

# MARYLAND TRADING and OFFSET POLICY and GUIDANCE MANUAL CHESAPEAKE BAY WATERSHED

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## Overview of Presentation

- Background
- 2017 Trading Manual Highlights
  - Stormwater Point Source Trading
  - Agricultural Trading
  - Wastewater Point Source Trading
- Next Steps

# Background

- MDE opened the door to trading following the development of the Point Source Strategy which established WLAs for Major WWTPs.
- In 2008, Maryland Developed Phase I, Point Source Cap Management Policy, which outlined trading/offset options for new and expanding WWTPs.
- MDA followed by developing a Phase II, Guidelines for the Generation and Exchange of Agricultural Nonpoint Source Credits, as well as
- Maryland's Trading Marketplace web-based suite of tools to support agricultural trading
- 2017 Manual Goal: Accelerate progress toward meeting Bay nutrient and sediment reductions
- Provide additional options and flexibility for Phase I and Phase II MS4
  permittees to achieve permit compliance by acquiring nutrient and
  sediment credits from both wastewater point sources and agricultural
  operations.
- Programs developed with Stakeholder Participation

# Background

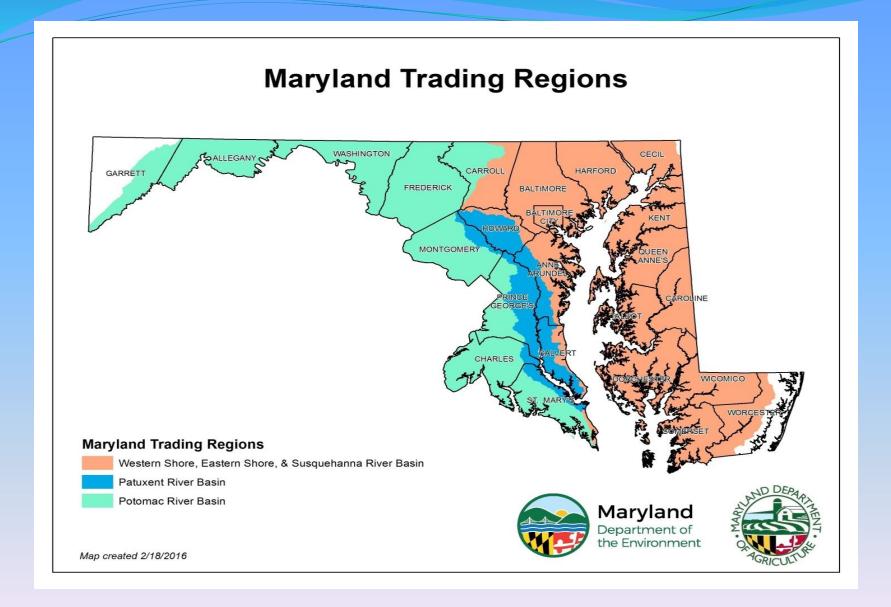
- January 2016 April 2017
  - WQTAC Meetings/Comments/Discussion of Issues
- September 2016
  - Released Updated Draft Manual
- September 2016 November 2016
  - WQTAC/EPA Comments
- November 2016 March 2017
  - Worked with EPA to address comments
- April 2017
  - Released Final Draft of Trading Manual
- Next Steps
  - Trading Regulations
  - MS4 permit modification

#### 2017 Manual

- Roadmap for the development of a cross-sector, marketbased trading program
- Promotes innovation, economies of scale, and public/private partnerships, access to the water quality marketplace
- Presents options for accelerating restoration of the Bay and local rivers and streams
- Offers flexibility to Phase I and Phase II MS4 permittees to achieve permit compliance by acquiring nutrient and sediment credits from both wastewater point sources and agricultural operations.
- Expects reduction in the cost of implementation
- Consolidates and replaces the 2008 trading documents
- Developed with Stakeholder Participation

### 2017 Manual Defines

- Requirements and obligations of credit generators & users
- Eligibility rules for point and nonpoint sources
- Baselines
- Geographies
- Use of trading ratios
- Mechanisms of exchange
- Protocols for Credit Approval, Verification & Certification
- Compliance
- Public Participation



# 2017 Trading Manual Highlights Stormwater Point Source Trading – MS4 Entities

- MS4s permittees can participate in trading once the necessary regulatory and permitting frameworks have been established
- The use of trading does not relieve MS4 permittees of the responsibility to address local water quality issues as identified in their permits
- Trading may not cause nor contribute to local water quality impairments nor delay any approved schedule for attainment of local water quality standards
- MS4 permittees must acquire credits in perpetuity or replace expired term credits under approved trades with new credits and/or eligible stormwater management BMPs

#### Applying Trading to MS4 Permit Restoration Requirements

- 2017 Manual describes methodology that relates reduction in pollutant loads to restoration of one impervious acre.
- This methodology was initially established in MDE's
   "Accounting for Stormwater Wasteload Allocations and
   Impervious Acres Treated" (Accounting Guidance) for new
   and alternative treatment practices used to meet MS4
   permit restoration requirements
- Loads in Accounting Guidance are based on CBWM version 5.3.2
- For trading, MS4 permittees must acquire the equivalent number of credits for all three pollutants (nitrogen, phosphorus, and sediment) to count toward one impervious acre of restoration

#### Applying Trading to MS4 Permit Restoration Requirements

• For example, when one acre of impervious land is converted through treatment to the equivalent of one acre of forested land, 12.26 lbs/acre/year of TN runoff is reduced at the Edge of Segment (EOS)

#### CBP Pollutant Loads for Impervious and Forest Cover

Parameter	Impervious (lbs/acre/yr)	Forest (lbs/acre/yr)	Delta (lbs/acre/yr)
TN	15.34	3.08	12.26
TP	1.70	0.08	1.62
TSS	0.56*	0.03*	0.53*

<sup>\*</sup>TSS is calculated in tons/acre/yr.

Source: CBWM 5.3.2 Maryland statewide average urban loading rates without BMPs provided by the Science Services

Administration (SSA), MDE, 2015.

#### **Documentation and Reporting of Credits**

- MS4 permits will define a portion of restoration requirement that can be met by trading with wastewater point and/or nonpoint sources during the permit term
- MS4s restoration plans may use a combination of structural and nonstructural controls as well as trading to address Chesapeake Bay and local water quality protection
- When authorized in the permit, MS4 permittees will be required to:
  - Report the number of acquired credits and the source of the credits in annual reports submitted to MDE
  - Make annual reports available to the public by posting them on the jurisdiction's website

#### **Documentation and Reporting of Credits**

#### **Agricultural Credits**

- MDE will:
  - Accept nonpoint source credits certified by MDA for application toward MS4 permit restoration requirements
  - Require proof of nonpoint source credit purchases such as number of acquired credits; their registration numbers; documentation that credits are recorded, tracked, and clearly posted on the web-based registry as part of the public transparency protocols

#### **Wastewater Point Source Credits**

- WWTP credit generation would have to be formalized through modification of the wastewater discharge permits
- MDE will:
  - Require copies of the modified WWTP permit and the WWTP annual report
  - Verify that the WWTP annual reports accurately reflect the DMR reporting for the year and provide a copy to MDE's TMDL program to ensure consistency in progress reporting to the Chesapeake Bay Program

#### Agricultural Credits

- To be eligible to trade, a generator of agricultural credits
  - Must be in compliance with all applicable local, state, and federal laws, regulations, and programs
  - Must meet a numeric baseline level of nutrient and sediment reduction
  - More stringent of either the applicable Chesapeake Bay or local TMDL as calculated on the entire farm in aggregate applies
- 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

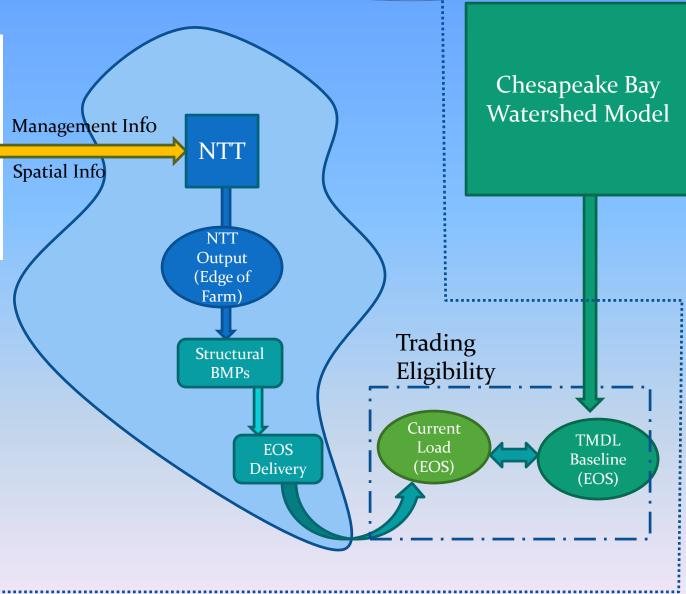
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Nutrient Tracking Tool

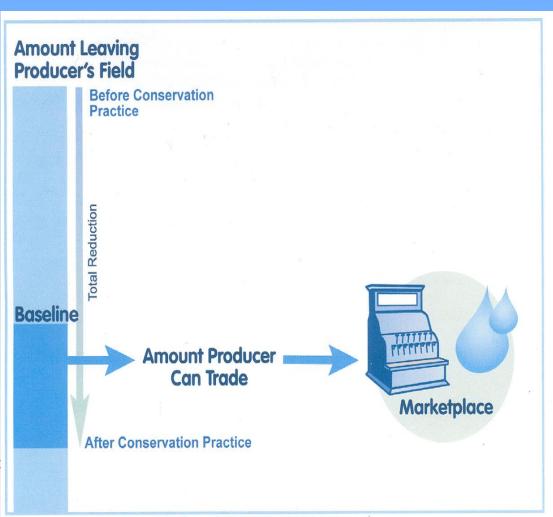
NutrientNet Operations

Chesapeake Bay Watershed Model



#### **Agricultural Credits**

- Before generating credits, farm operations must meet a baseline nutrient load
- On-farm visits to verify the baseline
- Practices that generate credits must be installed and operational
- Credits must be certified by an MDA approved verifier
- Verifiers will have 3 years experience and re-training every 3 years
- Certified verifiers cannot hold an interest in the operation
- MDA will conduct annual site reviews and records inspection on at least 10% of all traded credits



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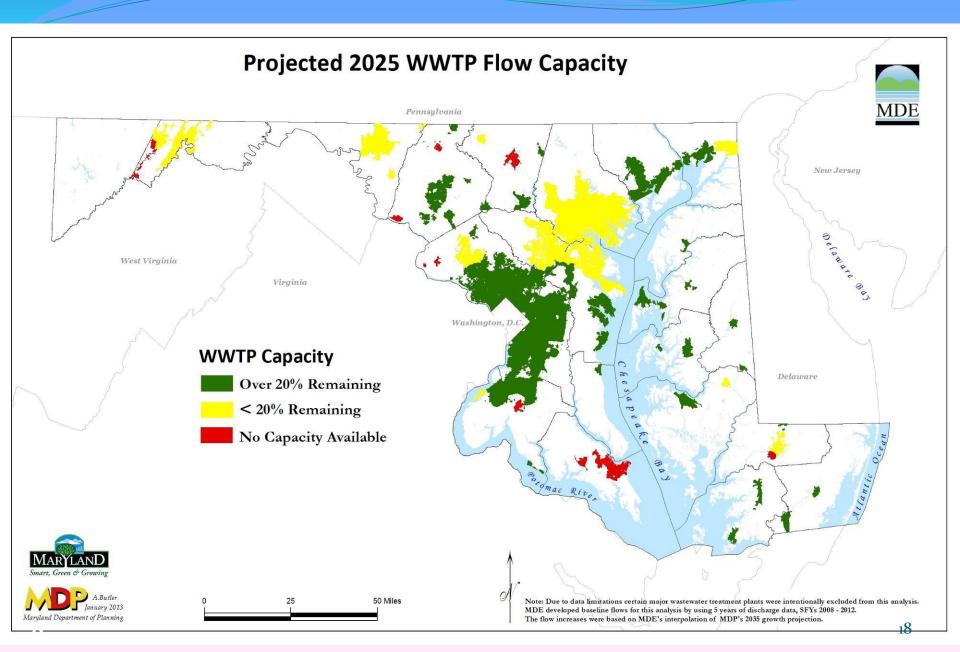
#### Wastewater Point Source Trading

- Main goal Options to maintain the nutrient load caps for all point sources
- Describes baselines consistent with the Bay TMDL
- Includes options for generation and acquisition of credits to offset increases in WWTPs loads associated with growth
- Key Principles:
  - A wastewater point source does not become eligible for trading until WLAs, consistent with the Bay TMDLs and/or State TMDLs, are adopted in its discharge permit as baselines for generating credits
  - Wastewater point source trades must be consistent with the approved County Water and Sewerage Plan
  - Groundwater dischargers may participate in the nitrogen trading with other point sources once a cap for nitrogen is included in the State groundwater permit as WLA and a methodology has been established for the quantification of delivered load
  - MDE will require the application of at least five (5) percent reserve ratio to each point-source (term or permanent) generated credit

#### Options for Generating and Acquiring WWTPs Credits

- Upgrade of an existing municipal minor WWTP
- Retirement of an existing municipal minor WWTP after connecting to ENR facility
- Performance of significant industrial facility better than its current applicable allocation limit
- Retirement of an existing (as of April 2008) OSDS by connecting to an ENR facility
- Land application of wastewater with pre-treatment and nutrient management controls
- ENR facility reduction in the design flow basis of its nutrient WLA
- ENR facility reduction in its concentration-based permit loading limitations
- > NEW ENR facility permit addition of performance benchmark for providing performance-based credits to MS4s

# Capacity to Grow at 2025



# ENR permit addition of Performance Benchmarks for providing Performance-based Credits to MS4s

- All ENR facilities include:
  - TN and TP WLAs consistent with 2010 Bay TMDL, and
  - Floating TN, TP Caps Loads based on annual average flow and 4mg/l TN, 0.3 mg/l TP
- To trade with MS4s ENR NPDES Permit would have to be modified to include:
  - **Baselines** based on the annual average flow and performance concentrations of:
    - TP of o.3 mg/l, and
    - **Phased-in schedule** for **TN baseline** of:
      - First three years the baseline TN performance of 4 mg/l
      - **After three years**, the baseline performance TN of **3.0 mg/l.**
  - Corresponding concentration-based annual loading benchmarks will be added to the ENR permit
  - Annual loading benchmarks will be calculated based on the annual total discharged flow and the performance concentrations of TN and TP
  - Also, permit will include a requirement that the permittee report monthly on its Discharge Monitoring Reports (DMRs) to demonstrate the level of the reductions it has achieved beyond the permit benchmark.

#### **Documentation and Reporting of Credits to MS4s**

#### Wastewater Point Source Credits

- WWTP credit generation would have to be formalized through modification of the wastewater discharge permits
- MS4 permittess trading with wastewater point sources would have obtain:
  - Copies of the modified WWTP permit and the WWTP annual report from WWTP
  - Submit above documentation as part of MS4 annual report to MDE
  - Post annual report on MS4 jurisdiction website

#### MDE will

• Verify that the annual reports accurately reflect the DMR reporting for the year and provide a copy to MDE's TMDL program to ensure consistency in progress reporting to the Chesapeake Bay Program

# **Next Steps**

- MDE is developing:
  - Trading Regulations to be presented at the next WQTAC meeting on June 15, 2017
  - MS4 Permit Modification to include Trading
  - Pilot- WWTP/NPS Ag trading

# Questions