

## Comment Response Document for Maryland’s 2016 Triennial Review of Water Quality Standards

The Maryland Department of the Environment (MDE) has completed its review of comments received during the Triennial Review (TR) process. The TR includes:

- Notice of Triennial Review published in the July 8<sup>th</sup> 2016 edition of the Maryland Register
  - Public comment period (July 8, 2016 – May 26, 2017)
- Notice of Proposed Action published in the May 26, 2017 edition of the Maryland Register
  - Public Hearing – held on June 13<sup>th</sup> 2017 at MDE headquarters in Baltimore, Maryland
  - Public comment period May 26, 2017 – July 10 2017

Below is a list of commenters, their affiliation, the date comments were submitted, and the numbered reference to the comments submitted. In the pages that follow, comments are summarized and listed with MDE’s response.

### List of Commenters

Author	Affiliation	Date	Comment Number
Mark Southerland	Private citizen	August 2, 2016	1
Julie Pippel	Maryland Association of Municipal Wastewater Agencies, Inc. (MAMWA)	September 9, 2016	2 - 5
Brent Walls	Upper Potomac Riverkeeper	September 20, 2016	6
Alison Prost	Chesapeake Bay Foundation	December 14, 2016	7 - 8
Peter Thomas	Coaltec Energy USA inc	May 15, 2017	9
Evelyn S. MacKnight	United State Environmental Protection Agency	June 13, 2017	10 - 14
I. Art Senkel, Jr.	Mid-Atlantic Council Trout Unlimited	June 13, 2017	15 - 21
Alison Prost	Chesapeake Bay Foundation	June 26, 2016	22 - 24
Charles M. Murray	Fairfax County Water Authority	July 5, 2017	25 -26
David Kinney	Mid-Atlantic Council Trout Unlimited	July 7, 2017	27
Travis Hines	Private Citizen	July 9, 2017	28
Kenneth Pavol	North Branch Professional Guide Association	July 9, 2017	29 - 30
PJ Daley	Savage River Angler, LLC	July 9, 2017	31
Dan Kozel	Private Citizen	July 10, 2017	32
Julie Pippel	Maryland Association of Municipal Wastewater Agencies, Inc. (MAMWA)	July 10, 2017	33 -36
Mark Moessinger	Private Citizen	July 10, 2017	37

Author	Affiliation	Date	Comment Number
Matthew L. Peters	Environmental Law Clinic of the University of Maryland Francis King Carey School of Law on behalf of the Mid-Atlantic Council Trout Unlimited and Potomac River keepers Network.	July 10, 2017	38 - 44
Angela Haren	Blue Water Baltimore	July 10, 2017	45-47
Theaux M. Le Gardeur	Gunpowder Riverkeeper	July 10, 2017	48 - 53
Betsy Nicholas	Waterkeepers Chesapeake	July 10, 2017	54

### Comments and Response

1. The commenter recommends that MDE should consider implementing chloride criteria for the protection of aquatic life.

**Response:** MDE has developed draft chloride thresholds to protect aquatic life that are being used as endpoints for a pilot chloride TMDL in the Cabin John Creek watershed. MDE has also conducted several field studies to determine background levels of chlorides and any potential contributions from water treatment plants and wastewater treatment plants. This issue is still undergoing internal review.

2. The commenter recommends that, if MDE adopts updated 2013 revised freshwater aquatic life criteria for ammonia, a workgroup be convened to review the impacts, and if warranted based on these additional considerations, to recommend implementation options that will be workable for all waste water treatment plants. The commenter points out that at least some publicly owned treatment works (POTWs) may not be designed to achieve the ammonia removal that may be required.

**Response:** MDE is not proposing to adopt the updated 2013 revised freshwater aquatic life criteria for ammonia during this Triennial Review. MDE is currently working with the commenter and other stakeholders to quantify economic impacts and develop implementation options in anticipation of adopting these criteria during the next Triennial Review in 2019.

3. The commenter states that, for determining compliance with discharge permits, the state should continue to use the geometric mean of fecal bacteria measurements.

**Response:** The Department will continue to use the geometric mean of fecal indicator measurement for determining compliance. Regarding the use of the Statistical Threshold Value (STV), the Department is currently reviewing and considering EPA guidance on this subject. If

there are any changes proposed to commonly-used permitting approaches, the commenter will be made aware of this at the earliest stage possible.

4. The commenter states that the statistical threshold value (STV) be used only if there are adequate samples to support a reasonable calculation and use the “10 percent Rule” in making impairment decisions.

**Response:** The duration and frequency components of the STV state that “10 percent of the samples taken over a 90-day period shall not exceed the statistical threshold value”.

5. The commenter states that MDE should adopt regulations laying out a process for an individual discharger to request a variance from existing water quality standards

**Response:** While MDE is not prepared to include a new variance procedure in the current round of regulation amendments, MDE appreciates the comments and suggests that the commenter work with the Water Quality Standards and Municipal Permits groups in MDE to explore options to address your concerns.

6. The commenter states that the North Branch Potomac should be re-designated to Use Class III.

**Response:** The Maryland Department of the Environment’s current approach to re-designating streams to Use Class III requires that available data show that not only the “Use” is achieved but also the water quality criteria designed to protect that Use be achieved. This updated approach was adopted based on a letter from the United States Environmental Protection Agency dated September 5<sup>th</sup>, 2008 (hereinafter referred to as EPA letter (2008)). In the letter, USEPA clarifies how states and tribes should determine the existing use for a waterbody by stating:

*“A state or tribe should determine existing uses on a site-specific basis to ensure it has identified the highest degree of uses and water quality necessary to support the uses that have been achieved since November 28, 1975. When describing existing uses, states and tribes should articulate not only the use(s) that has been achieved, but also the water quality supporting the specific use(s) that has been achieved.”*

And also specifies that:

*“In a 1985 Antidegradation Questions and Answers document, EPA said “An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975 or that the water quality is suitable to allow such uses to occur (unless there are physical problems which prevent the use regardless of water quality.)” While this approach allows states to make an existing*

*use determination where it only has information on one or the other type of information, some have interpreted this statement as obligating states to ignore one set of information where both types are available. EPA has found that, in practice, taking into account all the available information results in a more accurate articulation of the existing uses. In addition, the 1985 policy was stated under the assumption that states and tribes would likely describe existing uses in the same terms or categories employed for designated uses. However, during the time since issuing those Qs and As, EPA has seen increasingly complex issues arise regarding the implementation of the existing use provisions of the Federal water quality standards regulations. It has become apparent that using the same designated use categories to describe existing uses may be insufficiently detailed to accurately describe the existing use...”*

*“Where a use (i.e., some degree of use related to aquatic life, wildlife, and human activity) has actually been achieved on or after November 28, 1975, the existing use is the highest degree of use and the water quality that has been achieved and is necessary to support the use. (Emphasis added by MDE)”*

At this point in time, temperature data from this area of the North Branch Potomac River show values above the temperature criteria for Class III waters (i.e., 68° Fahrenheit). Because the temperature criteria for Class III waters is not met, the Department does not feel justified in changing the Use Class of this portion of the North Branch Potomac River to Class III. Even so, the Department agrees that a better process is needed for formally identifying and recognizing those waters which have existing uses that require different water quality than that required for the class to which they are assigned. To address this issue, MDE plans to convene an advisory committee to examine the process behind existing use determinations and reclassification actions moving forward. The Department will ensure that the commenter is included in any future communications regarding this advisory committee.

Furthermore, streams identified as having cool water or coldwater characteristics, as determined by the Department with advice from stakeholders including DNR, Trout Unlimited, and others, are included in this 2016 Triennial Review submittal (in the Summary of Changes Section) and also on MDE's Water Quality Standards webpage. Additionally, this list will be shared with the Department's permitting programs and applicants to ensure that upcoming permit applications will be evaluated in light of the recently identified resource and water quality so as not to allow degradation of this valued resource.

7. The commenter states that the regulatory requirement that a candidate Tier III water body or stream segment be wholly within a permanently protected area does not allow for practical application of the Outstanding National Resource Waters (ONRW). The commenter requests that MDE replace the regulatory language requiring that nominated water bodies be located

wholly within protected areas with language that can be applied to a wider subset of high quality streams and waterbodies.

**Response:** MDE agrees that the regulatory language related to Tier III ONRW (COMAR 26.08.02.04-2) deserves re-evaluation. MDE wishes to continue to work with the commenters to draft policy options regarding regulatory language.

8. The commenter proposes several water bodies that could be nominated as Tier III based on a given framework. Water bodies recommended for Tier III designation include Zekiah Swamp, Nanjemoy Creek and tributaries, Tributaries to Mallows Bay, Chicamuxen Creek and Reeder Run tributary, and Mattawoman Creek Tidal Estuary and lower tributaries.

**Response:** The Department appreciates the extensive effort that the commenter put into compiling information on these water bodies in recommending their consideration as Tier III waters. The Department looks forward to future discussions on both the regulatory language affecting such nominations as well as discussions that will be needed to fully flesh out the nomination and designation process.

9. Commenter asked about the status of numeric soil and water quality criteria for nutrients.

**Response:** With regards to numeric nutrient water quality criteria, please see the response to comment 14. The Triennial Review of Water Quality Standards does not address soil quality benchmarks or thresholds. Such topics are typically handled by MDE's Land and Materials Administration. For more information about soil quality benchmarks, please contact James Carroll, Program Manager of the Land Restoration Program at [james.carroll@maryland.gov](mailto:james.carroll@maryland.gov).

10. Commenter states that MDE should provide a rationale as to why MDE believes a 90-day duration component should be incorporated into the criteria.

**Response:** MDE has three separate but related justifications for adopting a 90-day duration component (rather than a 30-day duration component) with the 2012 Recreational Criteria. First, the data used to derive the criteria were collected at recreational areas with known sources of raw human sewage and spanned a 90-day period. These recreational areas used to derive these criteria are not representative of the recreational areas within the state of Maryland. Therefore, MDE has determined that a 30-day duration component is not applicable and a 90-day period provides sufficient human health protection.

Second, most beach managers do not monitor frequently enough for the 30-day duration to be meaningful. The 2012 USEPA Office of Water Document entitled "Recreational Water Quality

Criteria” describes the methodology used to develop the 2012 recreational criteria. In addition to the criteria magnitude, duration and frequency components, the document provide a recommended sample frequency associated with the 30-day duration component. Specifically, the document states:

*“EPA understands that a longer duration would typically allow for more samples to be collected and that including more samples in calculation of the GM and STV improves the accuracy of the characterization of water quality. However, because the designated use protected by this criterion is primary contact recreation, EPA believes that a shorter duration (i.e., 30 days), used in a static or rolling manner, coupled with limited excursions above the STV, allows for the detection of transient fluctuations in water quality in a timely manner. In the development of their monitoring program, EPA recommends that states consider the number of samples evaluated in order to minimize the possibility of incorrect use attainment decisions.” (USEPA 2012, 40)*

And that:

*“When identifying sampling frequency as part of a state’s monitoring plan, a state may consider that, typically, a larger dataset will more accurately characterize the water quality in a waterbody, which may result in more meaningful attainment determinations. Therefore, EPA is recommending that states conduct at least weekly sampling to evaluate the GM and STV over a 30-day period and encourages more frequent sampling at more densely populated beaches.” (USEPA 2012, 42) Emphasis added*

Although some larger swimming recreational areas in Maryland are monitored weekly, many are monitored on a bi-weekly or monthly basis. Therefore, many beaches would be at risk of being incorrectly classified as impaired if the 30-day duration component were codified.

Third, USEPA itself considers a duration component of 90 days to be acceptable. In a white paper provided to MDE in October 2015 USEPA stated:

*“EPA considers a duration of up to 90 days to represent an acceptable critical exposure period to protect recreational uses for the following reasons. The epidemiological studies used to develop the 2012 criteria recommendations were conducted over exposure periods of up to 90 days, thus making durations up to 90 days scientifically defensible. In addition, analysis of data from waters that experience short-term variability, or “transient fluctuations,” from periodic high concentration releases exhibit very similar criteria attainment assessment outcomes using a 30 day or 90 day assessment period, when both the GM and STV criteria components are evaluated...”*

Therefore, MDE believes adopting the 90-day duration component is protective of human health and provides assurance that state waters will not be improperly listed on Category 5 of the Integrated Report (303(d) List).

11. Commenter suggests that MDE should reword .03-3A (c) to reflect that the STV should be based on amount of time of exceedance and not the number of samples exceeding. Specifically the language should be reworded to “The statistical threshold value shall not be exceeded more than 10 percent of the time over a 90-day period”.

**Response:** The proportion of discrete samples that exceed the STV is a statistic that is meant to be a non-biased estimator of the true proportion of time that water body exceeds the STV. The proportion of samples that exceed the STV represents the most probable value of the true proportion of time the waterbody exceeds the STV. The language “10 percent of the time” implies that continuous data (as opposed to discrete) would need to be available to make an assessment decision.

12. Commenter states that MDE should clarify and enumerate the reasons for removing 19 stream segments from the list of Tier II waters.

**Response:** This information was originally made available on MDE’s Water Quality Standards web page during the public comment period and has since been moved to the Triennial Review Archives page. Please visit the following page at:

<http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Triennial-Review-Archives.aspx>.

On this page the following documents are provided.

- *“Description of the Tier II segments proposed for removal and justification for removal”*,
- *“Spreadsheet showing the original and corrected IBIs for Tier II waters that had baseline IBI corrections”* and
- *“Maps Depicting Additions to Tier II waters and Removal of Tier II Waters”*.

13. Commenter states that MDE should consider adopting the 2013 ammonia criteria.

**Response:** See response to Comment 2.

14. Commenter states that EPA’s regulation 40 CFR 131.20 require that if a state does not adopt new or revised criteria for parameters for which EPA has published new or updated Clean Water Act (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). The Commenter would like an explanation provided with respect to

ammonia, lake and river/stream nutrient criteria, selenium, cadmium and the 94 human health criteria.

**Response:** MDE appreciates the commenter's desire for the state to adopt numeric criteria. Regarding the updated 2013 ammonia criteria, please see response to Comment 2.

Regarding nutrient criteria for rivers/streams, MDE has consistently maintained the stance that confounding factors as well as extensive data gaps prevent MDE from adopting scientifically defensible criteria at this time. MDE would like to note that the current water quality standards regulations contain statewide dissolved oxygen criteria as well as chlorophyll *a* criteria for most lakes and reservoirs in Maryland. Both criteria are surrogates for nutrients and are indicative of nutrient conditions. MDE will continue to monitor the state of the science and may change our stance if methodologies become available that are applicable to Maryland's surface waters consistent with current nutrient reduction efforts.

Regarding the updated selenium, cadmium and the 94 human health criteria, the water quality standards program is currently reviewing EPA documentation to determine the appropriateness of these criteria in Maryland's waters in the hopes of adopting these criteria during the 2019 triennial review.

15. Commenter states that Deep Run, North Branch Patapsco, an unnamed tributary to the North Branch Patapsco and West Branch North Patapsco should be reclassified from Use Class I and IV to Use Class III based on the presence of reproducing trout populations. The commenter's states that Use Class I and Use Class IV designations do not recognize, represent, or protect the biological communities and environmental conditions that allow and support existing wild trout populations.

**Response:** MDE acknowledges the receipt of data showing the presence of naturally reproducing trout species in these locations. However, temperature logger data obtained from each of these stream systems demonstrated excursions of the Class III temperature criterion. According to the Department's current use redesignation approach, these streams cannot be redesignated to Class III without also meeting Class III temperature criteria unless it can be determined that the use and criteria are both attainable. For additional detail on this approach and the basis for taking this approach please see the response to Comment 6.

16. The commenter states that the Code of Federal Regulations (CFR § 131.10 (1) reads: "where water quality standards specify designated uses less than those which are presently attained, the State shall revise its standards to reflect the uses being attained".

**Response:** USEPA clarified in their 2008 letter that:



*“It is appropriate to describe the existing uses of a waterbody in terms of both actual use and water quality because doing so provides the most comprehensive means of describing the baseline conditions that must be protected. In identifying an existing use, it is important to have a high degree of confidence because a state or tribe may not remove an existing use when revising designated uses, regardless of whether the existing use remains attainable.”*

And that:

*“When describing existing uses, states and tribes should articulate not only the use(s) that has been achieved, but also the water quality supporting the specific use(s) that has been achieved” (emphasis added)*

MDE interprets this description to mean that for a water body to be reclassified as Class III, that water body needs to have an existing use that satisfies both the aquatic life community and water quality requirements for Class III waters. Based on the data that MDE has received to date, the aforementioned streams do not appear to meet the numeric water quality criteria (i.e., temperature, 68°F) that protect the designated use. However, as stated in previous responses, the Department will be revisiting the use classification system with stakeholder input and will make sure the commenter is included in communications.

Furthermore, as stated in the response to Comment 6, streams identified as having cool water or coldwater characteristics, as determined by the Department with advice from stakeholders including DNR, Trout Unlimited, and others, are included in this 2016 Triennial Review submittal (in the Summary of Changes Section) and also on MDE's Water Quality Standards webpage. Additionally, this list will be shared with the Department's permitting programs and applicants to ensure that upcoming permit applications will be evaluated in light of the recently identified resource and water quality so as not to allow degradation of this valued resource.

17. Commenter states that the Maryland Department of Natural Resources has recommended to MDE that the “under-classified” streams be reclassified to the Use Class III because the streams meet the existing reclassification policy. Commenter states that 2012 criteria were used to “up-classify” streams during the 2013 triennial review and that the same method should be used during the 2016 triennial review for logical consistency. Commenter states that in the past MDE has applied a Use Class III designation to natural trout streams and has repeatedly reclassified complete stream watersheds on evidence that a downstream location supported naturally reproducing trout.

**Response:** MDE would like to clarify that the document named “Use Class Re-Designation Procedures for Streams that have a Cold Water existing use” established in 2012, and previously posted on MDE's website, has been taken down and the methods for reclassifying waters of the state are currently under review. (This document was put under review on March 24, 2016.)

The Department is revisiting this 2012 methodology in light of the USEPA letter (2008) that is referenced in the previous response (Response to comment 16). MDE plans to engage the commenter and other interested stakeholders to examine the process behind existing use determinations and reclassification actions moving forward. The Department will ensure that the commenter is included in any future communications regarding this advisory committee.

18. The commenter does not accept that the reclassification of Use I and Use IV streams to Use III streams is precluded if the stream does not meet the 68°F maximum temperature in the Code of Maryland regulations based on the fact that many current Use Class III streams often do not meet this temperature requirement.

**Response:** As mentioned in the response to other comments, the Department's current approach for use class redesignation follows EPA recommendations (USEPA letter 2008, referenced in response to comments 6 and 16) to use both the use and water quality information for determining the proper classification of a stream. The commenter is correct that some currently designated Class III streams do not meet the applicable temperature criteria (i.e. 68°F) according to Maryland's temperature assessment methodology found at: [http://mde.maryland.gov/programs/water/TMDL/Integrated303dReports/Pages/ir\\_listing\\_methodologies.aspx](http://mde.maryland.gov/programs/water/TMDL/Integrated303dReports/Pages/ir_listing_methodologies.aspx). However, this does not necessarily imply that the temperature criteria are inappropriate. Instead, this scenario may signify that these streams actually have an impaired thermal regime. A specific regulatory policy mechanism exists to deal with water bodies that are not meeting the water quality criteria (i.e. impaired) associated with a designated use. If a water body (such as a Use Class III stream) is (based on adopted assessment methodology) failing to meet water quality criteria (such as numeric temperature criteria) that is established to protect the designated use then that stream could be listed under Category 5 of the Integrated Report and prioritized for TMDL development.

19. The commenter states that proposed changes to the list of high quality waters were proposed without providing sufficient information for the public participation on the reasoning and methodology for actions. The commenter requests that MDE provide 1) the methodology and data set used to develop Tier II minimum values; and 2) for each stream whose Tier II status is proposed to be changed in the Proposed Action, the State's benthic and fish collection information and all calculated IBIs and the dates of the calculations.

**Response:** In response to a request made during the public hearing held on June 13<sup>th</sup> 2017 the Department provided additional information regarding the proposed changes to the list of Tier II high quality waters on MDE's Water Quality Standards home page during the public comment period at: <http://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Pages/index.aspx>. (This information has since been moved to the following page which is accessible from the water

quality standards homepage:

<http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Triennial-Review-Archives.aspx>.) In addition, at the public hearing for the Triennial Review held on June 13<sup>th</sup>, 2017, Departmental staff fielded questions on the proposed changes and offered to meet with groups on any additional questions they had regarding these changes. On June 19, 2017, Water Quality Standards staff met with several such groups (i.e. Mid-Atlantic Chapter of Trout Unlimited, Gunpowder Riverkeeper, University of Maryland Law Center) to go over questions related to Tier II removals including reviewing the raw data, IBI calculation methodology, the timeline of IBI changes, and the proposed corrections.

Tier II streams in Maryland are identified by reviewing IBI scores from biological data collected using Maryland Biological Stream Survey protocols. The threshold for determining whether a water is Tier II is described in Code of Maryland Regulations 26.08.02.04-1 and further described on MDE's webpages at the following addresses:

- [http://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Pages/Antidegradation\\_Policy.aspx](http://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Pages/Antidegradation_Policy.aspx)
- <http://mde.maryland.gov/programs/water/TMDL/WaterQualityStandards/Pages/Tier-II-Designation-Process.aspx>.

The methodologies for calculating both fish and benthic IBIs are found in the following publication:

Southerland, M. T., et al. "New biological indicators to better assess the condition of Maryland Streams." *Prepared by Versar, Inc., Columbia, MD, with Maryland Department of Natural Resources, Monitoring and Non-Tidal Assessment Division. CBWP-MANTAEA-05-13. Also Available at [http://dnr.maryland.gov/streams/Publications/ea-05-13\\_new\\_ibi.pdf](http://dnr.maryland.gov/streams/Publications/ea-05-13_new_ibi.pdf) (2005).*

The raw data used to calculate the baseline IBI scores can be obtained by contacting the Maryland Department of Natural Resources (Monitoring and Nontidal Assessment Division) through their data request page at: <http://dnr.maryland.gov/streams/Pages/dataRequest.aspx>.

20. Commenter states that the "overall frequency distribution" of IBI's may need to be revised and made public so that the public can be assured that the level of IBI used to designate Tier II high quality is still valid. Commenter suggests that if the frequency distribution changes significantly with corrections, then a revision of the IBI ratings for minimum qualification for Tier II may be warranted.

**Response:** The Maryland Biological Stream Survey (MBSS) protocols and IBI rating system are scientifically rigorous and well respected in the field of aquatic biology. It seems that the commenter is asking for the MBSS IBI system to be re-evaluated. However, MDE does not see the need for such a re-evaluation since previous reviews have demonstrated the rigor of the

protocols and IBI calculations. MDE recommends that the commenter contact the Department of Natural Resources (DNR) for details on various statistical analyses of MBSS data and regarding any changes in IBIs over time. For questions related to the DNR MBSS program, please contact Dan Boward at [Dan.Boward@maryland.gov](mailto:Dan.Boward@maryland.gov).

21. Commenter asks why MDE revised the Tier II online map to incorporate the proposed removal of Tier II streams before regulation had been finalized. Commenter suggests that the online Tier II map should reflect what is currently in COMAR and not be modified until COMAR updates are finalized.

**Response:** Code of Maryland Regulations (COMAR) 26.08.02.04-1C requires the Department to “compile and maintain a public list of waters identified as Tier II waters”. Thus, the Department publishes and updates Tier II waters on its website ([http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Antidegradation\\_Policy.aspx](http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Antidegradation_Policy.aspx)) and map (<http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/HighQualityWatersMap.aspx>). These waters are then added to Code of Maryland Regulations 26.08.02.04-1 O. during the next TR.

22. Commenter reiterates concerns expressed in a previous submittal (from December 14, 2016) that the regulatory requirement that a candidate Tier III water body or stream segment be wholly within a permanently protected area does not allow for practical application of the Outstanding National Resource Waters (ONRW).

**Response:** Please see response to comments 7 and 8.

23. Commenter is alarmed by the proposed regulatory changes related to Tier II waters being removed from the list of Tier II waters without clear justification or transparent rationale.

**Response:** Please see response to comment 12.

24. Commenter states that the fact that stream segments can bear a subheading as “Tier II with no assimilative capacity for nutrients” suggests that new discharges of nutrients not accounted for under the Bay or local TMDLs may impair those waters but not change the tier designation. Commenter considers this practice conducive to cloaking evidence of degradation prohibited by the Clean Water Act.

**Response:** In the context of Maryland’s Antidegradation policy, the Department uses the term assimilative capacity (AC) to represent the level of biological degradation a Tier II stream

segment can exhibit before it is classified as being degraded (no assimilative capacity) from the original high quality condition. This level is quantified using the indices of biotic integrity (IBI) and is a function of the baseline index scores. Unlike impaired streams, streams that are classified as having no AC are not qualified as being degraded by a specific pollutant. Rather, Tier II streams identified as having no remaining AC have demonstrated a diminished biological condition (as measured through the IBIs), below that which was found at the time of baseline sampling. Though nutrients may play a role in the diminished condition of some Tier II streams that have no remaining AC, it may also be possible that another pollutant(s) is the cause. Thus, the status “no remaining AC” does not identify the stressor(s) causing the diminished biological condition. Stressor identification is something the Department is working to address to both improve biological condition at those Tier II streams with no remaining AC and to protect those Tier II streams that still have remaining AC. For more information on how assimilative capacity is calculated please visit the Department’s web page at:

<http://mde.maryland.gov/programs/Water/TMDL/WaterQualityStandards/Pages/Tier-II-AC.aspx>.

25. Commenter states that drinking water standards need to be established for bromide and that MDE should closely monitor, track and establish protective permit limits for bromide discharge from power-generating point source that discharge into the Potomac River upstream of the Washington Metropolitan Area water supply intakes. Commenter provides information that updated Clean Air Act requirements are potentially increasing the bromide concentration in some coal fired power plants’ effluent.

**Response:** MDE officials have taken part in Potomac Partnerships meetings and discussed concerns about bromide in drinking water. Currently there are no nationally recommended bromide criteria for the protection of drinking water or aquatic life. For the most part, MDE does not require that bromide levels be monitored in drinking water or permitted discharges. However, some permits have included bromide monitoring requirements.

If the risk to human health warrants the development of a science-based national bromide drinking water standard, MDE would strongly consider adopting it. MDE will coordinate with USEPA and drinking water authorities, and other states to evaluate what agencies (state or federal) should take the lead on this issue.

26. Commenter requests that MDE establish a sodium water quality standard for the Potomac River upstream of the Washington Metropolitan Area water supply intakes.

**Response:** Although sodium and chloride standards are not being proposed during this Triennial Review, MDE is currently considering several options for managing chloride (which is the primary anion associated with sodium and therefore is managed along with chloride) in

Maryland's waters. Options being considered include promulgating state-specific chloride water quality criteria, developing TMDLs for chloride impaired waters, requiring chloride management reductions in Municipal Separate Storm Sewer System (MS4) permits, and developing best practices that individuals and businesses can implement to reduce chloride loads.

27. Commenter states that MDE has failed to properly reclassify certain streams that support naturally reproducing trout populations as Use Class III.

**Response:** Please see the responses to comments 6, and 16 - 18.

28. Commenter writes to support the environmental quality and fishery in the Upper Potomac River.

**Response:** The Department appreciates the commenter's support and interest in restoring and protecting Maryland state waters. Like all waters of the state, the Upper Potomac River is protected and managed under the Clean Water Act and associated state laws and regulations. The Department encourages the commenter to become involved in these various management efforts. Opportunities for public involvement include not only the public comment period for the Triennial Review but also for the Integrated Report of Surface Water Quality, TMDLs, and National Pollutant Discharge Elimination System (NPDES) permits.

29. Commenter states that they are aware that a portion of the North Branch (Potomac) was reclassified previously to Class III, but only downstream to Laurel Run. The commenter feels that that was appropriate but that it makes little sense to limit the reclass to only that area when wild trout, and natural reproduction by those wild trout, occurs downstream of Laurel Run to at least the outfall of the wastewater treatment plant at Westernport.

**Response:** The section of the North Branch Potomac River immediately downstream of Jennings Randolph Reservoir (and upstream of Laurel Run), redesignated as Class III in the 2013 Triennial Review, had data which demonstrated the presence of naturally reproducing trout and attainment of the Class III temperature criteria. To date, MDE's Water Quality Standards staff is not aware of temperature data from the downstream sections of the North Branch Potomac River (as mentioned by the commenter) that demonstrate attainment of the Class III temperature criteria which would in turn, support a reclassification per the approach described in response to comments 6, 16, 17 and 18. Even so, the Department agrees that a better process is needed for formally identifying and recognizing those waters which have existing uses that require different water quality than that required for the class to which they are assigned. To address this issue, MDE plans to convene an advisory committee to examine the process behind existing use determinations and reclassification actions moving forward.

Also, as stated in previous responses, streams identified as having cool water or coldwater characteristics, as determined by the Department with advice from stakeholders including DNR, Trout Unlimited, and others, are included in this 2016 Triennial Review submittal (in the Summary of Changes Section) and also on MDE's Water Quality Standards webpage. Additionally, this list will be shared with the Department's permitting programs and applicants to ensure that upcoming permit applications will be evaluated in light of the recently identified resource and water quality so as not to allow degradation of this valued resource.

30. Commenter points out that the area downstream of Westernport is stocked by the Maryland Department of Natural Resources but is still classified as Use Class I (Warmwater aquatic life) and not Use Class IV (Recreational Trout Waters).

**Response:** MDE acknowledges that many portions of the North Branch Potomac River downstream from Laurel Run are managed as a trout fishery through stocking and other management efforts. In the past, reclassifications of such waters to Class IV (Recreational Trout Waters) occurred solely on the basis of stocking efforts. However, MDE working with the Department of Natural Resources (DNR) has realized that requiring more stringent temperature limits (temperature criteria for Class IV waters is 75°F) in some stocked waters may be inappropriate since some of these waters naturally exceed 75°F. In addition, DNR and MDE have worked collaboratively to examine the potential for a new "coolwater" use classification that would capture the unique biotic assemblage that requires a thermal regime somewhere between a Class I (90°F) and Class III (68°F). With these two concepts in mind (i.e., stocked waters which naturally go above 75°F and the potential development of a new class), the Department has decided to delay Class IV re-designations until these issues can be resolved.

MDE is in the process of organizing an advisory committee to help craft policy and/or regulatory language that will result in more consistent protection of Maryland's surface waters.

31. Commenter states that MDE is not doing enough to preserve the trout fishery on the North Branch Potomac and that MDE should reclassify the river to Use Class III.

**Response:** Like all waters of the state, the Upper Potomac River is protected and managed under the Clean Water Act and associated state laws and regulations. The Department encourages the commenter to become involved in these various management efforts. Opportunities for public involvement include not only the public comment period for the Triennial Review but also for the Integrated Report of Surface Water Quality, TMDLs, and National Pollutant Discharge Elimination System (NPDES) permits. For additional detail regarding the classification decisions for the North Branch Potomac River, please see the response to comments 6 and 29.

32. Commenter urges the Department to redesignate the North Branch Potomac River to Use Class III to protect the existing trout fishery.

**Response:** Please see the response to comment 6 and 29.

33. Commenter recommends that if MDE adopts the new USEPA recreational criteria, it limit use of the STV to assessments (and then only if there are adequate samples to make use of the results reasonable).

**Response:** MDE will use the STV for assessment purposes. The duration and frequency components of the criteria are designed to reduce the possibility of a water body being incorrectly classified as impaired.

34. Commenter recommends that, in regards to the USEPA recreational criteria, MDE use the “Ten Percent Rule” (TPR) and apply it over the 90-day period.

**Response:** The duration and frequency components of the STV state that “10 percent of the samples taken over a 90-day period shall not exceed the statistical threshold value”. Therefore, for all intents and purposes the regulatory language implies the use of the TPR.

35. Commenter is concerned that MDE’s explanatory paragraphs do not state that the STV will not apply unless there are an adequate number of samples taken to make application reasonable. Commenter requests that MDE clarify this point in either the regulations or in a revised assessment document.

**Response:** It is important to note that the sample size required for determining if WQS have been exceeded is not an approvable element of a water quality standard (Florida Public Interest Research Group vs. EPA, 2007). Therefore, states do not include a minimum sample size as part of their water quality standards regulations. The Department will establish a minimum sample size for assessing attainment of the STV in an assessment methodology as part of the Integrated Report of Surface Water Quality (IR). This assessment methodology will be reviewable during the public review period for the 2020 IR.

36. Commenter requests clarification that MDE will not be using the STV for permitting purposes and that permits continue to reflect application of the geometric mean.



**Response:** The Department is currently reviewing and considering EPA guidance on this subject. If there are any changes proposed to commonly-used permitting approaches, the commenter will be made aware of this at the earliest stage possible.

37. Commenter states that he is appalled that MDE continues to allow the discharge from the UPRC treatment plant and that MDE needs to do more to protect the river.

**Response:** All permitted dischargers are required to meet either technology based effluent limits (TBELs) or water quality based effluent limits (WQBELs) for pollutants with established values. The Department has worked with UPRC to enhance the quality of their effluent and will continue in these efforts moving forward. If the commenter has specific complaints regarding this discharge or the permit for this facility, MDE recommends that the commenter contact Ed Stone, Program Manager of the Wastewater Permits Program, at [Ed.Stone@maryland.gov](mailto:Ed.Stone@maryland.gov) or 410-537-3599.

38. Commenter is concerned that the proposed Water Quality Standards fail to protect streams with existing trout populations and fisheries. The commenter specifically cites 40 C.F.R. § 131.10(i) and 40 C.F.R. § 131.10(b):

*“[w]here existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained.”*

and

*“[i]n designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of the downstream waters and shall ensure that its water quality standard provides for the attainment and maintenance of the water quality standards of downstream waters.”*

**Response:** The Department agrees that a better process is needed for formally identifying and recognizing those waters which have existing uses that require different water quality than that required for the class to which they are assigned. To address this issue, MDE plans to convene an advisory committee to examine the process behind existing use determinations and reclassification actions moving forward.

Also, as stated in previous comments, streams identified as having cool water or coldwater characteristics, as determined by the Department with advice from stakeholders including DNR, Trout Unlimited, and others, are included in this 2016 Triennial Review submittal (in the Summary of Changes Section) and also on MDE's Water Quality Standards webpage. Additionally, this list will be shared with the Department's permitting programs and applicants

to ensure that upcoming permit applications will be evaluated in light of the recently identified resource and water quality so as not to allow degradation of this valued resource.

39. Commenter states that MDE procedures require it to re-designate Natural Trout Streams to Use-Class III. Commenter references MDE policy document entitled “Use Class Re-Designation Procedures for Streams that have a Cold Water Existing Use”. Commenter states that the document provides four conditions that require MDE to re-designate streams to Use Class III. Commenter implies that if any four conditions are met, MDE is required to re-designate. Commenter also provides extensive data showing at least one these conditions are met in several streams.

**Response:** The document that the Commenter referenced was put under review on March 24, 2016 and does not reflect current MDE policy. Please see the response to comment 17.

40. Commenter states that if MDE ops not to re-designate North Branch Potomac from Use Class I to Use Class III, it should at least re-designate to Use Class IV.

**Response:** Regarding any potential redesignation to Class III, please see the response to comments 6 and 29. As far as potential redesignation of portions of the North Branch Potomac to Class IV, the Department has this under consideration as it reviews how Class IV waters are defined in terms of ‘coolwater’ species. For more detail please see the response to comment 30. Please note that any potential changes to the definition of Class IV waters will include a public review process.

41. Commenter states that absent re-designation, MDE must revise the standards to specifying the Existing Uses and water quality necessary to protect those uses. Commenter sites both 40 C.F.R. § 131.10(i) and a memo to Mr. Derek Smithee (State of Oklahoma Water Resources Board) dated September 5<sup>th</sup> 2008, Denise Keehner (Director of the USEPA Standards and Health Protection Division). The commenter points out that the Keehner memo reads that, in regards to existing uses, states:

*“should describe existing uses more specifically where necessary to meet the intent of the existing use requirement.”*

and the

*“importance of describing the existing use (and the water quality necessary to support the existing use) in a specific manner so that the uses and the water quality improvements...can be maintained and protected.”*

The commenter interprets these passages to mean that standards, at a minimum, describe the existing uses and the water quality necessary to protect those uses.

The commenter notes that the North Branch Patapsco, West Branch, Deep Run, the Hollingsworth Tributary, and portions of the North Branch Potomac upstream of Westernport support wild trout populations and fishing, but notes that these water bodies are classified at Use Class IV, not Use Class III.

Commenter also notes that the North Branch Potomac from Westernport to Pinto supports DNR stocked fisheries. However, those streams are designated as Use Class I in MDE's proposed Water Quality Standards.

**Response:** Please see the response to comment 38.

42. Commenter objects to MDE's proposal to remove several stream segments from the list of Tier II waters without considering more recent data, or collecting current data, to assess whether the streams are currently within the Tier II criteria.

**Response:** By removing these stream segments from the Tier II list, MDE is simply correcting the Tier II list which had errors that persisted through the last Triennial Review. To keep these stream segments in the list of Tier II waters would mean giving them preference or unequal treatment over other non-Tier II (i.e. Tier I) waters. This would be inconsistent with how MDE has treated such waters in the past and the Department respectfully prefers to maintain consistency in how it administers Tier II high quality waters protections. That being said, even though these stream segments will be removed from the Tier II list, the Department will commit to conducting additional sampling in these streams. DNR and MDE, working collaboratively, have agreed to conduct follow-up monitoring in 2018 at those sites for which IBI errors were noted. The two Departments are happy to share any data collected from through this effort. Any new data collected will be evaluated according to MDE's Tier II identification methodology to determine if the stream meets the Tier II high quality thresholds (i.e. both the BIBI and FIBI  $\geq 4.00$ ). If met, these streams will be designated as Tier II.

43. Commenter states that MDE should not remove Tier II streams based on BIBI alone because many of the streams being removed have baseline FIBI scores greater than 4 and in some cases 5.

**Response:** MDE has consistently identified Tier II streams based on both the Benthic Index of Biotic Integrity (BIBI) and Fish Index of Biotic Integrity (FIBI).

44. Commenter objects to MDE's practice of removing Tier II waters from the web-based mapping system when those waters are still listed in the regulations. Commenter cites COMAR 26.08.02.04-1F(1):

“[b]efore submitting an application for a new discharge permit or major modification of an existing discharge permit (for example, expansion), the discharger or applicant shall determine whether the receiving water body is Tier II or if a Tier II determination is pending, by consulting the list of Tier II waters”

Commenter states that failing to show listed waters on MDE's web-based map could lead to substantial confusion among regulators, applicants and the public.

**Response:** Please see the response to comment 12 and 21.

45. The commenter states that the proposed Beach Action Value (BAV) corresponds to the 75% Confidence Limit for “frequent full body” contact from the prior bacteriological assessment threshold value chart. However, only E. coli is considered for use as an indicator at freshwater beaches. Enterococcus can also be used in freshwater and often is. We respectfully request that the 61 cfu limit for Enterococcus in freshwater in addition to the 235 cfu for E. coli be included so that historical data will be comparable and relevant for trend analysis and the development of TMDLs as it has been in the past..

**Response:** MDE would like to clarify that the proposed Beach Action Value (BAV) will not be used for assessment or TMDLs and will only be used to issue beach notifications. The indicator enterococcus will still be used in freshwater for assessment purposes but is not proposed for use as a BAV in freshwater. The Department is proposing E. coli as the only BAV indicator for freshwater because studies have shown that mean indicator densities of E. coli have a higher correlation coefficient with swimming-associated gastroenteritis than does enterococcus. Since the BAV relies on a sample from a single day in order to make a beach notification decision, the Department wanted to have the additional confidence, provided by the E. coli indicator, to make notification decisions.

46. Commenter states that current data should be used for delisting of Tier II waters and is also concerned about MDE's practice of removing Tier II waters from the Department's web-based mapping system when those waters are still listed in the regulations.

**Response:** Please see the response to comment 21 and 42.

47. Commenter suggests that Gwynns Falls segment use classification should be changed to Class I. Commenter states that USGS gauge information which records flow and stage height, and the presence of riffles in this section, this segment should be reclassified as Use Class I.

**Response:** The Department appreciates the commenter providing this information. This reclass will be considered for the 2019 Triennial Review.

48. Commenter states that many of the Tier II streams being removed from the list of Tier II waters are being removed based on mathematical errors of data that are at least 15 years old with not recent stream survey data to support it. Commenter states that MDE resample and calculate new IBI scores for each of these sections before they are removed from the Tier II list.

**Response:** Please see the response to comment 42.

49. Commenter suggests that MDE has no official regulatory framework for removing stream segments from the list of Tier II waters. Commenter states that a lack of framework hinders the public's ability to track changes to the list of Tier II waters and COMAR 26.08.02.04 states that downgrading stream segments is discouraged and makes no mention of allowing for the delisting of Tier II streams because of data errors.

**Response:** The Triennial Review of Water Quality Standards (TR) is the regulatory framework for proposing the addition of streams to the list of Tier II waters and as such, is appropriate for proposing the removal of streams from the list of Tier II waters. It's worth restating that the proposed removal of streams from the list of Tier II waters was solely due to errors and not through water quality degradation. The Department is compelled to remove waters that had incorrectly calculated baseline IBIs since the currently available data demonstrates that these waters are not deserving of a Tier II high quality water designation.

50. Commenter states that the original public notice of the Triennial Review and the information provided in the Maryland Register was deficient with respect to the proposed delisting because it provided no rationale for the changes. Furthermore, the original public notice did not state what sections were being removed from the Tier II list or why they were being removed. Commenter states that this information should have been available from the beginning of the public comment period.

**Response:** The original notice of the proposed removal of streams from the Tier II list occurred in an email blast to the commenter (and many other interested stakeholders) on May 15, 2017. Included in this email was a link to MDE's Water Quality Standards homepage which provided documentation summarizing both the streams being removed as well as the reasons for

removal. This documentation also showed the detailed sections of Code of Maryland Regulations that were proposed to have additions and removals. The Department also included contact information (name, phone number, and email address) so that stakeholders could reach Water Quality Standards staff if they had any additional questions regarding the proposed changes. MDE staff fielded phone calls and held a meeting, separate from the public hearing, which included the commenter so as to ensure that interested stakeholders had all information that was requested.

51. Commenter states that MDE's policy of removing the proposed delisted waterways from the state lists and maps before the proposed delistings are final is counterintuitive and contrary to purpose of having notice and comment procedures. Commenter cites COMAR 26.08.02.04E(1):

“[MDE] shall provide public notice and opportunity for public hearing on the proposed change before permitting a change in high quality waters...”

**Response:** The scenario surrounding the removal of the 19 streams from the list of Tier II waters was unusual because it did not involve any type of permitted water quality degradation like that described in Code of Maryland Regulations 26.08.02.04. Instead, these streams were erroneously identified as Tier II when available data did not support this designation. Since these were known errors, the Department was compelled to correct the online Tier II high quality waters map consistent with the language in Code of Maryland Regulations 26.08.02.04-1 that allows for the maintenance of a “pending” list of Tier II waters. In the case of these removals, the Department was not “permitting a change in high quality waters” because these waters were not high quality (as demonstrated by the data) and there was no deliberate effort through permitting authorities or stream designation authority to allow degradation of water quality in these waters.

52. The commenter states that MDE's removal method described in the comment above can also have negative effects on NPDES permitting because a Tier II waterway could be removed from the list before it is officially delisted and if MDE is renewing or approving a NPDES permit that discharges into that Tier II waterway the permit writers will not conduct an antidegradation review of the permit which may result in less stringent effluent limits that negatively impact the waterbody. Furthermore, if a proposed stream segment is not actually removed at the end of the public comment process and remains a Tier II segment but a NPDES permit has been approved without an antidegradation review because the stream segment was removed early from the map it could cause that stream segment to degrade because the effluent limits were not properly informed.

**Response:** The Department would like to clarify that the only time waters would be removed from the Tier II pending list in advance of a Triennial Review action would be when there is a

error in the original baseline designation of a Tier II water (like there was for the waters discussed here). Thus, there should be no impact to permits since only these clear errors are addressed.

53. The commenter suggests that MDE's method of averaging IBI scores to determine whether a stream section meets Tier II standards is problematic and could mask water quality trends. This method should be analysed for effectiveness and benefit before the next triennial review.

**Response:** MDE has been using this method for identifying Tier II streams since Maryland first adopted Tier II regulations. There are certainly advantages and disadvantages to using this method. The Department welcomes any suggestions for alternate methods.

54. The commenter resent comments that were previously submitted during the public comment period for Maryland's 2016 Integrated Report of Surface Water Quality (IR). All of the comments were made in reference to the 2016 IR.

**Response:** Since these comments do not pertain to Maryland's Triennial Review of Water Quality Standards (they are only relevant to the IR), they were not included in this document. Instead, the Department encourages the commenter to check MDE's web page for the 2016 IR (<http://mde.maryland.gov/programs/Water/TMDL/Integrated303dReports/Pages/2016IR.aspx>) to read the Department's responses. These responses can be found in Part E.3 of the 2016 IR.

### Works Cited

USEPA. Recreational water quality criteria. Office of Water 820-F-12-058; 2012.

USEPA. Letter from Denise Keehner (Director of the USEPA Standards and Health Protection Division) to Mr. Derek Smithee (State of Oklahoma Water Resources Board) dated September 5th 2008. Available at: <https://www.epa.gov/wqs-tech/reference-library-water-quality-standards-policy-and-guidance-documents>.