3.0 mg/L, which was established in 1995 based on a reduction in body weight gain. The proposed approach to eliminate the MAC is based on scientific data and information that show a very low toxicity for monochloramine in drinking water and that the health effects observed in earlier studies was due to decreased water consumption related to taste aversion to monochloramine.

Copper

In 2018 the CDW assessed available information on copper in drinking water with the intent of proposing a MAC. The established aesthetic objective of 1 mg/L was based on ensuring palatability and to minimize staining of laundry and plumbing fixtures. In the consultant, the CDW proposed a MAC of 2.0 mg/L, which

the CDW considers to be protective of both short-term effects and long-term effects. In June 2019, the proposed MAC of 2.0 mg/L was [finalized](#).

Lead

In 2017, the CDW assessed available information on lead with the intent to update the drinking water guideline. The existing guideline for lead, last updated in 1992, based its MAC of 10 µg/L on a provisional tolerable weekly intake of lead established by the World Health Organization (WHO) at a level that showed no increase in blood lead levels and thus no expected increase in health risks. The 2017 consultation document identifies reductions in IQ as the critical effect of lead, with a proposed MAC of 5 µg/L based on analytical achievability. In March 2019, [Health Canada published](#) drinking water guidelines that included a MAC for lead at 5 µg/L.

Manganese

In 2016 the existing manganese guideline, last updated in 1987, was assessed. The existing guideline for manganese was an aesthetic objective of 50 µg/L, based on treatment limitations as well as taste and staining of laundry and plumbing fixtures. In review of available information, the CDW proposed a MAC of 100 µg/L, which was based on neurological effects observed in rodents. The aesthetic objective was also reduced to 20 µg/L to minimize the occurrence of discolored water complaints and to improve consumer confidence in drinking water quality. In May 2019, [Health Canada published](#) a new MAC for total manganese of 120 µg/L and an aesthetic objective of 20 µg/L.

PFAS

In December 2018, Health Canada's CDW performed an assessment of available information on PFOA and PFOS with the intent of establishing guidelines. The draft guideline documents for PFOA and PFOS proposed a MAC of 200 ng/L and 600 ng/L, respectively. The proposed MAC for PFOA was [finalized](#). According to the CDW, since the toxicity of PFOA and PFOS are additive the sum of the ratios of the detected concentrations to the corresponding MACs of PFOA and PFOS should not exceed a value of 1.

Strontium

In May 2018 Health Canada's CDW [published a draft guideline](#) for public consultation. A maximum acceptable concentration (MAC) of 7.0 mg/L is proposed for strontium in drinking water, based on bone effects in rats and using currently available scientific studies and approaches. On May 24, 2019 the [proposed MAC was finalized](#).

Current U.S. Regulatory Agenda (Fall 2020)

The following draws on the Federal Unified Regulatory Agenda and is updated based on clear federal agency statements.

| Rule | Proposal | Final |
|---|--------------|----------|
| Rules Altering Rulemaking Process | | |
| Strengthening Transparency in Regulatory Science | 2020 | 2020 |
| Increasing Consistency and Transparency in Considering Benefits and Costs in the Safe Drinking Water Act | 2021 | |
| Application of Proposed Transparency in Science Requirements to the Development of Clean Water Act and Safe Drinking Water Act Regulations | 2021 | |
| Procedures for Issuing Guidance Documents | 2020 | 2020 |
| Procedures for Rulemaking Under Section 6 of the Toxic Substances Control Act | 2021 | |
| | | |
| Safe Drinking Water Act | | |
| Implementation of Reduction of Lead in Drinking Water Act | 2017 | 2020 |
| National Primary Drinking Water Regulations: Perchlorate | 2019 | 2020 |
| National Primary Drinking Water Regulations: Lead and Copper Rule Revisions | 2019 | 2021 |
| Regulatory Determinations for Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) | 2020 | 2021 (1) |
| Regulatory Determination for Strontium | 2014 | 2020 (2) |
| Fifth Unregulated Contaminant Monitoring Rule | 2020 (1) | 2021 |
| Water System Restructuring Rule | 2021 | -- |
| National Primary Drinking Water Regulations: Radon | 1999 | -- |
| Consumer Confidence Report Rule Revisions | Not included | -- |
| | | |
| Clean Water Act | | |
| Definition of Waters of the U.S. (three separate actions in 2018) | 2018 | 2020 |
| Updates to eReporting Rule Data Elements to Reflect MS4 General Permit Remand | 2019 | 2020 |
| NPDES Electronic Reporting Rule – Phase 2 Extension | 2019 | 2020 |
| Clean Water Act Methods Update Rule for the Analysis of Effluent | 2019 | 2020 |
| Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category | 2019 | 2020 |
| Updates to Wet Weather Treatment Regulations for POTWs | 2020 | 2020 |
| Discharges That are Functionally Equivalent to a Direct Discharge and Thus Subject to NPDES Permitting Under Section 402 of the Clean Water Act | 2021 | |
| Effluent Limitations Guidelines and Standards for the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category: PFAS Discharges | 2020 (3) | |
| | | |
| Toxic Substances Control Act | | |
| Reporting and Recording for Certain Chemicals Under Section 8(a) of the Toxic Substances Control Act | 2020 | 2021 |

| Rule | Proposal | Final |
|--|----------|-------|
| Updates to New Chemicals Procedural Regulations to Reflect the 2016 Amendments to the Toxic Substances Control Act (TSCA) | 2020 | 2021 |
| Reporting and Recordkeeping for Perfluoroalkyl or Polyfluoroalkyl Substances Under Section 8(a)(7) of the Toxic Substances Control Act (TSCA) | | |
| Trichloroethylene (TCE); Regulation of Certain Uses Under TSCA Section 6(a) | | |
| Emergency Planning and Community Right-To-Know Act | | |
| NDAA Mandated Addition of Certain Per- and Polyfluoroalkyl Substances (PFAS) to the Toxics Release Inventory for Reporting Year 2021 | | 2021 |
| Water Resources Reform and Development Act | | |
| Amendments to the Spill Prevention Control and Countermeasure | 2021 | 2022 |
| | | |
| Comprehensive Environmental Response, Compensation & Liability Act | | |
| Designation of PFOA and PFOS as CERCLA Hazardous Substances | 2020 (3) | -- |
| | | |
| Resource Conservation and Recovery Act | | |
| Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Amendments of the National Minimum Criteria (Phase One, Part One)⁴ | 2018 | 2018 |
| Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities: Enhancing Public Access to Information; Reconsideration of Beneficial Use Criteria and Piles⁴ | 2019 | |
| Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure^{PP4} | 2019 | 2020 |
| Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure⁴ | 2020 | 2020 |
| Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy Surface Impoundments | 2020 | 2021 |
| Hazardous and Solid Waste Management System Disposal of Coal Combustion Residuals from Electric Utilities: Federal CCR Permit Program | 2020 | 2020 |

¹ Not yet published in the [Federal Register](#); pre-publication version released.

² Announced delayed final regulatory determination, March 11, 2020.

³ Advance notice of rulemaking to initiate data collection and review process has been released as a pre-publication.

⁴ Amendments to the [2015 CCR final rule](#) following legal challenges and court decision.