

(4) Submitted to the Regional Air [**Pollution Control Engineer**] **Program Manager** for the region of the Department in which the source is located **and a copy to the Chief of the Division of Source Testing and Monitoring.**

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Triennial Review of Water Quality Standards

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

This proposed rulemaking was adopted by the Board at its April 17, 2012, meeting.

A. *Effective Date*

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

B. *Contact Persons*

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C. *Statutory Authority*

These proposed amendments are made under the authority of sections 5(b)(1) and 402 of The Clean Streams Law (act) (35 P. S. §§ 691.5(b)(1) and 691.402), which authorize the Board to develop and adopt rules and regulations to implement the act, 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, section 303 of the Federal Clean Water Act (33 U.S.C.A. § 1313) sets forth requirements for water quality standards and 40 CFR 131.41 (relating to bacteriological criteria for those states not complying with Clean Water Act section 303(i)(1)(A)) sets forth bacteria criteria for coastal recreation waters in the Commonwealth.

D. *Background and Purpose of the Amendment*

The water quality standards, which are generally codified in Chapter 93, are designed to implement sections 5 and 402 of act and section 303 of the Clean Water Act. This proposed rulemaking fulfills the Federally-required triennial review of water quality standards as mandated by the Clean Water Act (33 U.S.C.A. §§ 1251—1387). The water quality standards consist of the existing and designated uses of the surface waters of the Commonwealth, along with the specific numerical and narrative criteria necessary to achieve and maintain those uses, and an

antidegradation policy. Thus, water quality standards are in-stream water quality goals that are implemented by imposing specific regulatory requirements, such as treatment requirements, best management practices and effluent limitations, on individual sources of pollution.

Water quality standards are an important element of the Commonwealth's water quality management program. Some type of water quality standard has been in use for approximately 75 years in this Commonwealth. One of the early actions after the Sanitary Water Board (SWB) was created in 1923 was to classify streams by priority for water quality management actions. In 1947, the SWB classified the streams in this Commonwealth by the degree of treatment that had to be provided before discharge could occur. Article 301—Water Quality Control, which specifically contained water uses, general and specific water quality criteria, and designated water uses, was added to the SWB's rules and regulations on June 28, 1967. The SWB was then abolished on January 19, 1971, following the formation of the Department of Environmental Resources (DER) in 1968. Responsibilities for developing and maintaining the water quality criteria and standards and other related regulations were transferred to the DER. New or revised specific water quality criteria and standards were developed by the DER for the surface waters in this Commonwealth and formally adopted into Chapter 93 at 1 Pa.B. 1804 (September 11, 1971).

The DER completed its first major review and complete overhaul of the water quality criteria and standards in 1979. After a series of public hearings and extensive public participation, revisions to the water quality criteria and uses were incorporated into Chapter 93. The United States Environmental Protection Agency (EPA) Region III formally approved the revisions to the Commonwealth's water quality standards on January 26, 1981. Section 303(c)(1) of the Clean Water Act requires that states periodically, but at least once every 3 years, review and revise as necessary, their water quality standards. Additional reviews and revisions were made to the Commonwealth's water quality standards during 1985, 1989 and 1994. The Department, which was created in June 1995 after splitting DER into two agencies by approval of the Conservation and Natural Resources Act (71 P. S. §§ 1340.101—1340.1103), began to conduct its first comprehensive review of water quality standards regulations, policies and implementation procedures which became the basis for the next triennial review. Additional reviews and revisions were made to the Commonwealth's water quality standards during 1998, 1999, 2000, 2002, 2004 and 2009 to address amendments for the Great Lakes Initiative, antidegradation policies, the Water Quality Standard Regulatory Basics Initiative Triennial and several other corrective amendments.

This proposed rulemaking constitutes the Commonwealth's current triennial review of its water quality standards.

On January 11, 2012, the Department's Water Resources Advisory Committee (WRAC) voted to present this proposed rulemaking package to the Board. In addition, the Department provided to the Agricultural Advisory Board (AAB) on August 17, 2011, a regulatory agenda that included the triennial review of water quality standards. The AAB declined the need for consideration at the regularly scheduled October 19, 2011, meeting.

E. *Summary of Issues and Proposed Regulatory Revisions*

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

§ 93.1. Definitions

The Board proposes to delete the definition of “critical use” because there is currently a definition for “critical use” in the Table 3 footnote in § 93.7 (relating to specific water quality criteria).

In the definition of “point source discharge,” the Board proposes to update the reference from Chapter 92, which was rescinded at 40 Pa.B. 5767 (October 9, 2010), to Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance), which replaced Chapter 92.

§ 93.4c. Implementation of antidegradation requirements

The Board proposes to update the cross references and citations from Chapter 92 to Chapter 92a.

§ 93.4d. Processing of petitions, evaluations and assessments to change a designated use

The Board recommends improvements to the public notification methods associated with the stream redesignation process in § 93.4d. The Department will continue to publish in the *Pennsylvania Bulletin* a notice of receipt of petition or assessment of waters for High Quality or Exceptional Value Waters redesignation. A notice in the *Pennsylvania Bulletin* is the primary public notification method and will continue to be published along with the most appropriate secondary public notification method. The Department needs to have the flexibility to be able to select the most effective secondary public notification method. Currently, the Department is required to publish these notices in a local newspaper of general circulation. There are many possible options that the Department could use as the secondary public notification method regarding the stream redesignation process (including, but not limited to, posting the information on the Department’s web site, issuing press releases through the Department’s newsroom, distributing the information through e-mails and list-serve applications, postcard notifications delivered by the United States Postal Service and publication in newspapers). This added flexibility will enable the Department to provide public notifications more effectively, while being judicious of the monetary expense and the amount of staff time involved with this procedure.

§ 93.7. Specific water quality criteria (Table 3)

In § 93.7(a), the Board is proposing to add language to clarify that exceptions to the application of criteria are in the drainage lists in §§ 93.9a—93.9z.

The Board is proposing the following changes to the Table 3 criteria:

Chloride (Ch₂)

The Board is recommending a chloride criterion that will be applied in all freshwaters of the Commonwealth for the protection of aquatic life. The existing chloride criterion was developed primarily for the protection of potable water supplies and is not applied in all surface waters of the Commonwealth, but rather only at the point of water supply intake, under § 96.3(d) (relating to water quality protection requirements).

The Board initiated a proposed rulemaking for the promulgation of the current National aquatic life criteria for chloride at its March 16, 2010, meeting. The proposed aquatic life criteria (230 mg/l = chronic; 860 mg/l = acute) mirror the National recommended aquatic life criteria which were published in February 1988 by the EPA in Ambient Water Quality Criteria for Chloride. The proposed rulemaking was published at 40 Pa.B. 2264 (May 1,

2010) with a comment period that closed on June 15, 2010. Based on comments received, the Department, in this new proposed rulemaking, has re-evaluated the science used in the determination of the chloride criterion.

Prior to the 2010 proposed rulemaking, the Department was aware that the EPA, along with the Great Lakes Environmental Center (GLEC) in Columbus, OH, and the Illinois Natural History Survey (INHS) in Champaign, IL, was in the process of developing chloride criteria. During the comment period for the 2010 proposed rulemaking, commentators referred the Department to the science under development in Iowa, which used the same science as the EPA, the GLEC and INHS.

The Department reviewed the equation-based aquatic life criteria for chloride as developed by the EPA and successfully implemented in Iowa. The researchers at the GLEC and INHS worked collaboratively under a contract with the EPA to determine the toxicity of chloride in freshwater invertebrate species. The research demonstrated a strong correlation between chloride toxicity and hardness. The final results of this toxicity testing were published in the report “Acute Toxicity of Chloride to Select Freshwater Invertebrates,” EPA, October 28, 2008. The Iowa Department of Natural Resources (IDNR) selected the appropriate acute and chronic criteria equations after considering input from many sources and two equations were promulgated by Iowa. Both the 1-hour and 96-hour acute and chronic criteria values should not be exceeded more than once every 3 years on the average (Connie Dou, IDNR, personal communication, November 2011).

The Board recommends adopting the Iowa equation-based aquatic life criteria for chloride based on the best available sound science.

Dissolved oxygen (DO)

Aquatic life in freshwater waterbodies in this Commonwealth are currently being protected from adverse impacts associated with low dissolved oxygen by four categories of dissolved oxygen criteria. Slight revisions have been made to the numerical component of the dissolved oxygen aquatic life criteria since the SWB adopted their rules and regulations in 1967. Since then, many new resources of new scientific literature and information have been made available, including the EPA’s review of literature that resulted in a dissolved oxygen criteria recommendation in the “Quality Criteria for Water 1986” (also known as the Gold Book). Based on the availability of updated scientific studies, a review of the current information regarding dissolved oxygen requirements of aquatic life was undertaken. The Board proposes to incorporate dissolved oxygen concentrations based on the EPA’s risk level assessment in its dissolved oxygen criteria. Instead of incorporating values associated with severe production impairment and protection of only acute mortality, the Board proposes to incorporate the slight production impairment as 7-day averages and the moderate production values as minima for early life stages and other life stages to protect aquatic life. In addition, the proposed criteria provide greater protection for naturally reproducing Salmonid early life stages. It is important to note that the proposed criteria only apply to flowing freshwater streams, the epilimnion of a naturally stratified lake and throughout the waterbody of nonstratified lakes.

Sulfate (Sul)

The Board is recommending sulfate criteria that will be applied in all waters of the Commonwealth for the

protection of aquatic life. The existing sulfate criterion was developed primarily for the protection of potable water supplies and is not applied in surface waters of the Commonwealth, but rather only at the point of water supply intake, under § 96.3(d).

The Illinois Environmental Protection Agency worked with the EPA to conduct a multiyear project researching the toxicity of sulfate to aquatic life.

Dr. David Soucek of the INHS conducted the laboratory toxicity testing. His work included a determination of the sulfate level which corresponded with the acute toxicity for invertebrate species. Dr. Soucek's work also revealed that the level of sulfate toxicity is driven by the concentrations of chloride and hardness. The Illinois sulfate criteria accounts for the relationship of chloride and hardness to sulfate toxicity, therefore chloride and hardness can be measured and entered into the equation to determine the maximum amount of sulfate allowable for a water body. At chloride concentrations between 5 and 25 mg/l chloride ameliorates the toxic effect of sulfate, but above 25 mg/l it adds to the toxicity, hence there are two equations. Chlorides are added in one and subtracted in the other. Hardness ameliorates the toxicity of the sulfate as documented by Soucek and Kennedy in "Effects of hardness, chloride, and acclimation on the acute toxicity of sulfate to freshwater invertebrates," *Environmental Toxicology and Chemistry*, 2005, 24:1204-1210.

The Department reviewed the Illinois Environmental Protection Agency ambient water quality criteria development document for sulfate and agrees with the data analysis, interpretation and development of the criteria. The Board recommends adopting the aquatic life sulfate criteria developed by the Illinois Environmental Protection Agency as previously discussed.

Temperature (Temp)

For the current triennial review of water quality standards and rulemaking, the Department is reviewing the rate of temperature change provision in the temperature criteria in Table 3—"... these wastes may not result in a change by more than 2°F during a 1-hour period." The Board may consider changes to this section in the final-form rulemaking based on comments received and additional science obtained. As a result, the Board is seeking technical and scientific information, data and studies regarding the rate of temperature change and its effect on aquatic organisms. This request for information includes new technical and scientific information regarding species-specific thermal tolerances, responses to temperature change and the role of temperature acclimation in relation to thermal tolerance and temperature change responses. Only peer-reviewed studies or site-specific collections of acceptable quality will be considered. The site-specific collections must include, at a minimum, the following: a map of collection locations and outfalls; at least 1 week of continuous water temperature measurements taken prior to the sampling; dates of collection; identity of the collectors; narrative of the collection methods; a species list in electronic format; and a contact name of the person who will be responsible for responding to questions concerning the collections. Technical and scientific information can be submitted as instructed in Section J of this proposed rulemaking.

§ 93.7(b) and Table 4

The Board is proposing to delete § 93.7(b) and Table 4. This section is no longer needed since the application of specific criteria is in § 93.7 Table 3 and the drainage lists in §§ 93.9a–93.9z.

The Board is proposing to add a new provision to § 93.7(b). This subsection will contain the explanation for the protection of early life stages of Salmonids, regarding new dissolved oxygen requirements.

§ 93.8b. Metals criteria

The Board is proposing to add the current recommended conversion factor for chromium III to the Conversion Factor Table. It was inadvertently omitted in previous triennial rulemakings.

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

The Board is proposing amendments to the human health and aquatic life criteria in Table 5 (relating to water quality criteria for toxic substances). Water quality criteria are based solely on the best available scientific data and scientific judgments on pollutant concentrations and human health or aquatic life effects. The criteria are tools used to calculate discharge limits in the National Pollutant Discharge Elimination System (NPDES) program.

The Department uses the provisions in §§ 16.22, 16.32 and 16.33 (relating to criteria development; threshold level toxic effects; and nonthreshold effects (cancer)) to develop aquatic life and human health criteria. The aquatic life criteria are developed based on the "Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Life and Their Uses" (Stephan et al., 1985). The human health criteria are developed using the EPA Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (EPA-822-B-00-004, October 2000).

The following are criteria for 13 toxic substances the Board is proposing for the protection of human health uses. These substances may be expected from the presence in certain effluent discharges that require an NPDES permit. These criteria have been developed under section 307(a) of the Clean Water Act (33 U.S.C.A. § 1317(a)). This list also contains toxic substances that have been recommended by the EPA since the completion of the Commonwealth's previous triennial review, which was finalized in April 2010. The Department has reviewed the National recommendations and determined that the criteria are applicable for the protection of waters in this Commonwealth.

- *Acrolein and phenol*—Acrolein is a widely used product. It is used in the preparation of polyester resin, polyurethane, propylene glycol and acrylic acid. It is also used as a herbicide to control submersed and floating weeds and algae in irrigation canals. Phenol was first extracted from coal tar and its major uses involve its conversion to plastics or related materials. Phenols are used in creating polycarbonates, epoxies, nylon, detergents, herbicides and pharmaceuticals. The criteria for phenol and acrolein are being updated because of more recent reference doses (RFD) available from the EPA IRIS database. The EPA published notice of final criteria for acrolein and phenol at 74 FR 27535 (June 10, 2009).

- *Acrylamide*—Acrylamide is commonly used in the production of polyacrylamides, which are used as flocculants for clarifying drinking water and treating municipal and industrial effluents. It is also used in making organic chemicals and dyes, sizing of paper and textiles, and ore processing. The Department currently has a human health cancer risk level in Chapter 16, Appendix A, Table 1A (relating to site-specific water quality criteria for toxic substances). This toxic was developed using the EPA Methodology for Deriving Ambient Water Quality

Criteria, which is used to develop Statewide criteria and therefore Statewide applicability is warranted.

- *Benzyl chloride*—Benzyl chloride is an intermediate in the processing of dyes, pharmaceuticals and perfumes; used in the production of synthetic tannins; and as a gum inhibitor in gasoline. Benzyl chloride has been labeled a probable human carcinogen by the EPA. Therefore, the Board is proposing a Statewide human health criterion for benzyl chloride.

- *2-butoxyethanol*—2-butoxyethanol is a solvent in spray lacquers, enamels, varnishes, and latex paints, paint thinners and strippers, varnish removers, and herbicides and is a bulk additive used in the hydrofracking process. There is a need for a criterion to protect surface water since this additive may be found in wastewater effluents. The Board is proposing to incorporate a human health criterion for 2-butoxyethanol.

- *1,2 cis-Dichloroethylene (cis-DCE)*—cis-DCE is used as a solvent in waxes and resins, for extraction of rubber, in refrigerant and used in manufacture of pharmaceuticals. Therefore, the Board is proposing a human health criterion for cis-DCE.

- *Cyclohexylamine*—Department reviews for chemical additives used at NPDES regulated facilities have concluded that cyclohexylamine is used and may be present in effluent discharges to surface waters. It is used in boiler water treatment as a corrosion inhibitor, in the synthesis of plastics and rubber, is in agricultural chemicals and is used as an emulsifying agent. The Department concluded there is a need for an in-stream criterion for cyclohexylamine.

- *1,4 Dioxane*—The Department currently has a human health cancer risk level in Chapter 16, Appendix A, Table 1A. 1,4 dioxane is used as a solvent in the manufacture of other chemicals. This toxic criterion was developed using the EPA Methodology for Deriving Ambient Water Quality Criteria, which is used to develop Statewide criteria and therefore Statewide applicability is warranted.

- *Molybdenum*—Industries in this Commonwealth that may discharge molybdenum include specialty steel, coal mining and coal-fired power generation. In more recent studies, it was concluded that the molybdenum sensitive population is children as well as individuals that have insufficient dietary copper or cannot process molybdenum correctly (United States Department of Health and Human Services, ATSDR, Public Health Assessment, Lincoln Park/Cotter Uranium Mill, Canon City, Fremont County, CO (November 9, 2010)). It was also concluded in this assessment that molybdenum at concentrations above the long-term health guidelines (35 ug/L—EPA, CCL3 Contaminate Information Sheet, August, 2009) has the possibility of causing health consequences. The Department coordinated its molybdenum criteria development effort with the EPA's regional water quality standards staff and its headquarters toxicologists. The EPA supports the numeric criterion that the Department developed for molybdenum. The molybdenum criterion will be used as a tool to calculate discharge limits in the NPDES program. The Department is continually reviewing new toxicity data to ensure that the criteria are based on the best available scientific data.

- *Resorcinol*—The Beazer East sites are located within an approximately 60-square mile area that has been designated by the Department under the Hazardous Sites Cleanup Act (35 P. S. §§ 6020.101—6020.1305) as the

Bear Creek Area Chemical Site (BCACS). The Department has determined that environmental media (that is, soil and groundwater) within the BCACS have been impacted by resorcinol and other hazardous substances: sulfonate compounds that include meta-benzene disulfonic acid (m-BDSA); benzene monosulfonic acid (BSA); and p-phenol sulfonic acid (p-PSA). The Department developed a resorcinol ambient water quality criterion for the protection of human health since it was discovered during the evaluation of the aquatic life water quality criteria that human health is the most sensitive use to be protected. Resorcinol is used as a chemical intermediate for the synthesis of pharmaceuticals and other organic compounds. It is used in the production of dyes and plasticizers and as a UV absorber in resins.

- *Strontium*—Department permit engineers have requested in-stream criteria for strontium because of the known presence of strontium in the drilling fluids retrieved from frack water discharges. Strontium is also known to be present in ceramics, glass products, pyrotechnics, paint pigments and fluorescent lights. The Board is proposing this criterion since strontium may be found in effluent that is discharged to surface waters.

- *1,2,4 and 1,3,5 Trimethylbenzene (TMB)*—TMB is a byproduct from the petroleum refining process. It is also used as a solvent in coatings, cleaners, pesticides and inks. The Board is proposing these criteria since the by-product may be found in effluent that is discharged to surface waters.

In addition, the Board is proposing seven ambient water quality criteria for the protection of aquatic life uses. They have been either recommended by the EPA or have been developed by the Department since the previous triennial review was finalized in April 2010. The Department reviewed the National recommendations and determined these criteria to be appropriate for waters in this Commonwealth.

- *Acrolein*—In July 2009, the EPA published final aquatic life criteria for acrolein based on a 2007 data search that revealed new acute and chronic toxicological data.

- *Benzene metadisulfonic acid, benzene monosulfonic acid, P-phenol sulfonic acid and resorcinol*—The aquatic life criteria for resorcinol, benzene metadisulfonic acid, benzene monosulfonic acid and P-phenol sulfonic acid (sulfonate compounds) were originally developed for use in the Bear Creek watershed at the BCACS. The criteria development was performed by AMEC Earth & Environmental (AMEC) on behalf of Beazer East. As previously stated, resorcinol is used as a chemical intermediate for the synthesis of pharmaceuticals and other organic compounds. It is used in the production of dyes and plasticizers and as a UV absorber in resins. Sulfonates are present in the environment as a result of the widespread use of detergents in industry, agriculture, coal mining drilling fluid additives and formulations for oil recovery operations. After thorough review of the criteria development document submitted, "Development of Ambient Water Quality Criteria for Benzene Metadisulfonic Acid, Benzene Monosulfonic Acid, p-Phenol Sulfonic Acid and Resorcinol" (AMEC, 2008), the Department determined the criteria to be applicable for the protection of aquatic life use throughout this Commonwealth.

• *Molybdenum*—It is the Department’s objective to develop water quality criteria for the protection of aquatic life that are scientifically defensible, meet EPA protocols and based on the best available toxicological data. The Department has determined that there is a need for an aquatic life molybdenum criterion because it may be present in effluent discharged by industries in this Commonwealth, including specialty steel, coal mining and coal-fired power generation. The Department conducted a literature search to collect relevant molybdenum toxicity data for aquatic life dating through 2009. The review included the following: the EPA’s ECOTOX database; Aquatic Life Water Quality Criteria for Molybdenum prepared for the Nevada Division of Environmental Protection by Tetra Tech, Inc. (July 9, 2009); and EURAS (2008), International Molybdenum Association, Freshwater effects assessment of molybdenum: data evaluation and PNEC-deviation.

After a thorough review of the available toxicological data, the Department determined that the studies used to calculate the criteria approved by the EPA for Nevada contained biological species that are representative of biological species found in ambient waters in this Commonwealth and are relevant for the aquatic life criteria determination in this Commonwealth. The Department used studies upon which the 1985 Guideline Methods can be performed.

• *Nonylphenol*—Nonylphenol is one of the substances on the Commonwealth’s list of emerging contaminants and is also on the National priority list of contaminants. In addition, preliminary monitoring performed by United States Geological Survey (USGS) in 2009 detected nonylphenol in waters in this Commonwealth. It is used as a chemical intermediate in the processing of other chemicals and is often found in wastewater treatment plant effluent as a breakdown product from surfactants and detergents.

Summary of Table 5 Proposed Criteria

Compound	CAS Number	Chronic AWQC Criterion Continuous Concentration (ug/L)	Acute AWQC Criterion Maximum Concentration (ug/L)	Human Health Criteria (ug/L)	Health Effect
Phenol	00108952	N/A	N/A	10400	H
Acrolein	00107028	3.0	3.0	6.0	H
1,2 cis-Dichloroethylene	00156592	N/A	N/A	12	H
Acrylamide	00079061	N/A	N/A	0.07	CRL
Benzene Metadisulfonic Acid	00098486	1600000	2600000	N/A	-
Benzene Monosulfonic Acid	00098113	1200000	2000000	N/A	-
Benzyl Chloride	00100447	N/A	N/A	0.2	CRL
2-Butoxyethanol	00111762	N/A	N/A	700	H
Cyclohexylamine	00108918	N/A	N/A	1000	H
1,4-Dioxane	00123911	N/A	N/A	0.35	CRL
Molybdenum	07439987	1900	6000	210	H
Nonylphenol	00104405	6.6	28	N/A	-
p-Phenol Sulfonic Acid	00098679	1400000	3500000	N/A	-
Resorcinol	01084603	7200	28000	2700	H
Strontium	07440246	N/A	N/A	4000	H
1,2,4-Trimethylbenzene	00095636	N/A	N/A	72	H
1,3,5-Trimethylbenzene	00108678	N/A	N/A	72	H

H—Human health
 CRL—Cancer risk level
 N/A—Criterion not developed

§ 93.8d. Development of site-specific water quality criteria

The Board is updating the references from Chapter 92 to Chapter 92a.

Corrections to Drainage Lists

The following changes to the drainage lists are proposed by the Board to clarify stream names and segment boundaries and designations. These corrections do not change the current stream use designations and only serve as clarifications and corrections:

§ 93.9b. Drainage List B

A proposed correction to § 93.9b will eliminate the confusion associated with named tributaries in the Lackawaxen River basin that are included under the current listing of “unnamed tributaries.” The Department gained knowledge that these tributaries had been officially named subsequent to the inclusion of these streams under the listing of unnamed tributaries in § 93.9b. This correction will also update the name of the main stem between Van Auken Creek and Dyberry Creek as the National Hydrography Dataset (NHD) Flowline now lists

this section as Lackawaxen River. Formerly, the West Branch Lackawaxen River extended downstream to Dyberry Creek.

§ 93.9c. *Drainage List C*

A correction is proposed in § 93.9c for Leas Run, which enters Brodhead Creek in Monroe County. This correction is necessary because Leas Run is a named tributary and it is included under the current listing of “unnamed tributaries.” The Department gained knowledge that Leas Run had been officially named subsequent to the inclusion of this stream under the listing of unnamed tributaries in § 93.9c. Leas Run was designated as a conservation area (3.5) and cold water fishes (1.1) as a result of a final-form rulemaking published at 2 Pa.B. 341 (February 26, 1972). A separate final-form rulemaking published at 9 Pa.B. 3051 (September 8, 1979), which was effective October 8, 1979, included Leas Run along with other unnamed tributaries to Brodhead from the source to Paradise Creek and redesignated them as HQ-CWF.

Corrections are also included for the Paradise Creek basin. Paradise Creek enters Brodhead Creek downstream of Leas Run. Paradise Creek is currently a main stem format and it is being proposed to be included in Chapter 93 as a basin format. Under the current main stem format, the entire main stem of the Paradise Creek is designated independently of its tributaries. This change in designation format will account for one missing stream name (Tank Creek, a small tributary in the headwaters), one incorrect stream name (Forest Hills Run should be listed instead of Swiftwater Creek because Swiftwater Creek is a tributary to Forest Hills Run) and one stream that is listed in the incorrect hydrologic order (the mouth of Devils Hole Creek is downstream of Yankee Run).

The Board is recommending corrections to the headwaters of the Pocono Creek basin to be consistent with the NHD Flowline. The NHD Flowline describes the origin of Pocono Creek and the mouths of Wolf Swamp Run and Dry Sawmill Run as being further downstream than the Department had previously recognized. Additionally, Pocono Creek will be converted from a main stem format to a basin format to account for named tributaries that are not specifically listed in this portion of Drainage List C. A correction is also recommended by the Board to update the name of McMichael Creek to be consistent with other entries in § 93.9c and the NHD Flowline.

Additionally, the zone descriptions for the Slateford Creek entries in Northampton County include reference to T 734 (Township Road 734) as an endpoint for those stream segments. The correct name for the township road according to the Department of Transportation is T 735 (Township Road 735). The Board recommends correcting the reference to T 735.

§ 93.9d. *Drainage List D*

The Board recommends correcting a reference to Black River. It currently and incorrectly appears as a reference in § 93.9d as Black Creek.

§ 93.9e. *Drainage List E*

This correction serves to illustrate that the NHD Flowline now defines the origin of Mill Creek at the confluence of Lahaska Creek and Watson Creek. Historically, Mill Creek extended further upstream into what is now known as the Lahaska Creek basin and Lahaska Creek entered Mill Creek upstream of the mouth of Watson Creek.

§ 93.9f. *Drainage List F*

The Board proposes to clarify § 93.9f to eliminate the confusion associated with four named tributaries to the

Schuylkill River that are currently included under three separate entries for “unnamed tributaries.” Leaf Creek and Crossmans Run will each be given their own entry which identifies them as tributaries to the Schuylkill River. Drainage List F will be rewritten so that the Schuylkill River basin below Valley Creek has a basin format rather than a main stem format. Under the current main stem format, the entire main stem of the Schuylkill River is designated independently of its tributaries. Matsunk Creek and Glanraffan Creek will be included in § 93.9f under this new format although they will not be individually named. The Department gained knowledge that these four tributaries had been officially named subsequent to the inclusion of these streams under the listings for unnamed tributaries in § 93.9f.

§ 93.9g. *Drainage List G*

The Board proposes to correct the name for East Branch White Clay Creek. It currently appears in § 93.9g as East Branch White Clay Branch.

Additional clarification is being proposed by the Board to remove ambiguity associated with the portions of the tributaries to the West Branch Brandywine Creek that flow within West Brandywine Township, Chester County. All portions of all tributaries to the West Branch Brandywine Creek that lie within West Brandywine Township are HQ-TSF, MF.

§ 93.9h. *Drainage List H*

The Board recommends changing references from Catlin Hollow to Norris Brook in § 93.9h. Catlin Hollow is a tributary to Norris Brook in Tioga County.

§ 93.9i. *Drainage List I*

The Fish and Boat Commission notified the Department that several tributaries to Towanda Creek were inadvertently omitted from § 93.9i. Beech Flats Creek, Wallace Brook, Gulf Brook and French Run should be inserted to correct this portion of Drainage List I. This insertion is being recommended by the Board.

§ 93.9k. *Drainage List K*

Sechler Run used to be a tributary to the Susquehanna River. The Sechler Run channel has been relocated to protect Danville when the water level in Sechler Run rises. This flood protection project diverted the flow of Sechler Run into the Mahoning Creek. The Board recommends updating this portion of § 93.9k to indicate that Sechler Run is now a tributary to the Mahoning Creek.

§ 93.9l. *Drainage List L*

The Board recommends changing all references from Grass Flats Run to Wistar Run in § 93.9l. Wistar Run is a tributary to Sinnemahoning Creek in Clinton County. All tributaries to the Sinnemahoning Creek downstream of the confluence of Driftwood Branch and Bennett Branch were conservation areas. The September 1979 rulemaking erroneously used Grass Flats Run for the named tributary to Sinnemahoning.

The Board recommends that Roaring Brook should be corrected to Roaring Branch. Roaring Branch enters the Lycoming Creek in Tioga County.

The Department historically recognized the waters between Plunketts Creek and the confluence of Wolf Run and Noon Branch as Wolf Run. However, the NHD Flowline now categorizes Noon Branch as flowing all the way down to Plunketts Creek. The Board proposes this change to § 93.9l to be consistent with the NHD Flowline.

§ 93.9m. *Drainage List M*

Section 93.9m contains a stray entry referring to Penns Creek and the Board proposes that it should be deleted.

The mouth of Zerbe Run is not located in Schuylkill County. The Board recommends that the county for Zerbe Run in § 93.9m should be corrected to Northumberland.

§ 93.9n. *Drainage List N*

The Board proposes to correct the reference to Deep Hollow Run in Bobs Creek basin. Deep Hollow Run is a tributary to Pavia Run and Pavia Run is a tributary to Bobs Creek. The waters of Bobs Creek basin flow through Cambria, Blair and Bedford Counties before entering Dunning Creek. The headwaters of Bobs Creek were redesignated along with the Rattling Run, et al. stream redesignations final-form rulemaking published at 23 Pa.B. 5529 (November 20, 1993). The redesignated portion of Bobs Creek was erroneously described as extending from the source to and including Deep Hollow Run. The zone description should have been described as those waters in Bobs Creek basin from the source to and including Pavia Run. The Board recommends correcting all reference to Deep Hollow Run by replacing it with Pavia Run.

§ 93.9o. *Drainage List O*

The Board proposes to correct § 93.9o to accurately characterize Muddy Run which enters Conodoguinet Creek in Franklin County. Entries for Keasey Run and Rowe Run incorrectly indicate that they are tributaries to the Conodoguinet Creek. Both of these streams are sub-basins of Muddy Run. The entry for Keasey Run is being purposefully deleted because the waters flowing through this sub-basin will be included under the proposed zone description for the headwaters of the Muddy Run basin.

Three York County tributaries to South Branch Codorus Creek are not listed correctly in § 93.9o. The mouth of the unnamed tributary to South Branch Codorus Creek that flows through Glen Rock Valley is downstream of Trout Run and Foust Creek enters South Branch Codorus Creek downstream of Glen Rock Valley. The Board proposes to correct these errors in the hydrologic order by adopting a basin format rather than a main stem format. The River Mile Index for the unnamed tributary to South Branch Codorus Creek that flows through Glen Rock Valley will also be corrected so that it is consistent with the NHD Flowline. Additionally, the zone description for the unnamed tributaries to East Branch Codorus Creek downstream of the inlet for Lake Redman will be corrected to read "Basins, Inlet of Lake Redman to Mouth."

The mouth of Indian Spring Run is located above PA 897 and therefore the entry should be corrected so that it appears in the correct order in § 93.9o. Indian Spring Run was redesignated in the Newtown Creek, et al. stream redesignations rulemaking. Drainage List O was incorrect in the proposed rulemaking published at 35 Pa.B. 4734 (August 20, 2005) and the final-form rulemaking published at 37 Pa.B. 11 (January 6, 2007).

In § 93.9o, the Department proposes to update the stream listing to include the correct name for Haines Branch. The stream is currently and incorrectly referred to as Haines Run in § 93.9o. It is listed as Haines Branch in the Pennsylvania stream directory, on USGS topographical maps, the NHD Flowline and the Streams Historic layer.

§ 93.9s. *Drainage List S*

In § 93.9s, the Board proposes to update the stream listing to include the correct name for Pentz Run. The

stream is currently and incorrectly referred to as Pent Run in § 93.9s. It is listed as Pentz Run in the Pennsylvania stream directory, on USGS topographical maps, the NHD Flowline and the Streams Historic layer.

Seneca Run (48952), Beaver Run (48963) and Tarkiln Run (48910) are not described in Drainage List S. However, they are currently designated HQ-CWF. These three tributaries to the North Fork Redbank Creek are in Jefferson County. They are included under the current entry for UNTs to North Fork; Basins, Source to confluence with Sandy Lick Creek; Jefferson; HQ-CWF; None. A final-form rulemaking was published at 3 Pa.B. 986 (May 26, 1973) regarding these waters. The entire North Fork Redbank Creek basin (08.135.29) including Seneca, Beaver and Tarkiln Runs was granted conservation area status (3.5) and Cold Water Fishes (1.1) in the final-form rulemaking, which was effective 15 days following publication. An associated proposed rulemaking was published at 3 Pa.B. 222 (February 3, 1973). The entire basin was converted to high quality (HQ) in the 1979 final-form rulemaking published at 9 Pa.B. 3051 because it was formerly a conservation area. South Branch North Fork Redbank Creek, Shippen Run and Craft Run are tributaries to North Fork Redbank Creek and were designated Exceptional Value in the 1979 final-form rulemaking published at 9 Pa.B. 3051 because they were formerly wilderness trout streams. The Board proposes to correct the North Fork Redbank Creek basin in Drainage List S by using a basin format rather than a main stem format to describe this portion of the Drainage List S. This correction will eliminate the confusion associated with the tributaries that are now named in the NHD Flowline but were originally included under the current listing of "unnamed tributaries." It will also eradicate those entries with incorrect stream names.

§ 93.9w. *Drainage List W*

The Board proposes corrections to remove confusion associated with the hydrological order concerning the entry for Boothe Run in § 93.9w. With respect to hydrological order, Boothe Run is a fifth level tributary to unnamed tributary 32753. Boothe Run is currently and incorrectly described in Drainage List W as being a fourth level tributary to Enlow Fork. All portions of all the basins of the tributaries to Enlow Fork that flow through this Commonwealth are currently designated Warm Water Fishes, except Templeton Fork. The main stem of Enlow Fork and Templeton Fork basin are Trout Stocking.

§ 93.9z. *Drainage List Z*

The Board proposes to add language to § 93.9z to clarify the streams that are tributaries to the Monocacy River. The Monocacy River originates at the confluence of Rock Creek and Marsh Creek. This confluence is located on the Pennsylvania-Maryland border and the Monocacy River flows into Maryland.

Exceptions for Fishable/Swimmable Waters

Part of the triennial review requires that states re-examine water body segments that do not meet the fishable or swimmable uses specified in section 101(a)(2) of the Clean Water Act (33 U.S.C.A. § 1251(a)(2)). The Department evaluated the two water bodies in this Commonwealth where the uses are not currently met: (1) the Harbor Basin and entrance channel to Outer Erie Harbor/Presque Isle Bay (§ 93.9x (relating to Drainage List X)); and (2) several zones in the Delaware Estuary (§§ 93.9e and 93.9g (relating to Drainage List E; and Drainage List G)).

The swimmable use 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 because pleasure boating and commercial shipping traffic pose a serious safety hazard in this area. This decision was further supported by a Use Attainability Analysis (UAA) study conducted by the Department in 1985. Because the same conditions and hazards exist today, no change to the designated use for Outer Erie Harbor/Presque Isle Bay is proposed.

In April 1989, the Department cooperated with the Delaware River Basin Commission (DRBC), the EPA and other DRBC signatory states on a comprehensive UAA study in the lower Delaware River and Delaware Estuary. This study resulted in appropriate recommendations regarding the swimmable use, which the DRBC included in water use classifications and water quality criteria for portions of the tidal Delaware River in May 1991. The appropriate DRBC standards were referenced in §§ 93.9e and 93.9g in 1994. The primary water contact use remains excluded from the designated uses for river miles 108.4 to 81.8 because of continuing significant impacts from combined sewer overflows and hazards associated with commercial shipping and navigation.

F. *Benefits, Costs and Compliance*

Benefits. Overall, the Commonwealth, its citizens and natural resources will benefit from this proposed rulemaking because it provides the appropriate level of protection to preserve the integrity of existing and designated uses of surface waters in this Commonwealth. Protecting water quality has economic values provided to present and future generations in the form of clean water, recreational opportunities and human health and aquatic life protection. It is important to realize the benefits and to ensure that activities that depend on surface water or that may affect its chemical, biological and physical integrity may continue in a manner that is environmentally, socially and economically sound. Maintenance of water quality ensures its future availability for all uses.

Compliance costs. The proposed rulemaking may impose additional compliance costs on the regulated community. This proposed rulemaking is necessary to improve total pollution control. The expenditures necessary to meet new compliance requirements may exceed that which is required under existing regulations.

Persons conducting or proposing activities or projects shall comply with the regulatory requirements regarding designated and existing uses. Persons expanding a discharge or adding a new discharge point to a stream could be adversely affected if they need to provide a higher level of treatment to meet the more stringent criteria for selected parameters or there are changes in designated and existing uses of the stream. These increased costs may take the form of higher engineering, construction or operating cost for wastewater treatment facilities. Treatment costs are site-specific and depend upon the size of the discharge in relation to the size of the stream and many other factors. Therefore, it is not possible to precisely predict the actual change in costs. Economic impacts would primarily involve the potential for higher treatment costs for new or expanded discharges to streams that are redesignated. The initial costs from technologically improved treatments may be offset over time by potential savings from and increased value of improved water quality through these improved and possibly more effective or efficient treatments.

Compliance Assistance Plan. The proposed rulemaking has been developed as part of an established program that has been implemented by the Department since the early 1980s. The revisions are consistent with and based on existing Department regulations.

The proposed rulemaking will be implemented, in part, through the NPDES permitting program. Additional compliance actions are not anticipated. Staff is available to assist regulated entities in complying with the regulatory requirements if questions arise.

Paperwork requirements. The proposed rulemaking should not have significant paperwork impact on the Commonwealth, its political subdivisions or the private sector.

G. *Pollution Prevention*

Water quality standards are a major pollution prevention tool because they protect water quality and designated and existing uses. The proposed rulemaking will be implemented through the Department's permit and approval actions. For example, the NPDES bases effluent limitations on the designated use of the stream and the water quality criteria necessary to achieve designated and existing uses.

H. *Sunset Review*

This proposed rulemaking will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

I. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on June 22, 2012, the Department submitted a copy of this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate and House Environmental Resources and Energy Committees. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed rulemaking within 30 days of the close of the public comment period. The comments, recommendations or objections must specify the regulatory review criteria which have not been met. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking, by the Department, the General Assembly and the Governor.

J. *Public Comments*

Written comments. Interested persons are invited to submit comments, suggestions or objections regarding the proposed rulemaking to the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. The Board must receive comments by August 21, 2012. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by August 21, 2012. The one page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the proposed amendments will be considered. A public hearing will be scheduled at an appropriate location to receive additional comments.

Electronic comments. Comments may be submitted electronically to the Board at RegComments@pa.gov and must be received by August 21, 2012. A subject heading of the proposal and a return name and address must be included in each transmission.

K. *Public Hearings*

The Board will hold a public hearing for the purpose of accepting comments on this proposed rulemaking. The hearing will be held at 4 p.m. on August 8, 2012, in Conference Room 105, Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA. Other public hearings may be scheduled if sufficient interest is generated.

Persons wishing to present testimony at the hearing are requested to contact Michele Tate, Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526 at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 10 minutes for each witness. Witnesses are requested to submit three written copies of oral testimony to the testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact Michele Tate at (717) 787-4526 or through the Pennsylvania AT&T Relay Services, (800) 654-5984 (TDD) to discuss how the Department may accommodate their needs.

MICHAEL L. KRANCER,
Chairperson

(Editor's Note: For a statement of policy relating to this proposed rulemaking, see 42 Pa.B. 4187 (July 7, 2012).)

Fiscal Note: 7-475. No fiscal impact; (8) recommends adoption.

Annex A

**TITLE 25. ENVIRONMENTAL PROTECTION
PART I. DEPARTMENT OF ENVIRONMENTAL
PROTECTION**

**Subpart C. PROTECTION OF NATURAL
RESOURCES**

ARTICLE II. WATER RESOURCES

CHAPTER 93. WATER QUALITY STANDARDS

GENERAL PROVISIONS

§ 93.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

[*Critical use*—The most sensitive designated or existing use the criteria are designed to protect.]

Daily average—The arithmetic average of the samples collected during a continuous 24-hour period.

* * * * *

Point source discharge—A pollutant source regulated under the National Pollutant Discharge Elimination System (NPDES) as defined in [§ 92.1] § 92a.2 (relating to definitions).

* * * * *

ANTIDegradation Requirements

§ 93.4c. Implementation of antidegradation requirements.

* * * * *

(b) *Protection of High Quality and Exceptional Value Waters.*

(1) *Point source discharges.* The following applies to point source discharges to High Quality or Exceptional Value Waters.

* * * * *

(ii) *Public participation requirements for discharges to High Quality or Exceptional Value Waters.* The following requirements apply to discharges to High Quality or Exceptional Value Waters, as applicable:

* * * * *

(B) For new or increased point source discharges, in addition to the public participation requirements in [§§ 92.61, 92.63 and 92.65 (relating to public notice of permit application and public hearing; public access to information; and notice to other government agencies)] §§ 92a.81, 92a.82, 92a.83 and 92a.85, the applicant shall identify the antidegradation classification of the receiving water in the notice of complete application in [§ 92.61(a)] § 92a.86 (relating to notice of issuance or final action on a permit).

* * * * *

(c) *Special provisions for sewage facilities in High Quality or Exceptional Value Waters.*

(1) *SEJ approval in sewage facilities planning and approval in High Quality Waters.* A proponent of a new, additional, or increased sewage discharge in High Quality Waters shall include an SEJ impact analysis as part of the proposed revision or update to the official municipal sewage facilities plan under Chapter 71 (relating to administration of sewage facilities planning program). The Department will make a determination regarding the consistency of the SEJ impact analysis with subsection (b)(1)(iii). The determination will constitute the subsection (b)(1)(iii) analysis at the National Pollutant Discharge Elimination System (NPDES) permit review stage under Chapter [92] 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance), unless there is a material change in the project or law between sewage facilities planning and NPDES permitting, in which case the proponent shall recommence sewage facilities planning and perform a new social or economic justification impact analysis.

* * * * *

§ 93.4d. Processing of petitions, evaluations and assessments to change a designated use.

(a) *Public notice of receipt of [evaluation] petition, or assessment of waters, for High Quality or Exceptional Value Waters redesignation.* The Department will publish in the *Pennsylvania Bulletin* and [in a local newspaper of general circulation] by other means designed to effectively reach a wide audience notice of receipt of a complete [evaluation] petition which has

been accepted by the EQB recommending a High Quality or Exceptional Value Waters redesignation, or notice of the Department's intent to assess surface waters for potential redesignation as High Quality or Exceptional Value Waters. The assessments may be undertaken in response to a petition or on the Department's own initiative. The notice will request submission of information concerning the water quality of the waters subject to the evaluation, or to be assessed, for use by the Department to supplement any studies which have been performed. The Department will send a copy of the notice to all municipalities containing waters subject to the [evaluation] petition or assessment.

* * * * *

WATER QUALITY CRITERIA

§ 93.7. Specific water quality criteria.

(a) Table 3 displays specific water quality criteria and associated critical uses. The criteria associated with the Statewide water uses listed in § 93.4, Table 2 apply to all surface waters, unless a specific exception is indicated in §§ 93.9a—93.9z. **These exceptions will be indicated on a stream-by-stream or segment-by-segment basis by the words "Add" or "Delete" followed by the appropriate symbols described elsewhere in this chapter.** Other specific water quality criteria apply to surface waters as specified in §§ 93.9a—93.9z. All applicable criteria shall be applied in accordance with this chapter, Chapter 96 (relating to water quality standards implementation) and other applicable State and Federal laws and regulations.

TABLE 3

<i>Parameter</i>	<i>Symbol</i>	<i>Criteria</i>	<i>Critical Use*</i>
		* * * * *	
Chloride	[Ch] Ch ₁ Ch ₂	Maximum 250 mg/l. May not exceed, in freshwater, the concentration calculated (in mg/l) by the following equations: 1-hour average Criteria Maximum Concentration (CMC) criterion: CMC = 287.8(Hardness)^{0.205797}(Sulfate)^{-0.07452} 4-day average Criteria Continuous Concentration (CCC) criterion: CCC = 177.87(Hardness)^{0.205797}(Sulfate)^{-0.07452} Hardness (in mg/l as CaCO₃) and sulfate (in mg/l) values shall be based on receiving water natural quality.	PWS CWF, WWF, TSF, MF
Color	Col	Maximum 75 units on the platinum-cobalt scale; no other colors perceptible to the human eye.	PWS
Dissolved Oxygen	DO ₁ DO ₂	The following specific dissolved oxygen criteria recognize the natural process of stratification in lakes, ponds and impoundments. These criteria apply to flowing [waters] freshwater and to the epilimnion of a naturally stratified lake, pond or impoundment. The hypolimnion in a naturally stratified lake, pond or impoundment is protected by the narrative water quality criteria in § 93.6 (relating to general water quality criteria). For nonstratified lakes, ponds or impoundments, the dissolved oxygen criteria apply throughout the lake, pond or impoundment to protect the critical uses. For flowing waters, [minimum daily] 7-day average 6.0 mg/l; minimum 5.0 mg/l. For naturally reproducing Salmonid early life stages, 7-day average 9.0 mg/l; minimum 8.0 mg/l, in accordance with (b). For lakes, ponds and impoundments, minimum 5.0 mg/l. [Minimum daily average 5.0 mg/l; minimum 4.0 mg/l] 7-day average 5.5 mg/l; minimum 5.0 mg/l.	CWF [HQ-WWF HQ-TSF] WWF

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<i>Parameter</i>	<i>Symbol</i>	<i>Criteria</i>	<i>Critical Use*</i>
	DO ₃	For the period February 15 to July 31 of any year, [minimum daily] 7-day average 6.0 mg/l; minimum 5.0 mg/l. For the remainder of the year, [minimum daily] 7-day average [5.0] 5.5 mg/l; minimum [4.0] 5.0 mg/l.	TSF
	[DO ₄	Minimum 7.0 mg/l. * * * * *	HQ-CWF]
Sulfate	[Sul] Sul ₁ Sul ₂	Maximum 250 mg/l. May not exceed the result of the appropriate hardness and chloride based conditional numeric limits (in mg/l sulfate) as follows. Hardness (in mg/l as CaCO₃) and chloride (in mg/l) values used in the determination of the sulfate water quality standard shall be based on receiving water natural quality. A) 500 mg/l, if the hardness concentration is less than 100 mg/l, or chloride concentration is less than 5 mg/l. B) The result of the following equations (in mg/l sulfate) when the hardness value is greater than or equal to 100 mg/l, but less than or equal to 500 mg/l: 1) If the chloride value is greater than or equal to 5 mg/l, but less than 25 mg/l: S = [-57.478 + 5.79 (hardness) + 54.163 (chloride)] * 0.65 where, S = sulfate concentration; or 2) If the chloride value is greater than or equal to 25 mg/l: S = [1276.7 + 5.508 (hardness) - 1.457 (chloride)] * 0.65 where, S = sulfate concentration. C) 2,000 mg/l, if the hardness concentration is greater than 500 mg/l and the chloride concentration is 5 mg/l or greater.	PWS CWF, WWF, TSF, MF
Temperature		Maximum temperatures in the receiving water body resulting from heated waste sources regulated under Chapters [92] 92a , 96 and other sources where temperature limits are necessary to protect designated and existing uses. Additionally, these wastes may not result in a change by more than 2°F during a 1-hour period. * * * * *	See the following table.

(b) [Table 4 contains specific water quality criteria that apply to the water uses to be protected. When the symbols listed in Table 4 appear in the Water Uses Protected column in §§ 93.9a—93.9z, they have the meaning listed in the second column of Table 4. Exceptions to these standardized groupings will be indicated on a stream-by-stream or segment-by-segment basis by the words “Add” or “Delete” followed by the appropriate symbols described elsewhere in this chapter.

TABLE 4

<i>Symbol</i>	<i>Water Uses Protected</i>	<i>Specific Criteria</i>
WWF	Statewide list	DO ₂ and Temp ₂
CWF	Statewide list plus Cold Water Fish	DO ₁ and Temp ₁
TSF	Statewide list plus Trout Stocking	DO ₃ and Temp ₃

<i>Symbol</i>	<i>Water Uses Protected</i>	<i>Specific Criteria</i>
HQ-WWF	Statewide list plus High Quality Waters	DO ₁ and Temp ₂
HQ-CWF	Statewide list plus High Quality Waters and Cold Water Fish	DO ₄ and Temp ₁
HQ-TSF	Statewide list plus High Quality Waters and Trout Stocking	DO ₁ and Temp ₃
EV	Statewide list plus Exceptional Value Waters Existing quality]	

For naturally reproducing Salmonids, protected early life stages include embryonic and larval stages and juvenile forms to 30 days after hatching. The DO₁ standard for naturally reproducing Salmonid early life stages applies October 1 through May 31. The DO₁ standard for naturally reproducing Salmonid early life stages applies unless it can be demonstrated to the Department's satisfaction that the following conditions are documented: 1) the absence of young of the year Salmonids measuring less than 150 mm in the surface water; and 2) the absence of multiple age classes of Salmonids in the surface water. These conditions only apply to Salmonids resulting from natural reproduction occurring in the surface waters. Additional biological information may be considered by the Department which evaluates the presence or absence of early life stages.

* * * * *

§ 93.8b. Metals criteria.

Dissolved criteria are footnoted in Table 5, and have been developed by applying the most current EPA conversion factors to the total recoverable criteria. The EPA factors are listed in the following Conversion Factors Table.

Conversion Factors Table

	<i>Chronic</i>	<i>Acute</i>	<i>Source</i>
Arsenic	1.000 (As3+)	1.000 (As3+)	1,2
Cadmium	1.101672- (ln[H] × 0.041838)	1.136672-(ln[H] × 0.041838)	2
Chromium III	0.860	0.316	1,2
Chromium VI	0.962	.0982	1,2

* * * * *

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

* * * * *

TABLE 5
WATER QUALITY CRITERIA FOR TOXIC SUBSTANCES

Fish and Aquatic Life Criteria

<i>PP NO</i>	<i>Chemical Name</i>	<i>CAS Number</i>	<i>Criteria Continuous Concentrations (ug/L)</i>	<i>Criteria Maximum Concentration (ug/L)</i>	<i>Human Health Criteria (ug/L)</i>	
			* * * * *			
9A	PENTACHLOROPHENOL	00087865	Exp(1.005x[pH]-5.134) @pH= 6.5 7.8 9.0 Crit= 4.1 15 50	Exp(1.005x[pH]-4.869) @pH= 6.5 7.8 9.0 Crit= 5.3 19 65	0.27	CRL
10A	PHENOL	00108952	N/A	N/A	[21000] H 10400	
11A	2,4,6-TRICHLOROPHENOL	00088062	91	460	1.4	CRL
1V	ACROLEIN	00107028	[1] 3.0	[5] 3.0	[190] H 6.0	
2V	ACRYLONITRILE	00107131	130	650	0.051	CRL
			* * * * *			
26V	1,2 trans-DICHLORO-ETHYLENE	00156605	1400	6800	140	H
—	1,2 cis-DICHLORO-ETHYLENE	00156592	N/A	N/A	12	H
27V	1,1,1-TRICHLORO-ETHANE	00071556	610	3000	N/A	-
			* * * * *			

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—	ACETONE	00067641	86000	450000	3500	H
—	ACRYLAMIDE	00079061	N/A	N/A	0.07	CRL
—	ALUMINUM	07429905	N/A	750	N/A	-
—	BARIUM	07440393	4100	21000	2400	H
—	BENZENE METADISULFONIC ACID	00098486	1600000	2600000	N/A	-
—	BENZENE MONOSULFONIC ACID	00098113	1200000	2000000	N/A	-
—	BENZYL CHLORIDE	00100447	N/A	N/A	0.2	CRL
—	BORON	07440428	1600	8100	3100	H
—	2-BUTOXY ETHANOL	00111762	N/A	N/A	700	H
—	COBALT	07440484	19	95	N/A	-
—	p-CRESOL	00106445	160	800	N/A	-
—	CYCLOHEXYLAMINE	00108918	N/A	N/A	1000	H
—	1,4-DIOXANE	00123911	N/A	N/A	0.35	CRL
—	DIAZINON	00333415	0.17	0.17	N/A	-
—	FORMALDEHYDE	00050000	440	2200	700	H
—	2-HEXANONE	00591786	4300	21000	N/A	-
—	LITHIUM	07439932	N/A	N/A	N/A	-
—	METHYLETHYL KETONE	00078933	32000	230000	21000	H
—	METHYLISO-BUTYL KETONE	00108101	5000	26000	N/A	-
—	METOLACHLOR	51218452	NA	NA	69	H
—	MOLYBDENUM	7439987	1900	6000	210	H
—	NONYLPHENOL	00104405	6.6	28	N/A	-
—	P-PHENOL SULFONIC ACID	00098679	1400000	3500000	N/A	-
—	I-PROPANOL	00071238	46000	230000	N/A	-
—	2-PROPANOL	00067630	89000	440000	N/A	-
—	RESORCINOL	01084603	7200	28000	2700	H
—	STRONTIUM	07440246	N/A	N/A	4000	H
—	1,2,3-TRICHLORO-PROPANE	00096184	N/A	N/A	210	H
—	1,2,4-TRIMETHYLBENZENE	00095636	N/A	N/A	72	H
—	1,3,5-TRIMETHYLBENZENE	00108678	N/A	N/A	72	H
—	VANADIUM	07440622	100	510	N/A	H
—	XYLENE	01330207	210	1100	70000	H
		*	*	*	*	*

§ 93.8d. Development of site-specific water quality criteria.

* * * * *

(f) If the Department determines that site-specific criteria are appropriate in accordance with subsection (a), the Department will do the following:

(1) Publish the site-specific criterion in the *Pennsylvania Bulletin*, along with other special conditions under [§ 92.61(a)(5)] §§ 92a.82 and 92a.83 (relating to public notice of permit application and draft permits; and public notice of public hearing) and provide for public participation and public hearing in accordance with [§ 92.61 and §§ 92.63 and 92.65 (relating to public access to information; and notice to other government agencies)] §§ 92a.81, 92a.82, 92a.83 and 92a.85.

* * * * *

DESIGNATED WATER USES AND WATER QUALITY CRITERIA

§ 93.9b. Drainage List B.

Delaware River Basin in Pennsylvania
Lackawaxen River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
1—Delaware River				
2—Lackawaxen River				
3—West Branch Lackawaxen River	Basin, Source to Prompton Reservoir	Wayne	HQ-CWF, MF	None
3—West Branch Lackawaxen River	Main Stem, Prompton Reservoir to Confluence with [Dyberry Creek] Lackawaxen River and Van Auken Creek	Wayne	HQ-TSF, MF	None
4—[Unnamed] Tributaries to West Branch Lackawaxen River	Basins, Prompton Reservoir to Confluence with [Dyberry Creek] Lackawaxen River and Van Auken Creek	Wayne	HQ-CWF, MF	None
[4] 3—Van Auken Creek	Basin	Wayne	HQ-TSF, MF	None
2—Lackawaxen River	Mainstem, Confluence of West Branch Lackawaxen River and Van Auken Creek to Dyberry Creek	Wayne	HQ-TSF, MF	None
3—Tributaries to Lackawaxen River	Basins, Confluence of West Branch Lackawaxen River and Van Auken Creek to Dyberry Creek	Wayne	HQ-CWF, MF	None
3—Dyberry Creek				
4—West Branch Dyberry Creek	Basin	Wayne	HQ-CWF, MF	None
4—East Branch Dyberry Creek	Basin	Wayne	EV, MF	None
3—Dyberry Creek	Basin, Confluence of West Branch Dyberry Creek and East Branch Dyberry Creek to Big Brook	Wayne	HQ-CWF, MF	None
4—Big Brook	Basin	Wayne	EV, MF	None
3—Dyberry Creek	Basin, Big Brook to Mouth	Wayne	HQ-CWF, MF	None
2—Lackawaxen River	Main Stem, [Confluence of West Branch Lackawaxen River and] Dyberry Creek to Mouth	Wayne	HQ-TSF, MF	None
3—[Unnamed] Tributaries to Lackawaxen River	Basins, [Confluence of West Branch Lackawaxen River and] Dyberry Creek to [Mouth] Wallenpaupack Creek	Wayne	HQ-CWF, MF	None
[3—Carley Brook	Basin	Wayne	HQ-CWF, MF	None
3—Middle Creek	Basin	Wayne	HQ-CWF, MF	None]
3—Wallenpaupack Creek	Basin, Source to Lake Wallenpaupack Dam	Wayne-Pike	HQ-CWF, MF	None
3—Wallenpaupack Creek	Basin, Lake Wallenpaupack Dam to Mouth	Wayne-Pike	HQ-WWF, MF	None
[3—Swamp Brook	Basin	Pike	HQ-CWF, MF	None
3—Tinkwig Creek	Basin	Pike	HQ-CWF, MF	None
3—Decker Creek	Basin	Pike	HQ-CWF, MF	None
3—Teedyuskung Creek	Basin	Pike	HQ-CWF, MF	None

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
3—Blooming Grove Creek	Basin	Pike	HQ-CWF, MF	None
3—Little Blooming Grove Creek	Basin	Pike	HQ-CWF, MF	None
3—Grassy Island Creek	Basin	Pike	HQ-CWF, MF	None
3—Kirkham Creek	Basin	Pike	HQ-CWF, MF	None
3—West Falls Creek	Basin	Pike	HQ-CWF, MF	None
3—Mill Creek	Basin	Pike	HQ-CWF, MF	None
3—O'Donnell Creek	Basin	Pike	HQ-CWF, MF	None
3—Lords Creek	Basin	Pike	HQ-CWF, MF	None]
3—Tributaries to Lackawaxen River	Wallenpaupack Creek to Mouth	Pike	HQ-CWF, MF	None

§ 93.9c. Drainage List C.

Delaware River Basin in Pennsylvania
Delaware River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
		* * * * *		
3—Pine Mountain Run	Basin	Monroe	HQ-CWF, MF	None
3—Leas Run	Basin	Monroe	HQ-CWF, MF	None
3—Paradise Creek	[Main Stem] Basin, source to Devils Hole Creek	Monroe	HQ-CWF, MF	None
[4—Unnamed Tributaries to Paradise Creek	Basins	Monroe	HQ-CWF, MF	None]
4—Devils Hole Creek	Basin, Source to South Boundary of State Game Lands No. 221 (about 0.25 mile north of Erie-Lackawanna R. R.)	Monroe	EV, MF	None
4—Devils Hole Creek	Basin, South Boundary of State Game Lands No. 221 to Mouth	Monroe	HQ-CWF, MF	None
[4—Yankee Run	Basin	Monroe	HQ-CWF, MF	None
4—Swiftwater Creek	Basin	Monroe	HQ-CWF, MF	None
4—Cranberry Creek	Basin	Monroe	HQ-CWF, MF	None
4—Butz Run	Basin	Monroe	HQ-CWF, MF	None]
3—Paradise Creek	Basin, Devils Hole Creek to Mouth	Monroe	HQ-CWF, MF	None
3—Michael Creek	Basin	Monroe	HQ-CWF, MF	None
		* * * * *		
3—McMichael Creek	Basin, T434 to Pocono Creek	Monroe	HQ-CWF, MF	None
4—Pocono Creek	[Main Stem	Monroe	HQ-CWF, MF	None

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
5—Unnamed Tributaries to Pocono Creek	Basins	Monroe	HQ-CWF, MF	None]
5—Dry Sawmill Run	Basin, Source to Sand Spring Run	Monroe	HQ-CWF, MF	None
[5] 6—Sand Spring Run	Basin	Monroe	EV, MF	None
5—Dry Sawmill Run	Basin, Sand Spring Run to confluence with Wolf Swamp Run	Monroe	HQ-CWF, MF	None
5—Wolf Swamp Run	Basin, Source to a Confluence Point (41°3'35.2" N; 75°22'2.4" W) Approximately 185 Meters Upstream of the Mouth	Monroe	EV, MF	None
[5—Scot Run	Basin	Monroe	HQ-CWF, MF	None
5—Bulgers Run	Basin	Monroe	HQ-CWF, MF	None
5—Cranberry Creek	Basin	Monroe	HQ-CWF, MF	None
5—Reeders Run	Basin	Monroe	HQ-CWF, MF	None
5—Wigwam Run	Basin	Monroe	HQ-CWF, MF	None
5—Flagler Run	Basin	Monroe	HQ-CWF, MF	None
5—Big Meadow Run	Basin	Monroe	HQ-CWF, MF	None]
5—Wolf Swamp Run	Basin, Point of Confluence (41°3'35.2" N; 75°22'2.4" W) Downstream to Confluence with Dry Sawmill Run	Monroe	HQ-CWF, MF	None
4—Pocono Creek	Basin, Confluence of Dry Sawmill Run and Wolf Swamp Run to Mouth	Monroe	HQ-CWF, MF	None
3—[McMichaels] McMichael Creek	Basin, Pocono Creek to Mouth	Monroe	TSF, MF	None
	* * * * *			
2—Slateford Creek	Basin, Source to T [734] 735 Bridge	Northampton	EV, MF	None
2—Slateford Creek	Basin, T [734] 735 Bridge to Mouth	Northampton	CWF, MF	None
	* * * * *			

§ 93.9d. Drainage List D.

Delaware River Basin in Pennsylvania
Lehigh River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—Saucon Creek	Main Stem, Black River to SR 412 Bridge	Northampton	HQ-CWF, MF	None
4—Unnamed Tributaries to Saucon Creek	Basins, Black [Creek] River to SR 412 Bridge	Northampton	CWF, MF	None
3—Saucon Creek	Basin, SR 412 Bridge to Mouth	Northampton	CWF, MF	None
	* * * * *			

§ 93.9e. Drainage List E.

Delaware River Basin in Pennsylvania
Delaware River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—Little Neshaminy Creek	Basin	Bucks	WWF, MF	Add Tur ₁
3—Mill Creek	[Basin, Source to Watson Creek	Bucks	CWF, MF	Add Tur₂]
4—Lahaska Creek	Basin	Bucks	CWF, MF	Add Tur₂
4—Watson Creek	Basin	Bucks	CWF, MF	Add Tur ₂
3—Mill Creek	Basin, Confluence of Lahaska Creek and Watson Creek to Mouth	Bucks	WWF, MF	Add Tur ₁
	* * * * *			

§ 93.9f. Drainage List F.

Delaware River Basin in Pennsylvania
Schuylkill River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—Little Schuylkill River	Basin, Rattling Run to Mouth	Schuylkill	CWF, MF	None
2—Schuylkill River	Main Stem, Little Schuylkill River to [Head of Tide] Valley Creek	[Philadelphia] Montgomery-Chester	WWF, MF	None
3—Unnamed Tributaries to Schuylkill River	Basins, Little Schuylkill River to Berks-Chester-Montgomery County Border	Schuylkill-Berks	WWF, MF	None
	* * * * *			
3—Monocacy Creek	Basin	Berks	WWF, MF	None
3—Leaf Creek	Basin	Berks	WWF, MF	None
3—UNTs Schuylkill River	Basins, (all UNT's along Montgomery County shore), Berks-Chester-Montgomery County border to Valley Creek	Montgomery	WWF, MF	None
	* * * * *			
3—Pickering Creek	Basin, Philadelphia Suburban Water Company Dam to Mouth	Chester	WWF, MF	None
3—Crossmans Run	Basin	Montgomery	WWF, MF	None
3—Perkiomen Creek	Basin, Source to SR 1010 Bridge at Hereford	Berks	HQ-CWF, MF	None
	* * * * *			
3—Valley Creek	Basin	Montgomery-Chester	EV, MF	None
[3—UNTs to Schuylkill River	Basins, Valley Creek to UNT 00926 at RM 18.9	Montgomery	WWF, MF	None
3—Trout Creek	Basin	Montgomery	WWF, MF	None
3—Indian Creek	Basin	Montgomery	WWF, MF	None
3—Crow Creek	Basin	Montgomery	WWF, MF	None]

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
2—Schuylkill River	Basin, Valley Creek to Stony Creek	Montgomery	WWF, MF	None
3—Stony Creek	Basin	Montgomery	TSF, MF	None
[3—Sawmill Run	Basin	Montgomery	WWF, MF	None
3—Diamond Run	Basin	Montgomery	WWF, MF	None
3—Gulph Creek	Basin	Montgomery	WWF, MF	None
3—Plymouth Creek	Basin	Montgomery	WWF, MF	None
3—Arrowmink Creek	Basin	Montgomery	WWF, MF	None]
2—Schuylkill River	Basin, Stony Creek to UNT 00926	Montgomery	WWF, MF	None
3—UNT 00926 at RM 18.9 (locally Spring Mill Run)	Basin	Montgomery	CWF, MF	None
[3—UNTs to Schuylkill River	Basins, UNT 00926 downstream to Head of Tide	Montgomery-Philadelphia	WWF, MF	None
3—Sawmill Run	Basin	Montgomery	WWF, MF	None]
2—Schuylkill River	Basin, UNT 00926 downstream to Mill Creek	Montgomery-Philadelphia	WWF, MF	None
3—Mill Creek	Basin	Montgomery	TSF, MF	None
[3—Gulley Run	Basin	Montgomery	WWF, MF	None]
2—Schuylkill River	Basin, Mill Creek to Wissahickon Creek	Montgomery-Philadelphia	WWF, MF	None
3—Wissahickon Creek	Basin	Philadelphia	TSF, MF	None
2—Schuylkill River	Basin, Wissahickon Creek to Head of Tide	Philadelphia	WWF, MF	None

§ 93.9g. Drainage List G.

Delaware River Basin in Pennsylvania
Delaware River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—White Clay Creek				
4—East Branch White Clay [Branch] Creek	Basin, Source to Northern Border of Avondale Borough	Chester	EV, MF	None
4—East Branch White Clay Creek	Basin, Northern Border of Avondale Borough to Confluence with Middle Branch	Chester	CWF, MF	None
	* * * * *			
5—Unnamed Tributaries to West Branch Brandywine Creek	Basins, T 437 Bridge to Dam at Valley Station (except those in West Brandywine Township)	Chester	TSF, MF	None
5—[Unnamed] Tributaries to West Branch Brandywine Creek	Basins, all Portions in West Brandywine Township	Chester	HQ-TSF, MF	None
5—Birch Run	Basin, Source to Hibernia Park Dam	Chester	HQ-CWF, MF	None
	* * * * *			

§ 93.9h. Drainage List H.

Susquehanna River Basin in Pennsylvania
Tioga River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
2—Tioga River	Basin, Mill Creek to Crooked Creek	Tioga	CWF, MF	None
3—Crooked Creek	Basin, Source to [Catlin Hollow] Norris Brook	Tioga	WWF, MF	None
3—Crooked Creek	Main Stem, [Catlin Hollow] Norris Brook to Mouth	Tioga	WWF, MF	None
4—Unnamed Tributaries to Crooked Creek	Basins, [Catlin Hollow] Norris Brook to Mouth	Tioga	WWF, MF	None
4—[Catlin Hollow] Norris Brook	Basin	Tioga	TSF, MF	None
4—Sweet Hollow	Basin	Tioga	WWF, MF	None
	* * * * *			

§ 93.9i. Drainage List I.

Susquehanna River Basin in Pennsylvania
Susquehanna River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—Alba Creek	Basin	Bradford	CWF, MF	None
3—Beech Flats Creek	Basin	Bradford	CWF, MF	None
3—Wallace Brook	Basin	Bradford	CWF, MF	None
3—Gulf Brook	Basin	Bradford	CWF, MF	None
3—North Branch Towanda Creek	Basin	Bradford	CWF, MF	None
	* * * * *			
3—Schrader Creek	Basin, Coal Run to Mouth	Bradford	HQ-CWF, MF	None
3—French Run	Basin	Bradford	CWF, MF	None
3—South Branch Towanda Creek	Basin	Bradford	CWF, MF	None
	* * * * *			

§ 93.9k. Drainage List K.

Susquehanna River Basin in Pennsylvania
Susquehanna River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
2—Toby Run	Basin	Montour	CWF, MF	None
[2—Sechler Run	Basin	Montour	CWF, MF	None]
2—Mahoning Creek	Main Stem, Source to PA 54 Bridge	Montour	TSF, MF	None
3—Unnamed Tributaries to Mahoning Creek	Basins, Source to PA 54 Bridge	Montour	CWF, MF	None
3—Kase Run	Basin	Montour	CWF, MF	None
3—Mausies Creek	Basin	Montour	CWF, MF	None
2—Mahoning Creek	Main Stem, PA 54 Bridge to Mouth	Montour	WWF, MF	None

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
3—Unnamed Tributaries to Mahoning Creek	Basin, PA 54 Bridge to Mouth	Montour	CWF, MF	None
3—Sechler Run	Basin	Montour	CWF, MF	None
2—Wilson Run	Basin	Northumberland	CWF, MF	None
	* * * * *			

§ 93.9l. Drainage List L.

Susquehanna River Basin in Pennsylvania
West Branch Susquehanna River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
4—Commissioners Run	Basin	Clinton	HQ-CWF, MF	None
4—[Grass Flats] Wistar Run	Basin	Clinton	HQ-CWF, MF	None
4—Moccasin Run (Moccasin Falls Run)	Basin	Clinton	HQ-CWF, MF	None
	* * * * *			
4—Mill Creek	Basin	Tioga	HQ-CWF, MF	None
4—Roaring [Brook] Branch	Basin	Tioga	HQ-CWF, MF	None
4—Abbott Run	Basin	Lycoming	HQ-CWF, MF	None
	* * * * *			
5—Mock Creek	Basin	Lycoming	HQ-CWF, MF	None
[5— Wolf Run	Basin, Source to Noon Branch	Lycoming	HQ-CWF, MF	None
6—Noon Branch Wolf Run	Basin	Lycoming	EV, MF	None
5—Wolf Run	Basin, Noon Branch to Mouth	Lycoming	HQ-CWF, MF	None]
5—Noon Branch	Basin, Source to Wolf Run	Lycoming	EV, MF	None
6—Wolf Run	Basin	Lycoming	HQ-CWF, MF	None
5—Noon Branch	Basin, Wolf Run to Mouth	Lycoming	HQ-CWF, MF	None
5—King Run	Basin, Source to Engle Run	Lycoming	HQ-CWF, MF	None
	* * * * *			

§ 93.9m. Drainage List M.

Susquehanna River Basin in Pennsylvania
Susquehanna River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
2—Penns Creek	Main Stem, Laurel Run to Mouth	Snyder	WWF, MF	None
[2— Penns Creek]				
3—Unnamed Tributaries to Penns Creek	Basins, Laurel Run to RM 26.50	Union	CWF, MF	None
	* * * * *			

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
3—Crab Run	Basin	Schuylkill	CWF, MF	None
3—Zerbe Run	Basin	[Schuylkill]	CWF, MF	None
		Northumberland		
3—Schwabens Creek	Basin	Northumberland	TSF, MF	None
		* * * * *		

§ 93.9n. Drainage List N.

Susquehanna River Basin in Pennsylvania
Juniata River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
		* * * * *		
5—Stone Creek	Basin, UNT 14908 to Mouth	Bedford	CWF, MF	None
5—Bobs Creek	Basin, Source to [Deep Hollow] Pavia Run	Bedford	HQ-CWF, MF	None
6—[Deep Hollow] Pavia Run	Basin	Bedford	HQ-CWF, MF	None
5—Bobs Creek	Basin, [Deep Hollow] Pavia Run to Mouth	Bedford	CWF, MF	None
5—Adams Run	Basin	Bedford	WWF, MF	None
		* * * * *		

§ 93.9o. Drainage List O.

Susquehanna River Basin in Pennsylvania
Susquehanna River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
		* * * * *		
3—Unnamed Tributaries to Conodoguinet Creek	Basins, PA 997 at Roxbury to Mouth	Franklin-Cumberland	WWF, MF	None
3—Muddy Run	Basin, Source to Rowe Run	Franklin	WWF, MF	None
[3— Keasey Run	Basin	Franklin	WWF, MF	None]
[3] 4—Rowe Run	Basin	Franklin	CWF, MF	None
3—Muddy Run	Basin, Rowe Run to Mouth	Franklin	WWF, MF	None
3—Middle Spring Creek	Basin	Franklin-Cumberland	CWF, MF	None
		* * * * *		
3—Stoverstown Branch	Basin	York	WWF, MF	None
3—South Branch Codorus Creek	[Main Stem] Basin, Source to UNT from Glen Rock Valley at RM 16.85	York	WWF, MF	None
[4— Unnamed Tributaries to South Branch Codorus Creek	Basins, Source to Unnamed Tributary from Glen Rock Valley at RM 16.06	York	WWF, MF	None]
4—[Unnamed Tributary] UNT to South Branch Codorus Creek Through Glen Rock Valley	Basin	York	CWF, MF	None

PROPOSED RULEMAKINGS

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
[4—Unnamed Tributaries to South Branch Codorus Creek	Basins, Unnamed Tributary from Glen Rock Valley to Mouth	York	WWF, MF	None
4—Trout Run	Basin	York	WWF, MF	None
4—Foust Creek	Basin	York	WWF, MF	None
4—Centerville Creek	Basin	York	WWF, MF	None
4—Cherry Run	Basin	York	WWF, MF	None
4—Fishel Creek	Basin	York	WWF, MF	None]
3—South Branch Codorus Creek	Basin, UNT from Glen Rock Valley to East Branch Codorus Creek	York	WWF, MF	None
4—East Branch Codorus Creek	Basin, Source to PA 214	York	HQ-CWF, MF	None
4—East Branch Codorus Creek	Basin, PA 214 to Inlet of Lake Redman	York	CWF, MF	None
4—East Branch Codorus Creek	Main Stem, Inlet of Lake Redman to Mouth	York	WWF, MF	None
5—[Unnamed Tributaries] UNTs to East Branch Codorus Creek	Basins, Inlet of Lake Redman to Mouth	York	CWF, MF	None
5—Inners Creek	Basin	York	CWF, MF	None
3—South Branch Codorus Creek	Basin, East Branch Codorus Creek to Mouth	York	WWF, MF	None
3—Willis Run	Basin	York	WWF, MF	None
	* * * * *			
2—Pequea Creek	Main Stem, Source to PA 897	Lancaster	HQ-CWF, MF	None
3—Unnamed Tributaries to Pequea Creek	Basins, Source to PA 897	Lancaster	HQ-CWF, MF	None
3—Indian Spring Run	Basin, Source to SR 10 Bridge	Chester	EV, MF	None
3—Indian Spring Run	Basin, SR10 to Confluence of UNT 07540 at RM 1.95	Lancaster	CWF, MF	None
4—UNT 07540 at RM 1.95 to Indian Spring Run	Basin, Source to SR10 Bridge	Chester	HQ-CWF, MF	None
4—UNT 07540 at RM 1.95 to Indian Spring Run	Basin, SR10 Bridge to Mouth	Lancaster	CWF, MF	None
3—Indian Spring Run	Basin, UNT 07540 to Mouth	Lancaster	CWF, MF	None
2—Pequea Creek	Main Stem, PA 897 to Mouth	Lancaster	WWF, MF	None
3—Unnamed Tributaries to Pequea Creek	Basins, PA 897 to Eshleman Run	Lancaster	CWF, MF	None
[3—Indian Spring Run	Basin, Source to SR 10 Bridge	Chester	EV, MF	None
3—Indian Spring Run	Basin, SR10 to Confluence of UNT 07540 at RM 1.95	Lancaster	CWF, MF	None
4—UNT 07540 at RM 1.95 to Indian Spring Run	Basin, Source to SR10 Bridge	Chester	HQ-CWF, MF	None
4—UNT 07540 at RM 1.95 to Indian Spring Run	Basin, SR10 Bridge to Mouth	Lancaster	CWF, MF	None
3—Indian Spring Run	Basin, UNT 07540 to Mouth	Lancaster	CWF, MF	None]
3—White Horse Run	Basin	Lancaster	WWF, MF	None
	* * * * *			
2—Peters Creek	Basin	Lancaster	HQ-WWF, MF	None
2—Haines [Run] Branch	Basin	Lancaster	HQ-WWF, MF	None

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
2—Michael Run	Basin (all sections in PA)	York	WWF, MF	None
	* * * * *			

§ 93.9s. Drainage List S.

Ohio River Basin in Pennsylvania
Allegheny River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
5—Reisinger Run	Basin	Clearfield	CWF	None
5—[Pent] Pentz Run	Basin	Clearfield	CWF	None
5—Beaver Run	Basin	Clearfield	CWF	None
	* * * * *			
4—North Fork Redbank Creek	[Main Stem] Basin, Source to [Confluence with Sandy Lick Creek] South Branch of North Fork Redbank Creek	Jefferson	HQ-CWF	None
[5—Unnamed Tributaries to North Fork	Basins, Source to Confluence with Sandy Lick Creek	Jefferson	HQ-CWF	None
5—Williams Run	Basin	Jefferson	HQ-CWF	None
5—Muddy Run	Basin	Jefferson	HQ-CWF	None
5—Bearpen Run	Basin	Jefferson	HQ-CWF	None
5—Manners Run	Basin	Jefferson	HQ-CWF	None
5—Mammy Hi Run	Basin	Jefferson	HQ-CWF	None
5—Lucas Run	Basin	Jefferson	HQ-CWF	None]
5—South Branch of North Fork Redbank Creek	Basin	Jefferson	EV	None
[5—Acy Run	Basin	Jefferson	HQ-CWF	None
5—Windfall Run	Basin	Jefferson	HQ-CWF	None
5—Clear Run	Basin	Jefferson	HQ-CWF	None
5—Miller Run	Basin	Jefferson	HQ-CWF	None]
4—North Fork Redbank Creek	Basin, South Branch of North Fork Redbank Creek to Shippen Run	Jefferson	HQ-CWF	None
5—Shippen Run	Basin	Jefferson	EV	None
4—North Fork Redbank Creek	Basin, Shippen Run to Craft Run	Jefferson	HQ-CWF	None
5—Craft Run	Basin	Jefferson	EV	None
[5—Pekin Run	Basin	Jefferson	HQ-CWF	None
5—Red Lick Run	Basin	Jefferson	HQ-CWF	None
5—Sugarcamp Run	Basin	Jefferson	HQ-CWF	None]
4—North Fork Redbank Creek	Basin, Craft Run to Mouth	Jefferson	HQ-CWF	None
	* * * * *			

§ 93.9w. Drainage List W.

Ohio River Basin in Pennsylvania
Ohio River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
3—Enlow Fork	Main Stem, Source to PA-WV State Border	Washington-Greene	TSF	None
4—[Unnamed] Tributaries to Enlow Fork	Basins, Source to [PA-WV State Border] Templeton Fork	Washington-Greene	WWF	None
[4—Boothe Run	Basin	Greene	WWF	None
4—Long Run	Basin	Washington	WWF	None]
4—Templeton Fork	Basin	Washington	TSF	None
[4—Owens Run	Basin	Greene	WWF	None
4—Robinson Fork	Basin	Washington	WWF	None
4—Spottedtail Run	Basin (all sections in PA)	Washington	WWF	None]
4—Tributaries to Enlow Fork	Basins, Templeton Fork to PA-WV State Border (all sections in PA)	Washington-Greene	WWF	None
3—Enlow Fork (WV)				
	* * * * *			

§ 93.9z. Drainage List Z.

Potomac River Basin in Pennsylvania
Potomac River

<i>Stream</i>	<i>Zone</i>	<i>County</i>	<i>Water Uses Protected</i>	<i>Exceptions To Specific Criteria</i>
	* * * * *			
2—Antietam Creek (MD)				
3—Unnamed tributaries to Antietam Creek	Basins (all sections in PA), PA-MD State Border to Mouth	Franklin	WWF, MF	None
3—Marsh Run	Basin (all sections in PA)	Franklin	WWF, MF	None
2—Monocacy River (MD)				
3—Marsh Creek	Basin, Source to Willoughby Run	Adams	CWF, MF	None
4—Willoughby Run	Basin	Adams	WWF, MF	None
3—Marsh Creek	Basin, Willoughby Run to PA-MD State Border	Adams	CWF, MF	None
3—Marsh Creek MD				
4—Unnamed tributaries to Marsh Creek	Basins (all sections in PA) PA-MD State Border to [Mouth] Confluence with Marsh Creek and Monocacy River	Adams	CWF, MF	None
3—Rock Creek	Basin (all sections in PA), Source to Confluence with Marsh Creek and Monocacy River	Adams	WWF, MF	None
3—Alloway Creek	Basin (all sections in PA)	Adams	WWF, MF	None
3—Cattail Branch	Basin (all sections in PA)	Adams	WWF, MF	None
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