

To: Lynn Buhl, Director

Water Management Administration

Maryland Dpt. Of the Environment

Dear Lynn

On behalf of an informal coalition of environmental stakeholders, we are sharing with you the following draft proposal for regulatory language that MDE could use to implement a program for the trading and offsets of nutrient and sediment credits. The clarity, reliability, consistency in operation and outcomes, and enforceability necessary to ensure that a trading and offsets program complies with the CWA can only be accomplished by state regulations, so we welcome the opportunity to work with you in the development of such regulations.<sup>1</sup>

The language and the policies in the draft come from the MDA regulation for nutrient credit certification, the MDE/MDA nutrient trading guidance document, and the EPA Technical Memoranda for trading and offsets programs.

As you know, in 2011 EPA established a Trading and Offsets Workgroup (TOWG) consisting of a broadly representative group of stakeholders and others with experience with, or relevant to, the design and implementation of water quality trading and offset programs. The Group's purpose has been to assist EPA in preparing a series of Technical Memoranda to provide the Bay Jurisdictions with EPA's "expectations" with respect to the content of any trading and offset programs so as to ensure compliance with the Clean Water Act (CWA) and its implementing regulations. During the past three years EPA, working with the TOWG and in consultation with the Bay Jurisdictions, has published eight Technical Memoranda.

In the introduction to each of the memoranda, EPA states that in addition to ensuring compliance with the CWA and its implementing regulations, all trading and offset programs must be consistent with EPA's 2003 Water Quality Trading Policy, its 2007 Water Quality Trading Toolkit, and Appendix S to the Chesapeake Bay TMDL. At least seven of the memoranda include policies widely recognized by groups such as the National Network on Water Quality Trading and others as essential to any effective water quality trading and offset program.

It is absolutely clear that EPA expects any state program to incorporate the provisions of the technical memoranda. They are not optional. Failure to incorporate these provisions can result in disapproval by EPA of the state program, rejection of credits, objection by EPA to any permit

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<sup>1</sup> We note that financial institutions would not likely support the purchase of credits without the clarity and predictability of regulation, and that the only other Bay states with trading programs, Virginia and Pennsylvania, operate them through regulations.

which includes credits which do not satisfy these elements and requirements, and citizen suits for noncompliance with the CWA.

The document is written in the format of a draft regulation with policy elements extracted from the draft guidance manual as a starting point but arranged into rule-type categories and reflective of our coalition’s consensus on the appropriate policy elements that require a broader public review than the current working group can provide.

We look forward to your response to our suggestions. Please feel free to reach out to us with any questions. It is our sincere hope that this document could be shared with the broader working group prior to the May 19<sup>th</sup> meeting at CBF.

Sincerely,

Jeff Horstman, Bevan Bucheister and Doug Myers

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## 1. Notice of Proposed Action

## 2. Statement of Purpose

The purpose of this section is to promulgate regulations to implement a water quality trading and offsets program. This action explains the requirements, standards, and procedures for the purchase and sale of nutrient and sediment credits; the requirements for transparent tracking of all nutrient and sediment purchases and sales; the mechanisms for enforcement of nutrient and sediment trading requirements; the responsibilities of the Maryland Department of the Environment in administering the program; and, in conjunction with regulations promulgated by the Secretary of Agriculture, additional requirements, standards, and procedures for the verification, certification, and registration of nutrient and sediment credits.

## 3. Scope

This section establishes a nutrient and sediment trading program that will guarantee a net reduction, with an adequate margin of safety, in the amount of nitrogen, phosphorus, and sediment entering the Chesapeake Bay and its tributaries.

## 4. Definitions

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(XX) “Aggregator” or “Broker” means a person who collects and compiles credits from individual agricultural non-point sources to resell them.

(XX) “Agronomic Practice” means an annual crop or soil practice that reduces or minimizes nutrient or sediment loss. Examples include but are not limited to cover crops, conservation tillage, reductions in nitrogen fertilizer application, and precision agriculture.

(XX) “Agricultural Land” or “Farm” means a parcel of land which has an Agricultural Use Assessment as determined by the Department of Assessments and Taxation.

(XX) “Agricultural operation” or “Operation” means a business or activity where a person tills, crops, keeps, pastures, or produces an agricultural product, including but not limited to livestock, poultry, plants, trees, sod, food, feed or fiber by in ground, out-of-ground, or other culture.

(XX) “Animal Waste Management System Plan” means a plan developed and approved by a local soil conservation district to identify and address the management of animal waste generated on an agricultural operation, including operation and maintenance guidelines.

(XX) “Baseline” means the nutrient and sediment reduction that must be achieved before the seller becomes eligible to enter the trading market and sell credits.

(XX) “Best Management Practice” or “BMP” means an agronomic, conservation, or other pollution control practice, installation, or structure that manages soil loss, nutrients, and sediment so as to minimize their movement into the waters of the State.

(XX) “Chesapeake Bay Program Partnership” means the interstate partnership organized by the U.S. Environmental Protection Agency to implement the Chesapeake Bay Total Maximum Daily Load.

(XX) “Credit” means a pollution reduction credit or the unit of trade that is equal to one pound of nitrogen, phosphorus, or sediment delivered to the main-stem of the Chesapeake Bay per year.

(XX) “Delivered Load” means the amount of a pollutant delivered to the tidal waters of the Chesapeake Bay or its tidal tributaries from an upstream point of discharge or runoff after accounting for permanent reductions in pollutant loads due to natural in-stream processes in nontidal rivers.

(XX) “Department” means the Maryland Department of the Environment.

(XX) “Generator” means the original source of pollution reductions embodied in a credit, regardless of subsequent buyers and sellers of the credit. Generators may be facilities or operations with a point source discharge and/or a non-point discharge.

(XX) “Land Conversion Practices” means a change in management on an agricultural operation that involves a shift to less nutrient-intensive agricultural land use, including but not limited to the installation of forest or grass buffers, the retirement of highly erodible lands, or the switch to alternative or perennial crops.

(XX) “Local Water” means the waterway into which a source of pollutants discharges those pollutants.

(XX) “Maryland Nutrient Tracking Tool” or “MNTT” means a Department approved online performance-based calculation platform that enables users to analyze agricultural parcels and their management to determine eligibility and credit generation potential for participation in the Program.

(XX) “Minor Point Source” is a point source with a design flow of less than 500,000 gallons per day.

(XX) “MS4” means a municipal separate storm sewer system.

(XX) “Nonpoint Source” means any facility or operation that discharges effluent to any waterbody and is not a point source.

(XX) “Nutrient and Sediment Credit Certification Program” or “Program” means the program established under this Chapter giving the Maryland Department of Agriculture the authority to certify, verify, and register agricultural nonpoint source nutrient and sediment credits in support of market-based trading activities to fund agricultural practices that enhance water or air quality or both by further reducing nutrient or sediment runoff, movement, or emissions below baseline.

(XX) “Nutrient Management Plan” or “NMP” means a plan that complies with the requirements of COMAR 15.20.07 and 15.20.08 that is prepared by a certified nutrient management consultant to manage the amount, placement, timing, and application of manure, fertilizer, biosolids, or other plant nutrients in order to:

(a) Minimize nutrient loss or runoff; and

(b) Maintain the productivity of soil when growing agricultural products.

(XX) “Nutrient or Sediment Reduction” means the difference between the nutrient and sediment loads delivered to the main stem of the Chesapeake Bay achieved by implementation of best management practices and the current load after meeting eligibility requirements.

(XX) “Operator” means a person who is the owner of an agricultural operation or a lessee who has the owner’s expressed consent to operate or manage an agricultural operation.

(XX) “Person” means the State, any county, municipal corporation, or other political subdivision of the State, or any of their units, or an individual, receiver, trustee, guardian, executor, administrator, fiduciary, or representative of any kind, or any partnership, firm, association, public or private corporation, or any other entity, unless otherwise provided.

(XX) “Point Source” means any facility or operation that discharges any effluent to a body of water through a pipe, ditch, channel or other discrete conveyance, as defined in Section 502(14) of the Federal Clean Water Act, 33 U.S.C. 1362(24).

(XX) “Registry” means the publicly accessible online database maintained by MDE and containing details about pollution credits and trades as described in this section.

(XX) “Soil Conservation and Water Quality Plan” or “SCWQP” means a farm plan approved by a local soil conservation district to minimize soil erosion and to minimize the movement of sediment, animal waste, nutrients, or agricultural chemicals into waters of the State.

(XX) “Structural Practice” means a practice acceptable by the Department that reduces or minimizes nutrient or sediment loss through the installation or construction of physical edifices, barriers, or systems to trap, block, or filter pollutants, including but not limited to manure sheds, fencing, grassed waterways, and constructed wetlands.

(XX) “Technology-Based Effluent Limitations” mean the limitations defined by 40 C.F.R. § 125.3 [and any corresponding Maryland regulations].

(XX) “Total Maximum Daily Load” or “TMDL” means a limit set by U.S. Environmental Protection Agency or the Maryland Department of the Environment, in accordance with Clean Water Act or corresponding state law requirements that establishes the amount of a particular pollutant, in this case nitrogen, phosphorus, or sediment inputs, that a waterbody can assimilate and still meet water quality standards.

(XX) “Watershed,” where it does not refer to the Chesapeake Bay Watershed, means a watershed with an 8-digit hydrologic unit code, as defined by the United States Geological Survey.

(XX) “Watershed Implementation Plan” or “WIP” means the plan required and approved by the U.S. Environmental Protection Agency for achieving the pollution reduction goals and allocations necessary in implementing the Chesapeake Bay TMDL.

## 5. Eligibility for nutrient and sediment trading

1. Credit transactions under any scenario can occur with or without an intermediary or broker.
2. Credits can be sold only after they have been certified, verified, and registered in accordance with this section or, for agricultural credits, after they have been certified, verified, and registered in accordance with [*the MDA rule*].
3. Credits cannot be purchased or used for the purposes of complying with Technology-Based Effluent Limitations.
4. Credits can only be generated using practices that are approved (accepted and defined) by the Chesapeake Bay Program Partnership for its annual progress reviews.

5. Each trade must result in pollutant load reductions beyond (in addition to) the reductions that would have occurred in the absence of the trade.
6. All trades that were authorized before [*the effective date of this rule*] will remain authorized for one calendar year from [*the effective date of this rule*], after which the trading partners must comply with the requirements of this section and re-apply for authorization to trade.
7. MS4 jurisdictions can participate in trading only after MDE has modified an MS4 permit to allow trading and has converted impervious surface requirements, and impervious surface achievements, into pounds of nutrients and sediment.
8. MS4 jurisdictions can purchase credits to comply with up to one-half of the reduction of nitrogen, sediment, or phosphorus loads required under their MS4 permit. [**Note: the 50% number appears to be an arbitrary percentage, and would require a modification to current permits**]
9. All credits must be generated in the appropriate region within the borders of the state of Maryland.

## 6. Baseline Requirements

1. For a point source generating credits, the baseline shall generally be calculated as the Water Quality-Based Effluent Limits for nutrients and sediment, included in the source's permit, that correspond to the stricter of the loads allocated to the facility by the Bay TMDL and any local TMDL.
2. The baseline for a major wastewater treatment plant that has upgraded to enhanced nutrient removal technology with funding from the Bay Restoration Fund is 3.0 milligrams per liter total nitrogen and 0.3 milligrams per liter total phosphorus, as calculated on an annually averaged basis. The owner or operator of a wastewater treatment plant must annually apply to the department with a description of the capital or operational investments or alterations to be made to the plant to generate pollution reduction credits.
3. The baseline for all other wastewater treatment plants that have upgraded to Enhanced Nutrient Removal technology with funding from the Bay Restoration Fund shall be equal to (1) a previously-assigned 2004 Point Source Tributary Strategy loading goal, or (2) load caps equal to 6,100 pounds per year of total nitrogen and 457 pounds per year of total phosphorus.
4. An MS4 jurisdiction is eligible to sell credits only after it has met the full current permit impervious area restoration requirement and has no outstanding permit violations. Credits must be created by BMPs that are implemented in excess of impervious area restoration requirements.

5. For nonpoint sources generating credits, the baseline should be consistent with the TMDL load allocation for the appropriate sector and may be further defined in terms of load, geographic scale, minimum practices, and schedule of implementation and/or time needed to facilitate improved environmental compliance with Water quality Standards.
6. All nonpoint source baselines must be calculated using the methods described in the Maryland Department of Agriculture trading regulations [*insert updated citation here*]
7. A credit-generating source must meet baselines for nitrogen, phosphorus, and sediment before it can participate in trading for any individual pollutant.
8. A point source does not become eligible for trading until baselines are adopted as enforceable conditions of the point source's discharge permit.

## 7. Location Requirements

1. A credit generated in one eight-digit watershed shall not be used to offset or reduce a load in another eight-digit watershed without a clear, quantified demonstration that the resulting discharges will not cause or contribute to the degradation or impairment of local water quality, and will not cause or contribute to the violation of any applicable water quality standards.
2. If a purchaser of credits discharges into a waterway impaired for nitrogen, phosphorus, or sediments, then the credits must be generated in the same eight-digit watershed as, and upstream from, the purchaser. Any trade involving an impaired waterway should create a positive impact on the water quality in that waterway.
3. When an MS4 jurisdiction purchases credits, it shall first seek to obtain credits generated within a local watershed under a TMDL. If no credits are available in this area the MS4 jurisdiction may purchase credits within the MS4 jurisdiction boundary. If no credits are available in this area, then the MS4 jurisdiction may seek to obtain credits generated within any eight-digit watershed that overlaps with but extends beyond the MS4 jurisdiction boundary.

## 8. Trading Units

1. In order to ensure transparency and equivalence of credits, all trades must be conducted in units of pounds of Delivered Load.
2. Trades cannot involve more than one pollutant; nitrogen loads can only be offset by nitrogen credits, phosphorus loads can only be offset by phosphorus credits, and sediment loads can only be offset by sediment credits.
3. An MS4 jurisdiction cannot purchase credits until:

- (a) the state has modified the permit; and
- (b) the modified permits replace the 20% restoration requirement with an equivalent load reduction, expressed in pounds, which is consistent with all applicable TMDLs.

## 9. Credit Retirement and Trading Ratios

1. All trades shall include the retirement of a portion of the credits being traded in order to ensure that there is a net reduction in pollutant loads, sometimes described as “additionality.” For each trade involving nonpoint credits, the purchaser must purchase credits equivalent to 110% of the load being offset, and retire 10% of the purchased credits. For each trade involving point source credits, the purchaser must purchase credits equivalent to 105% of the load being offset and retire 5% of the purchased credits. Retired credits shall be permanently and irreversibly retired.
2. In addition to all other ratios and retirement requirements, and except as provided in section 9.3 below, all trades involving nonpoint credits are subject to a 2:1 uncertainty ratio, meaning that purchasers of nonpoint credits must purchase two pounds of credits for each pound being offset.
3. A ratio less than 2:1, but greater than or equal to 1:1, may be used:
  - a. When direct and representative monitoring of a nonpoint source is performed at a level similar to that performed at permitted point sources, and there is consistency in the operation of the nonpoint source; or
  - b. For credit generating practices that ensure permanent load reductions through land conversion from active agriculture to pasture or forest protected by a conservation easement.

## 10. Lifespan of Credits

Credits will be valid for one calendar year beginning on January 1 following the generation and certification of the credits. Credits may be applied (used) only in the above-described calendar year. Credits cannot be banked for future years.

## 11. Certification of non-agricultural credits

1. The Department shall certify any proposed non-agricultural credits prior to authorizing a trade involving those credits. The Department shall specifically demonstrate, with supporting documentation, the following:
  - a. The location where the credit generating project or practice will be implemented;

- b. That the credit generating project or practice is properly designed so as to meet the pollutant reduction levels for which the credit is to be certified and to meet accepted industry standards, including operation and maintenance, beyond the applicable certification period;
- c. A detailed description of how the credits will be generated by the credit generating project or practice, including but not limited to the following:
  - i. All credit calculations, demonstration that baseline is met and inclusive of additionality, and all assumptions, plans, and photos, as applicable;
  - ii. A map illustrating the locations of the proposed credit generating project or practice;
  - iii. Details on the timing of credits, such as the timing of credit generation and delivery and the time frame for sale and use of credits;
  - iv. Identification of applicable water quality standards and any applicable impairment listings and TMDLs for the receiving stream segment nearest the location of the proposed credit generating project or practice;
  - v. A description of how failure of the credit generating project or practice would be managed;
  - vi. As applicable, evidence of preservation and/or conservation easements on lands where the credit generating project or practice is to be implemented;
  - vii. The necessary contact information of the participants involved in the credit generating project or practice;
  - viii. The qualifications of the person(s) who completed the calculations or otherwise contributed to the technical merits of the certification;
- d. That the baseline calculation is still valid;
- e. That the implementation of the credit generating project or practice will be verified as described in [Section 14/the Verification section]

## 12. Registration of Trades

1. The Department shall establish an online, publicly accessible Registry that records and tracks all credits generated and available for sale, including the method used to generate each credit; all credits sold; and the details of all trades, including the amounts and type of credits sold, the location of the credit generating practice, the location of the credit purchaser, and the NPDES identification information of any permitted credit sellers and purchasers.
2. The Registry shall also include details about the verification of credit-generating practices, including the date of the last inspection, the result, and the date of the next inspection.
3. All credits sold, including credits sold through third parties, shall have a unique identifier that is traceable to the buyer, the seller, and the generator, and, where applicable, used by NPDES permittees when reporting credits.

### 13. Approval of Trades

1. The Department shall develop and, after opportunity for public comment, approve methods for translating all practices and requirements that may be eligible for involvement in trading into units of pounds of Delivered Load.
2. Prior to the approval of a trade, the Department must:
  - a. Ensure that all details described in part [sections 11 and 12] above are publicly available on the Registry.
  - b. Ensure that any agricultural credits in the proposed trade have been certified by the Department of Agriculture according to [*final MDA nutrient credit regulation*].
  - c. Ensure that all estimated pollutant loads have been accurately expressed in units of pounds of Delivered Load according to methods approved by MDA or MDE.
  - d. Certify any non-agricultural credits in the proposed trade according to the certification process described in [section 11].
3. The Department shall create an electronic mail notification list for any interested individuals.
4. The Department shall notify the public, using the notification list and on the Registry website, of any proposed trade at least 30 days prior to approving the trade; accept written comment from the public; and, if the Department receives comments, respond to the comments in the final approval of the trade.
5. Within 15 days of approving a trade, the Department shall post its rationale for approving the trade, along with the response to any public comments, on the Registry. The rationale shall include the details of the Department's determination that the trade will not result in the deterioration of local water quality in the receiving stream or water body of the credit purchaser; and the details of the Department's determination that the credits are quantifiable, verifiable, and enforceable.
6. The Department shall not approve any interstate trades until:
  - a. The trading program of the other state involved in the trade has been implemented and credit calculation, certification and verification is equivalent to Maryland's trading and offset program; and
  - b. No sooner than four years from [*effective date of this rule*]

## 14. Verification

1. The Department, or a Department approved verifier, shall annually verify all non-agricultural credits.
2. Verification shall be conducted in accordance with a Chesapeake Bay Program Partnership-approved Best Management Practice verification plan. At minimum:
  - a. The Department shall ensure that the credit generating projects and practices are performing as intended via monitoring, inspection, reporting, or some other mechanism.
  - b. The Department shall perform detailed inspections of operations and review of documents at a sufficient frequency so as to ensure the integrity of the verification system.
  - c. Verification shall be performed by a verifier that the Department has determined to possess the necessary training, skill and experience to monitor and inspect credit generators.
  - d. The Department must identify and avoid actual or apparent conflicts of interest.
3. The results of all verification inspections shall be included in the credit Registry in association with the unique identifier described in [section 12] of this section.

## 15. Permits and Enforcement

1. A discharge permittee seeking to trade must apply to the Department for approval. The application shall include:
  - a. The need for the trade, including Waste Load Allocation status, flow, and load projections;
  - b. The consistency of the trade with any applicable County Water and Sewerage Plans, planned service areas, priority funding areas, TMDLs, and Water Resources Element of the Land Use Plan;
  - c. The location of the facility purchasing credits, including a facility location map, the eight-digit River Basin designation of the discharge point, and the Chesapeake Bay Program watershed model delivery factor;
  - d. The credit acquisition plan;
  - e. The identity and location of proposed credit generator(s), including map(s), the eight-digit River Basin designation of the discharge point, and the Chesapeake Bay Program watershed model delivery factor;

- f. The methods used to generate all credits in the proposed trade(s);
  - g. The durations of all credits being traded;
  - h. The identity of any third party that has traded the credits being traded;
  - i. The current owner(s) of all credits being traded;
  - j. All relevant calculations, including, but not limited to, the total number of credits being traded, the application of uncertainty ratios where required, the application of credit retirement requirements; and
  - k. All relevant contract terms
2. If a permittee seeks to engage in trading in the middle of its permit term, the permittee must apply for a permit modification with all of the same information required of a new permit application, as set forth in section [15.1] above.
  3. Any NPDES permit that authorizes a trade shall include the details described in section [15.1] above in the permit, the permit fact sheet, and the administrative record.
    - a. Credits shall be used during the time period for which they were registered, and this shall be reflected in the permit.
  4. The Department shall make the following conditions in any NPDES permit authorizing a trade:
    - a. Credits shall be secured for the duration of the authorization to discharge. In addition, point sources that purchase credits must secure the contractual right to credits for ten years, and must submit to the Department a plan showing how it intends to acquire the necessary credits for at least ten years beyond the initial ten-year period.
    - b. The failure of a credit generating practice to generate 100% of purchased credits shall be a violation of the credit purchaser's NPDES permit.
  5. Permits for wastewater treatment plants that engage in trading must require monitoring and of total nitrogen and total phosphorus either:
    - a. At least three times per week; or
    - b. On a flow-weighted composite basis at an interval greater than or equal to three days and less than or equal to seven days.
  6. The Department has the authority to deny any proposed trade if it determines that the trade would violate any of the requirements of this section or would otherwise conflict with or impede other policies of the State of Maryland.

## 16. Additional Department Responsibilities

1. The Department shall annually evaluate the state trading program and produce an annual report that includes:
  - a. An inventory of all trades and credit transactions
  - b. The results of all verification activities and inspections
  - c. All instances of noncompliance with trade agreements
  - d. All instances of less than full credit generation
  - e. All instances of noncompliance with permit terms that involve trading
  - f. All trading-related enforcement actions
2. The annual report described in this subsection shall be made publicly available on the trading Registry website.

## 17. Enforcement

The Department has the authority to:

1. Issue administrative orders directing compliance with any provision of these regulations, and/or directing anyone to cease any noncompliant conduct;
2. Revoke any credit which is determined to have been based on incorrect or inaccurate data which the credit applicant knew or should have known was inaccurate at the time of submission;
3. Revoke any credit based on a practice that no longer performing as intended;
4. Prescribe a time within which any noncompliance shall be corrected;
5. Revoke the certification of any third party validator who either no longer meets the minimum requirements for a validator, or who has submitted false information to MDE or MDA;
6. Provide for notice and opportunity for comment and hearing in connection with any decision to revoke a credit, invalidate a trade, or revoke the certification of a verifier; and
7. Assess civil penalties for any violation, and refer to the Attorney General any knowing or deliberate violations for more severe sanctions.