

Maryland’s Trading and Offset Programs Review Observations

I. Summary of Program Characteristics and Regulatory Status

For the common trading and offset program elements discussed in Appendix S of the Chesapeake Bay TMDL, [Table 1](#) distinguishes between trading (T) and offset (O) provisions, categorizes the degree to which Maryland’s program addresses each element, and illustrates whether the program is designed to support Point to Point source transactions, Nonpoint to Point source transactions, Nonpoint to Nonpoint source transactions and/or Point source to Nonpoint source transactions.

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Table 1. Maryland Trading and Offset Programs Summary Table

Element	Types of Transactions							
	Point Source to Point Source		Nonpoint Source to Point Source		Nonpoint Source to Nonpoint Source		Point Source to Nonpoint Source	
Trading (T) /Offset(O)	T	O	T	O	T	O	T	O
Authority	●	●	●	●	●	●	●	●
Baselines (for a credit generator)	●	●	●	●	●	●	●	●
Minimum Controls	●	●	●	●	●	●	●	●
Eligibility	●	●	●	●	●	●	●	●
Credit Calculation and Verification	●	●	●	●	●	●	●	●
Safeguards	●	●	●	●	●	●	●	●
Certification and Enforceability	●	●	●	●	●	●	●	●
Accountability and Tracking	●	●	●	●	●	●	●	●
Nutrient Impaired Segments	●	●	●	●	●	●	●	●
Credit Banking	●	●	●	●	●	●	●	●
Growth	X	●	X	●	X	●	X	●

○	Necessary measures not in place
●	Partial (e.g., Legislation drafted or steps have been taken to implement but not fully in place, some details still to be determined but framework is largely established)
●	Jurisdiction has measures in place and in effect
●	Jurisdiction is evaluating the issue but has taken no formal measures to implement anything specifically
X	Not Applicable

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II. Review Observations

On the basis of interviews and review of statutes, regulations, policies and program documents related to the jurisdictions' trading and offset programs, EPA has drafted the following findings. Tier 1 are classified as statutory or regulatory conformance that EPA finds must be addressed by the jurisdiction in order to maintain consistency with the policies, definitions and elements described in Section 10 and Appendix S of the TMDL. Tier 2 is classified as program recommendations that EPA finds should be addressed in order to strengthen the jurisdictions' trading and offset programs.

A. Programs Recommendations Common to All Jurisdictions

1. Should Jurisdictions' definitions of trading ratios, offsets, credit, trading, etc. should be consistent with Federal definitions. Some jurisdictions use the terms "trading" and "offsetting" interchangeably. See Section IV. 1.
2. Suggest that Interstate and intrabasin trades and offsets be evaluated by the jurisdictions for potential inclusion in their trading and offset programs. See Section IV. 10.
3. Local governments' data and information should continue to be integrated into state tracking and accounting systems. See Section IV.8.
4. Storm water offsets programs are being evaluated and developed in many jurisdictions. These programs should be consistent with the Chesapeake Bay TMDL and EPA guidance. See Section IV.1.
5. Several jurisdictions are considering developing or expanding their current programs. The jurisdictions should continue to develop guidance and methodologies to address meeting baseline for point and nonpoint sectors including consideration of the use of non-traditional BMPs such as algal scrubbers, oyster aquaculture, etc. EPA suggests that this guidance and methodology include the retirement of credits and use of net improvement offsets. See Section IV. 2 and 5.
6. Jurisdictions expressed interest in finding a good way to use stormwater BMPs to offset nonpoint sources such as new septic and nonregulated agriculture. How are these being pursued by the jurisdictions? See Section IV.2 and 5.
7. Updating enforcement policies and procedures should continue and include, but not be limited to, items such as the ability of inspectors' access to off-site areas where credits or offsets are generated and compliance determination methodology. See Section IV.7.
8. Tracking and accounting systems for new loads and offsets should continue developing. These systems should be transparent and accessible to the public. See Section IV. 8.
9. New resources are needed to fully implement the developing trading and offset programs. See Section V.

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B. Maryland Specific Observations

Tier 1 – Statutory or Regulatory conformance

1. Point source effluent limits should not be based on trades and/or offsets. WQBELs should not change regardless of trading or offset status/activities. Original permit limit needs to be in permit. In the case of a new or expanding source the discharge limit for N and P should be zero. Compliance with that limit can be added to the permit if trading or offsets are used. Suggest Maryland check NPDES permits to insure that limits are correctly reflected. See Section II.A. 7 and 8.

MDE's comments:

Maryland's NPDES permits include WLAs, the nutrient cap-based permit limits for significant point sources, minor point sources and industrial point sources. WLAs serve as the baseline for generating point source discharge credits for use in trading. All new and expanded point source nutrient loads must be fully offset.

MDE's discharge permits program has consulted with the EPA Region III's NPDES Permits Branch, and we have not identified any shortcoming in our approach to establishing permit limits based on trades or offsets.

To-date, Maryland has not executed temporary trades. It would be helpful if EPA comments distinguish between approaches appropriate to permanent trades versus temporary trades requiring renewed implementation on an annual basis, for example.

2. Appendix S of the TMDL requires that pollutant loads from new discharges or increased discharges be offset in the event that the jurisdiction did not set aside allocations for new growth. Maryland's final Phase I WIP did not include an allocation for new nonpoint source growth. How will Maryland accommodate new nonpoint source growth?. See Section IV.I.

MDE's comments:

Maryland's Phase I WIP established that all nutrient impacts from future growth must be offset if the TMDL is to be met and the Chesapeake Bay restored. The Phase I WIP planned to implement an offset policy by the end of 2013. In 2011, Maryland convened a Growth and Offset workgroup. The next steps are described in the Phase II WIP.

Tier 2 – Program recommendations

None.

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III. History and Overview of Maryland’s Trading and Offset Programs

Maryland currently authorizes two types of nutrient trading: point source to point source (Type I), and nonpoint source (NPS) to point source (Type II). The Phase I program was first implemented in April 2008 and the agricultural trading program— Type II—began on June 1, 2010. Maryland is considering a development of its Type III trading program for NPS to NPS trades.

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Maryland has described different aspects of their trading policies in the *Maryland Policy for Nutrient Cap Management and Trading in Maryland’s Chesapeake Bay Watershed* (Maryland Department of Environment 2008) and the draft *Producing and Selling Credits in Maryland’s Nutrient Trading Market: Guidance for Agricultural Producers and Landowners in the Chesapeake Bay Watershed* (Maryland Department of Agriculture 2011). In addition, Maryland has included a summary of its trading policy on pages 3-12 of its Phase I WIP in December 2010. Maryland has set up a specific trading website (<http://mdnutrienttrading.com/>) with additional information and a link to its online calculation tool, registry, and marketplace.

The initial phase of nutrient trading in Maryland was point source to point source. This trading program is mainly for new or increasing dischargers as all existing significant POTW dischargers are required to upgrade to Enhanced Nutrient Removal (ENR) level of treatment and trading is not be available in lieu of treatment upgrades to achieve NPDES permitted WLA caps. To date, there have been 3 transfers under the Type I program. Trades are good for 5 years (permit cycle) and buyers must obtain credits for 2 cycles. In addition, the facility must submit a plan showing how it intends to acquire the necessary credits for at least an additional 10 years. At each subsequent NPDES permit renewal, the facility must demonstrate the securing of credits for the next two permit cycles (10-year period), and submit a plan for acquiring them for the 10 years beyond the two permit cycles (i.e. a total 20-year planning horizon).

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After the first 5 years, they would need to re-purchase the credits and the credits would need to be re-verified.

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MDE’s comments:

This is not entirely accurate. It only applies to the short-term –temporary credits. Purchasing arrangements are up to the parties. Many of the options in Type I program are permanent and don’t need re-verification.

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Type II involves the sale of credits generated by nonpoint sources (agriculture) and to point sources. Currently, there have been no Type II trades. There have been five applications for credit generation: two were reviewed prior to submission and rejected, three were under review at the time of EPA’s interview, and of those, two have been verified and certified. It is expected that Type II could be used by different conservation groups to purchase and then retire credits.

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For non-point to non-point trades that involve permitted entities, the 5 year requirement for purchase of credits and all other provisions apply. Non-point source trades outside of a permit can be of any duration.

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MDE's comments:

To-date, there have been no non-point to non-point trades that involve permitted entities.

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IV. Detailed Evaluation of Maryland's Trading and Offset Programs Conformance with the 2010 Chesapeake Bay TMDL

1. Authority

Point source measures are in place for trading with additional legislation and evaluation being pursued for the additional types of transactions including nonpoint source users. See Section II.B.2 and Section II.A.1 and 4.

The Maryland Agriculture Code Annotated, Chapter 447 (House Bill 974 passed on May 4 2010, and effective June 1, 2010) not only provides legal authority for the Maryland Department of Agriculture (MDA) to establish a voluntary nutrient credit certification program, establish its requirements, and suspend or revoke credits, but also preserves the authority of the Maryland Department of the Environment (MDE) to establish eligibility and requirements under the State permit and other regulatory programs.

Authority for Maryland to authorize increased loadings from offsets for point sources was based on the CWA and principals of Waste Load Allocations in 40 CFR, which Maryland Regulations give MDE the authority to enforce.

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Wasteload allocations from TMDLs are written into discharge permits by MDE. Permits are enforceable and require monitoring and depending on current unit processes, may require implementation of additional pollution reduction practices. In addition, it is written in the permits that MDE may enter the plant to inspect unit process and collect samples. New or increased loads must be offset as per Maryland policies and permits. All facilities are required to be described in the locally adopted local water and sewer plans. These plans identify planned treatment plant expansions and other changes. If additional changes, outside what is in the plan, are proposed, the plan is required to be updated.

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The contracts for Type II trading are approved by the Maryland Department of Agriculture (MDA), which has authority to inspect. Once installed, practices must be verified by a third party selected by the buyer as per provision in the trading contract. Farmers and landowners give the state the authority to verify trading credits and inspect the generating property. In addition, the Maryland Nutrient Management law gives MDA the authority to access all farms. MDE does have access the property generating the credit through contract provisions. In Type I trading, inspections are required by certain regulation.

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MDE's comments:

Type I trading is point to point or through permanent connections of septics to WWTPs. Maryland Policy is being implemented and enforced through discharge permits and therefore, all standard EPA/NPDES permit inspection requirements apply to Type I Program.

The Maryland Department of Agriculture is currently requesting legislative authority to certify agricultural sediment credits. Maryland's Greenhouse Gas Reduction Act of 2009 requires MDA to add or "stack" carbon credit onto its nutrient trading program.

2. Offsets Baseline (for credit generators)

Necessary measures in place for point sources users and being evaluated for nonpoint sources users. See Section II.B.2 and Section II.A.5 and 6.

Maryland has established specific ways to calculate baseline loadings for Type I and Type II trades and Maryland is currently discussing how to calculate baseline for Type III trades. Currently Maryland only has a process for trading total nitrogen and total phosphorus, but will be adding sediment and carbon in 2012. Other nitrogen and phosphorus species are reported, but only the totals are included in trading.

For nonpoint source agriculture credit producers, MDA performs a field-by-field assessment on the farm to calculate or model the per acre load to identify the loading level for the farm. For agricultural generators, MDA load calculations start with the no action load then adds BMPs to the farm through a model. The farmer must reach his baseline level before being allowed to trade. The baseline loading rate is established by the Tributary Strategy or an applicable TMDL. Baseline loading is the level that a land owner must achieve to meet the local tributary strategy or a TMDL. Once this is done, the land owner will be allowed to generate credits on the basis of further reductions. There is no partial credit for practices used to help achieve baseline. There is also no credit for turning agricultural land to developed land. This process is described in detail in MDA's draft trading guidance for agricultural producers and landowners (MDA 2011).

Baselines for point sources are the calculated 2003 loading caps. Plants must be at ENR before they are allowed to acquire credits. These are derived from the target concentrations of 4 mg/L for total nitrogen and 0.3 mg/L for total phosphorus and the design flow. This is to create a limit for a given year to determine if the facility is discharging at ENR and not using excess capacity and not meeting ENR limits. Baseline conditions are identified in permits, or in the associated public record for the permit. As per the permits, facility effluent cannot cause an exceedance of water quality standards.

Facilities have interpreted this to mean that by using 3 mg/L for total nitrogen, they can discharge above capacity and still meet limits. For example, a 7.5 MGD facility can go to 10 MGD and still meet their loading limits and will not have to worry about offsets from growth, but only if the water and sewer plan and the permitted design capacity are consistent.

3. Minimum Controls Required for Credit Purchasers

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***Necessary measures in place for point sources and being evaluated for nonpoint source users.
See Section II.B.2.***

Maryland requires credit generators to meet certain minimum controls. Part of Maryland’s basic nutrient trading policy is that all significant treatment plants are at ENR technology, ~~minor dischargers may generate credits when the baseline loads of 6,100 lbs/yr of nitrogen and 457 lbs/yr of phosphorus or less are assigned as a permit limit.~~ There is to be consistency with water and sewer plans and nutrient loadings are enforced through permits. If there are changes to the treatment plant, these changes need to be reflected in an updated water and sewer plan. Water and sewer plans need to go through an approval process for any changes in service areas, such as expansions and annexing. This includes a public participation period, which is part of regulatory state law. The water and sewer plans need to be consistent with local planning.

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The Maryland Water Quality Improvement Act of 1998 requires farmers who meet certain threshold size conditions, to have nutrient management plans. The plans are good for three years and require a soil test upon renewal. Changes to agricultural practices may require an update of the plan sooner. MDA will inspect 10 percent of farmers’ plans and records of implementation. In addition, there are other plans, such as soil and water conservation plans, that are in effect. Maryland’s agricultural baselines are set to meet federal TMDLs.

4. Eligibility

***Necessary measures in place for point sources users and being evaluated for nonpoint sources users.
See Section II.B.2***

Maryland’s trading program requires participants to meet specific requirements to be eligible to trade. ~~Major~~ Point sources need to have ENR technology in order to trade. Its effluent must be consistent with any TMDLs and maintain water quality. Trades are incorporated into their permits along with updated water and sewer plans. Eligibility for NPS generators is determined through the online nutrient management trading tool (~~Error! Hyperlink reference not valid.~~). MDA conducts field verification of eligible generators prior to credit certification.

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Details related to how credits are generated by Point sources are found in guidance documents. These documents include various sections, including a section on generating credits for septs to connect to POTW.

Assessment of credit potential for nonpoint source generators is affected by using the online nutrient calculation tool. The resulting information is then field verified. These generators need to be in compliance and must meet TMDL water quality baselines in order to trade. BMPs that are funded by cost-share programs cannot be used to generate credits during the specified life-span of the BMP. An agricultural practice or BMP can generate credits only after it is installed or placed in operation. There can be no substantial conversion of productive farmland to non-agricultural uses. Trades must result in a net decrease in loads, and to ensure that this occurs, a 10% retirement ratio is applied at the time of

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sale. All certified credits are registered and recorded in a public registry. A separate registry maintains a record of all trades.

Maryland uses the TMDLs as the baseline for WWTPs and agricultural generators. Land use changes from agriculture to urban development cannot generate offset credits.

Maryland plans on using the online nutrient trading tool for credit evaluation. If BMPs that do not have recognized efficiencies are used for credit generation, Maryland will require review by a technical workgroup and may require monitoring to ensure the credits are appropriate. Maryland will follow the methods used by the Bay Program to accept new BMPs

Aggregators

In certain circumstances, Maryland trades may involve aggregators. Aggregators are more likely to be used in Type 2 trades. They are not overseen by the state. They may hold credit reserves to lower their risks. The aggregator can service multiple municipalities simultaneously.

Offset Ratios

A 5% retirement ratio for point source trades and a 10% retirement ratio for nonpoint trades provide a water quality benefit.

All trades have a reserve loading that is set aside. For point sources, this is 5 percent. For nonpoint sources this is 10 percent. This would mean that a buyer would need to buy 110 credits from a nonpoint source generator, if the buyer required 100 credits.

5. Credit Calculation and Verification

Necessary measures in place for point source users and being evaluated for use by nonpoint source users. See Section II.B.2 and Section II.A.5 and 6.

Maryland's online nutrient trading tool is used in the trading process to calculate and verify [non-point source](#) credits. Use of the tool is not required for trading, but land owners must calculate baseline loadings in order to participate in the program. Maryland has developed draft trading guidance to go along with the tool. Potential credit generators go through multiple steps, which include built-in safeguards to prevent violations in trading policy. Several of the main steps are:

- Draw farm and crop boundaries. The tool will return the watershed, soils, slope, and additional data for the area.
- Input current BMPs, crops, animal feeding operations (AFO), current operational info also with future management decisions.
- Model then returns the baseline and current loads, thus indicating the baseline level the farm must meet to be able to trade.
- Once farm meets baseline, additional BMPs can be inputted and the model will return baseline and planned edge of stream loads. The efficiencies are taken from the Bay model.
- The tool then takes into account delivery ratio and credits

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- The land owner is asked to verify the information and submit an application to MDA to get identification number. A third party then field verifies the credits.
- Landowner can post certified credit information to the online marketplace (e.g. how many, price, and watershed)

Calculated nutrient load credits and offsets are normalized for delivery to the Bay.

For Type II trades, involving nonpoint sources, the online nutrient trading tool calculates credit potential on the basis of user input and pre-programmed data from the state and Bay Program.

All contracts must contain certain elements as outlined in MDA’s guidelines. MDA reviews certain contract information for Type II trades, but has no legal approval of the process. For type I, credit application includes information on the general contract arrangement. MDE requires written verification that point source connections have been made in applicable Type I trades.

Type I trades require permit modifications that show [or anticipate](#) changes in loadings and ideally that the facility is involved in a trade. Permittees are required to follow permits, so for instances, once flow from wastewater plant has been connected to another plant, the original plant has to stay dismantled due to changes in the permit. [Maryland Type I trade policy is being implemented and enforced through discharge permits and therefore, all standard EPA/NPDES permit inspection requirements apply to Type I Program.](#)

For agricultural credit generators, all federal, state, and local regulations apply. All credits are based on delivered loads to the Bay consistent with the Bay TMDLs. A cost-shared practice cannot be used to generate credits during the lifespan of the BMP. Maryland utilizes the Bay Program efficiencies for BMPs as part of the required annual inspection to assure proper maintenance and operation. Documents related to the trading program are stored at MDA and are open for public inspection.

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Schedule of Certification and Reporting

[Type I trades are implemented and enforced through NPDES discharge permits based on all applicable compliance and inspection requirements.](#) In addition, under certain circumstances, an inspector might verify that plant modifications, such as a pipe being closed and plugged have occurred. [Trades involving septic are only allowed to become effective once homes previously served by septic systems have been connected into the collection system for ENR WWTP.](#)

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For trades involving nonpoint sources, an initial verification of practices is done to verify functioning. Annual or semi-annual inspections are done by an independent third party. In addition, MDA, through its soil and water conservation district (SCD) offices, inspects 10 percent of the practices. MDA has standard inspection forms.

Recordkeeping

Documentation relating to trades is stored at either MDA or MDE, depending on the type of trade, and all information is stored on the online nutrient trading program website.

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Practice Validation and Verification

Annual inspections are attached to the generated credit for Type II trades. Credits are only generated once the practices are installed and verified by a third party. This verification is only good for 1 year, although annual practices are only good for 6 months. The value of the credits exists for the buyers throughout the contract. If the laws or policies change, then the credits stay under the law or policies under which they were signed. When the credit generator reapplies, they would be reviewed under new law or policy. During the life of the contract, they are grandfathered if there is a change in BMP efficiency or regulation.

6. Safeguards

Necessary measure in place for point source users and being evaluated for nonpoint source users. See Section II.B.2.

Maryland's trading program includes numerous safeguards to ensure that loads are properly accounted for and that water quality is protected. There is a 10 percent reserve off each Type II trade paid by the buyer. For example, if 1,000 credits are needed, then 1,100 would be bought. This is built into the contract; the extra 10 percent is for permanently retired. This is similar to 5 percent in Type I trading. For Type I and Type II trading, the purchaser needs to obtain enough credits for 2 permit cycles (10 years) and have a plan meeting loading limits for the next 10 years after the purchased credit agreement expires. This can either be plant upgrades or further trading. The online nutrient trading tool normalizes loadings to those delivered to the Bay. Each farmer has his own unique identification number. Additionally, credits are identified using latitude/longitude and practices are field verified by an independent third party before credits can be traded.

For non-point to point trades, the same provisions as the point-to-point arena apply. Purchases can be of varying duration, depending on the contract.

Maryland has a basic trading policy that a trade cannot occur if it is not protective of water quality or consistent with previous TMDLs. As part of the permitting process, there is also a public participation process, where communities can voice their concerns.

As part of the verification process, traders are evaluated to ensure they are in compliance with NPDES permits and all applicable laws and regulations. Maryland does not allow trading if one of the participants is not in compliance [with nutrient or sediment requirements](#) or at their baseline loading level. On the [Type II](#) trading application form, traders are asked to confirm that in compliance with all laws. Participants are verified for compliance through access to permits, nutrient management plans, CAFO records, and inspections. The April 2008 policy document for nutrient cap management and trading specifies participants must be in compliance in Section 3-5.

7. Certification and Enforceability

Necessary measures are in place for point source users and being evaluated for nonpoint source users. See section II.B.2 and section II.A. 7. And 8.

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In Maryland, MDE is responsible for overseeing the NPDES program. The MDA Office of Resource Conservation (specifically, Susan Payne) is responsible for nonpoint source credit generators. Maryland will only allow trades to occur if the practice is installed, active, and will be active throughout the NPDES permit term. Maryland has considered guidance regarding procedures related to what to do if the deed of a generating property is sold. Trades are good through Permits are 5 year permit cycles and enforcement of the trade is through facility NPDES permits.

The NPDES permit contains the name of the entity responsible for the offset. This is also required on the trading application.

Maryland's NPDES permits contain information on the permitted flow and annual loading rates for total nitrogen and phosphorus. The permits require monthly monitoring and provide an explanation of load calculations and assumptions. Permits also detail special conditions, such as trading and the transferred credits. The permit explicitly states that a facility is in violation of the permit if they discharge any substance not listed in the permit that would cause or contribute to a water quality standard exceedance. If this happened, MDE is authorized to modify, suspend, or terminate the permit. Details regarding new or increased loadings are required in permit applications, which must match water and sewer plans. The consistency between applications and plans ensures that all water quality objectives are met. If there is not additional loading capacity for a treatment plant, the jurisdiction must use offsets. New or expanded facilities greater than 0.1 MGD are required to implement ENR limits and offset as per section 5.1.4 of the April 2008 policy on nutrient cap management and trading (cite).

New annual loads that are the result of trading are incorporated into NPDES permits and are enforceable through the NPDES program. Facilities remain accountable and cannot shift accountability onto the credit generator for not meeting the revised water quality standards. However facilities can hold the generator accountable to the facility under contract laws if they so choose.

↓ Municipalities/Permittees may reopen permits and have public comment period if they obtain more credits. They cannot obtain more credits without reopening the permit and going through public comment period.

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The Maryland Agriculture Code Annotated, Chapter 447 (House Bill 974 passed on May 4 2010, and effective June 1, 2010) not only provides legal authority for MDA to establish a voluntary nutrient credit certification program, establish its requirements, and suspend or revoke credits, but also preserves MDE's authority to establish eligibility and requirements under the State permit and other regulatory programs.

To date, Maryland has not needed to make an enforcement action against a regulated point source for a violation involving a trade or offset.

Maryland's trading program includes certain provisions to address risk and uncertainty inherent in trading. The uncertainty ratio applies to certain types of BMPs. There is a 10 percent reserve off each Type II trade paid by the buyer. For example, if 1,000 credits are needed, then 1,100 would be bought.

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This is built into the contract; the extra 10 percent is permanently retired. This is similar to 5 percent in Type I trading.

No uncertainly reserve is needed because Bay Program efficiencies are used. The retirement reserve for both point and non-point sources is 5% and 10% respectively.

In Maryland, the reserve is not insurance for failed offsets.

Type I trades have legal contracts and county ordinances, in addition to the water and sewer plan.

Maryland’s reporting and tracking mechanisms ensure permittee compliance with CWA. Facilities report their actual discharged loads in monthly DMRs to the state.

For point sources, record keeping is the same as it would be under a normal permit. For nonpoint sources, MDA has the underlying inspection authority to decertify credits from agricultural participants. Records are stored at MDA and in the online nutrient trading tool.

8. Accountability and Tracking

Necessary measures are partially in place for point source users and being evaluated for nonpoint source users. See Section II.B.2. and Section II.A. 3 and 8.

Nonpoint trading contracts must have third party yearly inspections; if the practice is annual, the inspections are bi-annual. The buyer identifies and pays for a third party inspector. MDA is considering certifying the inspectors. They expect the inspectors have NRCS training or be retired from NCRS or SCD. MDA and NRCS would ensure they meet NRCS standards. MDA performs random 10 percent checks on top of the third party verifications and if the buyer is a NPDES facility, MDE has the right to verify the practice/credits. The MDA secretary has the authority to decertify credits if, for example, the seller plows under the buffer. [The state tracks traded and retired credits.](#)

The online nutrient trading tool keeps all worksheets private until they are submitted for review to MDA. The Maryland online website lists all registered and traded credits, and they are viewable by the public.

Allowable and actual loadings are tracked through different methods for point and nonpoint sources. Loadings for point sources are tracked using permits for the allowable loads and through DMRs for actual discharge rates. For nonpoint sources, tracking is done in the online nutrient trading tool. Overall, total loadings are tracked in the Bay model results.

All nonpoint source credits have their own registration number that is unique to the farm since each farm can have several different practices. Each credit will also have latitude/longitude, so there is no double counting. Each farmer has a unique identification number. Tracking credits can be done online. MDE tracks items related to a buyer’s permit, such as NPDES compliance and DMR data.

Maryland’s online nutrient trading tool tracks multiple aspects of a nutrient trade, from the generation of credits to the actual trade. The tool can track the baseline used to generate offsets or credits;

Comment [ml2]: The details below (suggested deletion) have not been finalized. They may vary on the case by case basis.

Comment [ml3]: The potential use of retirement credits has not been finalized. (Suggested deletion) There has been no decision to use them to help with compliance.

Deleted: Trading contracts will have a provision that the buyer has a right to entry to verify generated credits. MDE would impose on the permittee for verification. Since MDE will be adding the trade into permits, it is in the permittee’s best interest to verify credits. In Type 2 trades, if the credit generator fails to upkeep the practice generating credit, the permittee would be considered noncompliant. The permittee would need to go to seller and the seller would need to buy credits to offset their deficiency. Also, technically the retirement reserve could be used to help the generator stay in compliance

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quantify credits according to standards established; sellers and buyers, delivery loads to the Bay; and the latitude/longitude of the generated credit. MDA and SCDs verify and inspect generated credits for nonpoint sources.

Trading contracts will contain the name of the parties and spell out the period the trades are applicable.

9. Nutrient Impaired Segments

Necessary measures in place for point source users and being evaluated for nonpoint source users. See Section II.B.2.

Maryland does not permit trades that cause or contribute to any local violations of water quality standards.

Deleted: add to a degraded waterbody.¶

Maryland’s nutrient trading policy helps improve water quality by offsetting credit buyer’s loads with the reduced loads of credit generators. In addition, in each trade there is a reserve that is set aside, thus setting aside an additional load amount that will be reduced.

All trading done in Maryland must meet all applicable water quality standards and TMDL requirements. For point sources this is ensured through the permitting process. For nonpoint source generators, this is verified during the application process and the online nutrient trading tool.

The online nutrient trading system identifies local TMDLs. Maryland accounts for downstream TMDLs by utilizing the Bay watershed Model to standardize credits to delivered loads to the Bay.

10. Credit Banking

Necessary measures are partially in place for point source users and being evaluated for nonpoint source users. See Section II.B.2 and Section II.A.2.

Maryland’s expectations regarding use of credit banks, in-lieu-of-fees, insurance, exchanges, aggregators or other third parties are as follows. Maryland will not provide a central exchange of agriculture credits. Maryland envisions the trading as free market like eBay®. Traders and trades will have unique tracking numbers and registration numbers. The process will not include credit banks or in-lieu of programs. It will use aggregators for NPS trades. These entities will not be managing the process.

Trades can occur directly from agricultural land owners to municipalities directly or through trading brokers. Maryland, will, however, review and certify the credits. The sellers are approved for certain main watersheds and MDE will review the buyer to see if the buyer will meet water quality standards.

To date, MDE has only had requests for in-watershed trading and has not had cross-watershed requests.

Maryland has some interstate trading potential with the three counties in Delaware. The Delaware agricultural land owners would need to meet Maryland baseline requirements. This capacity could be expanded to other states, such as Virginia and West Virginia.

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Maryland has taken some measures to reduce transaction fees. There are currently no fees for Type I trades. Municipalities are using grants to subsidize the program for Type II trades. There is no fee for the process applications. The maintenance of the nutrient trading website is currently paid for by grants.

11. Growth

Necessary measures are partially in place for point sources and being evaluated for nonpoint source users. See Section II.B.2..

Section 3. 2 of the Maryland Phase I WIP provides a good description of the initiatives to manage nonpoint source growth in ways consistent with the Chesapeake Bay TMDL. Currently, Maryland has an offset group that are considering a number of issues regarding growth and offsets.

IV. Additional Information and Programmatic Needs

Maryland does not use the credit based system to meet the TMDL load reduction or offset current needs of the wastewater sector because the State has the Bay Restoration Fund (the flush fee) to pay for nutrient removal. There is currently no process in Maryland for addressing stormwater under the trading program.

Maryland feels that municipalities will play a big role in the future implementation of trading and offset programs. Municipalities will need the ability to tell developers when offsets are needed and how to obtain offsets. MDA and SCDs are currently helping local planning offices to understand the processes involved in nutrient trading.

Maryland identified the following needs for federal assistance. Maryland wants assurance that if the baseline conditions are met that the baselines will not change, especially if the baseline decreases. The concern is that if baselines decrease, facilities may no longer be able to meet baselines if they have traded away all their credits. Maryland pointed out that the agriculture baseline has changed 3 times: 1994, CAFO rule, and the tributary strategies.

In addition, Maryland noted that some WWTPs may need help going from BNR to ENR and some WWTPs have concerns regarding trading with NPS.

There is a 10 percent reserve off each Type 2 trade, which the buyer pays for. For example, if 1,000 credits are needed, then 1,100 would be bought. This is built into the contract; the extra 10 percent is for reserves. This is similar to 5 percent in Type 1 trading.

Maryland expressed concerns with different baseline levels in different jurisdictions and that it might be costing Maryland credits.

Advance contracts are required depending on the type of trade. For example, there is a 10 year cycle for point source permits.

V. Maryland References

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Additional references to be added.