



TRADING PROGRAM OVERVIEW

- Currently separate programs for PS-PS and PS-Agricultural NPS trading
- Phase I addresses Point Source-Point Source trading
 - Final issued March 2008 by MDE
 - Phase II addresses Point Source-Non Point Source trading
 - Agricultural Trading Program June 1, 2010 by MDA
 - Phase III to address NPS to NPS
 - Urban NPS trading or Accounting for Growth to be finalized by MDE

POINT SOURCE TRADING

Trading not allowed in lieu of Enhanced Nutrient Removal (ENR) upgrades

Chesapeake Bay Restoration Fund

AGRICULTURAL NONPOINT TRADING

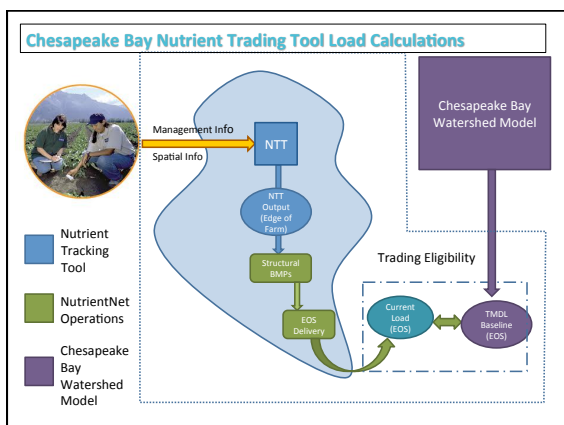
- To be eligible to trade, a generator of agricultural nonpoint source credits must meet a numeric baseline level of nutrient and sediment reduction which is the more stringent of either the applicable Chesapeake Bay or local TMDL as calculated on the entire farm in aggregate
- BMPs funded by federal, state, or private cost share or county mitigation banking programs cannot be used to generate credits during the lifespan specified in the cost-share contract
- Credits cannot be generated by taking whole or substantial portions of farms out of production for the sole purpose of generating credits
- To ensure that a net decrease in loads is achieved, 10% of the credits sold in a trade will be retired and applied toward TMDL goals.

NONPOINT SOURCE PROGRAM STRUCTURE

- Utilizes a web-based trading application to calculate eligibility as well as nitrogen, phosphorus, and sediment credit potential from agricultural sources
- Provides a registry to register credits and track trades and other pertinent information
- Provides a separate marketplace for buyers and sellers to post and exchange information on credit availability and price
- Provides an administrative module to manage data and prepare required reports

NUTRIENT TRADING TOOL DEVELOPMENT

- Original tool based on World Resources Institute (WRI) NutrientNet platform as modified to reflect the Chesapeake Bay Watershed Model land use loads, calculations, and BMP efficiencies
- Maryland tool revised to incorporate USDA/NRCS Nutrient Tracking Tool (NTT)
- WRI used the Maryland version to create a new multi-state platform, the Chesapeake Bay Nutrient Trading Tool or CBNTT, that incorporates state-specific tools for MD, VA, and PA



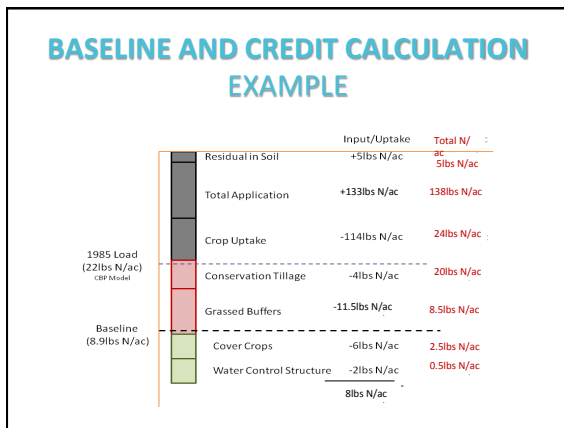
NUTRIENT TRACKING TOOL(NTT)

- NTT was created by USDA from APEX to provide user-friendly access to environmental outcomes, such as changes in nutrients, sediment, and yields at the field scale
- NTT calculates the change in N, P, sediment, and yield based upon an initial condition and the adoption of agronomic conservation practices
- Agronomic options include application methods and type of fertilizer, planting method, harvesting method, cover crops, tillage, irrigation, drainage, etc.
- NTT applies parameters (weather, evapotranspiration, crop growth models, temperature, slope, soils) to inputs

NUTRIENTNET OPERATIONS

- NutrientNet is an interface that links NTT to the Bay Model
- It incorporates ex-post BMP efficiencies from the Bay Model and, for trading, can process credit generating activities as an alternative
- NutrientNet applies structural BMPs to the NTT model (buffers, fencing, etc.) utilizing Bay Model efficiencies
- NutrientNet platform includes Registry, Marketplace, and Administrative Module

DIFFERENCES	
NTI	Bay Model
Field/farm scale loads	Basin-scale average
Actual field nutrient inputs	Extension recommendations
Actual application (time and placement)	Fixed sequence of application and timing
Actual animals (type, number, and grazing time)	2012 Census county data
Actual yields	2012 Census regional data
Actual field soil types/slope	No soil types/slope
Actual residual "P"	No soil "P" residuals
Actual size and annual numbers of BMPs	Average BMPs
Fifty years of weather data	Ten years of weather data






Welcome to the Maryland Nutrient Trading Program . . .

Please Read This Notice before Using the Maryland Nutrient Trading Tool

As of May 1, 2014, the Maryland Nutrient Trading Program launched the latest version of its online tools. The World Resources Institute (WRI), which partners with the Maryland Department of Agriculture (MDA) and the Texas Institute for Applied Environmental Research (TIAER), has utilized the Maryland trading platform as the template for a new multistate platform that can be accessed by users in Maryland, Pennsylvania, and Virginia. WRI and TIAER have transferred all existing accounts from the Maryland platform to the new multistate platform. They are also in the process of transferring the 253 farm worksheets for users who met the April 16 deadline for transfer requests.

To enter the new site, you can continue to use www.mdnutrienttrading.com or alternately you can switch to www.cbntt.org. However, it is recommended that you continue to use the former web address so that you can find specific information and/or learn about activities related to Maryland's program. **For those who had an existing account established before May 1, your account can be found under your current username, but you will have to change your password in order to access your worksheets.**

Because the latest version of the calculation tool incorporates any needed modifications since the last update, as well as changes required by current Maryland Nutrient Management regulations, there have also been some changes

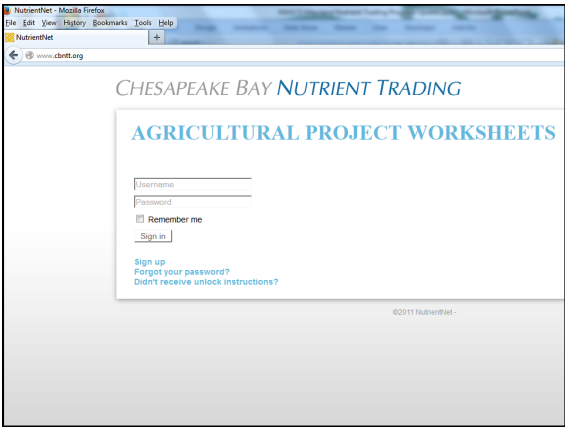
View Nitrogen and Phosphorous Credits

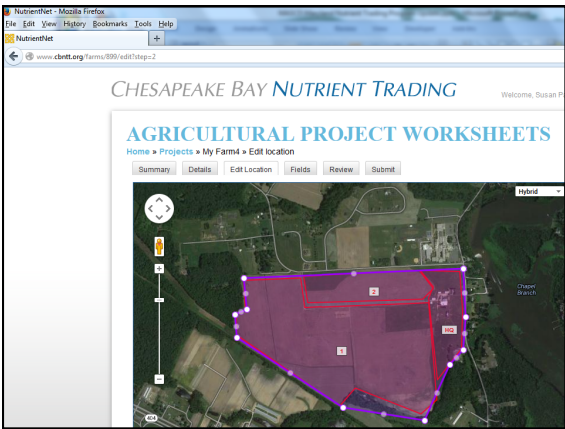
[Login to CBNTT](#)
[Login to Market \(Under Construction\)](#)

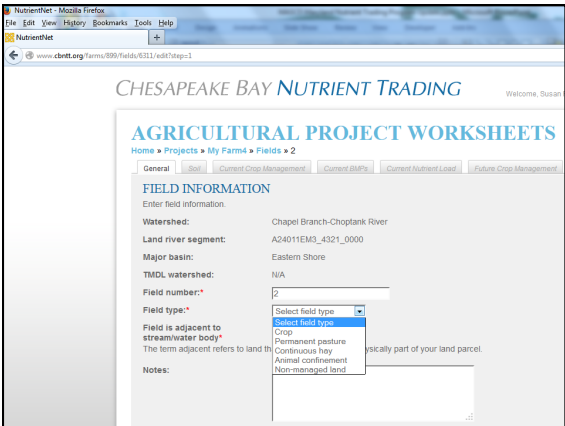
Technical References & Guideline

- Guidelines for Agricultural Credit Sellers
- Guidelines for Agricultural Credit Buyers
- Policy for Point Source Buyers & Sellers
- NRCS BMP List (PDF)









ACCOUNTING FOR GROWTH (AFG)

(Urban Stormwater)

AFG policies address any increase in Maryland's pollution load from population growth or new development by:

1. Strategic allotment of nutrient loads to large wastewater treatment plants upgraded to best available technology
2. **Requirement that all other new loads must be offset by securing credits**

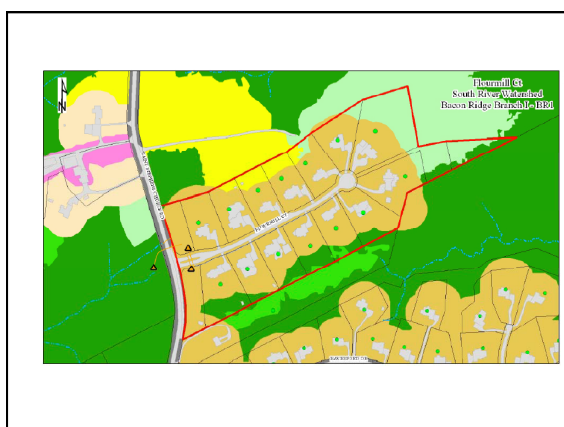
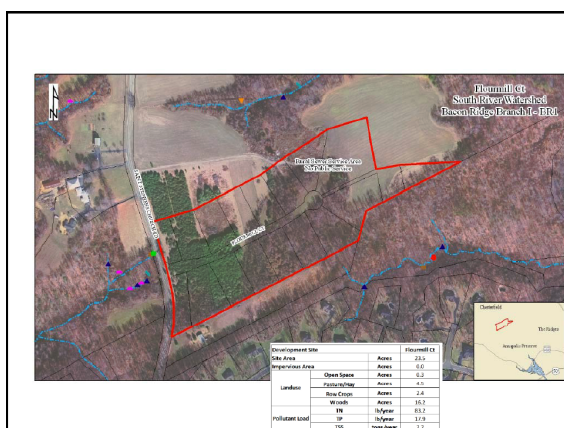
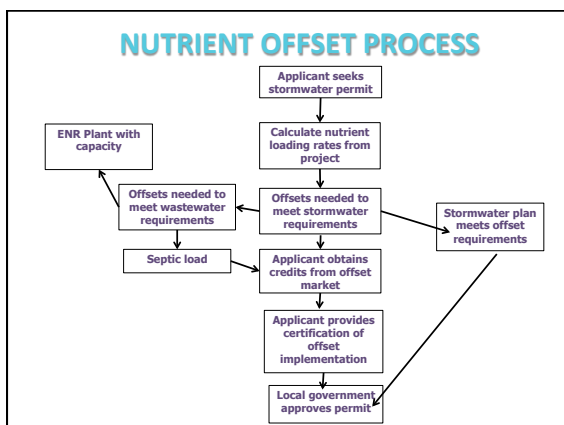
THE AFG CONCEPT

Buyers

- Calculate pre and post-development nutrient load from the development parcel
- Mitigate load on site to maximum extent possible
- Require developer to offset 100% of the post-development load
- Allow trading with other sectors to offset post-development load

COMPLEMENTARY ONLINE OFFSET CALCULATION TOOL FOR AFG

- Expand the existing agricultural credit assessment and trading platform by developing a new complementary calculation tool to provide the capabilities to estimate credit and offset needs in the stormwater sector
- Modify the registry, marketplace, and administrative modules to meet programmatic changes, facilitate the ease of market participation for sellers and buyers, provide a transparent and accessible tracking and accounting system for credits and offsets, and generate reports for state entities and EPA.



Pre development TN load = 83.2 lbs/yr
Post development TN load = 129.3 lbs/yr
(stormwater) + 212.8 lbs/yr (septic) =
342.1 lbs/yr
Net post development TN load = 342.1 -
83.2 = 258.9 lbs/yr
Per unit load = 258.9/14 = 18.5 lbs

The screenshot shows the 'CHESAPEAKE BAY NUTRIENT TRADING REGISTRY' website. The navigation bar includes links for Home, Accounts, Projects, Verifications, Credits, Trades, Usage Records, and Market. The 'Market Listings' section is active, displaying a table of available credits for sale.

Account	Email	Trading Basin	Pollutant	Trade Type	Quantity for Sale
superadmin	superadmin@kirsle.com	Potomac	Nitrogen	Buy	500
superadmin	superadmin@kirsle.com	Patuxent	Nitrogen	Buy	1000
superadmin	superadmin@kirsle.com	Eastern Shore	N	Buy	50

CROSS-SECTOR TRADING FOR TMDL COMPLIANCE

Key Elements of the Proposed Policy:

Background: A fundamental strategy of Maryland's Phase II WIP

- Allocation of load reduction responsibility among source sectors based on equity, independent of cost.
- Contingent on allowing trading among source sectors to meeting load reduction targets in a cost-effective way.

Which Sectors May Trade: These sectors may purchase reduction credits from eligible parties toward meeting their share of the Bay pollution reduction

- Septic System Sector
- Non-MS4 stormwater Sector
- Phase II MS4 Stormwater

Trading Regions: Trades should occur in Maryland's five major watersheds: Eastern Shore, Western Shore, Patuxent, Potomac and Susquehanna. Trades across these watersheds are acceptable if no credits are available within the watershed. All trades must be consistent with local water quality. This policy will be reviewed in a year.

Urban Watershed Plan: A watershed plan that places the trade into a larger context is a pre-condition for conducting a trade.

AGRICULTURAL NUTRIENT AND SEDIMENT CREDIT CERTIFICATION PROGRAM

§8–901.

The General Assembly finds and declares that:

(1) Voluntary nutrient and sediment trading programs provide an innovative and cost-effective approach to enhance water and air quality and achieve additional water and air quality benefits; and

(2) The Agricultural Nutrient and Sediment Credit Certification Program established under this subtitle authorizes the Department to verify, certify, and register agricultural nutrient or sediment credits in support of private and public nutrient or sediment trading activities.....

CHAPTER 12 DRAFT REGULATIONS

- A. This chapter establishes the requirements and standards for the generation and certification of nonpoint source nutrient and sediment credits on agricultural land under the Agricultural Nutrient and Sediment Credit Certification Program.
- B. The purpose of the Program is to reduce the amount of nitrogen, phosphorus, and sediment entering the Chesapeake Bay and its tributaries through a form of water quality trading utilizing a market-based strategy.
- C. This chapter also establish the protocols for approving professionals qualified to evaluate and review agricultural operations for eligibility and compliance with the Program.



Questions/Discussion

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