NOTICE OF PROPOSED RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
[25 PA. Code, Chapter 93]

PREAMBLE

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 proposal was adopted by the Board at its meeting of _____.

A. Effective Date

These proposed amendments will be effective upon publication in the Pennsylvania Bulletin as final-form rulemaking.

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 (35 P.S. §§ 691.5(b)(1) and 691.402), which authorize the Board to develop and adopt rules and regulations to implement provisions of The Clean Streams Law 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 the Federal regulations in 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 the requirements of Section 5 and 402 of The Clean Streams Law and Section 303 of

the Federal Clean Water (33 U.S.C.A. § 1313). This proposed rulemaking fulfills the federally-required triennial review of water quality standards as mandated by the Federal Clean Water Act. The water quality standards consist of the existing and designated uses of the surface waters of this 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 all 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 new Pennsylvania Department of Environmental Resources (PA DER) in 1968. Responsibilities for developing and maintaining the water quality criteria and standards, and other related regulations were transferred to PA DER. New or revised specific water quality criteria and standards were developed by PA DER for all Pennsylvania surface waters, and formally adopted into 25 Pennsylvania Code, Chapter 93 – Water Quality Standards on September 10, 1971.

PA 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. U.S. EPA Region III formally approved the revisions to Pennsylvania'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 three years, review and revise as necessary, their water quality standards. As such, additional reviews and revisions were made to Pennsylvania's water quality standards during 1985, 1989, and 1994. The then newly formed Department of Environmental Protection (DEP), 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 Pennsylvania's water quality standards during 1998, 1999, 2000, 2002, 2004 and 2009 to address amendments for the Great Lakes Initiative (GLI), Antidegradation policies, the Water Quality Standard (WQS) Regulatory Basics Initiative (RBI) Triennial, and several other corrective amendments.

These proposed amendments constitute Pennsylvania'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 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, but the AAB declined the need for their consideration at their regularly scheduled October 19, 2011 meeting.

E. Summary of Issues and Proposed Regulatory Revisions

The following is a detailed description of proposed revisions in Chapter 93 by Section:

Chapter 93. WATER QUALITY STANDARDS

§93.1 Definitions.

The Board proposes to delete the definition for "critical use" because there is currently a definition for "critical use" in § 93.7, Table 3 footnote.

In the "point source discharge" definition, the Board proposes to update the reference from Chapter 92 to the renamed Chapter 92a.

§ 93.4c. Implementation of antidegredation requirements.

The Board proposes to update all cross references and citations in Section 93.4c pertaining to Chapter 92, to the renamed Chapter 92a as contained in the Pennsylvania Code.

§ 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 found at §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. This 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 website; issuing press releases through the Department's newsroom; distributing the information via emails 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 any exceptions to the application of criteria can be found in the drainage lists of Chapter 93, §§ 93.9a – 93.9z.

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

Chloride

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, pursuant to 25 Pa. Code § 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 United States Environmental Protection Agency (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 proposal, has re-evaluated the science used in the determination of the chloride criterion.

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

The Department has reviewed the equation-based aquatic life criteria for chloride as developed by 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" US EPA, October 28, 2008. 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 one-hour and ninety-six hour acute and chronic criteria values should not be exceeded more than once every three years on the average (personal communication: Connie Dou, IDNR, November 2011).

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

Dissolved Oxygen

Aquatic life in Pennsylvania freshwater waterbodies are currently being protected from adverse impacts associated with low dissolved oxygen by four categories of dissolved oxygen criteria (DO). Only slight revisions have been made to the numerical component of the dissolved oxygen aquatic life criteria since the Department of Health Sanitary Water Board adopted their

Rules and Regulations in 1967. Since then, many new resources of new scientific literature and information have been made available, including 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 DO concentrations based on EPA's risk level assessment in its DO 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 non-stratified lakes.

Sulfate

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 all surface waters of the Commonwealth, but rather only at the point of water supply intake, pursuant to 25 Pa. Code § 96.3(d) (relating to water quality protection requirements).

The Illinois Environmental Protection Agency (IL EPA) worked with the US EPA to conduct a multi-year project researching the toxicity of sulfate to aquatic life.

Dr. David Soucek of the Illinois Natural History Survey 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 was documented by Soucek and Kennedy in a 2005 publication titled *Effects of hardness, chloride, and acclimation on the acute toxicity of sulfate to freshwater invertebrates* (Environmental Toxicology and Chemistry, 24:1204-1210).

The Department has reviewed the IL EPA 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 IL EPA, as previously discussed.

Temperature

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 found 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 regulation, at final rulemaking, based on comments received and additional science obtained. As a result, the Board is seeking all technical and scientific information, data and studies, related to rate of temperature change and its effect on aquatic organisms. This request for information includes any new technical and scientific information related to 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: map of collection locations and outfalls, at least one week of continuous water temperature measurements taken prior to the sampling, dates of collection, identity of the collectors, narrative of the collection methods, species list(s) 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 document (pertaining to public comments).

§ 93.7(b) and Table 4:

The Board is proposing to remove § 93.7(b) and Table 4 in § 93.7(b). The information in this section is no longer needed since the application of specific criteria can be found in § 93.7 Table 3 and the drainage lists in §§ 93.9a – 93.9z. As a result, § 93.7(b) will be "Reserved" for further use.

Add § 93.7(e):

Also, the Board is proposing a new section § 93.7(e). This section will house the explanation for the protection of early life stages of Salmonids, as related to new dissolved oxygen (D.O.) 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 additions and revisions to the human health and aquatic life criteria contained in Table 5. 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 NPDES program.

The Department uses the provisions stated in PA Code, Chapter 16 (relating to the statement of policy), §§ 16.22, 16.32 and 16.33 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) (1985 Aquatic Life Criteria Guidelines). 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 thirteen 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 pursuant to the federal Clean Water Act (33 U.S.C.A. § 1317(a)). This list also contains toxic substances that have been recommended by EPA since the completion of Pennsylvania's previous triennial review, which was finalized in April, 2010. The Department has reviewed the national recommendations and has determined that the criteria are applicable for the protection of Pennsylvania waters.

- 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 an 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. EPA published notice of final criteria for acrolein and phenol in the Federal Register on June 10, 2009 (74 FR 27535).
- Acrylamide - 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 (water quality toxics management strategy - statement of policy). This toxic was developed using the EPA Methodology for Deriving Ambient Water Quality Criteria, which is used to develop all 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 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 hydro-fracking 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 all statewide criteria and therefore statewide applicability is warranted.
- Molybdenum - Industries located in Pennsylvania 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. (The US Department of Health and Human Services, ATSDR, Public Health Assessment, Lincoln Park/ Cotter Uranium Mill Canon City, Freemont County, Co. (November 9, 2010). It was also concluded in this assessment that Mo 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 Mo criteria development effort with EPA's regional water quality standards staff and its headquarters toxicologists. EPA supports the numeric criterion that the Department developed for Mo. 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 area approximately 60 square miles in size that has been designated by the Department under the Hazardous Sites Cleanup Act (HSCA) as the "Bear Creek Area Chemical Site" (BCACS). The Department has determined that environmental media (i.e. 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), 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 EPA, or have been developed by the Department since the previous triennial review was finalized in April, 2010. The Department has reviewed the National Recommendations and determined these criteria to be appropriate for Pennsylvania waters.

- Acrolein - In July, 2009 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 Bear Creek Area Chemical Site. The criteria development was performed by AMEC Earth & Environmental (AMEC) on behalf of Beazer East. As indicated earlier, 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 Pennsylvania.
- Molybdenum - It is the Departments objective to develop water quality criteria for the protection of aquatic life that are scientifically defensible, meet EPA protocols and are based on the best available toxicological data available. 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 located in Pennsylvania, including specialty steel, coal mining and coal-fired power generation. The Department conducted a literature search to collect all relevant molybdenum toxicity data for aquatic life dating through 2009. The review included:
    - EPA's ECOTOX database
    - Aquatic Life Water Quality Criteria for Molybdenum. Prepared for Nevada Division of Environmental Protection by Tetra Tech, Inc. July 9, 2009
    - EURAS (2008), International Molybdenum Association (IMOA). 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 EPA for the State of Nevada contained biological species that are representative of biological species found in Pennsylvania ambient waters, and are relevant for the aquatic life criteria determination in Pennsylvania. The Department used studies upon which the 1985 Guideline Methods can be performed.
- Nonylphenol - Nonylphenol is one of the substances on Pennsylvania's list of emerging contaminates and is also on the National priority list of contaminants. In addition, preliminary monitoring performed by USGS (2009) has detected nonylphenol in Pennsylvania waters. 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 current references to Chapter 92 in this section to reflect the new 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:

Section 93.9b. Drainage List B.
A correction is proposed for Section 93.9b. This 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 Section 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.

Section 93.9c. Drainage List C.
A correction is proposed in section 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 Section 93.9c. Leas Run was designated as a conservation area (3.5) and cold water fishes (1.1) as a result of a rulemaking that was published in the *Pennsylvania Bulletin* as a final regulation on February 26, 1972 (2 Pa.B. 341). The September 8, 1979 publication of a separate final rulemaking 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 93.9 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, the 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 Chapter 93.9c and the NHD Flowline.

Additionally, the zone descriptions for the Slateford Creek entries in Northampton County include reference to T734 (Township Road 734) as an endpoint for those stream segments. The correct name for the township road according to the Pennsylvania Department of Transportation is T735 (Township Road 735). The Board recommends correcting the reference to Township Road T735.

Section 93.9d. Drainage List D.
The Board recommends correcting a reference to Black River. It currently and incorrectly appears as a reference in Chapter 93.9d as Black Creek.

Section 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.

Section 93.9f. Drainage List F.
The Board proposes to clarify Chapter 93.9f. This will 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 re-written 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 Chapter 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 Section 93.9f.

Section 93.9g. Drainage List G.
The Board proposes to insert the correct name for East Branch White Clay Creek. It currently appears in Section 93.9g as East Branch White Clay Branch.

Additional clarification is being proposed by the Board to remove any 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.

Section 93.9h. Drainage List H.
The Board recommends changing all reference from “Catlin Hollow” to Norris Brook in Section 93.9h. “Catlin Hollow” is a tributary to Norris Brook in Tioga County.

Section 93.9i. Drainage List I.
Pennsylvania Fish & Boat Commission staff notified the Department that several tributaries to Towanda Creek were inadvertently omitted from Section 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.

Section 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 Section 93.9k to indicate that Sechler Run is now a tributary to the Mahoning Creek.

Section 93.9l. Drainage List L.
The Board recommends changing all reference from Grass Flats Run to Wistar Run in Section 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 Section 93.9l in order to be consistent with the NHD Flowline.

Section 93.9m. Drainage List M.
Chapter 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.

Section 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 Package that was published as a final rule on November 20, 1993 (23 Pa.B. 5529). 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.

Section 93.9o. Drainage List O.
The Board proposes to correct Chapter 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 Chapter 93.9o. The mouth of the unnamed tributary (UNT) 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 UNT 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 Package. The proposed rulemaking published on August 20, 2005 (35 Pa.B. 4734) and the final rulemaking published on January 6, 2007 (37 Pa.B. 11) were both incorrect in Drainage List O of their respective annexes.

In Section 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 Chapter 93.9o. (It is listed as Haines Branch in the PA stream directory, on USGS topographical maps, the NHD Flowline, and the Old DEP Streams layer.)

Section 93.9s. Drainage List S.

In Section 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 Chapter 93.9s. (It is listed as Pentz Run in the PA stream directory, on USGS topographical maps, the NHD Flowline, and the Old DEP Streams 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 Crek are all 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. On May 26, 1973 a final rule was published in the Pennsylvania Bulletin (3 Pa.B. 986) pertaining to 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 this rulemaking; effective 15 days following publication. The associated proposed rulemaking was published February 3, 1973 (3 Pa.B. 222). The entire basin was converted to high quality (HQ) in the 1978 & 1979 rulemaking (published as final rule at September 8, 1979 (9 Pa.B. 3051) and effective final on October 8, 1979) 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 EV in the 1978 & 1979 rulemaking 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.

Section 93.9w. Drainage List W.
The Board proposes corrections to remove any confusion associated with the hydrological order concerning the entry for Boothe Run in Chapter 93.9w. With respect to hydrological order, Boothe Run is a fifth level tributary to UNT 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 Pennsylvania are currently designated WWF, except Templeton Fork. The main stem of Enlow Fork and Templeton Fork basin are TSF.

Section 93.9z. Drainage List Z.
The Board proposes language be added to Chapter 93.9z to clarify those streams that are tributary 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 reexamine water body segments that do not meet the fishable or swimmable uses specified in Section 101(a)(2) of the Federal Clean Water Act. The Department evaluated the two Pennsylvania water bodies where the uses are not currently met: (1) the Harbor Basin and entrance channel to Outer Erie Harbor/Presque Isle Bay (Drainage List X, § 93.9x) and (2) several zones in the Delaware Estuary (Drainage Lists E and G, §§ 93.9e and 93.9g).

The swimmable use designation was deleted from the Harbor Basin and entrance channel demarcated by U.S. 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), 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 relating to the swimmable use, which 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 Sections 93.9e and 93.9g (Drainage Lists E and G) 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

1. Benefits - Overall, the Commonwealth, its citizens and natural resources will benefit from these recommended changes because they provide the appropriate level of protection in order 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 all 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.

2. Compliance Costs - The proposed amendments to Chapter 93 may impose additional compliance costs on the regulated community. These regulatory changes are 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 must comply with the regulatory requirements relating to 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.

3. *Compliance Assistance Plan*—The proposed revisions have 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 amendments will be implemented, in part, through the National Pollutant Discharge Elimination System (NPDES) permitting program. No additional compliance actions are anticipated. Staff is available to assist regulated entities in complying with the regulatory requirements if questions arise.

4. *Paperwork Requirements*—The proposed revisions should have no 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 amendments will be implemented through the Department's permit and approval actions. For example, the National Pollutant Discharge Elimination System (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 amendment will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

I. Regulatory Review

Under Section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on _____, the Department submitted a copy of the proposed amendments to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate and House Environmental Resources and Energy Committees for review and comment. In addition to submitting the proposed amendments, IRRC and the Committees have been provided a detailed regulatory analysis form prepared by the Department. 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 regulations within 30 days of the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Act specifies detailed procedures for administrative review by the Department, the General Assembly and the Governor prior to final publication of the regulations.

J. Public Comments

Written Comments—Interested persons are invited to submit comments, suggestions or objections regarding the proposed amendments 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 _____ (within 45 days of publication in the Pennsylvania Bulletin). 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 _____. 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 by email RegComments@pa.gov and must be received by the Board by _____. A subject heading of the proposal and a return name and address must be included in each transmission.

K. Public Hearings

The Environmental Quality Board will hold a public hearing for the purpose of accepting comments on this proposal. The hearing will be held at ___p.m. on _____, at the 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 at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten 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 at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

Michael L. Krancer
Chairman
Environmental Quality Board