

**FINAL-FORM RULEMAKING
ENVIRONMENTAL QUALITY BOARD
[25 PA. CODE CH. 93]**

Triennial Review of Water Quality Standards

The Environmental Quality Board (Board) amends Chapter 93 (relating to water quality standards) to read as set forth in Annex A.

This final-form rulemaking was adopted by the Board at its meeting of **DATE**.

A. Effective Date

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*. Once approved by the United States Environmental Protection Agency (EPA), water quality standards are used to implement the Federal Clean Water Act (CWA) (33 U.S.C. §§ 1251—1389).

B. Contact Persons

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C. Statutory and Regulatory Authority

This final-form rulemaking is authorized under sections 5(b)(1) and 402 of The Clean Streams Law (CSL) (35 P.S. §§ 691.5(b)(1) and 691.402), which authorize the Board to develop and adopt rules and regulations to implement the CSL (35 P.S. §§ 691.1—691.1001), and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20), which grants to the Board the power and duty to formulate, adopt and promulgate rules and regulations for the proper performance of the work of the Department. In addition, sections 101(a)(2) and 303 of the CWA (33 U.S.C. §§ 1251(a)(2) and 1313) set forth requirements for water quality standards, which states must meet to implement the CWA in this Commonwealth.

D. Background and Purpose

Water quality standards are in-stream water quality goals that are implemented by imposing specific regulatory requirements and permit conditions (such as treatment requirements, effluent limits and best management practices (BMP)) on individual sources of pollution. Water quality standards include protected water uses, the specific numeric and narrative criteria necessary to achieve and maintain those water uses, and antidegradation requirements. Section 303(c)(1) of the

CWA and the Federal regulations at 40 CFR 131.20 (relating to state review and revision of water quality standards) require states to periodically, but at least once every three years, review and revise as necessary their water quality standards. Under this Federal regulation, a state must provide an explanation to the EPA if the state does not adopt criteria that the EPA has published.

The surface waters of this Commonwealth are protected for a variety of water uses including aquatic life; drinking water supplies for humans, livestock, and wildlife; irrigation for crops, turf, and other horticultural activities; industrial water supplies; fish consumption; recreation; and special protection. Water quality criteria are those elements of water quality standards representing the quality of water that support the different water uses and can be expressed as constituent concentrations or narrative statements. Water quality criteria represent the conditions sufficient for maintenance or attainment of the chemical, physical, and biological integrity of waterbodies and water uses. Since states must adopt scientifically defensible criteria that protect water uses, criteria recommendations are made independent of other considerations.

Water quality standards are an important element of this Commonwealth's water quality management program and have existed in this Commonwealth for over 75 years. The program began with the establishment of the Sanitary Water Board (SWB) in 1923. The SWB was abolished on January 19, 1971, and the responsibilities for developing and maintaining the water quality criteria and standards were transferred to the Department of Environmental Resources (DER). New or revised specific water quality criteria and standards were developed by DER for all surface waters in this Commonwealth, and formally adopted into Chapter 93 on September 10, 1971.

DER completed its first triennial review of the Commonwealth's water quality standards in 1979. Since the CWA requires that states periodically review and revise their water quality standards, DER completed additional revisions in 1985, 1989 and 1994. The Conservation and Natural Resources Act (71 P.S. §§ 1340.101—1340.1103), enacted in 1995, replaced DER with the Department of Conservation and Natural Resources and the Department. The Department subsequently completed additional revisions to the Commonwealth's water quality standards in 2000, 2004, 2009, 2013 and 2020. This final-form rulemaking fulfills the Commonwealth's obligation to periodically review and revise its water quality standards and updates the water quality standards so that the surface waters of this Commonwealth are afforded the appropriate level of protection.

The EPA provided recommendations to the Department on this triennial review of water quality standards in a letter dated March 11, 2022. These recommendations included the following: consideration of all new or updated EPA criteria recommendations developed by the EPA under section 304(a) of the CWA (33 U.S.C. § 1314(a)), that have been published since May 30, 2000 and not yet adopted by the Commonwealth; clarification of the duration and frequency components of the Commonwealth's aquatic life criteria; consideration of the EPA's 2012 methodology for the development of secondary contact recreational water quality criteria; and the addition of a cross reference to the Department's compliance schedule provision in Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance).

The Board adopted the proposed rulemaking at its July 11, 2023 meeting, and it was published in the *Pennsylvania Bulletin* at 53 Pa.B. 6170 (October 7, 2023) with a 45-day public comment period that closed on November 21, 2023. The Board held one virtual public hearing on November 14, 2023, for the purpose of accepting comments and testimony on the proposed rulemaking. The Board received comments from 105 commentators, including testimony from 19 witnesses at the public hearing. The comments and testimony received on the proposed rulemaking are summarized in section F of this preamble. The Department's responses to all comments and testimony received on the proposed rulemaking are detailed in the comment and response document accompanying this final-form rulemaking. The Board has considered all public comments and testimony received on the proposed rulemaking in preparing this final-form rulemaking.

On May 16, 2024, the Department met with the Water Resources Advisory Committee (WRAC) to discuss the amendments to Chapter 93. WRAC voted to support presentation of this final-form rulemaking to the Board. In addition, the Department provided to the Agricultural Advisory Board on April 17, 2024, a regulatory review that included this triennial review of water quality standards.

E. Summary of Final-Form Rulemaking and Changes from Proposed to Final-Form Rulemaking

One change was made to the regulation from the proposed rulemaking to this final-form rulemaking to remove note 4 for Acrylonitrile in Table 5. On final rulemaking, the note for Acrylonitrile in Table 5, that referred to duration, is deleted because the appropriate durations are one-hour average (CMC) and four-day average (CCC). No other changes were made from the proposed rulemaking to this final-form rulemaking.

The following is a detailed summary description of the amendments to Chapter 93.

§ 93.1. Definitions

The Board deletes a reference to Appendix A, Table 1A from the definition of "toxic substance" in § 93.1 (relating to definitions). This table was deleted from Chapter 16 (relating to water quality toxics management strategy—statement of policy) in the previous triennial review of water quality standards and the amended statement of policy was published in the *Pennsylvania Bulletin* at 50 Pa.B. 3485 (July 11, 2020).

§ 93.7. Specific water quality criteria—Table 3

The Board adds language to § 93.7(a) (relating to specific water quality criteria) that clarifies the duration period for the aquatic life use criteria found in Table 3. Unless otherwise specified in § 93.7, the duration period of the aquatic life criteria with minimum or maximum values, and of the pH criterion, is a one-hour average as defined in § 93.1. Aquatic life criteria consist of a magnitude, duration and frequency. In general, the EPA recommends a duration period of one-hour for acute criteria in accordance with the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (Stephen et al., 1985) and the EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA, 1991).

§ 93.8c. Human health and aquatic life criteria for toxic substances

The Board adds a new subsection (c) that clarifies the duration periods for the aquatic life criteria in Table 5. Unless otherwise specified in § 93.8c (relating to human health and aquatic life criteria for toxic substances), the aquatic life criteria duration periods for criteria maximum concentration (CMC) values and criteria continuous concentrations (CCC) values are a one-hour average and a four-day average, respectively, as defined in § 93.1. These criteria duration periods are part of the CWA section 304(a) criteria recommendations that were previously adopted by the Department and are otherwise consistent with the EPA's criteria duration recommendations as published in the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (Stephen et al., 1985) and the EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA, 1991).

The Board adds to and amends the human health and aquatic life criteria in Table 5—Water Quality Criteria for Toxic Substances. These additions and amendments reflect the latest scientific information and are consistent with the Department's Water Quality Toxics Management Strategy—Statement of Policy, §§ 16.22 and 16.32 (relating to criteria development; and threshold level toxic effects). Additionally, the criteria are consistent with existing EPA policies outlined in the *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (EPA 2000) and the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (Stephen et al. 1985). The Board updates or adds aquatic life and human health criteria for cadmium, carbaryl, tributyltin, acetone, barium, boron, chloroform, formaldehyde, methyl ethyl ketone, metolachlor, resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,4-dioxane, chlorophenoxy herbicide (2,4-D), and xylene.

The Board also updates the acronyms and footnotes to Table 5. These updates include the following: the replacement of the existing H and CRL column with a new “Notes” column; the replacement of the word “footnotes” with “notes” in “Acronyms and Footnotes to Table 5”; the replacement of the existing footnote symbols with numerals; the replacement of the existing H and CRL acronyms with numerals; and the addition of a numeral to clarify that several aquatic life criteria have duration periods that are instantaneous and 24-hour.

Summary of Table 5 criteria

Cadmium is a relatively rare, naturally occurring metal found in mineral deposits that is widely distributed at low concentrations in the environment. Cadmium enters the environment through both anthropogenic and natural pathways including mining, agriculture, urban activities, industrial waste, manufacturing, coal ash, use of fossil fuels, incineration, municipal effluent, weathering and erosion of rocks and soils, and natural combustion from volcanoes and forest fires. The concentration of cadmium in unpolluted freshwaters is usually very low and often nondetectable, but solubility is dependent upon factors such as pH, hardness, alkalinity, and organic matter. Increased hardness has been shown to ameliorate the toxic effects of cadmium in freshwater animals. Cadmium is a non-essential metal that has no biological function in animals, and it is acutely toxic to aquatic animals. Cadmium is a known teratogen, carcinogen and a probable mutagen. The Department completed a comprehensive review of the science and information published on cadmium toxicity since the EPA's 2001 recommendations as detailed in the

Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Aquatic Life Use—Cadmium* (DEP 2024) and developed updated criteria for this Commonwealth. The final acute and chronic cadmium criteria for the protection of aquatic life are equation-based and will be dependent upon instream hardness. These criteria were developed consistent with the EPA's current aquatic life criteria development guidelines.

Carbaryl is a broad-spectrum insecticide, commonly known as Sevin®. In addition to being a broad-spectrum insecticide, carbaryl is also registered for use as a mosquito adulticide, a molluscicide, in pet care products and to thin fruit in orchards to enhance fruit size and repeat bloom. Since carbaryl is moderately mobile in soils, it enters aquatic environments primarily through stormwater runoff from areas where it has been applied including agricultural and urbanized areas. Carbamate insecticides inhibit acetylcholinesterase in animals, which can lead to uncontrolled movement, paralysis, convulsions, tetany and possibly death. The EPA published section 304(a) aquatic life criteria recommendations for carbaryl in 2012. The Department completed a comprehensive review of the EPA's 2012 recommendations as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Aquatic Life Use—Carbaryl* (DEP 2022c) and determined they are appropriate for this Commonwealth. The final criteria for the protection of aquatic life from carbaryl toxicity are 2.1 µg/L for acute toxicity and 2.1 µg/L for chronic toxicity. These criteria are consistent with the EPA's current section 304(a) criteria recommendations.

Tributyltin, also known as TBT, falls within a large class of chemicals described as organotins. Organotins, such as TBT, are used extensively in the manufacturing of plastic products and less extensively as biocides and as preservatives for wood, textiles, paper, leather, and electrical equipment. The largest direct release of TBT into aquatic environments is most likely the result of anti-fouling paints being used on ships, boats, nets, crab pots, docks and water cooling towers. TBT is the most toxic organotin to aquatic life. TBT disrupts the normal flow of ions across cell membranes leading to cell death. It is also an endocrine-disrupting chemical that causes masculinization of certain female gastropods (for example, snails). The EPA published section 304(a) aquatic life criteria recommendations for TBT in 2004. The Department completed a comprehensive review of the EPA's 2004 recommendations as detailed in the Department's criteria rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Aquatic Life Use—Tributyltin* (DEP 2022d) and determined they are appropriate for this Commonwealth. The final criteria for the protection of aquatic life from TBT toxicity are 0.46 µg/L for acute toxicity and 0.072 µg/L for chronic toxicity. These criteria are consistent with the EPA's current section 304(a) criteria recommendations.

Acetone is an organic solvent that has industrial, laboratory, medical, and domestic applications. Human exposure to acetone may occur through inhalation, dermal absorption or ingestion of food and water. Acetone is generally produced by the human body in small quantities. However, individuals who choose a ketogenic diet or take ketone supplements may be at increased risk of exposure. Among the general public, cigarette smokers and individuals who frequently use acetone-based nail polish removers are also at increased risk. In addition, professional painters, salon workers, factory workers, and commercial and household cleaning professionals are more likely to be exposed to acetone at higher concentrations. The Department is making updates to the existing acetone water quality criterion, which was previously approved

by the EPA in 2000, based on new toxicity information and exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for acetone utilizing current toxicity information published in the EPA's Integrated Risk Information System (IRIS) database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for acetone has been calculated with a total bioaccumulation factor of 1. The final criterion is 6,000 µg/L.

Barium is a naturally occurring metal found in underground mineral deposits that has many important industrial uses and some medical uses. Human exposure to barium may occur through inhalation or ingestion of food and water. High amounts of barium can be found in some foods including Brazil nuts, seaweed, fish, and certain plants. Individuals working in industries that make or use barium compounds have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing barium water quality criterion, which was previously approved by the EPA in 2000, based on new toxicity information and exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for barium utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for barium has been calculated with a total bioaccumulation factor of 1. The final criterion is 1,000 µg/L.

Boron is a naturally occurring element found in the earth's crust. When boron combines with oxygen, it forms compounds called borates including boric acid, boron oxide, and sodium tetraborates (that is, borax). Borates are used in the manufacture of industrial and consumer products including fire retardants, pesticides, glass, ceramics, soaps, bleaches, and detergents. Human exposure to boron may occur through inhalation, dermal contact, or ingestion of food and water. High amounts of boron can be found in some foods including nuts, dried fruits, avocado, and peanuts. Individuals working in industries that make or use borate compounds have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing boron water quality criterion, which was previously approved by the EPA in 2000, based on new toxicity information and exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for boron utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low

potential for bioaccumulation, the human health criterion for boron has been calculated with a total bioaccumulation factor of 1. The final criterion is 1,000 µg/L.

Chloroform is a colorless, volatile liquid. Chloroform produced in the United States today is primarily used to make other chemicals, such as refrigerants. However, it can also form as a byproduct of adding chlorine to water, which is a common practice in the treatment of drinking water and wastewater. Human exposure to chloroform may occur through inhalation, dermal contact or ingestion of food and water. Individuals living near or working in industries that make or use chloroform, living near municipal and industrial wastewater treatment plants and incinerators or paper and pulp plants, and receiving water from contaminated water sources have the greatest known risk of exposure to high concentrations. The EPA published an updated section 304(a) human health criterion recommendation for chloroform in 2015. The Department completed a comprehensive review of the EPA's 2015 recommendation as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a) and determined it is appropriate for this Commonwealth. The final criterion is 60 µg/L, which is consistent with the EPA's current section 304(a) criterion recommendation.

Formaldehyde is a colorless, flammable gas at room temperature. Formaldehyde can be found in many household items including antiseptics, medicines, cosmetics, dish-washing detergents, fabric softeners, carpet cleaners, glues and adhesives, lacquers, plastics, paper, and some types of wood products. It is also used in the production of sugar, fertilizers, paper, well-drilling fluids, latex, leather (tanning process), photographic film, embalming fluid, plywood and urea-formaldehyde resins. Human exposure to formaldehyde occurs primarily through inhalation, but may also occur through ingestion of food and water. Individuals living near or working in industries that make or use formaldehyde have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing formaldehyde water quality criterion, which was previously approved by the EPA in 2000, based on new exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for formaldehyde utilizing current toxicity information published in EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for formaldehyde has been calculated with a total bioaccumulation factor of 1. The final criterion is 1,000 µg/L.

Methyl ethyl ketone, also known as 2-butanone, is an organic, colorless liquid. Methyl ethyl ketone is used in the production of synthetic leathers, transparent paper, and aluminum foil. It is also used as a solvent for paints, lacquers, rubber cement, printing inks, paint removers, vinyl films, resins, rosins, polystyrene, chlorinated rubber, polyurethane, acrylic coatings and cleaning solutions. Human exposure to methyl ethyl ketone may occur through inhalation, dermal contact, or ingestion of food and water. Individuals working in industries that use methyl ethyl ketone

have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing methyl ethyl ketone water quality criterion, which was previously approved by the EPA in 2000, based on new toxicity information and exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for methyl ethyl ketone utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for methyl ethyl ketone has been calculated with a total bioaccumulation factor of 1. The final criterion is 4,000 µg/L.

Metolachlor is an organic compound that is widely used as an agricultural and commercial herbicide. Human exposure to metolachlor may occur through inhalation, dermal contact, or ingestion of food and water. Individuals living within or very near to areas of heavy agricultural use or who are involved in the production, formulation, handling, or application of metolachlor have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing metolachlor water quality criterion, which was previously approved by the EPA in 2008, based on new toxicity information and exposure inputs developed by the EPA. In 2004, the EPA announced that chemicals used as pesticides would not be re-assessed by the IRIS program. The Department has recalculated the Commonwealth's human health criterion for metolachlor utilizing current toxicity information published in the EPA's *Reregistration Eligibility Decision (RED) Metolachlor* (RED document, EPA 1995) and updated human health exposure inputs for body weight, drinking water intake and fish intake. Based on its low potential for bioaccumulation, the human health criterion for metolachlor has been calculated with a total bioaccumulation factor of 1. According to the RED document, a cancer potency factor was recommended in 1991 but later retracted in 1994. In 1994, the Health Effects Division Peer Review Committee recommended a margin of exposures (MOE) approach for metolachlor since there was no supportable mutagenicity concern and in light of new information on the relative metabolism of metolachlor. The MOE was calculated from a no-observed-adverse-effect-level (NOAEL) of 15 mg/kg/day. Since the reference dose is based on a NOAEL of 9.7 mg/kg/day, cancer concerns are adequately addressed. The Department had previously applied an additional safety factor of 10 to the reference dose since the EPA had not published a cancer potency factor, but this cancer safety factor has been removed based on the 1995 RED document information. The final criterion is 700 µg/L.

Resorcinol is a white crystalline compound. It is largely used by the rubber industry in the manufacture of tires and other fiber-reinforced rubber mechanical goods, such as conveyor and driver belts. Resorcinol is also used in manufacture of dyes, pharmaceuticals, flame retardants, agricultural chemicals, fungicidal creams and lotions, explosive primers, antioxidants and specialty chemicals. Human exposure to resorcinol may occur through inhalation, dermal contact, or ingestion of food and water. Individuals working in industries that manufacture or use resorcinol have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing resorcinol water quality criterion, which was previously approved by the EPA in 2013, based on new exposure inputs developed by the EPA. The Department has

recalculated the Commonwealth's human health criterion for resorcinol utilizing the previously used toxicity information and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for resorcinol has been calculated with a total bioaccumulation factor of 1. The final criterion is 3,000 µg/L.

1,2,3-trichloropropane is a colorless, non-naturally occurring liquid. It is commonly used as a chemical intermediate in the production of other chemicals. 1,2,3-trichloropropane was also used as a solvent and extraction agent in the past. Human exposure to 1,2,3-trichloropropane may occur through inhalation, dermal contact, or ingestion of food and water. Individuals living near or working in industries that manufacture 1,2,3-trichloropropane have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing 1,2,3-trichloropropane water quality criterion, which was previously approved by the EPA in 2000, based on new exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for 1,2,3-trichloropropane utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for 1,2,3-trichloropropane has been calculated with a total bioaccumulation factor of 1. The final criterion is 30 µg/L.

1,2,4-trimethylbenzene is a colorless liquid. It is used as a solvent in the manufacture of dyes, perfumes, and resins; in the manufacture of pharmaceuticals; as an industrial solvent and paint thinner; and as a fuel additive. Human exposure to 1,2,4-trimethylbenzene may occur through inhalation, dermal contact, or ingestion of food and water. Individuals living near or working in industries that manufacture or use 1,2,4-trimethylbenzene have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing 1,2,4-trimethylbenzene water quality criterion, which was previously approved by the EPA in 2013, based on new exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for 1,2,4-trimethylbenzene utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). The total bioaccumulation used in the calculation of the 1,2,4-trimethylbenzene criterion is 439. This value was provided by the EPA as a bioconcentration factor (EPA 1994). The final criterion is 10 µg/L.

1,3,5-trimethylbenzene is a colorless liquid. It is used as a solvent in the manufacture of dyes, perfumes, and resins; and as an industrial solvent and paint thinner. Human exposure to 1,3,5-trimethylbenzene may occur through inhalation, dermal contact, or ingestion of food and water. Individuals living near or working in industries that manufacture or use 1,3,5-trimethylbenzene have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing 1,3,5-trimethylbenzene water quality criterion, which was previously approved by the EPA in 2013, based on new exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for 1,3,5-trimethylbenzene utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). The total bioaccumulation used in the calculation of the 1,3,5-trimethylbenzene criterion is 439. This value was provided by the EPA as a bioconcentration factor (EPA 1994). The final criterion is 10 µg/L.

1,4-dioxane is a synthetic, clear, colorless liquid at room temperature. It is primarily used as a solvent, but it was historically used as a stabilizer for the solvent 1,1,1-trichloroethane and can show up as a contaminant in ethoxylated surfactants. These substances are commonly used in consumer cosmetics, detergents and shampoos. Human exposure to 1,4-dioxane may occur through inhalation, dermal contact, and ingestion of food and water. Individuals who work in industries that manufacture or use 1,4-dioxane have the greatest known risk of exposure to high concentrations. The Department has calculated the Commonwealth's human health criterion for 1,4-dioxane based on the current toxicity information available in the EPA's IRIS database along with updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—1,4-Dioxane* (DEP 2022b). The Department reviewed additional scientific publications submitted to the Board through the public comment period for the proposed rulemaking. The Department's review of this information did not result in a change to the criterion recommendation because these studies either do not add new data (that is, they were analyses of previously published study data) or consist of short-term studies that were completed in 90 days or less (that is, 1 week to 3 months). In 2020, the EPA reviewed the available data for 1,4-dioxane as part of its evaluation under the Toxic Substances Control Act and reconfirmed their position on a mode of action for 1,4-dioxane. The EPA noted that such short-term studies cannot establish a mode of action for tumor formation since the occurrence of tumors cannot be evaluated in a 13-week (or less) period of exposure. The Department agrees with the EPA's conclusion. Based on its low potential for bioaccumulation, the human health criterion for 1,4-dioxane has been calculated with a total bioaccumulation factor of 1. The final criterion is 0.3 µg/L.

Chlorophenoxy herbicide (2,4-D) is an herbicide used to control broad-leaved weeds in cereals, grain crops, roadsides and farm buildings. 2,4-D is currently registered as a pesticide by the EPA and is one of the most widely used agricultural herbicides in the United States. Human exposure to 2,4-D may occur through inhalation, dermal contact and ingestion of food and water. Individuals living within or very near to areas of heavy agricultural use or who are involved in the

production, formulation, handling, and/or application of 2,4-D have the greatest known risk of exposure to high concentrations. The EPA published an updated section 304(a) human health criterion recommendation for 2,4-D in 2015. The Department completed a comprehensive review of the EPA's 2015 recommendation as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a) and determined it is appropriate for this Commonwealth. The final criterion is 1,300 µg/L, which is consistent with the EPA's current section 304(a) criterion recommendation.

Xylene is primarily a synthetic, colorless, flammable liquid produced from petroleum. It is commonly produced in the United States and is used as an industrial solvent, a paint thinner, a cleaning agent, in the manufacture of plastics, and as a material in chemical, plastics and synthetic fiber industries. Human exposure to xylene may occur through inhalation, dermal contact or ingestion of food and water. Individuals living near or working in industries that manufacture xylene have the greatest known risk of exposure to high concentrations. The Department is making updates to the existing xylene water quality criterion, which was previously approved by the EPA in 2000, based on new exposure inputs developed by the EPA. The Department has recalculated the Commonwealth's human health criterion for xylene utilizing current toxicity information published in the EPA's IRIS database and updated human health exposure inputs for body weight, drinking water intake and fish intake as detailed in the Department's criterion rationale document titled *Rationale for the Development of Ambient Water Quality Criteria for Protection of Human Health—Acetone, Barium, Boron, Chloroform, Formaldehyde, Methyl ethyl ketone, Metolachlor, Resorcinol, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-Trimethylbenzene, Chlorophenoxy herbicide (2,4-D), and Xylene* (DEP 2022a). Based on its low potential for bioaccumulation, the human health criterion for xylene has been calculated with a total bioaccumulation factor of 1. The final criterion is 1,000 µg/L.

§ 93.8e. Special criteria for the Great Lakes System

The Board adds a new subsection (b.1) that clarifies the duration periods for the aquatic life criteria in Table 6—Great Lakes Aquatic Life and Human Health Criteria. Unless otherwise specified in § 93.8e (relating to special criteria for the Great Lakes System), the aquatic life criteria duration periods for CMC values and CCC values are a one-hour average and a four-day average, respectively, as defined in § 93.1.

The Board also updates the acronyms and footnotes to Table 6. These updates include: the replacement of the existing H and CRL column with a new “Notes” column; the replacement of the word “footnotes” with “notes” in “Acronyms and Footnotes to Table 6”; the replacement of the existing footnote symbols with numerals; and the replacement of the existing H and CRL acronyms with numerals.

§ 93.9. Designated water uses and water quality criteria

The Board adds language to subsection (a) that clarifies the duration period for certain criteria listed as “exceptions to specific criteria” in the following drainage lists: §§ 93.9e, 93.9o and

93.9x (relating to Drainage List E; Drainage List O; and Drainage List X). A duration period of a one-hour average, defined in § 93.1, applies to those criteria. The EPA recommends a duration period of one-hour for acute criteria in accordance with the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* (Stephen et al. 1985) and the EPA's *Technical Support Document for Water Quality-based Toxics Control* (EPA 1991).

Exceptions for fishable/swimmable waters

The triennial review of water quality standards requires that states reexamine the available information for waterbody segments, where the fishable or swimmable designated uses specified in section 101(a)(2) of the CWA have been removed, to determine whether sufficient new information exists which demonstrates the uses are now attainable. There are two waterbodies in this Commonwealth where the fishable or swimmable uses have been removed: the Harbor Basin and entrance channel to Outer Erie Harbor/Presque Isle Bay (§ 93.9x), and several zones in the Delaware Estuary (§ 93.9e and § 93.9g (relating to Drainage List G)).

The Water Contact Sports (WC) designation was deleted from the Harbor Basin and entrance channel demarcated by United States Coast Guard buoys and channel markers on Outer Erie Harbor/Presque Isle Bay. This decision to remove the WC protected use was supported by a Use Attainability Analysis (UAA) study conducted by DER in 1985. Because the same conditions exist today as described in the UAA and because there is not sufficient new information or data which demonstrates attainability, no change is being made to the designated use for Outer Erie Harbor/Presque Isle Bay.

In April 1989, DER cooperated with the Delaware River Basin Commission (DRBC), the Federal government and other DRBC signatory states on a comprehensive UAA study in the lower Delaware River and Delaware Estuary. This study resulted in recommendations regarding the DRBC's primary contact recreation designated use (synonymous with this Commonwealth's WC protected use), which the DRBC included in its regulations for water use classifications and water quality criteria for portions of the tidal Delaware River in May 1991. The DRBC standards are referenced in §§ 93.9e and 93.9g.

For this rulemaking, the Department reviewed the available water quality data for Zones 3 and 4 and determined that there is not sufficient new information to demonstrate the WC use is attainable. In many portions of these zones, the recorded levels of fecal bacteria and *E. coli* exceed the Commonwealth's bacteria water quality criteria in § 93.7, Table 3, and, therefore, would not support the WC use.

In addition, limited aquatic life uses for Zones 3 and 4, and upper Zone 5 of the Delaware Estuary basin were also incorporated into §§ 93.9e and 93.9g, which also date back to the original Article 301—Water Quality Criteria that were added to the SWB's rules and regulations in 1967. These are described in §§ 93.9e and 93.9g as Warm Water Fishes (WWF) (Maintenance Only) and Migratory Fishes (MF) (Passage Only) for tidal portions of the basin, from river mile 108.4 to the Pennsylvania-Delaware state border. The current designated uses within these zones refer to the DRBC's water quality standards regulations which were developed to protect only maintenance of resident fish and other aquatic life and passage of anadromous fish.

Recent data and observations suggest recovery is occurring in propagation for some species in portions of these zones. Therefore, the DRBC initiated an evaluation of available data for resident and anadromous fishes collected since 2000 in an attempt to quantify spawning and early life stages, and the extent of successful reproduction for estuarine species (DRBC 2015).

The DRBC found that for all nine fish species evaluated (Atlantic Sturgeon, American Shad, Striped Bass, White Perch, Bay Anchovy, Atlantic Silverside, Alewife, Blueback Herring, and Atlantic Menhaden) successful reproduction was clearly demonstrated in one or more of the compromised estuary zones. In addition, moderate to strong reproduction was demonstrated for multiple species in each zone indicating substantial recovery in the propagation use for Zones 3 and 4, and upper Zone 5 (DRBC 2015).

The Department continues to work in cooperation with the DRBC, the Federal government and other DRBC signatory states to determine the appropriate designated use or uses that should apply in the lower Delaware River and Delaware Estuary. The parties remain committed to enhancing the surface water quality of the lower Delaware River and Delaware Estuary. Recently, the EPA proposed regulations that may restore the full section 101(a)(2) “fishable” use for the Delaware Estuary (See 88 FR 88315 (December 21, 2023)). The Department supports the EPA’s efforts to develop water quality standards in the Delaware Estuary. In addition, in 2024, the Department collaborated with the DRBC to collect additional bacteria monitoring data with a focus on capturing the variability of water quality conditions and contamination sources, along with conducting sampling in the areas most likely to be used for wading, kayaking or swimming.

While the Department continues to work in cooperation with the DRBC, the Federal government and other DRBC signatory states to determine the appropriate designated use or uses, the Department will protect existing uses in accordance with § 93.4c(a) (relating to implementation of antidegradation requirements).

F. Summary of Comments and Responses on the Proposed Rulemaking

As a result of the public comment period and virtual public hearing, the Board received comments from 105 commentators, including the EPA Region 3 and the Independent Regulatory Review Commission (IRRC).

In its comments, IRRC noted commentators’ concerns regarding the revisions to the criteria recommendations in the rulemaking for 1,4-dioxane, metolachlor, formaldehyde, acetone, resorcinol, and chloroform and asked the Board to explain the reasonableness of the revisions and how the recommended criteria protect the public health, safety and welfare. The Department developed reasonable proposed water quality criteria for 1,4-dioxane, metolachlor, formaldehyde, acetone, resorcinol, and chloroform that protect public health, safety and welfare, by following the best available peer-reviewed science and current recommendations from the EPA. Additionally, the Department followed its regulations and policies for developing criteria, as described in Chapters 93 and 16, respectively.

IRRC noted that the EPA requested additional information relating to the clarifying language that is being added for the duration component of the Commonwealth’s aquatic life criteria. The Board is not adopting new criteria duration components in this final-form rulemaking. Rather, the

Board is adding language to the regulations to clarify the existing duration components that already apply to each of the aquatic life criteria. The EPA also asked why the Department was not clarifying the frequency component of the criteria in this triennial review. The Department did not have the time and resources necessary to complete the development of frequency language for this triennial review. Understanding the criteria frequencies for Chapter 93, Tables 3, 5 and 6 will require additional research and will also require concurrent amendments to Chapter 96 (relating to water quality standards implementation). The Department intends to recommend clarifications to the frequency component as part of the next triennial review. In response to the EPA's request for explanations of "different" criteria durations for acrylonitrile, chlordane, 4,4-DDT, endosulfan and beta-endosulfan, the Board directs the EPA to the Section 304(a) criteria recommendations for these pollutants, including the 24-hour average and instantaneous durations. The 24-hour duration for acrylonitrile was a typographical error and has been corrected in this final-form rulemaking.

Several comments submitted on the proposed rulemaking by IRRC, the EPA and commentators were outside the scope of the rulemaking and, therefore, cannot be addressed in this final-form rulemaking. Responses to these comments are included in the comment and response document that accompanies this final-form rulemaking. The comments included requests to adopt nutrient criteria for the protection of lakes and reservoirs, human health criteria or swimming advisories for microcystins and cylindrospermopsin, a methylmercury human health criterion, and aquatic life criteria for aluminum, chloride, copper and selenium, as well as comments to restore the WC use to the Delaware Estuary.

A detailed summary of the comments submitted to the Board and the Department's responses to those comments are available in the comment and response document that accompanies this final-form rulemaking.

G. Benefits, Costs and Compliance

Benefits

Overall, this Commonwealth's residents and visitors and its natural resources benefit from providing the appropriate level of protection to preserve the integrity of existing and designated uses of surface waters in this Commonwealth. Protecting water quality provides economic value to present and future generations in the form of a clean water supply for human consumption, wildlife, irrigation and industrial use. It also protects aquatic life and provides for recreational opportunities such as fishing (including fish consumption), WC and boating.

This Commonwealth's residents and visitors, both present and future, will benefit from having clean water that is protected and maintained at appropriate levels of water quality. A reduction in the total toxic load in this Commonwealth's waterbodies is likely to have a positive effect on the human health of its residents. This will translate into a yet unknown economic benefit through avoided cleanup or remediation costs that would have been incurred later in time, as well as avoided costs for the treatment and caring for persons with diseases and disabilities that can be reasonably attributed to environmental contaminants in surface water.

Reduced toxics in the Commonwealth's surface waters positively impacts the recreational fishing and tourism industries by increasing the availability and use of swimming and fishing locations throughout this Commonwealth. Additionally, cleaner rivers and fish may lead to increased birding and wildlife viewing opportunities, as the benefits of cleaner water and less contaminated fish cascade up the food chain, resulting in substantial economic benefits. Persons who recreate on this Commonwealth's surface waters and who fish, both for sport and consumption, in those waters will benefit from better water quality protection.

A reduction in toxics found in the waterways of this Commonwealth may also lead to increased property values for properties located near rivers or lakes. Epp and Al-Ani (1979) used real estate prices to determine the value of improvements in water quality in small rivers and streams in this Commonwealth. Water quality, whether measured in pH or by the owner's perception, has a significant effect on the price of adjacent property. The analysis by Epp and Al-Ani (1979) showed a positive correlation between water quality and housing values. They concluded that buyers are aware of the environmental setting of a home and that differences in the quality of nearby waters affect the price paid for a residential property.

A 2006 study from the Great Lakes region (Braden et al. 2006) estimated that property values were significantly depressed in two regions associated with toxic contaminants (polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and heavy metals). The study showed that a portion of the Buffalo River region (approximately 6 miles long) had depressed property values of between \$83 million and \$118 million for single-family homes, and between \$57 million and \$80 million for multifamily homes, as a result of toxic sediments. Braden et al. (2006) estimated that a portion of the Sheboygan River (approximately 14 miles long) had depressed property values of between \$80 million and \$120 million as the result of toxics. While this study related to the economic effect of contaminated sediment in other waters in the Great Lakes region, the idea that toxic pollution depresses property values applies in this Commonwealth. A reduction in toxic pollution in this Commonwealth's surface waters has a substantial economic benefit to property values near waterways.

Southwick Associates has prepared several reports for the Theodore Roosevelt Conservation Partnership that analyze the economic contribution of outdoor recreation in this Commonwealth. A 2018 report (Southwick Associates 2018) found that during 2016 there were more than 390,000 jobs supported by outdoor recreation activities in this Commonwealth, and that, for comparison, this was more than the number of jobs in this Commonwealth that supported the production of durable goods during the same year. This report also found that, in 2016, outdoor recreation had an economic contribution in this Commonwealth of almost \$17 billion in salaries and wages paid to employees and generated over \$300 million in Federal, State and local tax revenue. An updated 2022 report (Southwick Associates 2022) revealed that economic contributions from outdoor recreation increased from nearly \$17 billion in salaries and wages paid to employees in 2016 to nearly \$20 billion in 2020. The 2022 report also continued to highlight the fact that "more Pennsylvania jobs are supported by outdoor recreation than by the production of durable goods." The 2022 report found that, in 2020, outdoor recreation activities supported more than 430,000 jobs, contributed more than \$32 billion to the Commonwealth's state gross domestic product and generated over \$6.5 billion in tax revenue at the Federal, State and local levels, which is a significant increase from the 2016 tax revenue total of over \$300 million.

There are also economic benefits to be gained by having clearly defined remediation standards for surface waters. Under the Commonwealth's Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.909), liability relief is available, by operation of law, if a person demonstrates compliance with the environmental remediation standards established by this law. Surface water quality criteria are used to develop remediation standards under this law. Persons performing remediation depend upon these criteria to obtain a liability relief benefit under this law. Industrial land redevelopers will benefit from these regulations by having financial certainty when choosing a surface water cleanup standard and by being eligible for liability relief under Commonwealth law.

It is important to realize these benefits and to ensure opportunities and activities continue in a manner that is environmentally, socially and economically sound. Protection and maintenance of water quality at appropriate levels as supported by the latest science ensures that surface waters of this Commonwealth can support all current and potential future uses.

Compliance costs

This final-form rulemaking is necessary to improve total pollution control in this Commonwealth and may impose additional compliance costs on the regulated community. The expenditures necessary to meet new compliance requirements may exceed that which is required under existing regulations.

The amendments will be implemented through the Department's permit and approval actions as new and renewed permits are issued. Persons with existing permitted discharges or proposing to add new discharge points to a stream could be adversely affected upon permit issuance or permit renewal if they need to provide new or higher levels of treatment to meet any new or updated water quality standard established by this final-form rulemaking. For example, increased costs may take the form of higher engineering, construction or operating cost for point source discharges. Treatment costs and BMPs are site-specific and depend upon the size of the discharge in relation to the size of the stream and many other factors. It is therefore not possible to precisely predict the actual change in costs. Economic impacts would primarily involve the potential for increased monitoring and sampling costs and higher treatment costs for new or expanded discharges to streams to meet any new or updated water quality standards. The initial costs resulting from the installation of technologically advanced wastewater treatment processes and BMPs may be offset by potential savings from and increased value of improved water quality through more cost-effective and efficient treatment over time.

There are approximately 17,850 facilities across this Commonwealth that hold permits issued under Chapter 92a. The Department identified 274 active National Pollutant Discharge Elimination System (NPDES) permits with effluent limitations for one or more of the toxic substances included in this final-form rulemaking. These 274 active NPDES permits include permits for treated sewage, industrial waste, groundwater remediation and stormwater associated with industrial activities.

The Department reviewed sampling cost information for each toxic substance that was available in the National Environmental Monitoring Index (NEMI). NEMI is a freely available compendium of information on a variety of environmental analytical test methods that was

developed by the National Water Quality Monitoring Council in collaboration with partners in the Federal, State and private sectors. A review of the EPA-approved analytical test methods for each toxic substance revealed that the average cost per sample for many of these substances ranges between \$201 and \$400. A few of the analytical test methods, such as Method 4500-B B for boron, have an estimated cost per sample of less than \$50 while other analytical methods, such as Method 1624 for methyl ethyl ketone, have an estimated cost per sample of over \$400. Costs estimates were available in NEMI for each of the toxic substances in this final-form rulemaking except for tributyltin. Note that no additional costs will be incurred by the 274 NPDES permit holders that currently have effluent limitations for one or more of these substances as a result of this final-form rulemaking since these entities are already required to monitor for these substances. Additional costs may be incurred for new or renewed permits if new water-quality-based effluent limitations are required to achieve any new or updated water quality criteria for the toxic substances in this final-form rulemaking.

Compliance assistance plan

This final-form rulemaking has been developed as part of an established program that has been implemented by the Department since the early 1980s. This final-form rulemaking is consistent with and based on existing Department regulations. The amendments extend appropriate protections to all surface waters in this Commonwealth and are consistent with antidegradation requirements established by the CWA and the CSL. Surface waters in this Commonwealth are afforded a minimum level of protection through compliance with the Commonwealth's water quality standards, which prevent pollution and protect existing water uses.

The amendments will be implemented through the Department's permit and approval actions. For example, the NPDES permitting program bases effluent limitations on the protected water uses of the stream, and the water quality criteria developed to maintain those uses. These effluent limits are established to ensure water quality is protected and maintained.

The Pennsylvania Infrastructure Investment Authority (PENNVEST) provides low interest loans and limited grant funding to communities and citizens across the Commonwealth through the Clean Water State Revolving Fund (CWSRF) for sewer, storm water and nonpoint source projects. During Federal fiscal years 2022—2025, PENNVEST anticipates receiving nearly \$100 million annually for such projects through the Bipartisan Infrastructure Law. In addition to the Base CWSRF allotments and recycled funds, these funds can be used for clean water projects, including any design, engineering and treatment construction costs that might be incurred by municipalities and businesses to meet the updated criteria in this final-form regulation.

The Commonwealth Financing Authority also administers the H2O PA program and the PA Small Water and Sewer program, which can be used to fund construction, rehabilitation, and repair of water supply, sanitary sewer and stormwater infrastructure, the purchase and installation of fixed equipment, permit costs, engineering, inspection and administrative costs for projects owned and maintained by municipalities or municipal authorities. These funding programs do not have designated revenue sources and depend on appropriations as part of the Commonwealth's annual budget process. When funding is appropriated for these programs, application periods are typically in the fall or winter with awards the following summer or fall. More information about

these programs can be found on the Department of Community and Economic Development's website at <https://dced.pa.gov/program>.

Paperwork requirements

This final-form rulemaking should not generate new paperwork requirements on the Commonwealth, local governments, political subdivisions or the private sector. This final-form rulemaking will be implemented using existing permitting and other paperwork.

References cited in this preamble

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H. Pollution Prevention

The Federal Pollution Prevention Act of 1990 (42 U.S.C. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally-friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

Water quality standards are a major pollution prevention tool because they protect water quality and designated and existing uses. The amendments will be implemented through the Department's permit and approval actions. For example, the NPDES program will establish effluent limitations in permits based on the more stringent of technology-based or water quality-based effluent limits. Water quality-based effluent limits are determined by the protected water uses of the receiving stream and the water quality criteria necessary to achieve those designated and existing uses.

I. Sunset Review

The Board is not establishing a sunset date for these regulations, since they are needed for the Department to carry out its statutory authority. The Department will continue to closely monitor these regulations for their effectiveness and recommend updates to the Board as necessary.

J. Regulatory Review

Under section 5(a) of the Regulatory Review Act (RRA) (71 P.S. § 745.5(a)), on September 6, 2023, the Board submitted a copy of the notice of proposed rulemaking, published at 53 Pa.B. 6170, and a copy of a Regulatory Analysis Form to IRRC and the chairpersons of the Environmental Resources and Energy Committee of the Senate and the Environmental and Natural Resource Protection Committee of the House of Representatives for review and comment.

Under section 5(c) of the RRA, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing this final-form rulemaking, the Board has considered all comments from IRRC, the Committees and the public.

Under section 5.1(j.2) of the RRA (71 P.S. § 745.5a(j.2)), on **DATE**, this final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the RRA, IRRC met on **DATE**, and approved this final-form rulemaking.

K. Findings of the Board

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202), referred to as the Commonwealth Documents Law, and regulations promulgated thereunder at 1 Pa. Code §§ 7.1 and 7.2 (relating to notice of proposed rulemaking required; and adoption of regulations).

(2) A 45-day public comment period was provided as required by law. In addition, the Board held a virtual public hearing. All comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 53 Pa.B. 6170.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in section C of this order.

(5) These regulations are reasonably necessary to maintain the Commonwealth's water quality standards and to satisfy related CWA requirements.

L. Order of the Board

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapter 93, are amended by amending §§ 93.1, 93.7, 93.8c, 93.8e and 93.9 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Acting Chairperson of the Board shall submit this final-form rulemaking to the Office of General Counsel and the Office of Attorney General for approval and review as to legality and form, as required by law.

(c) The Acting Chairperson shall submit this final-form rulemaking to IRRC and the Senate and House Environmental Resources and Energy Committees as required by the Regulatory Review Act.

(d) The Acting Chairperson of the Board shall certify this final-form rulemaking and deposit it with the Legislative Reference Bureau, as required by law.

(e) This final-form rulemaking shall take effect immediately upon publication in the *Pennsylvania Bulletin*.

JESSICA SHIRLEY,
Chairperson

(*Editor's Note:* See XX Pa.B. XXXX (DATE) for a statement of policy relating to this final-form rulemaking.)