

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DOCUMENT NUMBER 392-0900-001

TITLE: FINAL TRADING OF NUTRIENT AND SEDIMENT REDUCTION CREDITS – POLICY AND GUIDELINES (Revisions to the Interim Final Trading of Nutrient and Sediment Reduction Credits - Policy and Guidelines)

EFFECTIVE DATE: The Trading of Nutrient and Sediment Reduction Credits - Policy and Guidelines will be effective upon publication of notice of availability in the Pennsylvania Bulletin.

AUTHORITY: Pennsylvania Clean Streams Law (35 P.S. §§ 691.1 – 691.1001; Federal Water Pollution Control Act (33 U.S.C.A. §§ 1251 - 1387); 40 CFR Part 122; and 25 Pa Code Chapters 92, 93 and 96

POLICY: The Department of Environmental Protection (Department) will allow for the voluntary generation and trading of nutrient and sediment reduction credits to meet water quality requirements under applicable laws and regulations.

PURPOSE: The purpose of this document is to establish the Commonwealth’s general policy and provide guidance for the generation and trading of nutrient and sediment reduction credits. The guidance is also intended to assist individuals through the process of submitting proposals for the approval, certification, verification and registration of credits, and to describe how nutrient reduction credits may be used to fulfill a permit requirement.

Appendix A contains details on how this trading program will be implemented in the Chesapeake Bay watershed.

APPLICABILITY: This policy applies to Department programs associated with point and non-point source discharges to surface waters. It is intended to provide guidance and support to persons interested in participating in nutrient trading opportunities.

DISCLAIMER: The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication

or a regulation. There is no intent on the part of the Department to give the rules in these policies that weight or deference. This document establishes the framework, within which the Department will exercise its administrative discretion in the future. The Department reserves the discretion to deviate from this policy statement if circumstances warrant.

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INTRODUCTION:

Nutrient and sediment trading is one approach to maintain and improve water quality using market mechanisms to produce nutrient reductions at lower costs. The voluntary trading program is an option for point and non-point sources that exceed their environmental obligations to generate credits that may be traded to others who are seeking nutrient reduction credits.

Market mechanisms can provide for an efficient and effective means of solving environmental challenges. Similar programs have been used for this purpose around the country and around the world. The Department recognizes the many benefits of this approach, including flexibility for the regulated community in meeting legal requirements, especially when done on a watershed basis.

I. DEFINITIONS:

“Aggregator/Broker”- *An individual or entity that can collect and compile credits from individual sources. These credits can then either be sold on the credit marketplace, or sold directly to a point source, developer or third-party.*

“Baseline”- *The compliance activities and performance standards which must be implemented to meet current environmental laws and regulations for a particular location or facility. This includes allocations established in a TMDL approved by the Department that are specific to a particular source at a defined location.*

“Best Management Practice (BMP)” – *Schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. For earth disturbance activities, BMPs are activities, facilities, measures, or procedures used to minimize accelerated erosion and sedimentation to protect, maintain, reclaim and restore the quality of waters and the existing and designated uses of waters within this Commonwealth.*

“Credit” – *The unit of compliance that corresponds with a pound of reduction of nutrient or sediment as recognized by the Department which, when registered by the Department, may be used in a trade.*

“Credit Reserve” – *Credits set aside by the Department to address nutrient and sediment reduction failures, uncertainty, and to provide liquidity in the market.*

“Delivery Ratio”- *The factor that compensates for the natural attenuation or loss of nutrients and sediments as they travel in water. Also known as a delivery factor.*

“DMR” or “Discharge Monitoring Report” - *The EPA uniform national form, including any subsequent additions, revisions, or modifications, for the reporting of self-monitoring results by NPDES permittees.*

“Non-point Source” – *A source of potential water pollution that is not a point source. Non-point source pollution, sometimes referred to as “polluted runoff”, is generally caused by stormwater runoff across the land. Examples of non-point sources include: agriculture, abandoned mining activities, urban runoff, abandoned oil and gas wells, atmospheric deposition, construction activities, on-lot sewage systems, leachate (landfills) and silviculture (forestry). For purposes of generating credits under this Policy only, concentrated animal feeding operations and municipal separate storm sewer systems, which are regulated under 25 Pa. Code Chapter 92, will usually be considered non-point sources.*

“NPDES” – *National Pollutant Discharge Elimination System, the permit program required under the federal Water Pollution Control Act (also known as the “Clean Water Act”), administered by the Department in Pennsylvania.*

“Nutrient” – *nitrogen or phosphorus.*

“Nutrient Reduction”- *The difference in nutrient or sediment discharges to surface waters achieved by activities such as best management practices or technical upgrades, compared to the applicable baseline and threshold.*

“Nutrient Trading” – *Transactions that involve the exchange of quantifiable nutrient reduction credits, approved by the Department.*

“Point Source” – *For the purposes of this Policy, any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, landfill leachate collection system, or vessel or other floating craft, from which pollutants are or may be discharged. Examples of point sources are wastewater treatment plants.*

“Registry”- *A system that tracks and records credits generated and traded between point sources, non-point sources and third parties.*

“Reserve Ratio”- *The proportion of the credits generated by a nutrient reduction set aside in the credit reserve.*

“Sediment Trading”- *Transactions that involve the exchange of quantifiable sediment reduction credits, approved by the Department.*

“Technology-based effluent limits”- *The minimum level of treatment required for point sources based on currently available treatment technologies or as otherwise required by the federal Clean Water Act or the Pennsylvania Clean Streams Law.*

“TMDL” – *Total maximum daily load which is the sum of individual waste load allocations for point sources, load allocations for non-point sources and natural quality and a margin of safety expressed in terms of mass per time, toxicity or other appropriate measures.*

“Third Party”- *Any entity that does not discharge nutrients or sediments and that participates in the trading program. This entity could include, but is not limited to,*

environmental groups, developers, watershed associations, aggregators/brokers, and nonprofit organizations.

“Trading Ratios”- *Discount factors applied to nutrient and sediment reductions, to account for uncertainty, water quality, delivery or special need concerns.*

“Trading Threshold” – *Loading or level of nutrient and sediment reduction efforts to be achieved and maintained before credits can be generated for any additional reductions.*

II. FUNDAMENTALS:

A. General

Nutrient Trading has the potential to achieve cost effective water quality and environmental benefits. Nutrient Trading under the Policy will be consistent with legal requirements under applicable laws and regulations, including the federal Clean Water Act and the Clean Streams Law. For example, trading will conform to the water quality standards under Chapter 93. In addition, NPDES permits with provisions allowing trading will meet the requirements of Chapter 92. All credits used to meet an annual nutrient cap, or any other effluent limitations, must be used under conditions contained in an NPDES permit.

Trading in a broader watershed area must not cause localized water quality impairment. Where a TMDL is established, trading will be consistent with the TMDL and associated implementation plans, approved by the Department.

B. Nutrients Traded

This Policy deals primarily with (1) nitrogen and phosphorus, the main nutrients of concern for surface water quality, and (2) sediment.

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

C. Trading Guidelines

Trading may only occur in a Department defined watershed. This can be on any number of different scales, from a stream segment (e.g., in a TMDL) to the entire river basin watershed.

Regardless of watershed size, the Department must determine or concur on a maximum aggregate amount (i.e., a “cap load”) of a nutrient or sediment that is allowed to be discharged by all sources in the watershed. NPDES permitted sources will normally have effluent limits associated with such a cap load included in their NPDES permits.

Trading can then occur among the sources within that watershed for that nutrient, or for sediment, on the condition that the discharges covered by the trades, along with all other discharges within the watershed, do not exceed water quality standards and the cap load established for the watershed.

Trading is not allowed between sources outside of watershed boundaries. Establishing trading areas that coincide with watershed boundaries ensures that trades will affect the same water body or stream segment, and that water quality standards are achieved and maintained throughout the trading area.

D. Eligibility

Trading may take place between any combinations of eligible point sources, non-point sources and third parties. Both public and private entities are eligible to participate. Each trading entity must meet applicable eligibility criteria established by the Department for this voluntary program. Eligibility criteria include:

1. Legal Baseline

All sources must meet legal baseline requirements before nutrient and sediment reductions will be considered eligible for trade by the Department. This applies to those activities and performance standards associated with the pollutants being traded (e.g., nitrogen, phosphorus and sediment). Stricter limits may apply if a TMDL is established, and this is discussed later in this Policy.

For point sources, the baseline is the more stringent of the technology based or water quality based effluent limitation, over the applicable time period, expressed in an NPDES permit. The discharge must be under the expressed effluent limit in order to generate tradable credits of nutrient or sediment reductions.

For non-point sources, legal baseline depends on the type of non-point source:

- a) *agricultural operations*: legal baseline is compliance with Chapter 102 Erosion & Sedimentation Regulations, Section 91.36 (Agricultural Operations), Act 38 Nutrient Management Regulations, and Chapter 92 (Concentrated Animal Feeding Operations), as applicable.
- b) *all others*: baseline is the set of legal requirements under current regulations. For instance, for on-lot systems, *see* 25 Pa. Code Chapter 73; for urban stormwater runoff, *see* 25 Pa. Code §§ 92.2(b) and 92.21a(g).

2. Trading Threshold

In certain circumstances, a trading threshold will apply, in addition to the legal baseline requirements. For example, there is a trading threshold for non-point sources proposing to generate tradable credits to meet water quality standards associated with the Chesapeake Bay. This is further described in Appendix A.

For non-agricultural non-point sources without NPDES requirements, for concentrated animal feeding operations with NPDES permits, for allocations resulting from a TMDL and for other specified performance requirements, the trading threshold is the level of nutrient and sediment load associated with existing land uses and management practices that is needed to comply with applicable state regulations.

E. Process for Approving and Tracking Credits

The Department is responsible for approving and tracking all credits. A credit generation practice must be approved, and the trade registered, by the Department under this process before it can be used in an NPDES permit.

The Department, or its delegate, will use the following elements in its process of approving and tracking the generation and use of credits in the trading program:

1. Farmland Preservation

The Trading Program is not intended to accelerate loss of productive farmland. Therefore, credits will not be generated under this policy from the purchase and idling of whole or substantial portions of farms to provide nutrient credits for use offsite. Individuals are eligible for nutrient credit generation when converting one land use to another, where the post-construction reduced nutrient loading can be established.

2. Calculation of Credits

Using methodologies that have been approved by the Department, all credit generation calculations must be approved by the Department.

- a) *Basic calculation.* The Department will, in many cases, have pre-approved calculation methodologies for use by persons seeking approval of credits. An example for credits from agricultural practices in the context of trading within the Chesapeake Bay watershed is contained in Appendix A. The Department will also consider other calculation approaches, although the proposal review time may take longer.

For non-point sources generally, the Department expects that proposals will contain scientifically-recognized methods to demonstrate nutrient and sediment reductions. The Department's website contains additional information about credits approved.

Credits must be expressed in terms that correspond to the unit of compliance (e.g., pounds), and a time period, all specified in the applicable permit discharge limits. For example, credits will be expressed as pounds per year, and will be valid for one year, for trading in the context of the Chesapeake Bay watershed, as described in Appendix A. This means that credits need to be measured, verified and accounted for according to that time period.

If a BMP has a longer lifespan than a year, then credits can be generated for the life of the project but they have to be re-verified and accounted for each year. This can be accomplished through a request to the Department. Proposals to generate credits

must include adequate provisions for verification throughout the credit generating life span of the project.

Groups of credits for discrete nutrient and sediment reduction activities will be assigned a unique identifier by the Department, and will be associated with a certain time period. The time period or “shelf life” for annual credits could be the “water year,” which is October 1 through September 30.

Credits cannot be banked for future years. For example, if a BMP generates 100 credits each year and has a life span of five years, 500 credits cannot be applied to a permit in year five. Credits must be applied in the year that they are generated.

If state or federal funds are used to cost-share nutrient and sediment reduction activities or controls that generate credits, the Department will allow the portion of the credits paid for by state and federal funds to be available for trading, unless restrictions have been placed on the funds by the grantor.

- b) *Application of trading ratios.* Expected nutrient reductions may be discounted to account for factors such as location, reserve, uncertainty or special needs. Trading ratios may need to be considered and used as appropriate to ensure that trading provides the desired level of nutrient reductions and water quality benefits.

For example, one ratio that can be applied is the distance from the location where the nutrient or sediment activities are carried out, to the compliance point. There may be some diminution of the nutrient reductions allowed due to the distance between the two locations. This is called a “delivery ratio”.

Ratios may also be used to contribute to a credit reserve, where the Department determines that it is necessary for reasons such as addressing uncertainty and providing for possible failures in nutrient or sediment reduction efforts.

3. Guidelines for Proposals to Establish Reduction Credits

- a) *General.* Proposals need to meet the following minimum criteria in order to be considered for approval:
- Be consistent with the legal obligations that support the Department’s Trading Policy, and appropriate appendices (e.g. Appendix A- Chesapeake Bay);
 - Include documentation that demonstrates that credit-generating projects meet applicable baseline and trading thresholds. Examples of information include text that explains how baseline and thresholds are being met, and calculations to show nutrient reductions;
 - Meet applicable legal requirements and trading thresholds, and acceptable standards for construction and performance, throughout the credit generating cycle;
 - Use load reduction/credit generation calculations and measurements that are scientifically recognized;

- Contain an acceptable and credible process for calculating credits with the applicable trading ratios (e.g. delivery and reserve) applied;
- Have appropriate notations in the proposal where the submitting entity claims information and documents submitted in the proposal is confidential business information, or protected trade secrets;
- Contain details on the timing of credits (e.g., timing of delivery, phase-in period, timeframe for use in permits);
- Include methods for documenting implementation and maintenance of projects, and credit generation;
- Include methods for credit verification, such as documentation of implementation of nutrient and sediment reduction methods, sufficient to allow the Department to verify that the nutrient and sediment reduction efforts approved were properly implemented;
- Include a plan to manage any elevated risks of BMPs failure, such as where a single BMP is used in a concentrated geographic area. Plans could include insurance products, and reducing concentration of projects in a particular sub-watershed.
- Include watershed specific “designated uses” (e.g., warm water fishery, High Quality Water, Exceptional Value Water) and specify impairment listings;
- Include or acknowledge if a funding source, that was used to pay for the reduction activity, has any restrictions or limits, for credit sale or income;
- Include background on the submitting entity, research information and pictures, any calculations of nutrient reductions, project participants, etc; and
- Include contact information of the submitting entity.

b) *Elements Needed for Potential Credit-Generating Projects.* The general information normally required for credit proposal submittals is as follows:

1. Credit Generator/Producer

Generator Type
 Generator Name
 Generator Address
 Generator County
 Generator Zip Code

2. Watersheds and Watershed Segment

Specify the “designated use” (e.g., warm water fishery, High Quality Water, Exceptional Value Water)
 Specify impairment listings

3. Current Practices

Baseline
 Baseline Compliance Checklist
 Date completed
 Current Installed BMPs
 BMP units (acres, feet)

4. Reduction- Point or Non-point

Reduction Description
 Area of Reduction
 Nutrient Reduced

Nutrient Source
Ratios Applied
Quantification Method
Generated Credits
Project Lifespan

5. Describe any funding restrictions or limitations regarding the proposal submission
6. Describe the method of verification (e.g., records of BMP implementation, nutrient application and crop yields to be maintained by the landowner)
7. Describe the plan to manage any elevated risks of BMPs failure (e.g., insurance products, and reducing concentration of projects in a particular sub-watershed etc)
8. Describe any preservation/conservation easements on lands where credit-generating BMPs are to be implemented
9. Name, Address and contact information for the Submitting Entity

4. Proposal Review

- a) *Proposal Review Process.* Proposals will be reviewed by a panel of Department and selected experts, as identified by the Department, for technical acceptability, and consistency with program, policy and legal requirements. For example, for reductions at agricultural operations, experts may include representatives from the State Conservation Commission and the USDA Natural Resources Conservation Service (NRCS). The Department may add additional experts as needed.
- b) *Proposal Approval.* Following proposal review, the Department will respond in writing with its determination.

When the Department is satisfied that the nutrient and sediment reductions supplied in the proposal meet the requirements described in the policy, it will issue an approval letter, certifying credits that would be generated from the activity described in the proposal. The letter provides approval of the methodology used to calculate, and thereby certifies, the nutrient reductions from the activities proposed by the submitting entity. It does not guarantee that nutrient reductions have actually occurred, or that the credits may be used in a particular trade or permit, unless stated otherwise. The letter may include conditions, which must be met before registration of a trade.

These terms and conditions may include:

- Requirement for adherence with the legal requirements underlying the Department's Trading Policy and appropriate appendix documents;
- Conditional terms based on applicable rules of exchange;
- Conditions related to record keeping and reporting subject to review and audit by the Department;
- Approval for a set period of time and unique identifier.

If a proposal is not approved, the letter will state one of two things: why the proposal will not generate reduction credits; or inform the entity that additional

information is needed. The Department will attempt to issue these decisions within 60 days of receipt of a complete proposal.

The Department will publish public notice in the PA Bulletin of receipt of complete proposals for credit generating activities, approvals of credits and trades of credits. This information will also be placed on the Department's Nutrient Trading website, and the on-line marketplace (e.g., NutrientNet).

5. Verification

- a) *General.* Every proposal must have a plan for verifying the nutrient and sediment reductions by the applicant. In addition, the Department will use a combination of record keeping, monitoring, reporting, inspections, self-certifications and compliance audits to further ensure that the credit-generating obligations are being met. The Department may also conduct spot checks of credit generating projects, and the applicant's verification activities, to ensure certified practices and activities are being implemented.
- b) *Baseline and threshold verification.* The Department will verify that the generator of the credits meets the baseline and threshold requirements of the trading program. This may involve a site visit by Department staff or a Department approved entity, self-verification by the generator of the credits by means of a process established by the Department, or a combination thereof. This step may occur at any time in the process, but will most likely occur before credit approval.

For agricultural operations, baseline compliance will be verified through a site visit, by review of applicable plans required by regulations such as a Nutrient Management Plan, Erosion and Sedimentation Control Plan or an acceptable Conservation Plan, and Manure Management Plan, or a combination thereof. Compliance must be verified by the Department, Conservation District, or other entity approved by the Department.

- c) *Nutrient and Sediment Reduction.* The Department, and the generator of the credits, will have a process to verify that the reduction efforts have occurred as planned. The types of verification will depend upon the individual project proposal. Verification may occur at any time during the life of the credit attributed to a particular activity. Examples of verification methods which can be approved for use by project applicants include engineering plans (if appropriate), photographic documentation of the installed BMP or receipts confirming BMP activities, such as documentation showing the results of a truck that was weighed to haul manure.
- d) *Operation and Maintenance.* The Department, and the generator of the credits, will have a process for verifying that the operation and maintenance of any nutrient or sediment reduction efforts are being implemented as planned. The types of verification will depend upon the individual project proposal.
- e) *Other.* The Department may allow approved third parties to perform verifications on behalf of applicants. For a third party to qualify for verifying credits, the Department would require that the party be able to meet the following:

- Have the necessary qualifications to perform the verification (e.g., a certified nutrient management planner under the Act 38 program);
- Assist potential trading partners with preparing proposals or trade contracts;
- Provide potential trading partners with information on the program;
- Calculate credits based on the Department's Trading policy;
- Accurately provide the Department with the information listed in the Elements Needed for Potential Credit-Generating Projects;
- Confirm in writing that the activities intended to generate credits have occurred or are scheduled to occur prior to the end of the applicable period (e.g., the water year, which is October 1 through September 30); and
- Confirm in writing that the credit-generating entity meets baseline and trading threshold criteria, using checklists and forms provided by the Department.

6. Registration and Tracking

- a) *Trade Contracts.* The Department will generally require that it review trading contracts before approval of a credit, registration of a trade, or use of credits to meet legal requirements. These are contracts between the buyer and seller of the credits, such as a developer, and a non-point source or aggregator/broker. The purpose is to obtain assurance that the credits meet the provisions of the Trading Policy.

The Department will have guidelines for acceptable contract terms available on the Department's Nutrient Trading website. This may include a model trading contract, purchase agreement or a list of certain essential elements of a trading contract. Use of these model agreements will expedite Department review. Upon request, the Department will review trade agreements that vary from the models in advance in order to facilitate transactions.

- b) *Registration and Tracking.* Trades must be registered before the credits can be used to meet permit limits. The Department will operate an on-line marketplace tool (e.g. NutrientNet) that will assist with the registration, tracking and application of credits. The registration system will be used by Department staff when credits are proposed to be used in a new NPDES permit, and to verify compliance with a NPDES permit during its term.

The registration system may also be used by buyers and sellers to verify that their trades have been approved by the Department.

F. Use of Credits in NPDES Permits

Credits may be used by NPDES permittees to meet effluent limits under specific conditions.

Because the credits will be used to meet a permit effluent limit, permittees will only be authorized to use credits through the provisions of their NPDES permit. The permit terms and conditions for trades will require appropriate terms such as record keeping, monitoring and tracking, which will be documented through reporting in the monthly Discharge Monitoring Reports.

Permittees will have several types of responsibilities to ensure the credits satisfy their permit conditions. First, permittees will be responsible for ensuring that the credits they obtain and apply to their permits for compliance purposes are approved by the Department (e.g., are certified and registered by the Department).

Second, permittees have responsibilities for enforcing the terms of their credit purchase agreements, where needed to ensure compliance with their permit. Exceptions to this may include situations where the nutrient and sediment reduction activities fail due to uncontrollable or unforeseeable circumstances such as extreme weather conditions and timely notice is provided to the Department, or where the credits are enforceable by the Department through an approved legal mechanism. The Department plans to exercise enforcement discretion with respect to permittees in the year in which credits are determined to be invalid, as long as (1) the credit failure is not due to negligence or willfulness on the part of the permittee and (2) the permittee replaces the credits for future compliance periods.

The Department will also help to ensure the effectiveness and validity of the credits used in NPDES permits. This will include the use of (1) methodologies to calculate credits before approval, (2) verification processes and requirements, and (3) the credit reserve, all of which are discussed elsewhere in this Policy.

G. Use of Credits in the Sewage Facilities (Act 537) Planning Program

Under Act 537 and its implementing regulations, all municipalities must develop and implement a sewage facilities plan that addresses present and future sewage disposal needs for the municipality. These plans are modified as new land development projects are proposed or whenever a municipality's sewage disposal needs change. The Department reviews the official plans and any subsequent revisions in accordance with the requirements of 25 PA. Code Chapter 71. This process involves the consideration of the size and timing of a development project, the anticipated wastewater characteristics, the method of treatment and disposal (e.g. on-lot disposal system or through a sewage treatment plant) and the hydraulic and organic treatment capacity of the receiving sewage treatment plant.

Under these regulations municipalities must show that, for new land development projects that propose a connection to a treatment facility, or that propose a new treatment facility, the facility will have the capability to accept the additional wastewater and still meet its effluent limitations. The use of nutrient reduction credits may be included in any Act 537 proposal concerning a new or expanded discharge to address this legal requirement. The Department will expect to see assurances in the proposal that the credits will be provided to assure the long-term compliance for the treatment facility to meet the regulations in Chapter 71, Section 71.72. For instance, a formal agreement between the municipality and the developer/permittee that establishes the developer/permittee's responsibility for operating and maintaining the system by providing credits, and the responsibility of the municipality or local agency for oversight of the system, would normally be an acceptable assurance.

H. Public Participation

Public notice and comment on the use of trading in permits will be part of the routine procedure followed by the Department with all NPDES permit applications. The Department is required to allow for public participation under the regulations governing NPDES permits. *See* 25 Pa. Code § 92.61. The requirement is to publish notice of completed applications for permits, indicating certain details such as the proposed effluent limitations and permit conditions.

The Department will note in the public notice any conditions allowing trading in the draft permit. These conditions will be subject to the normal public comment process and period (usually 30 days), along with all other conditions of the permit.

In addition, when credits are applied to a permit during the annual compliance period, the permittee will include that information in the monthly Discharge Monitoring Report (DMR). DMRs are records that can be accessed by the public. The information in the DMRs will include unique identifiers and the numbers of credits purchased. More detailed information about the credits can then be accessed from the Department's Nutrient Trading website.

The Department will operate a transparent system for review and approval of credits, and registration of trades. Public notice will be made of credit generating proposals, their methods, number of credits to be certified and any trades that occur. Once a generator has received an approval for a particular method of generating credits, future public notices of proposals for that generator will only contain the number of credits that have been certified.

The Department will not subject each credit review or trade registration to public notice and comment, in order to ensure an efficient market. This approach is endorsed by EPA in its January 13, 2003 Water Quality Trading Policy and is consistent with the federal public participation requirements upon which the Pennsylvania NPDES regulations are based.

I. Managing for Success

The Department recognizes that there is some level of uncertainty in the ultimate success of nutrient and sediment reductions that will serve as the basis for tradable credits. This uncertainty is addressed in several ways:

- a) *General.* Non-point source practices generate greater uncertainty with reductions and may need to be addressed by establishing a threshold above legal baseline for generation of credits.
- b) *Conservative assumptions.* The Department will use conservative assumptions and methodologies when calculating credits. This includes the use of scientifically demonstrated methodologies where/when available. The Department will confer with experts in agronomics and other specialized areas when applying its credit calculation protocols.

- c) *Credit reserve.* The Department will adjust all credits approved by reducing the amount by a percentage, to populate a reserve of annual credits. This percentage will be defined for watershed specific needs.
- d) *Verification.* The Department will conduct verification of baseline, threshold and reduction activities/technologies. Sampling and other monitoring will be conducted where/when appropriate. For instance, the Department regularly conducts water quality monitoring at monitoring stations throughout the state, and this data can be used to evaluate any impacts from use of trades in NPDES permits. Monitoring is also conducted in watersheds listed as impaired and subject to a TMDL. Finally, additional information is available from the Department's statewide stream assessment program.
- e) *Other.* The Department will conduct a review of the program and its progress on a bi-annual basis. Based on these reviews, the Department may determine program enhancements are needed and the appropriate changes will be made. These will be shown on the Department's Nutrient Trading website. Stakeholder input will be obtained prior to the changes, as appropriate.

J. Department Organization

This trading program will be a joint effort between Central Office and Department Regional Offices.

- a) *Credits* will be approved by the Department through consultation between the Water Planning Office, appropriate Regional Office and other offices within the DEP Central Office such as Bureau of Watershed Standards and Facility Regulations and the Bureau of Watershed Management and additional experts as appropriate.
- b) *Verification* will be coordinated by the Water Planning Office but in most cases will be conducted by the Regional Office or an approved entity.
- c) *Registration* of credit generation approvals and trades will be managed by the Water Planning Office, in coordination with the Regional Office.
- d) *Use of credits* in permits and in sewage and wastewater management planning will be managed by the Regional Offices and registered by the Water Planning Office.
- e) *Public participation* during the permit process will be the responsibility of the Regional Offices.

K. Water Quality and TMDLs

Trading will be allowed only where water quality will be protected and maintained as required by applicable regulations.

- a) *No net increased discharges.* Trading will ensure that there is no net increase in discharge of pollutants and every applicable water quality requirement is met.

The Department will not allow credits to be used to meet local water quality requirements. Use of credits must ensure that all applicable water quality requirements will be met.

- b) *TMDLs*. Once a TMDL is approved by EPA, any load allocations and individual waste load allocations established by the TMDL to meet local water quality standards apply. This may mean that additional “baseline” requirements must be implemented before credits can be generated.

Trading will be consistent with the assumptions and requirements upon which the TMDL is based.

- c) *Antidegradation*. Trading will be consistent with the antidegradation requirements contained in Department regulations.