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Via Email:

[gary.setzer@maryland.gov](mailto:gary.setzer@maryland.gov)

Gary Setzer  
Senior Advisor  
Maryland Department of the Environment  
1800 Washington Blvd.  
Baltimore, MD 21230  
410-537-3744

**Re:** Comments on Maryland Department of Environment's Subtitle 08 Chapter 11 Maryland Water Quality Trading Program regulation

Dear Mr. Setzer,

These comments are submitted by the National Parks Conservation on MDE's proposed Water Quality Trading Program regulations which were published on December 8, 2017, in the Maryland Register, vol.4, No.22, p. 1189 et seq. Along with this comment letter, we enclose a redline text of the regulations showing proposed textual revisions as Attachment A. Because the version of the regulatory text that we used to create the redline copy was the editable format, which does not show the Register page numbers, we have inserted those page numbers in black in the text where they occur.

Since 1919 the National Parks Conservation Association (NPCA) has been dedicated to the preservation and enhancement of America's national parks for present and future generations. NPCA has more than one million members and supporters nationwide, with almost 22,000 of them living in Maryland.

NPCA recognizes that the ecological health of our parks in the Chesapeake region depends upon the health of the waters flowing through and around them. NPCA is a founding member of the Choose Clean Water Coalition, established with over 200 local, state, and national organizations to protect and restore water quality throughout the Chesapeake. Through the Coalition we've been strong advocates for the implementation of the Chesapeake's Total Maximum Daily Load (TMDL) program – our best opportunity to address water pollution problems facing the landscape in a comprehensive manner. However, even with Chesapeake restoration efforts spanning three decades and notable successes, such as the reduction of “point source” pollution and the decreasing trends in nitrogen and phosphorus pollution levels we realize much work remains.

Nutrient credit trading in the Chesapeake Bay watershed holds promise as a way to make meeting the reductions required in the Chesapeake Bay Total Maximum Daily Load (TMDL) more easily achievable by 2025 and by providing a framework to track and offset loads of pollution from new development and sewer/septic systems. However, improperly designed programs increase the chances of water quality degradation which ultimately means failure to meet water quality goals – an unacceptable outcome.

We believe that the proposed regulations suffer from several significant errors. Unless

these are corrected, the proposed trading program will not help Maryland meet its Chesapeake Bay cleanup targets under the Total Maximum Daily Load (“Bay TMDL”), and are in fact likely to cause a net increase in pollution. These deficiencies can be substantially eliminated by adoption of the revisions which we are proposing in this letter and in the accompanying Attachment A. Some of the changes proposed in the Attachment are self-explanatory and therefore are not addressed specifically in this letter.

**1. The regulations must adhere to the EPA technical memoranda on nutrient trading.**

The Environmental Protection Agency (EPA) has developed a series of technical memoranda that provide details on EPA’s expectations for nutrient trading programs designed to meet the Bay TMDL target allocations.<sup>1</sup> Specifically, the technical memoranda elaborate on Appendix S and Section 10 of the TMDL.<sup>2</sup> These are not merely guidance, but reflect the fundamentally important “expectations” of EPA, the Chesapeake Bay Program partner responsible for ensuring accountability in the TMDL implementation. If Maryland chooses to ignore the memoranda, it runs the risk not only of forcing EPA to object to permits and reject credits or offsets for use in meeting TMDL allocations, but also of losing credibility in the eyes of other partners and the public.

**2. The draft regulations must require the use of a 2:1 uncertainty ratio for all trades involving nonpoint credit generators.**

The pollution loads from nonpoint sources of pollution, which by definition lack discreet “point” source outfalls, are very difficult to measure. When these nonpoint sources implement Best Management Practices (BMPs) to reduce pollution loads, the reductions are equally difficult to measure. In practice, these loads and pollution reductions are never measured, but are instead estimated. Nutrient credits generated by nonpoint sources are therefore inherently uncertain.

Adding to that basic uncertainty is the fact that most estimates of BMP effectiveness are generated from carefully controlled research experiments – not real-world demonstrations. The National Research Council (NRC) observed that

*BMP efficiencies are often derived from limited research or small-scale, intensive, field-monitoring studies in which they may perform better than they would in aggregate in larger applications . . . Thus, estimates of load reduction efficiencies are subject to a high degree of uncertainty.*<sup>3</sup>

Note that the NRC authors are suggesting that the uncertainty is largely in one direction—BMP efficiency estimates are likely to overestimate actual nutrient removals. Indeed, the authors go on to say that “[p]ast experience . . . has shown that credited BMP efficiencies have more commonly been decreased rather than increased in the light of new field information.”<sup>4</sup>

In other words, BMP effectiveness estimates tend to overestimate pollution reductions. The Chesapeake Bay Program has modified certain BMP effectiveness estimates to address some, but not all, of this bias (to “remove unwarranted optimism”).<sup>5</sup> There has been some confusion on this point. For example, in 2011 Maryland Department of Agriculture (MDA) stated that “[a]ny uncertainty associated with [BMPs] has already

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<sup>1</sup> U.S. EPA, Trading and Offset Technical Memoranda for the Chesapeake Bay Watershed, <https://www.epa.gov/chesapeake-bay-tmdl/trading-and-offset-technical-memoranda-chesapeake-bay-watershed>.

<sup>2</sup> U.S. EPA, Accounting for Uncertainty in Offset and Trading Programs – EPA Technical Memorandum, 4 (Feb. 12, 2014).

<sup>3</sup> National Research Council (NRC), Achieving Nutrient and Sediment Reduction Goals in the Chesapeake Bay 73 (2011).

<sup>4</sup> *Id.* at 76.

<sup>5</sup> U.S. EPA, Accounting for Uncertainty in Offset and Trading Programs – EPA Technical Memorandum, 8 (Feb. 12, 2014).

been taken into account by the Chesapeake Bay Program in the adoption of the stipulated efficiency.”<sup>6</sup> But this is incorrect. Not all BMPs have been adjusted as described above, and not all sources of uncertainty have been addressed. According to EPA:

*The CBP partnership BMP effectiveness values vary across the Chesapeake Bay watershed for conditions such as implementation date, growth rate of crops, and physiographic region. These adjustments generate BMP effectiveness values that are unbiased and realistic but not necessarily conservative because they were established using realistic estimates for load reductions that do not reflect additional sources of uncertainty, especially hydrological variability and operation and maintenance over the lifetime of BMPs. The uncertainty ratio recommended in this technical memorandum is designed partially to account for those additional sources of uncertainty.*<sup>7</sup>

Therefore, there is a reasonable probability that a BMP may not generate the pollution reductions that it is given credit for. In order to avoid a net increase in pollution loads, EPA expects the states to use an uncertainty ratio “of at least 2:1” for trades between nonpoint credit generators and point source credit buyers.<sup>8</sup> In other words, a credit buyer hoping to offset one pound of new nitrogen load would have to purchase credits worth two pounds of nonpoint nitrogen. EPA allows for two possible exceptions to this policy. The first is where “direct and representative monitoring of a nonpoint source is performed at a level similar to that performed at traditional NPDES point source.”<sup>9</sup> The second is where land conservation is made “permanent” through a conservation easement or other deed attachment.<sup>10</sup>

In general, however, Maryland is required to apply a 2:1 ratio to all nonpoint-point trades. The proposed regulation requires a 2:1 uncertainty ratio for trades between nonpoint credit generators and “wastewater point sources,” but does not require a 2:1 ratio for trades between nonpoint credit generators and “stormwater point sources.”<sup>11</sup> See Section 8.C(1)(a). This is an arbitrary distinction, and it is impermissible. The characteristics of the credit purchaser are irrelevant to the policy goal that a 2:1 uncertainty ratio is intended to serve. The uncertainty in the nonpoint source credit is the same regardless of who uses it. The uncertainty ratio is there to ensure that credits do not overestimate the pollution reductions achieved by the credit generator.

The same logic should apply to all trades involving nonpoint credit generators, including the sale of credits to nonpoint credit purchasers. Again, the uncertainty ratio is there to ensure that credits do not overestimate the pollution reductions achieved by the credit generator.

In short, MDE must require the use of a 2:1 uncertainty ratio for all trades involving nonpoint nutrient credits, including but not limited to trades between nonpoint credit generators and “stormwater point sources.”

### **3. The “reserve ratio” in the proposed regulation should be replaced with a retirement ratio to ensure water quality improvements.**

We urge MDE to reinstate the retirement ratios that have long been part of Maryland’s draft trading policy.<sup>12</sup> MDE should require that 5% of credits generated by point sources,

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<sup>6</sup> MDA, Producing and Selling Credits in Maryland’s Nutrient Trading Market, 9 (Mar. 14, 2011).

<sup>7</sup> U.S. EPA, Accounting for Uncertainty in Offset and Trading Programs – EPA Technical Memorandum, 8 (Feb. 12, 2014) (emphasis added).

<sup>8</sup> U.S. EPA, Accounting for Uncertainty in Offset and Trading Programs – EPA Technical Memorandum, 4 (Feb. 12, 2014).

<sup>9</sup> Id. at 5.

<sup>10</sup> Id.

<sup>11</sup> Id. at 13.

<sup>12</sup> See, e.g., MDE and MDA, Draft Maryland Trading and Offset Policy and Guidance Manual, 19 and 45 (Jan. 2016).

and 10% of credits generated by nonpoint sources, be “retired.” An earlier iteration of the Maryland Department of Agriculture’s nutrient trading policy included the following “fundamental principle”:

*Trades must result in a net decrease in loads. To ensure this net decrease is achieved, 10 percent of the agricultural credits sold in a trade will be “retired” and applied toward Tributary Strategies or TMDL goals. The buyer will retire the credits following the transaction, and this determination should be reflected in the buyer/seller contract.*<sup>13</sup>

At the January 8<sup>th</sup>, 2016 trading symposium, MDE stated that a percentage of credits will be retired for the sake of net water quality benefit. We agree with this policy and urge MDE to ensure that these levels are included. As noted above, the current draft omits the retirement ratio and instead includes a ‘reserve ratio.’ The reserve ratio alone is insufficient for two reasons. First, it is not a retirement ratio, and does not ensure a net reduction in pollution loads. Second, at the end of the year there is nothing that prevents MDE from distributing the reserved credits to noncompliant dischargers. This creates a perverse incentive to polluters to fall short of their pollution reduction targets.

#### **4. Ensure that trading does not cause degradation of local waters or pollution hotspots.**

We strongly support the intent of the language in section 8.E(1). The TMDL and EPA’s technical memorandum on local water quality both prohibit trades that would cause or contribute to local water quality impairments, including any exceedances of water quality standards.<sup>14</sup> However, section 8.E(2), as written, is inconsistent with section 8.E(1), the TMDL and EPA’s technical memorandum. Section 8.E(1) prohibits trades that would cause or contribute to an impairment or to an exceedance of water quality standards. But section 8.E(2) says: “Credits used within any impaired waters must be generated within such impaired waters or upstream of the credit user’s discharge.” The word “or” should be “and” to ensure that a “hotspot” is not created at the user’s location. If the credit is generated downstream, its use upstream would cause a degradation of water which is already impaired, and aggravate the existing noncompliance with water quality standards. Issuance of a permit to the upstream user would violate EPA’s CWA permitting regulations at 40 C.F.R.122.4(a) and (i).

In addition, the three broad “Trading Regions” authorized in Section 04.B are far too broad, and will not ensure the protection of local water quality. We propose that the regulations restrict all trades to within the same local watershed, which should be no larger in area than the United States Geological Survey’s 8-digit Hydrologic Unit Code; smaller watersheds, like the 12-digit watershed would be even more protective. If a credit purchaser is located within the boundaries of an impaired watershed, then the credit must be generated from within that watershed, or within the local watershed (e.g. 8-digit, 12-digit, or other watershed category defined by the regulations), whichever is smaller.

#### **5. MS4s should be prohibited from using trading to meet more than 50% of their pollution reduction requirements.**

We also urge MDE to ensure that permittees, particularly MS4 jurisdictions, do not use trading to meet a majority of their pollution reduction requirements. Trading should not be allowed to offset more than 50% of a permittee’s requirements. We recognize that the department may prefer this restriction be adopted through the MS4 permit, rather than the trading regulations, for policy or legal reasons. Regardless, this restriction will ensure

<sup>13</sup> MDA, Producing and Selling Credits in Maryland’s Nutrient Trading Market, 5 (Mar. 14, 2011).

<sup>14</sup> U.S. EPA, Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment, S-4 (Dec. 29, 2010); U.S. EPA, Local Water Quality Protection when Using Credits for NPDES Permit Issuance and Compliance, EPA Technical Memorandum, (March 17, 2014).

that local waters are not significantly degraded and also ensure that MS4s do not abandon the extraordinarily valuable and important work of addressing stormwater and polluted runoff reduction efforts within the boundaries of their jurisdictions.

## **6. The “calculation of credits” section contains a drafting error with important consequences.**

The “calculation of credits” section states that, for wastewater point sources, credits shall be calculated as “the load remaining after subtracting actual annual effluent nutrient load from the performance-based benchmark load” (section 6.A(1)).

Wastewater point sources include both “sewage treatment” plants and other point sources, including industrial waste dischargers (definition at 3.B(55)).

The definition of “performance based benchmark load” is explicitly tied to Enhanced Nutrient Removal (ENR):

*(36) “Performance-based benchmark” means a wastewater point source annual effluent load which is calculated at the end of each calendar year using the end of the calendar year annual cumulative flow for the facility, multiplied by the applicable assigned nitrogen or phosphorus performance concentration converted to units of pounds per year, where the assigned annual average effluent performance concentration basis is:*

*(a) Equal to or less than 3.0 mg/l for nitrogen or .3 mg/l for phosphorus; and*

*(b) If applicable, equal to or less than the concentration basis of the permit’s required floating cap.<sup>15</sup>*

As written, the regulation would therefore apply ENR-based benchmarks for credit calculation to both sewage treatment plants and all other “wastewater point sources.” We are certain that MDE did not intend this result. There are many industrial point source dischargers in Maryland with average discharge concentrations well below ENR levels. As written, the regulation would authorize these sources to claim credit for the difference between ENR levels and their actual discharge. This would of course open the door to “paper credits” that do not represent real, additional reductions in nutrient loads. The use of such credits would be improper because the result would be a net *increase* of pollution into an already-impaired waterbody or its tributary.

If MDE intends to establish performance-based benchmarks for point sources to which ENR does not apply, it must create a second definition of that benchmark. In any event, MDE must clarify the regulation to explain that section 6.A(1) only applies to ENR facilities.

## **7. ENR as baseline and in credit calculation**

The definition of ENR (definition 03.B(19)) currently states that the ENR nitrogen concentration is 4 mg/L. We assume that MDE intends for this to be 3 mg/L, since the definition of “performance-based benchmark” uses a nitrogen concentration of 3 mg/L (definition 03.B(36)). We encourage MDE to consistently use the 3 mg/L nitrogen concentration.

In addition, the regulation as written would give credit for reductions at Wastewater Treatment Plants that are not “additional.” For example, if a facility spent taxpayer money to upgrade, and as a result was able to reduce its nitrogen load to 2 mg/L, it would be able to claim credit for the difference between 2 and 3 mg/L. This would be a “paper credit” because it would not reflect a nitrogen reduction below what had already been achieved with public funds. MDE should require a demonstration that a facility has undertaken

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<sup>15</sup> “Floating cap” is defined in definition (20) as “applicable to an ENR facility.”



some new, additional project that resulted in new and additional nutrient load reductions in order for that facility to receive credit.

## **8. Definition of pollutant reduction**

The definitions section of the rule includes a definition for “pollutant reduction.” However, this term is not used in any functional way in the regulation. There is potential for confusion here because the definition suggests a method for calculating credits (the difference between actual loads and baselines) that is inconsistent with the “calculation of credits” language applicable to wastewater point sources (calculating credits as the difference between actual loads and performance-based benchmarks). Since removing the definition would have no effect on the regulation, and retaining it could create confusion, we suggest removing the definition.

## **9. Verifiers**

Section 11.B(2) sets forth the requirements for verifiers. It creates three qualifications that we assume MDE intended to apply to any verifier: appropriate education, experience and training; no interest in the operation generating a credit; and no involvement in the original application or qualification of the credits (section 11.B(2)(c)(i) – (iii)). As written, the rule only applies these qualifications to “Department-approved verifiers.” Other verifiers, including “[s]tate or county inspectors” and “professional engineers,” would be authorized to verify credits even if they had no relevant experience or had a financial conflict of interest. Again, we assume that MDE did not intend this result, and on our enclosed redline copy we have revised the language of Section 11.B to reflect this, so that the listed qualifications apply to all verifiers. We encourage you to adopt this language in the final rule.

## **10. Increase Transparency: Provide an opportunity for the public to comment on an application for credit approval when MDA or MDE receives a completed Certification and Registration Form.**

We believe that the regulation lacks sufficient transparency as written. In EPA’s Technical Memorandum “Certification and Verification of Offset and Trading Credits in the Chesapeake Bay Watershed” (July 21, 2015) on page 9 there is a major topic heading “Public Accountability.” That discussion sets forth, among other things, the following expectations:

“EPA expects all information concerning certification and verification of credit generating projects and practices to be readily available to the public beginning from the time the final credit generating project or practice is proposed to be certified... All aspects of the program should be publicly available, including the location [sic] credit generator, location of the proposed and/or implemented credit generating project or practice, type and number of credits generated for either offset or trade purposes, and any other information necessary for the public to know the credits are valid...”

Public notice and comment should be required when MDE or MDA receives a completed Certification and Registration Form, along with the other documents and information required by Section 7, just before registration. This is the only time when any interested person can determine whether the requirements of Sections 5, 6 and 7 have been complied with. Waiting until a permit is about to be issued which may be based on a flawed credit is too late for effective input. This is the only time when interested parties can review the proposed credit(s) and supporting documentation and evaluate and comment on whether: (1) the applicant has properly complied with baseline requirements, (2) the credits have been properly calculated, using the appropriate tools and procedures for the BMP being used, (3) the effectiveness and likely duration of the credits have been properly calculated, and (4) the other information required by Section 7 has been provided by the

applicant. If the proposed credit is flawed, this is the time when MDE and MDA need to know it, not after it has been registered, sold and incorporated into an NPDES permit.

These important elements of the process can be effectively accomplished by adding a new subsection D under Section 7. The existing Subsection 7.D should then be designated as 7.E, and the following subsections lettered accordingly. The new Section 7.D should provide, in words or substance, as follows:

D. Promptly after a determination by MDE or MDA that an application for approval and registration of one or more credits, including the Certification and Registration Form, includes all of the documents and information specified in this Section 07, the Department (and MDA in the case of an application from an agricultural operation) shall post on its website an announcement of the application identifying a location where the application and related documents can be inspected and copied, and allowing a period for public comments on the application of not less than 30 days following the date of publication of the announcement. In addition, not later than the date of publication, MDE or MDA, as appropriate, shall provide the other with a copy of the application and supporting information. Comments shall be reviewed by both MDE and MDA, who shall then confer on any decision to approve and certify the credits that are the subject of the application.

Then re-letter subsections D, E, F, G, H and I as subsections E, F, G, H, I and J, respectively, and revise the first sentence of the newly designated subsection E as follows:

E. Following the agencies' review of any public comments on the credit application, MDE or MDA may request additional information from the applicant and identify any changes that should be made to the application before it can be approved, or may reject the application and state the reasons for doing so. Following a determination by MDE or MDA that an application is complete and has satisfied the applicable requirements, that agency shall assign each credit or block of credits... [resume existing text]

We have inserted this language in the redline copy of the regulations which accompany this letter as Attachment A.

The Chesapeake Bay, the largest estuary in the United States and one of the most biologically productive estuaries in the world is also home to more than 54 national park sites. NPCA is the largest independent, membership organization dedicated to protecting the natural, cultural, and historic treasures of our National Park System. We recognize the connectivity of the Chesapeake landscape and the importance of properly designed and implemented policies for nutrient credit trading for our region's water quality which greatly impact the health of our parks.

We appreciate the opportunity to submit these comments. We would be pleased to discuss any aspect of them and answer any questions. Our contact person for this is Pam Goddard, Chesapeake & Virginia Program Director, who can be reached at 202.454.3365 or [pgoddard@npca.org](mailto:pgoddard@npca.org).

Respectfully submitted,



Stephanie Heidbreder  
Chesapeake Field Representative  
National Parks Conservation Association

cc by email:

**Ben Grumbles**, Secretary, Maryland Department of the Environment,  
[ben.grumbles@maryland.gov](mailto:ben.grumbles@maryland.gov)

**Lynn Y. Buhl**, Assistant Secretary, Maryland Department of the Environment,  
[lynn.buhl@maryland.gov](mailto:lynn.buhl@maryland.gov)

**James Edward**, Acting Director, Chesapeake Bay Program, [edward.james@Epa.gov](mailto:edward.james@Epa.gov)

**Rich Batiuk**, Associate Director for Science, Accountability and Implementation,  
Chesapeake Bay Program, [batiuk.richard@epa.gov](mailto:batiuk.richard@epa.gov)

**Susan Payne**, Program Coordinator, Ecosystem Markets, Office of Resource  
Conservation, Maryland Department of Agriculture, [susan.payne@maryland.gov](mailto:susan.payne@maryland.gov)