



**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 TRADING MARKET PLACE**

Maryland Department of Agriculture
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“Not for Regulatory Purposes”



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Maryland's Guidelines for Agricultural Non-point Credit Purchases in Maryland's Chesapeake Bay Watershed

INTRODUCTION

Maryland's water quality standards for the Chesapeake Bay require significant reductions in nutrient loadings. The State is developing and implementing Maryland's Chesapeake Bay Tributary Strategy and TMDL's to achieve reductions from point sources and nonpoint sources necessary to meet Maryland's allocation under the Bay Program (see http://www.dnr.state.md.us/bay/tribstrat/implementation_plan.html).

Nutrient trading is a cost effective approach to achieve water quality and environmental benefits. Trades can take many forms and involve many different partners, for example, point to nonpoint, point to a third party or nonpoint to nonpoint. This document establishes the basic guidelines and policies that will govern purchases of nonpoint credits.

Purpose: This document is intended to provide information to watershed stakeholders interested in participating in agricultural nonpoint nutrient trading opportunities. The key goals and purposes of the policy are as follows:

- To establish a set of guidelines for buyers of nutrient credits to trade with agricultural non-point source credit generators.
- To provide a market place to offset new or increased WWTP discharges and other parties requiring offsets of new non-point source loads.
- To establish a registry to record trade between buyers and sellers of agricultural nutrient credits.

Effect of Policy

The policies and procedures outlined in this document are not intended to supplement existing requirements. Nothing in the policies or procedures reduces or replaces existing regulatory requirements.

The policies and procedures herein are not legislation or a regulation. This document establishes the framework for trading in the future. The credits purchased under this policy are a property right.

1. BACKGROUND

The Chesapeake Bay is one the nation's largest estuaries and home to more than 15 million people. Since 1983, the Bay Program has recognized that pollution levels in the Bay were increasing. Chief among these pollutants were nutrients, nitrogen and phosphorus. These substances were entering the

Bay from direct discharges (or point sources) as well as from diffuse sources (nonpoint sources) such as urban and agricultural runoff, along with atmospheric deposition. In order to protect the Bay's living resources it is necessary to drastically reduce the amount of nutrients entering into the Bay. Improving water quality is recognized as the most critical element in the overall protection and restoration of the Chesapeake Bay and its tributaries.

An innovative approach to solving these kinds of complex water quality problems is water quality trading. Water quality trading is a market-based approach that offers greater efficiency in achieving water quality goals on a watershed basis. It allows one source to meet its regulatory obligations by using pollution reductions created by another source at a lower cost. As a market-based approach, the focus is on performance. Increased efficiency and cost-effectiveness are achieved through competition, by letting the market determine which sources can best reduce pollution without prescribing how. Nutrient trading is a form of water quality trading that focus on controlling nitrogen and phosphorous loads. To achieve a desired load allocation, trades can take place between point sources (usually wastewater treatment plants), between point and nonpoint sources (a wastewater treatment plant and a farming operation) or between nonpoint sources such as farming operations.

Population and economic growth pressures in Maryland and other Bay States may, without appropriate policy implementation, lead to increases in nutrient loads due to increases in sewage flows and nonpoint source flows in urban areas a part of. Maryland's Strategy calls for trading/offsets and load reallocation policy as a creative and innovative approach to address growth and maintain nutrient load caps for point sources.

In 2008, the Maryland Department of the Environment (MDE) drafted a document entitled "Maryland Policy for Nutrient Cap Management And Trading In Maryland's Chesapeake Bay Watershed". The MDE document represented the initial phase of the State's policy development on nutrient trading. This document represents the next phase of that program and relates to trading nonpoint sources with point sources and other interested buyers. Thus the document does not replace the MDE document and represents an extension to that document.

Nonpoint trading with permitted point sources will be implemented through the NPDES permit program. Trades will be reflected in a facility's permit when MDE approves the transfer of water quality credits from an eligible seller to an eligible buyer by an agreement between them. Eligible buyers are primarily public and private WWTPs who hold or must acquire a state issued NPDES permit and have their permit modified to reflect their participation in the trading program. Other trades by agricultural non-points sources with non permitted entities will be implemented according to these guidelines and through the Maryland Department of Agriculture's Trading Registry.

Effective Date: PENDING

2. KEY PRINCIPLES FOR CREDIT PURCHASES

The following key principles outlined in the MDE's Phase I program document apply to this document on non-point source credit purchases.

All new and expanded point source nutrient loads must be fully offset

To participate in trading, new point source dischargers with no allocation in the Tributary Strategy or point source dischargers requesting an increase in load allocation must fully offset any increased point source loading.

Consistency with the County Water and Sewerage Plan

All point source trades must be consistent with the approved County Water and Sewerage Plan. In addition, dischargers trading away credits must evaluate potential impacts on current and projected sewer capacity allocations using methodology consistent with MDE's Wastewater Capacity Management Plan Guidance.

Trading will not be available in lieu of required ENR upgrades

All significant WWTPs, including BRF-funded POTWs, federal facilities, and privately owned sewage treatment plants that have been identified by MDE (see http://www.dnr.state.md.us/bay/tribstrat/implementation_plan.html) are required to upgrade to ENR, and trading will not be available as a substitute for the upgrades. However, the use of offsets by a discharger prior to its completion of a scheduled and permitted upgrade to ENR will be considered by MDE on a case by case basis as part of the NPDES discharge permitting process (including public participation).

Point source trades will be implemented and enforced via NPDES permits

The permit limits will serve as the baseline for generating credits for use in trading. The permits will also provide the vehicle for enforcement of the trade condition. The use of the discharge permit program will ensure that credits are accountable, reliable, and enforceable. MDE will note in the public notice when any conditions allowing trading have been included in the draft permit.

Consistency with federal and State environmental requirements

Trading and usage of credits by point source discharges must be consistent with the federal Clean Water Act, Maryland's Environment Article, Code of Maryland Regulations (COMAR), and any other applicable requirements. Trading participants must be in compliance with all local, state and federal environmental laws, regulations and programs.

Compliance with TMDLs and Water Quality Standards

All nutrient trades or offsets must comply with any local TMDL-based allocations, and must not cause or contribute to any local violations of water quality standards.

Protecting local water quality is mandatory

Maryland's approach of implementing trading through permits will ensure that trades do not create local water quality impairments. Permits will contain conditions that achieve all State water quality standards for the local receiving waters and for the Chesapeake Bay. The discharge permits and the conditions therein are also subject to a well-defined public participation process.

Additionally, this policy document was developed based upon the following principles that will govern credits purchased from agricultural non-point sources.

Key Principle #1

- Both public and private entities are eligible to participate in trades with any generator of agricultural non-point source nutrient credits. Therefore, trades can occur outside of NPDES permits.

Key Principle #2

- Any credit purchaser must be in compliance with all local, state, federal laws, regulations and programs. The trade can not produce water quality effects locally, downstream or, bay wide.

Key Principle #3

- Trades must result in a net decrease in loads. A portion of a trade will be retired and used to achieve Tributary Strategies or TMDLs, the other portion becomes an offset.

3. FUNDAMENTALS

4.0 General

For purposes of this trading program, only nitrogen and phosphorus will be the water quality nutrients traded. The following apply to all trades:

- (1) must involve comparable credits (e.g. nitrogen traded only for nitrogen);
- (2) must be expressed as mass per unit time (e.g. pounds per year);
- (3) occur only between eligible parties as described below; and
- (4) credits generated by trading cannot be used to comply with existing technology-based effluent limits except as expressly authorized by federal regulations.

4.1 Who May Buy Credits?

Trading may take place between any combination of eligible parties (point sources, farmers, landowners NGO's, or third parties (e.g., aggregators)). Both public and private entities are eligible to participate in trades. The following are the general categories of eligible buyers:

- Point sources needing to offset new or expanded discharges (major and minor).
- Parties required or wanting to offset new nonpoint source loads (i.e., developers or MS4 permittees).
- Private or public parties wanting to buy credits.
- Maryland State Entities
- Aggregators
- Private credit banks.

The state reserves the right to limit the credits bought by any entity.

4.2 Geographic Trading Areas

Consistent with MDE Phase 1 “point source trading guidelines”

Agricultural Nonpoint Trading will occur within three major river basins

Potomac

Patuxent

Everywhere else – Upper Western Shore, Maryland’s Eastern Shore

Interstate trading is allowed within these basins.

4.3 Market Structure

The exchange of credits between nonpoint sources, point sources, and third parties shall be conducted via individual agreements. The Department will develop a credit registry, for agriculture, and will provide a web-based marketplace where registered offers to sell credits can be posted as well as a place to record bids to purchase credits. Buyers and sellers can meet and manage offers from buyers, however use of the web-based marketplace will not be mandatory.

Credit Pricing:

Prices will be a function of market activities and will not be set by the State or other entity not party to the trade.

The Role of Third Parties:

The State supports the role of third-party aggregators who may work separately with operators/landowners to purchase and aggregate credits for purposes of re-selling these credits to demanders of credits. The Department also supports the role of third-party brokers who may work to help negotiate bilateral trades between credit buyers and credit sellers.

Registry/Public Record:

The Department will maintain an agricultural credit registry and track the generation and sale of credits. A subset of this information shall be made publicly available by the Department.

Duration and Lifespan of Credits:

Credits may only be applied as offsets in the year in which they are generated and cannot be banked for future years. For example, if an agricultural BMP generates an average of 10 credits per year and has a life span of five years, 50 credits cannot be applied in the fifth year.

Retirement Ratio:

A agricultural nonpoint source retirement ratio will be applied and represents the percentage of the total generated credits to be retired towards net water quality benefit. The retirement ratio applies to all credits generated and will be set at 5 percent of total reductions.

4.4 Trading Mechanisms

As stated in Section 4.3, the exchange of credits between nonpoint sources, point sources, and third parties shall be conducted via individual agreements. These agreements will take the form of legally enforceable contracts between the parties in one of the following combinations: credit user and credit generator, credit user and credit aggregator, or credit aggregator and credit generator. The contracts must contain all of the applicable minimum requirements stipulated in this policy. The minimum requirements of the three types of contracts are as follow.

Contracts between Credit User and Credit Generator:

Identification and contact information of the parties, with signature

Location of credits

Duration of the contract in years.

Quantity of credits to be exchanged in each year of the contract.

Methods of credit generation.

Credit prices.

Obligations of the seller, including agreement to:

- Properly maintain BMPs or other specified facilities.
- Allow regular inspections.
- Comply with all applicable federal, state, and local requirements.

Obligations of the buyer.

Provisions for violation of the contract terms.

Contracts between Credit User and Credit Aggregator:

Identification and contact information of the parties, with signatures

Location of credits

Duration of the contract in years.

Quantity of credits to be exchanged in each year of the contract.

Credit prices.

Obligations of the seller, including agreement to:

- Acquire sufficient credits in full accordance with the trading policy.
- Insure that BMPs or other facilities needed to generate the credits are properly operated and maintained.
- Comply with all applicable federal, state, and local requirements.

Obligations of the buyer.

Provisions for violation of the contract terms.

Contracts between Credit Aggregator and Credit Generator:

Identification and contact information of the parties, with signatures

Location of credits

Duration of the contract in years.

Quantity of credits to be exchanged in each year of the contract.

Methods of credit generation.

Credit prices.

Obligations of the seller, including agreement to:

- Properly operate and maintain BMPs or other specified facilities.
- Allow regular inspections.
- Comply with all applicable federal, state, and local requirements.

Obligations of the buyer.

Provisions for violation of the contract terms.

These are minimum requirements; the parties should add additional elements and requirements to the contracts to address their individual requirements or preferences. This may be done so long as the additional provisions do not conflict with the contractual requirements listed above.

Contract Confidentially:

Any provisions of a contract that are not required by this policy do not have to be submitted for review and can remain confidential if the parties so desire.

Contract Format:

Use of standardized contracts will not be required. However, the required provisions that are submitted as part of the trade approval process must use a format as specified above.

4.5 Liability

It is anticipated that most of the demand for purchasing agricultural credits will come from new and expanding wastewater treatment plants. Trade approval will come in the form of incorporation of the trade into the NPDES permit of the point source acquiring the credits. Under the Clean Water Act (CWA), the responsibility for meeting all permit requirements and the liability for violating them rests solely with the permittee. Hence, CWA liability for noncompliance with the trading provisions of a permit, including failure of the credit supplier to produce the required quantity of credits, remains with the permittee and any necessary CWA enforcement action will be taken against it. This liability cannot be transferred to the credit seller or any other party.

For non NPDES trades, the Department requires that contracts between trading partners contain provisions for violation of the contract terms. The Department however, does not impose specific provisions or requirements, leaving them to the trading parties to determine. One remedy should be that in the event of a default by a credit supplier, it will be liable for all of the costs incurred by the credit purchaser as a result of the default. Both credit purchasers and suppliers should consult their legal counsel when negotiating the contractual remedies.

In the event of default by an agricultural credit supplier to a non-permitted entity, the contract is legally enforceable for monetary damages.

Credit Supplier Self-Insurance:

This policy recognizes credits provided by agricultural non-point sources are estimated pollution reductions and that credit suppliers, particularly credit aggregators, should maintain inventories of credits sufficiently large and diverse that the supplier could be considered to be self-insured. While it is up to the credit buyer to make this judgment, the existence of such self-insurance capability would further reduce the risk to the purchaser.

4.6 Accountability –
Annual verification/inspection process

1. All trading contracts shall require annual BMP verification and reporting. For annual practices, such as cover crops, inspections will be required a minimum of twice during the annual life. Independent, verification by third parties is mandatory.
2. For point sources, the NPDES permit are the mechanism by which trades are tracked. NPDES Reporting requirements will be stipulated by MDE in the permit.

3. For agricultural non-point source credits sold, the Department, or its designee will perform annual spot check inspections on a minimum of 10% of all certified agricultural trading credits.

4.7 Trade Approval Process

Contractual arrangements between potential buyers and sellers can be negotiated at any time. They can be done before or after credit certification.

Permitted NPDES Buyers

Guidelines for NPDES municipal and industrial facilities entering into a agricultural non-point source trading agreement are set forth in the in the MDE document entitled “Maryland Policy for Nutrient Cap Management And Trading In Maryland’s Chesapeake Bay Watershed”, section 5.4.5.

Non Permitted Buyers

If the trade is with a generator of agricultural nutrient credits and a non-permitted buyer, the Maryland Department of Agriculture will provide review and registry of the trade.

The trading applications for non-permitted buyers shall provide specific information about the proposed trading arrangement. This information shall include the following:

- The time period for the trading arrangement;
- The number of discharge credits to be exchanged each year during this period;
- How the number of required credits to be exchanged was determined;
- Source of credits; and
- The general contractual arrangements.

Documentation of the contractual arrangements for all buyers interested in obtaining credits must be submitted with the request to MDA. The portion of the contract (s) between the buyer and the credit seller, whether it is a credit generator or an aggregator, must be submitted to fulfill this requirement. See section 4.4.

In addition, the Department will require submittal of an approved, Maryland Agriculture Nutrient Credit Registration/Certification form.

The Department or its agent may require more information or an on site examination prior to approval of a trade. The Department will convene an advisory Panel to review and approve trades. The Department may require some additional contractual obligations and/or direct monitoring to ensure the load reductions are met. All back up documentation shall be maintained for a minimum of 10 years.

Upon approval of the trade a unique registration number will be assigned and tracked by the program and logged in the Maryland’s Trading Registry. Documents with non approved will be returned to the applicant with a reason for non-approval.

The Department intends to utilize a central Trading Registry to post, track and publicize agricultural trades once approved. The Department intends to make this available on a central web site.

4. INSTITUTIONAL FRAMEWORK AND STRUCTURE

As outlined in Sec 4.7 for Nutrient trading between non-regulated entities and agricultural sellers the Maryland Department of Agriculture will provide review and registry of the trade.

While MDE has the responsibility for the oversight and management of the NPDES regulated facilities that enter into credit exchanges the Maryland Department of Agriculture will be responsible for the agricultural nonpoint component of Maryland's nutrient reduction-trading program, including responsibility for policy decisions on issues such as eligibility, credit certification, verification, compliance monitoring and enforcement. MDA may elect to delegate some activities to third parties, such as credit verification or third party audits of transactions

5. PUBLIC TRANSPARENCY

Trading will be implemented in a way that provides stakeholders and the general public with access to information related to the trading program including the trading policy and guidelines, appendixes, credit generation opportunities, trades affected, and other relevant information.

The Maryland Department of Agriculture has been working with and will continue to work with a broad set of stakeholders in the development and implementation of this policy for nonpoint credit purchases.

The Department intends to form a Trading Advisory Workgroup to assist the Department in all aspects of the program, including review and registry of trades. Continuing program development will provide opportunities for stakeholders to provide input and comment on the development and implementation of the trading program.

Agricultural Nonpoint source will be provided with an electronic Registry and web-based systems to support tracking and publicize trading opportunities such as offers to buy and sell, trade transactions, and program progress and performance.

6. DEFINITIONS

Aggregator: An individual or entity that can collect and compile credits from individual agricultural non-point sources.

Agricultural land: Land used to produce food, feed, fiber, sod, animals, plants, trees, or plants in containers, or for out-of-ground production.

Baseline for Point Source Buyers: The pollutant control requirements that apply to buyers as specified in this policy. Buyers can purchase credits to achieve their applicable baselines once they have met their minimum control levels (defined below). Permittees regulated based on a local watershed TMDL after the effective date of this policy, will have two separate baselines whose applicability depends on the geographical area of a trading partner. A permittees baseline for generating credits to trade outside of that permittees local TMDL watershed will be based on the Bay Cap annual loading allocation. A permittees baseline for generating credits to trade within that permittees local TMDL watershed will be based on a Waste load Allocation (WLA) consistent with the local TMDL. This approach is consistent with the fundamental trading principal that local water quality standards shall be protected.

Baseline for Agricultural Non-Point Source Sellers: The pollutant control requirements that apply to sellers as specified in this policy. Sellers must first achieve their applicable baselines before they can enter the trading market and sell credits. A Landowner enrolling cropland to generate credits must achieve the annual loading allocation for agriculture in the cropland's 2010 Tributary Strategy goals. This loading allocation is determined by the calculation of nitrogen and phosphorous Edge-of-Segment Loads (in pounds per acre) as modeled by Tributary Strategy Basin in the Bay Model.

Best Management Practice: A conservation or pollution control practice that manages soil loss due to farming practices or manages nutrients, animal wastes, or agricultural chemicals so as to minimize movement into the surface waters of the State.

Cap: A legally enforceable aggregate mass load limit contained in a discharger's permit.

Credit Generator: An individual, partnership, corporation, trust, or other business enterprise which as an owner, landlord, or tenant, participates in the operation of a farm.

Certifier: An individual or entity that could certify and verify that either the estimated nutrient reductions are creditable and/or the nutrient reductions are being generated. Possible certifiers may include: Certified Crop Advisors (CCA), Maryland Professional Engineers (PE), USDA-NRCS Technical Service Providers (TSP), or County Conservation Districts (CCD).

Chesapeake Bay Watershed Model: The Hydrologic Simulation Program in Fortran (HSPF), used to simulate the surface water run off, groundwater flow and the transport of nutrient and sediments to the Chesapeake Bay.

Contract: Written agreement between the trading parties, separate from any applicable NPDES permit, in which the parties may address a variety of financial or legal considerations and contingencies, including what happens in the case of default by any party.

Credit or Pollutant Reduction Credit: A measured or estimated unit of pollutant reduction per unit of time adjusted to account for applicable trading ratios. A seller generates EOS load reductions beyond what is needed to meet their baseline through balancing their annual crop nutrient inputs with their expected biomass outputs (yields) and through the implementation of multi-year structural changes to control residual surface flow discharge concentrations. A buyer compensates a seller for creating these additional EOS load reductions (beyond their baseline) that are then converted into credits by using trading ratios. Where appropriate, the buyer can use the credits to meet a regulatory obligation. Credits are expressed as pounds per year of nitrogen or phosphorus that is delivered to the Chesapeake Bay. End-of pipe loads are multiplied by the Chesapeake Bay watershed model delivery factor (up to 1.00) to calculate delivered loads. Credits are valid for one calendar year. Credits will need to be calculated, verified and accounted for according to that time period. Credits cannot be banked for future years. Finally, credits must be applied in the year they are generated.

Delivery Ratios: Delivery Ratios apply discount factors to compensate for a pollutant's travel over land or in water (or both) and may be applied to point, as well as, nonpoint sources. Delivery ratios generally account for attenuation (i.e., the rate at which nutrients are reduced through natural processes, such as hydrolysis, oxidation, and biodegradation, on their way through tributaries to the mainstem of the water body). The ratio varies depending on the location of the source from the mainstem. Generally, the greater the distance the pollutant has to travel, the greater the pollutant loss will be. This ratio would work to equalize a trade between a source in the headwaters and one near the mainstem. This ratio is also often termed as "location ratio." Delivery ratios will be based on information from applicable and accepted data sources, such as the Chesapeake Bay Watershed Model.

Department – use in this document means the Maryland Department of Agriculture

Enhanced Nutrient Removal (ENR): A wastewater treatment technology that is capable of reducing the nitrogen and phosphorus concentrations in wastewater effluent to achieve permit limits equivalent to concentrations of no more than 4 milligrams per liter total nitrogen and 0.3 milligrams per liter total phosphorus, as calculated on an annually averaged basis.

Expanded Point Source: Point Source approved by the local government requiring a higher waste load allocation than the nutrient waste load allocation approved in accordance with Maryland's Tributary Strategy.

Land Occupier: Any person holding title to or possessing any lands, whether as owner, lessee, tenant, or otherwise.

Major Permit Modification: A permit revision requiring a formal public participation process, including public notice of application received and opportunity for informational meetings and public hearings.

Minor (Non-significant) Point Source: WWTPs with the design capacity of less than 500,000 gallons per day.

Minor Permit Modification: A discharge permit revision not requiring a formal public participation process.

New Point Source: A point source with no waste load allocation in the Tributary Strategy.

Nonpoint Source: A source of pollution that is not a point source. Diffuse pollution sources (i.e., without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by stormwater or infiltrate the soil to reach groundwater. Common nonpoint sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

Nonpoint Source Discharge Credit: Credits generated by nonpoint sources through a variety of possible mechanisms. Baseline nonpoint source reduction requirements, defined in Phase II of this trading policy, must be met before offset credits can be generated. As with point source discharge credits, nonpoint source discharge credits are based on delivered loads, hence Chesapeake Bay watershed model delivery factors are applied to edge-of-field segment loads.

Nutrient Trading: A market-based approach to achieving water quality standards in which a point source or 3rd party purchases pollutant reduction credits from another point source or a nonpoint source in the applicable trading region that are then used to meet the point source's pollutant discharge obligations. To be creditable to the point source purchaser, the credits must reflect an actual, pollutant load differential below the credit seller's baseline.

Nutrient Reduction: The difference in nutrient EOS Load to surface or ground waters achieved by implantation of best management practices, compared to the applicable baseline after meeting eligibility requirements.

Offset: Specifically refers to reductions a new or expanding (or otherwise unaccounted for) source must accomplish prior to being allowed to operate in an impaired water body.

Point Source: A NPDES-permitted discharge to surface water from a sewage treatment plant or industrial facility

Registry: A system utilized to track and record the generation and exchange of credits.

Retirement Ratio: The retirement ratio represents the percentage of the total generated credits to be retired towards net water quality benefit. The retirement ratio applies to all credits generated (point source and nonpoint source) and will be set at 5 percent of total reductions.

Significant Point Source: A publicly-owned treatment works (POTW) or a federal or privately owned sewage treatment plant with a design capacity of 500,000 gallons per day or greater, or an industrial point source with daily discharge loadings of nitrogen or phosphorus equivalent to a significant POTW.

Structural Controls: Practices with multi-year life spans engineering and installed to meet or exceed NRCS Standards, to reduce or eliminate the introduction of pollutants into surface and/or ground waters.

Third Party: Any entity that does not discharge nutrients (or pollutants) and thus A third party can be a state agency, conservation district, private entity, or other organization or person. Third parties could assist in facilitating credit exchanges and verifying Best Management Practices (BMPs).

Total Maximum Daily Load: A calculation for an impaired waterbody of the maximum amount of a pollutant the waterbody can receive and still meet applicable water quality standards (accounting for seasonal variations and a margin of safety), including an allocation of pollutant loadings to point sources (WLAs) and nonpoint sources (load allocations (LAs)).

Trading ratios: Discount factors applied to pollutant reductions to account for uncertainty, water quality, delivery or special need concerns. The following are examples of trading ratios:

Uncertainty Ratios: Uncertainty Ratios are intended to account for variation in the expected reliability and efficiency of the source or type of reduction being applied toward credit for another. They are calibrated to create a margin of safety or otherwise attempt to ensure that the credited practice provides a minimum level of reductions, even if actual reduction efficiencies and units removed are on the low end of an expected range. In some instances uncertainty ratios will not be employed because they are already accounted for in quantification methods. Trades involving nonpoint sources may use uncertainty ratios of greater than 1:1.

Tributary Strategies Program: Maryland is divided into 10 watersheds. The Program establishes specific nutrient reduction targets for each of these watersheds from every source, including agricultural fields, urban and suburban lands, and wastewater treatment plants.

Wasteload Allocation (WLA): The portion of receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs implemented in discharge permits constitute a type of water quality-based effluent limitation (40 CFR 130.2(h)).