



CHESAPEAKE BAY COMMISSION

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Maryland's Nutrient Credit Trading Program– A Summary

Authority:

33 USCA, s. 1251 et seq; Clean Water Act NPDES EPA implementing regs as delegated to MDE;
MD Agriculture Code 8-901 – 8-904.

Who can trade? Any combination of point sources, non-point sources and third parties (such as a broker or aggregator). No policy yet for stormwater. Trading is voluntary.

What can be traded? Nitrogen for nitrogen, and phosphorus for phosphorus. One credit = one pound of nutrient. Trades must result in net decrease in load, so 5% retirement ratio is applied to each Pt. Source generated credit and 10% retirement ratio is applied to each Non-Pt. Source generated credit.

Credit Generation Options:

- Upgrade existing minor to BNR or ENR
- Retire existing WWTP after connecting flow to BNR or ENR facility
- Retire existing Septic Systems by connecting to ENR facility
- Land Application of wastewater with pre-treatment and nutrient management controls
- Implement non-point source practices like agricultural Best Management Practices. (AG BMP's)
- ENR facilities can generate point source discharge credits by
 - Optimizing treatment operation (going from 4mg/l to 3mg/l)
 - Maintaining flow at less than the design flow basis of it's nutrient wasteload allocation.

Where can trades occur? MD has three “trading regions” based on our three large watersheds:

- Potomac Tributary Basin
- Patuxent Tributary Basin
- Eastern Shore and Western Shore and Susquehanna Watershed

Eligibility:

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Point Source and non-point sources that have met their baseline requirements can enter the trading markets to sell credits. Trades may not result in degradation of local water quality.

- Significant point source must be at ENR and meeting permit limits to create credits. MD's ENR/ Tributary Strategy Waste Load Allocations serve as baseline for point sources.
- Minor Point Sources can generate credits when baseline loads of 6,100 lbs./yr Nitrogen and 457 lbs./year Phosphorus, or less, are assigned as a permit limit.
- Ag operations can't generate credit by idling whole or substantial portions of farms. Ag operations must be in compliance with all applicable Fed., State and local laws and obtain necessary permits.
- Ag operations must have current Nutrient Management Plan, updated Soil and Water Conservation Plan, and, if applicable, a Waste Management System Plan, and the farm must meet baseline reductions.
 - Baseline calculated by translating Tributary Strategy /TMDL goals into a numeric per acre annual loading rate for each watershed. (Page 8, Phase II-A Trading Policy.)

Duration of Offsets:

New or Expanding facilities must secure credits for at least 10 years, with a plan for at least 10 additional years. At each NPDES permit renewal, the facility must demonstrate credit for at least the next two permit cycles (10 years).

Credits must be used as offsets in the year in which they are generated and cannot be banked for future use. For a 5 year practice generating 10 credits per year, only 10 credits can be applied in 5th year.

Process:

- 1) Certification: For Pt. Source– MDE certifies; for Non-Pt. Source – MDA farm visit to verify farm baseline is met, then verify BMP can be installed and how many credit can be generated.
- 2) After AG BMP is installed – MDA inspects to ensure BMP meets standards and specs. MDA certifies credits. Credits receive registration number and can be posted on Md. Trading Registry.
- 3) Contract between buyer and seller specifies third party who will verify annually for life of trade. (cover crop verified 2x year) If BMP fails contract requires parties to purchase more credits.
- 4) Registration of sale on State web site. (No web site for Pt-Pt trades; MDA has website for Ag trades)
- 5) MDA reserves right to perform spot checks. (10%) For trades ties to NPDES permit, MDE performs spot checks.

Maryland Trading/Cap Management Scenarios: Significant Point Source

- Major WWTPs cannot trade in lieu of ENR upgrades
- All major WWTP's must upgrade to ENR (4mg/liter). MD plans to upgrade all majors by 2017.
- Expanding Majors can hook up minor facility– it's load allocation will increase as a result of transferred loads
- If a major WWTPs must go beyond ENR to improve local water quality they can upgrade onsite to 3 mg/liter N or another WWTP could upgrade and sell the major WWTP their reductions.

Minor Point Sources

Expanding Minor Point Sources are capped at 6,100 lbs. Nitrogen per year; and 457lbs. Phosphorus per year.

- If a minor source needs to expand it can upgrade to lower mg/liter (ENR or BNR) to stay within cap
- If a minor point source needs to upgrade because of local water quality it can either:
 - upgrade onsite
 - buy credits from agriculture (none of these trades have occurred)
 - buy credits from another minor plant that upgraded. (minor WWTP's can upgrade and sell credits for offsets.)

Maryland's Nutrient Credit Trading Program– A Summary– was prepared by Bevin A. Buchheister, Maryland Director for the Chesapeake Bay Commission from information contained in the following documents:

Maryland Policy For Nutrient Cap Management and Trading In Maryland's Chesapeake Bay Watershed, Phase II–A. Guidelines for the Generation of Agricultural Nonpoint Nutrient Credits.

Maryland Policy For Nutrient Cap Management and Trading In Maryland's Chesapeake Bay Watershed, Phase II–B. Guidelines for the exchange of Nonpoint Credits Maryland's Market Place.

And from personal conversations with:

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[PLEASE CONTINUE TO THE NEXT PAGE FOR PENNSYLVANIA'S TRADING SUMMARY]



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Pennsylvania's Nutrient Credit Trading Program – A Summary

Authority:

25 PA Code, §96.8

Who can trade? Any combination of point sources, non-point sources and third parties (such as a broker). However, non-point sources are not acting as buyers at this point in time. Trading is voluntary.

What can be traded? Nitrogen for nitrogen, and phosphorus for phosphorus. One credit = one pound of nutrient after adjustment by a delivery ratio and a 10% required credit reserve.

Where can trades occur? Generally, within the Susquehanna River basin in Pennsylvania or within the Potomac River basin in Pennsylvania. However, a pilot program to be implemented by Chambersburg Borough to trade between the Susquehanna and Potomac basins has been approved and an interstate trade with West Virginia in the Potomac basin has been considered.

Eligibility:

An entity who wishes to generate credits must first meet all applicable legal requirements that apply to their operation. This standard is known as the “baseline.” In addition, agricultural operations must also meet an additional “threshold” level of performance, defined as:

- 1) A 100’ setback for manure application;
- 2) A 35’ vegetated buffer; OR
- 3) an additional 20% reduction in nutrient loads beyond the reductions that will generate credits.

An entity who wishes to purchase credits must also be in compliance with all legal requirements, and may do so only if the use of credits will not result in degradation of local water quality.

With one exception, there is no limitation on the practices that can be used to generate credits, as long as reductions can be demonstrated. Land use conversion of a “whole farm or substantial portion of a farm” is not eligible to generate credits.

Process:

- 6) Certification: written approval by DEP of a proposed credit generating activity. An application for certification must include location of the project, timing of the project,

and credit calculations, including assumptions on which those calculations are based. When calculating credits, nutrient reductions are discounted by a “delivery ratio” based on the project’s location in the watershed, and a “reserve ratio” of 10%. The certification application must also include a plan for verification of the credits once they are generated. Certifications are valid for up to five years and can be renewed.

- 7) Verification: assurance that an approved verification plan has been implemented. Plans can be self-verified or verified by a third party. DEP may conduct inspections or compliance audits.
- 8) Registration: Upon verification of credits and proof that a contract for trading is in place, DEP assigns a number to each credit for reporting and tracking purposes. Credits must be registered before they can be applied to an NPDES permit.

[PLEASE CONTINUE TO THE NEXT PAGE FOR VIRGINIA TRADING SUMMARY]



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Virginia's Nutrient Credit Trading Program – A Summary

Authority:

1. Code §62.1 – 44.19:12 – 19; (9 VAC 25–820–10) Point source wastewater & industrial VPDES permit compliance (N & P); Nutrient Credit Exchange Program
2. Code §10.1 – 603.8:1 Nonpoint source post-construction phosphorus loading requirement
3. Code §10.1–603.15:1 Nutrient Trading Act

Who can trade? Point sources can purchase credits to meet load requirements or sell credits if performing below permit limits. Stormwater (new development) can trade with approved nonpoint sources. Agricultural and forest lands that exceed baseline controls can only sell to new or expanding point sources or new development. MS4 permittees, confined animal feeding operations, unregulated existing development and on-site septic cannot currently participate. Trading is voluntary.

What can be traded? Point sources trade nitrogen for nitrogen and phosphorus for phosphorus, pound for pound. Ratio is 1:1 with point to point; ratio is 2:1 with point to nonpoint. Stormwater trades for phosphorus have 1:1 ratio, but credit source retires any associated nitrogen. When calculating credits, nutrient reductions are discounted by a “delivery ratio” based on the project’s location in the watershed. Credits can be short term or permanent depending upon how generated and protected.

Where can trades occur? Point source trades are accomplished between facilities within each major river basin, except the Eastern Shore can acquire credits from the Potomac basin, if needed. Stormwater trades must be within the same river basin.

Eligibility:

Point sources must be in compliance with permits and have reduced loading below their TMDL WLA to generate credits; point sources can buy credits to achieve compliance. Nonpoint sources can generate credits for use by point sources if they achieve an established baseline of agricultural practices, engage in a land conversion or other approved activities. Stormwater trades can utilize

permanently generated nonpoint credits such as credits from land conversion with protective easements or similar approved activities. Nutrient credits purchased, must be generated prior to the commencement of the applicant's land-disturbing activity. An entity who wishes to purchase credits must also be in compliance with all legal requirements, and may do so only if the use of credits will not result in degradation of local water quality or public drinking water supply.

Process:

- 9) Certification: Point sources submit discharge information by April 1 each year; DEQ approves trades to balance loads and achieve permit compliance by June 1 and publishes summary by July 1 of each year. Nonpoint credit generating activity requires written approval of credits by DEQ; DCR reviews nonpoint source credit submissions and makes recommendation to DEQ. An application for certification must include location of the project, timing of the project, and credit calculations, including assumptions on which those calculations are based.
- 10) Verification: DEQ conducts inspections and compliance audits for point source dischargers and nonpoint credit generators.
- 11) Registration: Point source credits are tallied and used or not used on an annual cycle. The certification process serves as the registration process as well. Nonpoint source credits are registered for use within the specific river basin where located upon approval by DEQ. A Nonpoint Credit Registry is maintained to track each credit generator, total credits generated and depletion of credits. Credits must be registered before they can be applied to an NPDES permit.

Other:

1. 2011 was the first year in which all facilities were required to meet their respective wasteload allocations. All but 34 registrants under the general permit met their wasteload allocations without the need for trading. 33 of the 34 facilities that exceeded their Total Nitrogen and/or Total Phosphorus wasteload allocations acquired enough credits to meet their compliance needs. One facility acquired Total Phosphorus credits but not in sufficient quantity to comply with their wasteload allocation. An adequate supply of credits was available in every basin except the Eastern Shore. Eastern Shore facilities acquired credits from the Potomac basin in accordance with § 62.1-44.19:18.A.1. of the State Water Control Law.
2. As of August 28, 2012, seven nonpoint credit banks in three river basins have been approved to sell credits. Between July 2011 and August 2012, nineteen stormwater permits included nonpoint source phosphorus credits purchased from 3 different banks within the James River basin.

3. Currently, for all stormwater trades, the credit provider shall pay a water quality enhancement fee equal to 6% of the amount paid by the credit purchaser into the Virginia Stormwater Management Fund established by § [10.1-603.4:1](#).

4. Legislation passed during 2012 session (SB77 & HB176) expands the current nutrient trading program and outlines the process for certifying and registering nutrient credits. DCR, working with DEQ and other state agencies, shall establish clear regulatory standards for credit certification, establishment of baseline levels, and other factors for the efficient operation of nutrient credit markets in Virginia. The envisioned expanded program could include Municipal Separate Storm Sewer System (MS4) permittees, confined animal feeding operators, on-site waste systems and facilities registered under the Industrial Stormwater General Permit. Also, by July 1, 2013, the State Water Control Board shall reevaluate the 2:1 trading ratio required of point source to nonpoint source trades.