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Regulating PFAS Under the Clean Water Act

In recent decades, improvements in analytical methods and monitoring technologies, along with health research, have increased national attention to the presence of *emerging contaminants* in surface water. Detections of one particular group of contaminants, per- and polyfluoroalkyl substances (PFAS), have heightened public and congressional interest in the U.S. Environmental Protection Agency's (EPA's) authorities under the Clean Water Act (CWA) to address PFAS in surface water.

Overview

EPA has several CWA authorities it may use to address regulated contaminants, such as PFAS, in surface water. A primary CWA mechanism to control contaminants in surface waters is through permits. The statute prohibits the discharge of pollutants from any point source to waters of the United States without a permit. The CWA authorizes EPA and states with delegated CWA permitting authority to limit or prohibit discharges of pollutants in their National Pollutant Discharge Elimination System (NPDES) permits. These permits incorporate technology-based and water-quality-based requirements.

The CWA requires EPA to establish technology-based effluent (i.e., discharge) limits for industrial dischargers, known as Effluent Limitation Guidelines (ELGs). EPA is also required to issue water quality criteria for use in establishing water quality standards for surface waters and water-quality-based effluent limitations. The CWA also authorizes EPA to utilize certain NPDES permit authorities to address contaminants; to set pollutant limits and monitoring and reporting requirements for contaminants in biosolids (i.e., sewage sludge from wastewater treatment facilities) if sufficient scientific evidence shows there is potential harm to human health or the environment; and to designate contaminants as toxic or hazardous pollutants.

In 2021, EPA first announced projected timelines for several actions to address PFAS using CWA authorities in its *PFAS Strategic Roadmap*. EPA released some annual progress reports on the 2021 *Roadmap*. In February 2026, EPA provided an update on its PFAS actions and referred to ongoing CWA efforts. To date, EPA has not finalized any ELGs to address any PFAS, has not set requirements for PFAS in biosolids, and has not designated any PFAS as a toxic pollutant or hazardous substance. EPA has published water quality criteria for certain PFAS, and in some instances has used NPDES permit authorities to address PFAS and has encouraged states to use such authorities.

Effluent Limitation Guidelines

The CWA requires EPA to publish ELGs, which are the required minimum standards for specific pollutants in industrial wastewater discharges. EPA has developed ELGs for 59 industrial source categories. For industrial facilities that discharge directly to regulated waters, EPA or states incorporate the limits established in ELGs into the NPDES permits they issue. For indirect dischargers—facilities that discharge to publicly owned treatment works (POTWs)—pretreatment standards established in ELGs to prevent pass through and interference at the POTW apply.

The CWA also requires EPA to annually review all existing ELGs and publish a biennial plan that includes a schedule for review and revision of promulgated ELGs, identifies categories of industrial sources discharging toxic or nonconventional pollutants that do not have ELGs, and establishes a schedule for promulgating ELGs for any newly identified categories. EPA's recent ELG biennial plans and related actions have included efforts to identify and characterize PFAS discharges, including the types and concentrations of PFAS discharged and the significant sources of PFAS discharges. The plans have also included details on the agency's efforts to determine whether the agency should update ELGs for certain industrial source categories to set effluent limitations for PFAS.

In the 2021 *Roadmap*, EPA established timelines for action, including data collection or rulemaking, on 11 industrial categories. EPA targeted the end of 2024 as the deadline for "significant progress in its ELG regulatory work." EPA released its latest preliminary ELG plan in December 2024, updating some of the agency's timelines. In these documents, EPA indicated that the agency

- planned to publish proposed rules revising ELGs for the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) Category (by fall 2024), the Metal Finishing and Electroplating Categories (by spring 2026), and the Landfills Category (in 2027);
- would continue its study of the Textile Mills Category;
- published a proposed information collection rule (in 2024) for a POTW Influent Study to collect nationwide data on industrial discharges of PFAS to POTWs; and
- would continue to monitor several other sectors.

Since 2024, specific updates on EPA's ELG work and influent study have been limited. The 2026 Regulatory Agenda includes new timelines for proposed OCPSF (July 2026) and Metal Finishing (February 2027) rules.

NPDES Authorities

In cases where EPA has not established an ELG for a particular industrial category or type of facility, or where pollutants or processes were not considered when an ELG was developed, the permitting authority (EPA or states) may still impose technology-based effluent limits on a case-by-case basis. The permitting authority may also require facilities with NPDES permits to monitor pollutants or conduct special studies to collect data to support future permit limits. The permitting authority may also include best management practices (BMPs) in permits on a case-by-case basis. However, the use of some of these authorities

can be limited when analytical methods to detect specific pollutants are not available.

In the 2021 *Roadmap*, EPA discussed plans to leverage some of its NPDES authorities. Central to these plans was the September 2021 publication of a draft EPA analytical method (Method 1633A) to test for 40 PFAS compounds in eight environmental media, including surface water and wastewater. EPA finalized this method in January 2024, along with a second method (Method 1621) that can screen for thousands of known PFAS compounds in water samples. In the 2024 *Roadmap* progress report, EPA stated that it would propose the two methods for adoption in regulations, "a necessary step for them to be nationally required for CWA use." EPA published a proposed rule to adopt these methods in January 2025, which has not been finalized as of the date of this report. The 2026 Regulatory Agenda also lists a rulemaking to update requirements for some existing NPDES permit applications to address PFAS monitoring and reporting. EPA anticipates a proposed rule by January 2027 and a final rule by May 2027.

EPA also issued two memoranda regarding PFAS and NPDES permits. The first (April 2022) detailed how the agency would address PFAS discharges in EPA-issued NPDES permits and when EPA is the pretreatment control authority. It recommended that EPA permit writers include certain permit conditions for industrial facilities where PFAS are expected or likely to be present in discharges. These conditions include effluent monitoring for the 40 PFAS detectable by EPA's Method 1633A and BMPs and pollution prevention conditions. The memorandum also recommended permit conditions for POTWs where EPA is the permitting authority or the pretreatment control authority, including effluent, influent, and biosolids monitoring requirements; BMPs; and pollution prevention practices. In December 2022, EPA issued a second memorandum to states with guidance on using similar NPDES authorities. In August 2026, EPA rescinded the state guidance, stating it was applied inconsistently and led to confusion for states and permittees.

Water Quality Criteria

CWA Section 304(a) requires EPA to develop and publish and "from time to time thereafter revise" criteria for water quality that accurately reflect the latest scientific knowledge. Water quality criteria provide concentrations for specific contaminants or conditions in a water body that, if not exceeded, will protect designated uses of the water body (e.g., aquatic life, public drinking water supply, recreation). These criteria are recommendations to states and tribal governments for use in developing their own water quality standards, which they use to protect and restore waters and to inform water-quality-based effluent limits in permits. EPA has developed several types of criteria targeted to protect different designated uses, such as human health, aquatic life, and recreational criteria.

In the 2021 *Roadmap*, EPA announced plans to develop national ambient water quality criteria for PFAS to protect human health and aquatic life. EPA targeted fall 2024 for publishing human health criteria for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). In December 2024, EPA published for public comment draft human health criteria for PFOA, PFOS, and perfluorobutane sulfonic acid (PFBS). These criteria have not been finalized. EPA targeted winter 2022 for publishing aquatic life criteria for PFOA and PFOS. EPA published final aquatic life criteria for PFOA and PFOS in October 2024. EPA issued benchmarks for eight PFAS that do not have sufficient data to define an aquatic life criteria value.

Biosolids Requirements

Biosolids (i.e., sewage sludge) are a product of the wastewater treatment process. Biosolids may be applied to land for beneficial purposes (e.g., agriculture) or disposed of via incineration or surface disposal. CWA Section 405(d) requires EPA to establish numeric limits and management practices to protect public health and the environment from the reasonably anticipated adverse effects of pollutants during biosolid use or disposal. Section 405(d) also requires EPA to review its biosolids regulations at least every two years to identify additional toxic pollutants that may be present in biosolids and promulgate regulations for those pollutants if sufficient scientific evidence shows they may adversely affect public health or the environment. EPA's process to determine whether a pollutant warrants regulation includes sewage sludge surveys (to identify the presence of pollutants in biosolids using samples taken from wastewater treatment plants), risk screening for pollutants found in biosolids, and risk assessments for pollutants in biosolids that exceed a level of concern.

EPA has not established numeric limits or monitoring or reporting requirements for PFAS in biosolids. In the 2021 *Roadmap*, EPA said it would complete, by winter 2024, a risk assessment for PFOA and PFOS in biosolids, which it would use to determine whether to regulate them. In January 2025, EPA published a draft risk assessment for PFOA and PFOS in biosolids for public comment. In June 2026, EPA issued draft guidance for public comment. It did not finalize the risk assessment. In the draft guidance memorandum, EPA stated that the agency determined the draft risk assessment had "a number of serious flaws." EPA opted to issue guidance to stakeholders to clarify potential risks from PFOA and PFOS and recommend practices to mitigate those risks when managing biosolids.

Toxic Pollutants or Hazardous Substances

The CWA authorizes EPA to designate contaminants as toxic pollutants (§307) or as hazardous substances (§311), which may trigger other actions under the CWA and the Comprehensive Environmental Response, Compensation, and Liability Act. EPA has not designated any PFAS as toxic pollutants or hazardous substances under CWA authorities and has not indicated that it plans to do so.

Recent Congressional Action

PFAS-related issues have generated congressional interest in recent years. Recent Congresses have held hearings and introduced and passed legislation to address PFAS. The Infrastructure Investment and Jobs Act provided $1 billion over five fiscal years to address emerging contaminants (including PFAS) in wastewater through the Clean Water State Revolving Fund. In the 119th Congress, some Members introduced bills related to PFAS in surface water.

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