

**PROPOSED RULEMAKING  
ENVIRONMENTAL QUALITY BOARD  
[25 Pa. Code Chapter 93]**

**Water Quality Standards – Site-Specific Water Quality Criteria**

The Environmental Quality Board (Board) proposes to amend Chapter 93 (relating to water quality standards). The amendments propose revisions to § 93.8d (relating to development of site-specific water quality criteria) and the replacement of a total mercury water quality criterion with a site-specific methylmercury criterion for Ebaughs Creek in § 93.9o (relating to Drainage List O) as set forth in Annex A.

This proposed rulemaking was adopted by the Board at its meeting of \_\_\_(date)\_\_\_.

*A. Effective Date*

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*. Once approved by the United States Environmental Protection Agency (EPA), water quality standards are used to implement the Federal Clean Water Act (CWA) (33 U.S.C.A. §§ 1251—1388).

*B. Contact Persons*

For further information, contact Michael (Josh) Lookenbill, Bureau of Clean Water, 11th Floor, Rachel Carson State Office Building, P.O. Box 8774, 400 Market Street, Harrisburg, PA 17105-8774, (717) 787-9637; or Michelle Moses, Assistant Counsel, Bureau of Regulatory Counsel, 9th Floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Hamilton Relay Service at (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department of Environmental Protection (Department) web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board" then navigate to the Board meeting of \_\_\_(date)\_\_\_).

*C. Statutory Authority*

This proposed rulemaking is authorized under sections 5(b)(1) and 402 of The Clean Streams Law (CSL) (35 P.S. §§ 691.5(b)(1) and 691.402), which authorize the Board to develop and adopt rules and regulations to implement the CSL (35 P.S. §§ 691.1—691.1001), and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20), which grants to the Board the power and duty to formulate, adopt, and promulgate rules and regulations for the proper performance of the work of the Department. In addition, sections 101(a)(2) and 303 of the CWA (33 U.S.C.A. §§ 1251(a)(2) and 1313) set forth requirements for water quality standards, which states must meet to implement the CWA. Section 101(a)(3) of the CWA declares the National policy that the discharge of toxic pollutants in toxic amounts be prohibited (33 U.S.C.A. § 1251(a)(3)). Section 303(c)(2)(B) directs states to adopt numeric criteria for toxic pollutants if they are present in a discharge that could be reasonably expected to interfere with a state's designated uses and as necessary to support those uses.

#### *D. Background and Purpose*

Water quality standards are in-stream water quality goals that are implemented by imposing specific regulatory requirements (such as treatment requirements, effluent limits, and best management practices) on individual sources of pollution. The water quality standards include the existing and designated uses of the surface waters of this Commonwealth, along with the specific numeric and narrative criteria necessary to achieve and maintain those uses, and antidegradation requirements.

The purpose and goals of this proposed rulemaking are: to revise the process for requesting, developing and adopting site-specific water quality criteria in § 93.8d; to delete the statewide total mercury water quality criterion of 0.05 micrograms per liter ( $\mu\text{g/L}$ ) for Ebaughs Creek; and to add a site-specific dissolved methylmercury water quality criterion of 0.00004  $\mu\text{g/L}$  for Ebaughs Creek in § 93.9o.

Regulations that clearly outline the site-specific criteria development process are critical to ensuring the Department receives the information necessary to determine if site-specific water quality criteria are applicable, to develop site-specific water quality criteria recommendations that are protective of surface water uses and to incorporate the site-specific criteria into the Commonwealth's water quality standards. The proposed amendments will clarify when site-specific criteria may be requested and how to submit a request. Furthermore, the proposed revisions will enable the Department to implement site-specific criteria in National Pollutant Discharge Elimination System (NPDES) permits in the most efficient and timely manner available.

Regarding the site-specific methylmercury water quality criterion for Ebaughs Creek, the York County Solid Waste and Refuse Authority (YCSWRA) has requested the Department develop a site-specific methylmercury water quality criterion for Ebaughs Creek, in lieu of applying the statewide total mercury water quality criterion, to protect human health from the toxic effects of methylmercury and to inform their NPDES permit effluent limitations for Outfall 002. Methylmercury is a component of total mercury and represents the most toxic form of mercury to human health. Since the Department does not currently have statewide numeric water quality criteria for methylmercury, YCSWRA's request satisfies § 93.8d(a)(3).

On March 16, 2023, the Department met with the Water Resources Advisory Committee (WRAC) to present its recommended updates to § 93.8d and the site-specific methylmercury water quality criterion for Ebaughs Creek. WRAC voted to support presentation of this proposed rulemaking to the Board. Additionally, the Department presented draft regulatory amendments to the Agricultural Advisory Board on March 15, 2023, explaining the proposed changes.

#### *E. Summary of Proposed Rulemaking*

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

The Board proposes to update § 93.8d by revising the site-specific water quality criteria development and adoption process. The proposed amendments clarify when site-specific water quality criteria may be requested and the conditions under which site-specific water quality criteria may not be requested. A site-specific criterion may not be requested for surface waters

with an existing or designated use of High Quality Waters (HQ) or Exceptional Value Waters (EV). The existing water quality of HQ or EV waterbodies must be maintained and protected under § 93.4a (relating to antidegradation), and thus, the water quality goals for these waterbodies are already site-specific. Site-specific water quality criteria also may not be requested for any pollutant that is a cause of nonattainment of the requested waterbody or would otherwise interfere with attainment of protected surface water uses.

The proposed amendments will update language throughout § 93.8d to identify the data and information that must be submitted with each request for a site-specific water quality criterion. Once a site-specific water quality criterion is developed and publicly noticed for comment, the Department will prepare a rulemaking for the adoption of the new criterion into Chapter 93.

Site-specific water quality criteria are used to develop effluent limitations in permits. Given the need for timely permit development, the Department intends to explore all options available for expediting rulemaking procedures to promulgate site-specific water quality criteria while maintaining robust public participation. Although § 93.8d(f)(4) is proposed for deletion, the obligation will remain, in proposed subsection § 93.8d(c.2), to promulgate site-specific criteria as regulations. The Department intends to enhance its public notices in the *Pennsylvania Bulletin* to reach a broader audience and will receive and respond to public comments on all draft site-specific water quality criteria. In addition, existing public notification and public participation processes available through the NPDES permitting process outlined in Chapter 92a (relating to National pollutant discharge elimination system permitting, monitoring and compliance) will continue.

#### *§ 93.9o. Drainage List O*

The YCSWRA owns and operates the York County Sanitary Landfill, which is a 306-acre site located in Hopewell Township, York County. Between 1974 and 1997, the landfill received municipal and industrial waste, which was placed into lined and unlined cells. The site contains approximately 135 acres of unlined landfill. Detection of volatile organic compounds (VOCs) in several groundwater wells was discovered in 1983 and was associated with the unlined cells. A treatment system was installed to remove the VOCs and began operation in 1985. The system consisted of 17 extraction wells and air stripping towers. The air stripping towers discharge the treated groundwater to a surface water of this Commonwealth under NPDES permit number PA0081744. Mercury was not known to be present in the discharge when the initial permit was issued. It was later identified as a potential pollutant of concern through the Department's permit renewal application review process.

Mercury is a naturally occurring, widely distributed element that cycles between various forms in the environment through natural processes and human activities with some forms being more toxic than others. Mercury can enter surface waters through multiple pathways, including but not limited to, atmospheric deposition, stormwater runoff generated by precipitation events and NPDES-permitted activities, including treatment systems from contaminated groundwater. Total mercury includes elemental, inorganic and organic forms of mercury. Elemental and inorganic mercury do not contribute significantly to oral toxicity. These forms are poorly absorbed by the human body and do not bioaccumulate in animals if ingested (Agency for Toxic Substances and Disease Registry 1999). Methylmercury, however, has been identified by scientists as one of the

most toxic forms of mercury to humans. It is an organic form of mercury that is typically formed in the environment when bacteria capable of methylation are exposed to a source of inorganic or elemental mercury and convert it to methylmercury. Methylmercury in surface waters then enters into the food web of the aquatic ecosystem and bioaccumulates in the aquatic macroinvertebrates and fish. Oral ingestion of mercury by humans occurs almost exclusively through the consumption of contaminated fish and wildlife, and nearly all of the mercury found in animal tissue is in the form of methylmercury. Observed toxicity in humans is also related to exposure amount, exposure pathway and individual susceptibility.

YCSWRA's Outfall 002 discharges treated groundwater into an unnamed tributary (UNT) to Ebaughs Creek, which is a small first-order tributary (that is, a headwater stream) with limited watershed area. The protected water uses for Ebaughs Creek include Cold Water Fishes, Migratory Fishes (CWF, MF). Based upon the Department's review of the available information, the Department has determined the primary source of mercury to Ebaughs Creek is the YCSWRA NPDES-permitted discharge and not a result of natural processes.

In accordance with § 93.8d, site-specific criteria may be established for the following three reasons: (1) to reflect conditions in a waterbody that differ from the EPA's criteria recommendations for protection of aquatic life, developed under section 304(a) of the CWA (33 U.S.C.A. § 1314(a)); (2) where necessary to protect more sensitive, intervening water uses as defined in Table 2, Chapter 93; and (3) where numeric criteria are necessary for a substance not currently listed in Chapter 93. Since the Department does not currently have a statewide numeric water quality criterion for methylmercury, YCSWRA's request satisfies § 93.8d(a)(3).

YCSWRA requested the Department develop a site-specific methylmercury water quality criterion for Ebaughs Creek, in lieu of applying the statewide total mercury water quality criterion, to inform their NPDES permit effluent limitations for Outfall 002. Methylmercury is a component of total mercury and represents the most toxic form of mercury to human health. The permit effluent limitations developed for YCSWRA will be a translation of the dissolved methylmercury water quality criterion established by this proposed rulemaking expressed as a site-specific total mercury discharge limit, as required under Federal NPDES regulations. These effluent limitations will continue to provide for control of total mercury while ensuring the toxic component, methylmercury, is not exceeded in the surface water or aquatic organisms.

YCSWRA performed a site-specific study for the collection of data necessary to develop a site-specific methylmercury water quality criterion for Ebaughs Creek that would be protective of human health. As required by § 93.8d(d), YCSWRA submitted a study plan to the Department for review, consideration and approval, and the Department approved a study plan.

Under CWA section 304(a), EPA publishes recommended water quality criteria guidance that consists of scientific information regarding concentrations of specific chemicals or levels of parameters in water that protect aquatic life and human health. The Federal water quality standards regulations require states to review, for adoption, numeric water quality criteria that are based on section 304(a) criteria recommendations developed by the EPA, consider whether to modify EPA section 304(a) criteria recommendations to reflect site-specific conditions or establish criteria based on other scientifically-defensible methods.

The EPA has published a section 304(a) dissolved methylmercury water quality criterion recommendation for the protection of human health that is a fish-tissue based criterion of 0.3 mg/kg (*Water Quality Criterion for the Protection of Human Health: Methylmercury*, USEPA 823-R-01-001). The EPA supports the adoption of methylmercury water quality criteria for the protection of human health because methylmercury is known to be one of the forms of mercury that is most toxic to humans. States have multiple options when developing and adopting methylmercury criteria, which may include the fish tissue recommendation, a water column criterion value based on the fish tissue recommendation, or both.

The EPA recommends that states adopt water column criteria values if adequate data is available to determine appropriate bioaccumulation factors (BAF). Bioaccumulation is the process of a chemical moving from the external environment (that is, surface water) into an organism. A BAF is a measure of how much a chemical accumulates within an organism. Thus, the Department required YCSWRA to collect fish tissue samples and surface water samples from Ebaughs Creek for the calculation of a site-specific BAF. The site-specific BAF was calculated to be  $5.882398 \times 10^{-6}$  liters per kilogram (L/kg). This BAF along with the human health exposure inputs for body weight, drinking water intake rate and fish consumption rate and the provisions for developing water quality criteria found in Chapters 93 and 16 were used to convert the EPA's fish-tissue-based ambient water quality criterion for methylmercury into a water column criterion. The proposed site-specific dissolved methylmercury criterion for Ebaughs Creek is 0.00004 µg/L. For more information, see the rationale document for *Development of a Site-Specific Methylmercury Water Quality Criterion for Ebaughs Creek*, attached to the Regulatory Analysis Form.

#### F. *Benefits, Costs and Compliance*

##### *Benefits*

The regulated community and the public benefit from having regulations that clearly outline the site-specific criteria development process. These proposed amendments will ensure that site-specific water quality criteria are protective of surface water uses. Further, the proposed regulations establish qualifying factors that refine who may request development of criteria and clearly identify information the requestor must submit to develop the numeric criteria. This clarity will improve processing of requests for site-specific criteria. The Department intends to further explore ways to process requests in an efficient and timely manner and to enhance public notice of draft criteria for review and comment.

The site-specific dissolved methylmercury water quality criterion contained in this proposed rulemaking would be specific to Ebaughs Creek. YCSWRA's discharge is currently the only known discharge to Ebaughs Creek containing mercury, and YCSWRA would benefit by having a permit with effluent limitations developed based on the proposed site-specific water quality criterion. Likewise, persons proposing a new discharge to Ebaughs Creek may benefit from the methylmercury criterion if mercury is found in a proposed new discharge.

### *Compliance costs*

The proposed amendments to Chapter 93 will not immediately impose any costs on the regulated community. When site-specific criteria are necessary either to protect more sensitive intervening uses than those uses protected by a statewide criterion or to protect a water use from substances currently lacking numeric criteria in Chapter 93, additional costs may be incurred by persons with NPDES permits. The costs for a permittee would be associated with conducting the required studies to develop the site-specific criteria and implementing the treatment technology necessary to meet the effluent limitations based on the criteria.

In some cases, the adoption of site-specific water quality criteria may result in effluent limitations that are less stringent than those based on statewide criteria, and therefore, reduce the need for wastewater treatment technologies to remove pollutants, resulting in cost savings for a permittee. Treatment costs are site-specific and depend upon the size and location of the discharge in relation to the size of the stream and many other factors. Furthermore, requests for site-specific criteria for a variety of pollutants may be initiated by persons with NPDES permits. It is not possible to precisely predict the costs or savings that could be incurred for any existing or new discharges to comply with any future site-specific criteria.

The expenditures necessary to meet new compliance requirements may exceed that which is required under existing regulations, but these proposed amendments are necessary to ensure existing and designated uses of surface waters of this Commonwealth are afforded the appropriate level of protection and to improve pollution control.

The proposed amendments to § 93.90 for Ebaughs Creek are specific to that waterbody. Furthermore, the proposed site-specific dissolved methylmercury water quality criterion for Ebaughs Creek would be applicable only to YCSWRA, and therefore, YCSWRA would be the only affected party. The proposed amendments will be implemented through the Department's permit and approval actions.

### *Compliance assistance plan*

Surface waters of this Commonwealth are afforded a minimum level of protection through compliance with the water quality standards, including site-specific water quality criteria, which prevent pollution and protect existing and designated surface water uses.

The proposed amendments will be implemented through the Department's permit and approval actions. For example, the NPDES permitting program establishes effluent limitations based on the existing and designated protected water uses of the stream, and the water quality criteria developed to maintain those uses. These effluent limits are established to assure water quality is protected and maintained. Site-specific water quality criteria are protective of the water uses and are implemented in the same manner as statewide water quality criteria.

### *Paperwork requirements*

This proposed rulemaking should have no new direct paperwork impact on the Commonwealth, local governments and political subdivisions or the private sector. This proposed rulemaking would be implemented in accordance with existing Department

regulations. A process to develop site-specific water quality criteria has been in effect for several decades. The proposed regulations refine the qualifying factors and criteria development studies that apply to a request for site-specific criteria; however, the overall paperwork impact will not change.

#### *G. Pollution Prevention*

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

Water quality standards are a major pollution prevention tool because they protect water quality and designated and existing uses of surface waters. The proposed amendments would be implemented through the Department's permit and approval actions. For example, the NPDES program would establish the more stringent of technology-based or water quality-based effluent limitations in permits. Water quality-based effluent limitations are determined by the existing and designated uses of the receiving stream and the water quality criteria necessary to protect those water uses. Site-specific water quality criteria are protective of the water uses and are implemented in the same manner as statewide water quality criteria.

#### *H. Sunset Review*

The Board is not proposing to establish a sunset date for this proposed regulation because it is needed for the Department to carry out its statutory authority. The Department will continue to closely monitor this proposed regulation for its effectiveness and recommend updates to the Board as necessary.

#### *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 this proposed rulemaking and a copy of a Regulatory Analysis Form to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the House and Senate 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 (71 P.S. § 745.5(g)), 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 in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) 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*

Interested persons are invited to submit to the Board written comments, suggestions, support or objections regarding the proposed rulemaking. Comments, suggestions, support or objections must be received by the Board by **(date)**.

Comments may be submitted to the Board online, by e-mail, by mail or express mail as follows below.

Comments may be submitted to the Board by accessing eComment at <http://www.ahs.dep.pa.gov/eComment>.

Comments may be submitted to the Board by e-mail at [RegComments@pa.gov](mailto:RegComments@pa.gov). A subject heading of the proposed rulemaking and a return name and address must be included in each transmission.

If an acknowledgement of comments submitted online or by e-mail is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt. Comments submitted by facsimile will not be accepted.

Written comments should be mailed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477. Express mail should be sent to the Environmental Quality Board, Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301.

## K. *Public Hearing*

The Board will hold a virtual public hearing for the purpose of accepting comments on this proposed rulemaking. The hearing will be held at \_\_\_ **p.m. on (date)**.

Persons wishing to present testimony at this hearing must contact Casey Damicantonio for the Department and the Board, (717) 787-4526 or [RA-EPEQB@pa.gov](mailto:RA-EPEQB@pa.gov), at least one week in advance of the hearing to reserve a time to present testimony. Language interpretation services are available upon request. Persons in need of language interpretation services must contact Casey Damicantonio at (717) 787-4526 by 5 p.m. on **(date)**.

Oral testimony is limited to five minutes for each witness. Organizations are limited to designating one witness to present testimony on their behalf at one hearing. Witnesses may provide testimony by means of telephone or Internet connection. Video demonstrations and screen sharing by witnesses will not be permitted.

Witnesses are requested to submit written copy of their verbal testimony by e-mail to [RegComments@pa.gov](mailto:RegComments@pa.gov) after providing testimony at the hearing.

Information on how to access the virtual public hearing will be available on the Board's webpage found through the Public Participation tab on the Department's web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board"). Prior to a



hearing, individuals are encouraged to visit the Board's webpage for the most current information for accessing the hearing.

Members of the public wishing to observe a virtual public hearing without providing testimony are also directed to access the Board's webpage. Those who have not registered in advance as described previously will remain muted for the duration of the public hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Board at (717) 787-4526 or through the Pennsylvania Hamilton Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

RICHARD NEGRIN,  
*Chairperson*