TECHNICAL RESPONSE MEMORANDUM

Date: May 24, 2022

To: Lisa A. Vest, Hearing Officer

Through: Michael M. Bott MMB
Stephen N. Williams SNW
Terry L. Deputy TLD

From: Bhanu Paudel BP

Re: Department's responses to comments received on the proposed amendments to **7 DE Admin. Code** 7401 - *Triennial Review/Water Quality Standards.*

You presided over a virtual public hearing on Wednesday, April 20, 2022, beginning at 6:00 P.M., conducted by the Division of Watershed Stewardship, on behalf of the Department of Natural Resources and Environmental Control (the Department). The subject of the public hearing was the proposed amendments to **7 DE Admin. Code** 7401 - Triennial Review/Water Quality Standards.

At the hearing, the Department received no comments.

As administered by you, the public comment period of this hearing extended to May 5, 2022. Throughout the entire 30-day comment period, the Department received two comments.

On May 4, 2022, Mr. G. Voigt submitted written comments via the Department's Public Hearing Comment MailBox (see Attachment 1 to this memorandum).

On May 4, 2022, Ms. D. Ellis submitted written comments on behalf of the Division of Fish and Wildlife via the Department's Public Hearing Comment MailBox (see Attachment 2 to this memorandum).

This memorandum provides the responses of the Division of Watershed Stewardship, on behalf of the Department, to Mr. G. Voigt's comments and the comments of the Division of Fish and Wildlife.

EPA Comment and Department Responses

Comment

Delaware should also consider revision of its "Organism Only" and "Water + Organism" human health criteria for the following to be consistent with national recommended water quality criteria:

- *Update of Human Health Ambient Water Quality Criteria: Benzo(a)anthracene [EPA 820-R-15-011]*
- *Update of Human Health Ambient Water Quality Criteria: Benzo(a)pyrene [EPA 820-*

R15-012]

- *Update of Human Health Ambient Water Quality Criteria: Benzo(b)fluoranthene [EPA 820-R-15-013]*
- *Update of Human Health Ambient Water Quality Criteria: Benzo(k)fluoranthene [EPA 820-R-15-014]*

Delaware should also consider adoption of human health criteria consistent with national recommended water quality criteria for the following:

- *Update of Human Health Ambient Water Quality Criteria: Dibenz(a,h)anthracene [EPA 820-R-15-032]*

Department Response

The Department has collected fish tissue, surface water and sediment data for these pollutants at limited locations within the State that upon preliminary review show that US EPA recommended BAF for them is significantly higher than is occurring in Delaware waters. As a result, the EPA recommended criteria would be much more stringent than the same criteria using the preliminary BAFs based on field data collected in those waters. The Department will work with EPA and stakeholders to develop appropriate statewide BAFs and criteria for these pollutants for future triennial reviews. Delaware will consider revisions to its current water quality criteria for Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, and Dibenz(a,h)anthracene in place and will consider adoption of Benzo(k)fluoranthene criteria.

Comment

Delaware should also consider adopting the "Organism Only" component of the national recommended water quality criteria for the following:

- *Update of Human Health Ambient Water Quality Criteria: Chlorophenoxy Herbicide (2,4-D) [EPA 820-R-15-028]*
- *Update of Human Health Ambient Water Quality Criteria: Chlorophenoxy Herbicide (2,4,5-TP. Silvex) [EPA 820-R-15-029]*

Department Response

Where the EPA has both human health criteria and MCLs that are more restrictive, the Department left MCLs that were previously adopted criteria in place. The Department may consider adopting the less stringent EPA recommended criteria in future triennial reviews.

Comment

EPA recently revised its aquatic life national recommended criteria for aluminum and selenium. Thus, Delaware should also consider the following documents and revise these aquatic life criteria accordingly:

- *Aquatic Life Ambient Water Quality Criteria for Aluminum (2018) [EPA-822-R-18-001]*
- *Aquatic Life Ambient Water Quality Criteria for Selenium – Freshwater (2021 Revision) [EPA-822-R-21-006]*

Department Response

To date, EPA has not developed implementation guidance for these naturally occurring elements. Delaware will consider revising aquatic life criteria for them along with stakeholder input when that guidance is issued.

Comment

EPA notes that Delaware is proposing to revise its WQS by deleting human health criteria for fluoride, silver, lead and total trihalomethanes. Federal regulations require states to "adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use." 40 CFR §131.11(a)(1). State water quality criteria can be based on EPA's §304(a) guidance or other scientifically defensible methods. EPA acknowledges that there are no national recommended water quality criteria for the protection of human health for these parameters. However, as required by 40 CFR §131.20, DNREC must provide a rationale for why these revisions are appropriate, with any supporting analyses.

Department Response

The Department could not ascertain the basis for the current criteria for these pollutants. The Department lacks the resources to independently develop and propose human health criteria and has relied upon EPA guidance to propose and adopt human health criteria. As noted in the stakeholder's guide to the proposed standards, there are applicable Aquatic Life Criteria for lead and silver that are more stringent than the current human health criteria and they would remain in place.

Comment

In addition to the above criteria, EPA encourages DNREC to consider adoption of recommended recreational water quality criteria or swimming advisories for cyanotoxins. EPA released national recommendations in 2019 for the Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories (AWQC/SA) for Microcystins Cylindrospermopsin (EPA 822R-19-001). These recommendations are intended as guidance to states to consider when developing water quality standards. Alternatively, these recommendations can be used as the basis of swimming advisories for notification purposes in recreational waters to protect the public. Currently, Delaware does not have recreational water quality criteria for microcystins and cylindrospermopsin in place; therefore, EPA strongly recommends the adoption of these values for the protection of human health.

Department Response

The Department has limited information about the magnitude and frequency of outbreaks of HABs in Delaware's waters. The Department has placed signs near several waterbodies with a history of HAB outbreaks to give people information describing visual indications of possible HAB events and appropriate precautions if a HAB is likely to be occurring. As HABs are not discharged by point or

nonpoint sources but often occur as a result of excess nutrients in the water column, the Department believes that implementation of nutrient TMDLs already in place along with public notice are the best strategy to prevent HAB events and negative outcomes from them. The Department is interested in working with EPA and stakeholders to work through HAB and nutrient issues. The Department has posted public water quality advisories, warning signs, and information about HAB here: https://de.gov/bluegreen.

Comment

Finally, in August 2021, EPA published revised lakes and reservoirs nutrient criteria recommendations in the document Ambient Water Quality Criteria to Address Nutrient Pollution in Lakes and Reservoirs [EPA-822-R-21-005]. The 2021 document replaces the previous recommended numeric nutrient criteria published by EPA in 2000 and 2001, which were reference-based, ecoregion specific and derived using monitoring data available at the time. Scientific understanding of the relationships between nutrient concentrations and deleterious effects in lakes has increased since 2001, and standardized, high-quality data collected from lakes across the United States have become available. The 2021 document provides statistical stressor-response models that generate numeric nutrient criteria based on national data and state risk management decisions that can also incorporate local and/or state data. These criteria can be refined to apply at any scale that the state chooses and can be derived to apply statewide, to certain ecoregions, and/or site-specifically. Further, these criteria derivations can take into account waterbody classes as determined by depth and/or ecoregion. Using this guidance, criteria can be derived to protect the following designated uses: aquatic life, human health-based recreational uses (e.g. swimming) and drinking water source waters.

EPA recommends that DNREC consider adopting, in the regulations proposed during this triennial review, nutrient criteria for the protection of lakes and reservoirs derived using the models found in the 2021 lakes and reservoirs nutrient criteria document described above. Alternately, Delaware could adopt the models, and then develop criteria using a performancebased approach. The models can be used to develop chlorophyll-a, total phosphorus and total nitrogen criteria. EPA would be happy to assist DNREC in the use of the models and criteria development.

Department Response

Delaware's Triennial Review was well underway at the time of the publication of the new recommendations for nutrients in lakes and reservoirs. Delaware may consider the recommendations along with EPA and stakeholder input for future reviews.

Comment

EPA reminds DNREC that pursuant 40 CFR §131.20(a), if a state does not adopt new or revised criteria for parameters for which EPA has published new or updated CWA section 304(a) criteria recommendations, then the state shall provide an explanation when it submits the results of its triennial review to the Regional Administrator consistent with CWA section 303(c)(1) and the requirements in 40 CFR §131.20(c). DNREC must submit such an explanation for any criteria highlighted in this letter that is not adopted or revised.

Department Response

The Department considers the answers above to be sufficient explanations for recommended criteria it has not adopted this triennial review.

Division of Fish and Wildlife Comments and Department Responses

Comment

From page 3:

> *"**Migratory Fish Spawning and Nursery Designated Use**" means in the Nanticoke River from the upstreammost limits of the City of Seaford to the Maryland State Line and the Broad Creek from the upstream-most limits of the Town of Laurel to the confluence with the Nanticoke River, the survival, growth and propagation of balanced indigenous populations of ecologically, recreationally and commercially important anadromous, semianadromous and tidal-fresh resident fish inhabiting spawning and nursery grounds from February 1 through May 31.*

Comment:
The boundaries should be updated if possible. We have collected Shad, river herring and Striped Bass way upstream of this point. The following is from a Nanticoke River Habitat Plan I wrote back in 2013. If using coordinates is problematic, I suggest using Rt 404 as a starting point since river herring do make it that far upstream.

Habitat Assessment Results:
The majority of the Nanticoke River, as well as most of Deep Creek and Broad Creek are considered suitable adult American shad spawning habitat and YOY rearing habitat (current and historic). The portion of the upper Nanticoke River located in Delaware beginning from Lat:Long N38.67632: W75.55797 to the DE/MD border (Lat:Long N38.560046:W75.701652) flows approximately 22.9 kilometers and is considered suitable adult American shad spawning habitat and YOY rearing habitat. In addition, two main tributaries, Deep Creek and Broad Creek are considered suitable spawning habitat and YOY rearing habitat. Suitable spawning and rearing habitat in Deep Creek begins at the Concord Pond dam (Lat:Long N38.64318:W75.55402) and flows approximately 4.0 kilometers to the junction with the mainstem of the Nanticoke River. Suitable spawning and rearing habitat in Broad Creek begins at the Records Pond dam (Lat:Long N38.55863:W75.56758) and flows 12.7 kilometers to the junction with the mainstem of the Nanticoke River. In Delaware, approximately 40 river kilometers of suitable spawning and YOY rearing habitat are accessible to American shad within the Nanticoke watershed.

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 3:

> *"**Open-water Fish And Shellfish Designated Use**" means in the Nanticoke River from the upstream-most limits of the City of Seaford to the Maryland State Line and the Broad Creek from the upstream-most limits of the Town of Laurel to the confluence with the Nanticoke River, the survival, growth and propagation of balanced indigenous populations of ecologically, recreationally and commercially important fish and shellfish inhabiting open water habitats year round.*

Comment:
Again this should extend upsteam of this point as mentioned above.

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 7:

> *1. Red Clay Creek from PA/DE line to the concrete bridge above Yorklyn.*

Comment:
Red Clay Creek from the PA/DE line to approximately 1.4 miles downstream to Auburn Valley State Park boundary adjacent Creek Road (39°48'31.00"N and 75°40'13.00"W).

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 7:

1. White Clay Creek from the PA/DE line to the dam at Curtis Paper.

Comment:
Since this dam is scheduled to be removed in the future use Papermill Road instead.

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 7:

3. Pike Creek from Route 72 to Henderson Road.

Comment:
Pike Creek from Rt 72 to bridge at Rt 2 (Kirkwood Highway)

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 7:

(g) Designated use from PA/DE line to the dam at Curtis Paper.
(h) Designated use from PA/DE line to Wilmington city line.

Comment:
Unsure why g&h are stand along here. The alignment is confusing. Margins do not line up with above.
Set margins for g-r to line up with (F) above. Current margins infer all is under "Pike Creek"
Use "to Papermill Road" instead

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 8:

> *(p) The Nanticoke River from the upstream-most limits of the City of Seaford to the Maryland State Line and the Broad Creek from the upstream-most limits of the Town of Laurel to the confluence with the Nanticoke River have special criteria in subsection 4.5 that are protective of open water fish and shellfish, shallow-water bay grass and migratory fish spawning and nursery designated uses consistent with the Maryland portion of the tidal Nanticoke River and as described in the U.S. Environmental Protection Agency document Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and its Tidal Tributaries (EPA 903-R-03-002). Attainment of the water quality criteria that apply to these waters will be determined following the guidelines documented within the same document and any future published addendums or modifications to that original publication.*

Comment:
Here again. See defined boundaries in my comment above.

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Comment

From page 11:

> *4.5.2.4 The Nanticoke River from the upstream-most limits of the City of Seaford to the Maryland State Line and Broad Creek from the upstream-most limits of the Town of Laurel to the confluence with the Nanticoke River at water temperatures greater than 84 degrees Fahrenheit, instantaneous minimum shall not be less than 4.3 mg/L.*

Comment:
Consider boundaries defined in my comment above.

Department Response

Thank you for the comment. Delaware will consider revising the regulatory boundaries during the next triennial review to ensure all available locational data can be considered and allow for full stakeholder participation.

Conclusion

The Department appreciates all comments received during the regulatory process and believes several merit further consideration the next time the Water Quality Standards are amended. All comments will be filed for future consideration and at this time, the Division suggests adoption of the proposed revised amendments fully set forth at the time of the public hearing on April 20th, 2022.

Attachment 1

Wednesday, May 4, 2022
Comments concerning the proposed Amendments to 7 DE Admin. Code 7401 ("Triennial Review/Water Quality Standards")
Name: Gregory Voight
Phone: 215-814-5737
Email Address: Voigt.Gregory@epa.gov
Organization: U.S. Environmental Protection Agency

Comments:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Four Penn Center
1600 John F Kennedy Blvd
Philadelphia, Pennsylvania 19103-2852

May 4, 2022

Ms. Lisa Vest, Hearing Officer
DNREC – Office of the Secretary
89 Kings Highway
Dover, DE 19901

Dear Ms. Vest:

The U.S. Environmental Protection Agency (EPA), Region III has reviewed proposed amendments to Delaware's "7 DE Admin. Code 7401 Surface Water Quality Standards" and is providing these comments during the public comment period.

The proposed revisions to Delaware's Water Quality Standards (WQS) regulation are being considered for public review and comment as part of the triennial review process required by the Clean Water Act (CWA) Section 303(c), as was announced for public review and comment in the *Delaware Register of Regulations* on March 1, 2022. The purpose of this letter is to provide EPA's comments on the proposed revisions to Delaware's WQS. Please note that the comments and recommendations contained in this letter are strictly for the Department of Natural Resources and Environmental Control's (DNREC) consideration and do not constitute approval or disapproval decisions under CWA §303(c), or a determination by the EPA Administrator under CWA §303(c)(4)(B) and 40 CFR §13l.22(b) that revised or new WQS are necessary to meet the requirements of the Act. This letter includes comments on the proposed revisions, as well as additional revisions EPA would recommend Delaware consider adopting.

In its proposed WQS revisions during this triennial review, EPA is pleased that Delaware is updating the majority of its current human health criteria; adopting 10 additional human health criteria; adopting

revised aquatic life criteria for cadmium and ammonia; and, adopting new nonylphenol criteria for the protection of aquatic life. These revisions are consistent with EPA recommendations.

Delaware should also consider revision of its "Organism Only" and "Water + Organism" human health criteria for the following to be consistent with national recommended water quality criteria:

- Update of Human Health Ambient Water Quality Criteria: Benzo(a)anthracene [EPA 820-R-15-011]
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recreational water quality criteria for microcystins and cylindrospermopsin in place; therefore, EPA strongly recommends the adoption of these values for the protection of human health.

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EPA will be providing a copy of this letter to the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA Fisheries) so that the Services may identify any other recommendations for DNREC to consider. We will notify DNREC of any recommendations raised by the Services. This coordination with the Services will help to facilitate EPA's CWA Section 303(c) action and fulfillment of EPA's obligations under the Endangered Species Act once this rulemaking is finalized and submitted to EPA for review.

Thank you for this opportunity to provide comments on Delaware's triennial review of its water quality standards regulation. EPA would be happy to assist the State as necessary to complete this triennial review. If you have any questions concerning this letter, please contact me at (215)8145737, or have your staff contact Natalie Sanchez Gonzalez at (215)814-2078 or Denise Hakowski at (215)814-5726.

Sincerely,
Gregory Voigt, Chief
Standards and TMDLs Section Water Division

cc: Bhanu Paudel (DNREC)

Attachment 2

Wednesday, May 4, 2022
Comments concerning the proposed Amendments to 7 DE Admin. Code 7401 ("Triennial Review/Water Quality Standards")

Organization: Delaware Division of Fish and Wildlife

Phone: 302-223-2446

Email Address: Danielle.Ellis@delaware.gov

The page number along with sentence or section referenced in the comment is documented, followed by the specific comment from the Division of Fish and Wildlife.

From page 3:

> "**Migratory Fish Spawning and Nursery Designated Use**" means in the Nanticoke River from the upstreammost limits of the City of Seaford to the Maryland State Line and the Broad Creek from the upstream-most limits of the Town of Laurel to the confluence with the Nanticoke River, the survival, growth and propagation of balanced indigenous populations of ecologically, recreationally and commercially important anadromous, semianadromous and tidal-fresh resident fish inhabiting spawning and nursery grounds from February 1 through May 31.

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