

Maryland's Nutrient Trading Program

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Maryland's Nutrient Trading Program Status

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Demand

Offset
Requirements

Onsite Offset
Mitigation
Calculation Tool

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Credit Generation

Point Source
Credits

Septic Credits

Agricultural
Credits

Stormwater
Credits

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Exchange Tracking

Registry

Market Place

Assessment Tools

Agricultural Nutrient Trading Credits Calculation Tool

NutrientNet Load Calculations



Management Info
Spatial Info



NTT Output
(Edge of Farm)

Structural
BMPs




EOS
Delivery

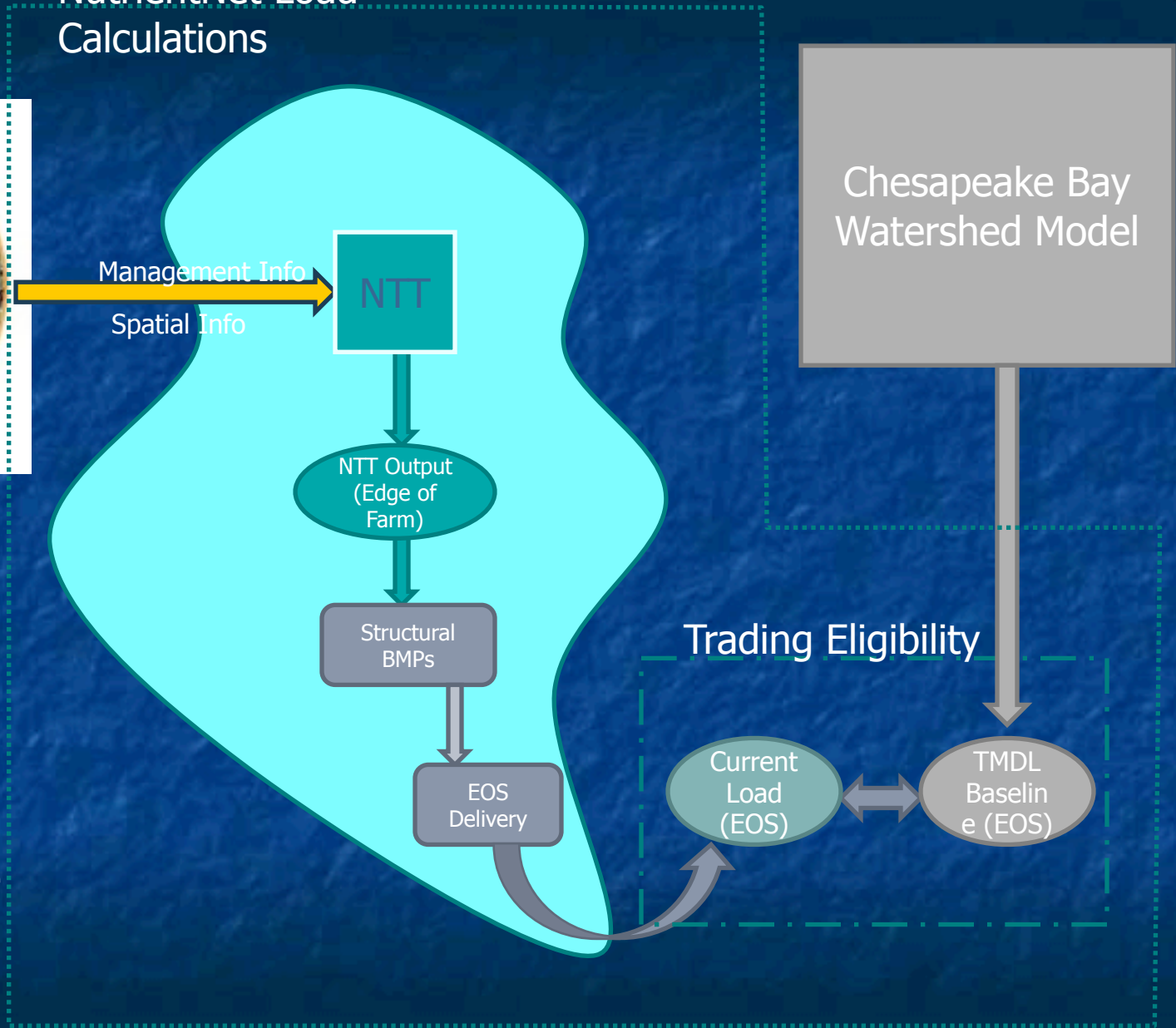
Chesapeake Bay
Watershed Model

Trading Eligibility

Current
Load
(EOS)

TMDL
Baselin
e (EOS)

-  Nutrient Tracking Tool
-  NutrientNet Operations
-  Chesapeake Bay Watershed Model



NTT - APEX

- The NTT application specifically arrays the output of the APEX model in terms of delta products or the difference between existing conditions and proposed conservation.

Existing
Condition

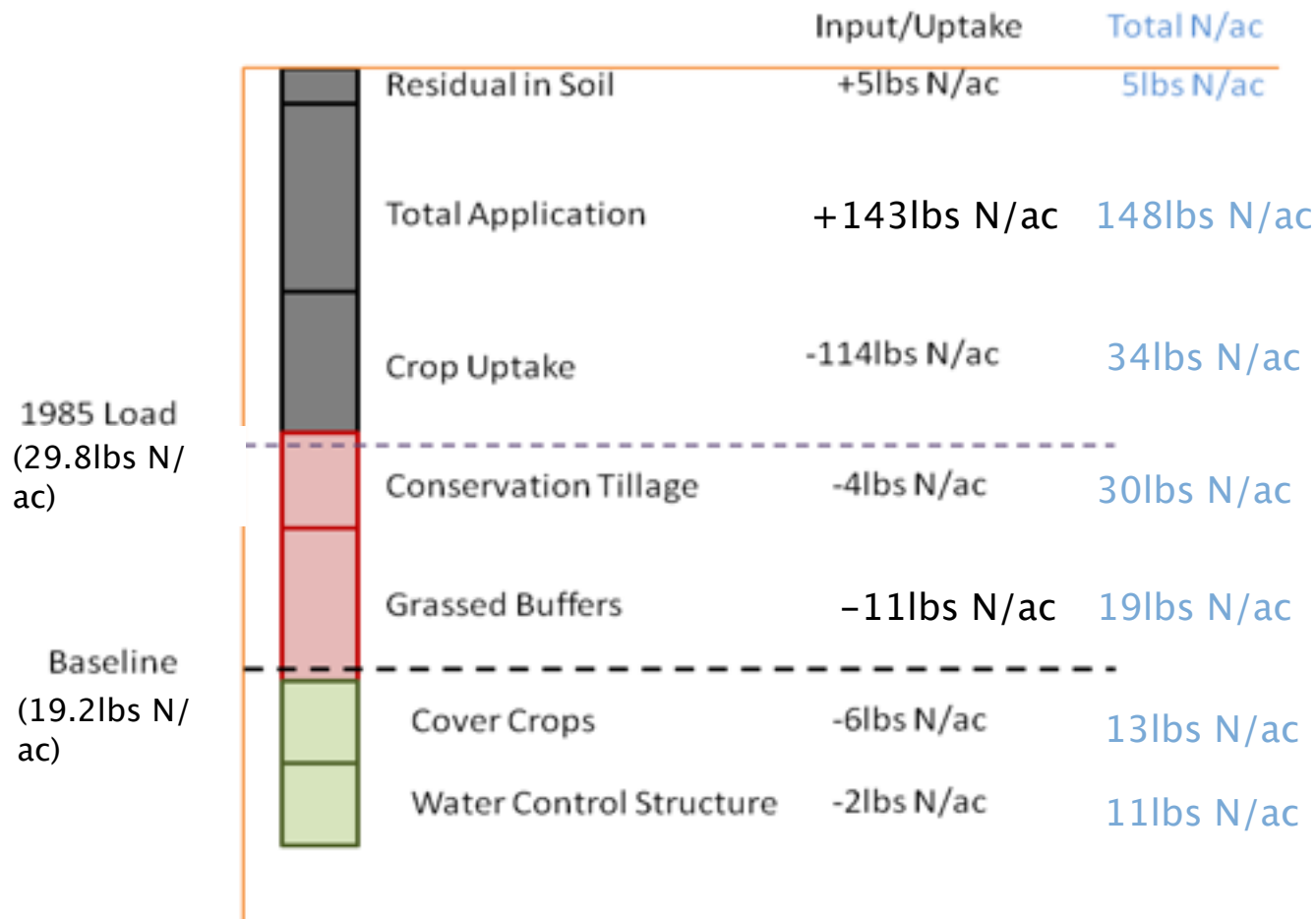
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Proposed
Conservation

=

Nitrogen and
Phosphorus
Saved

Baseline and Credit Calculation Example



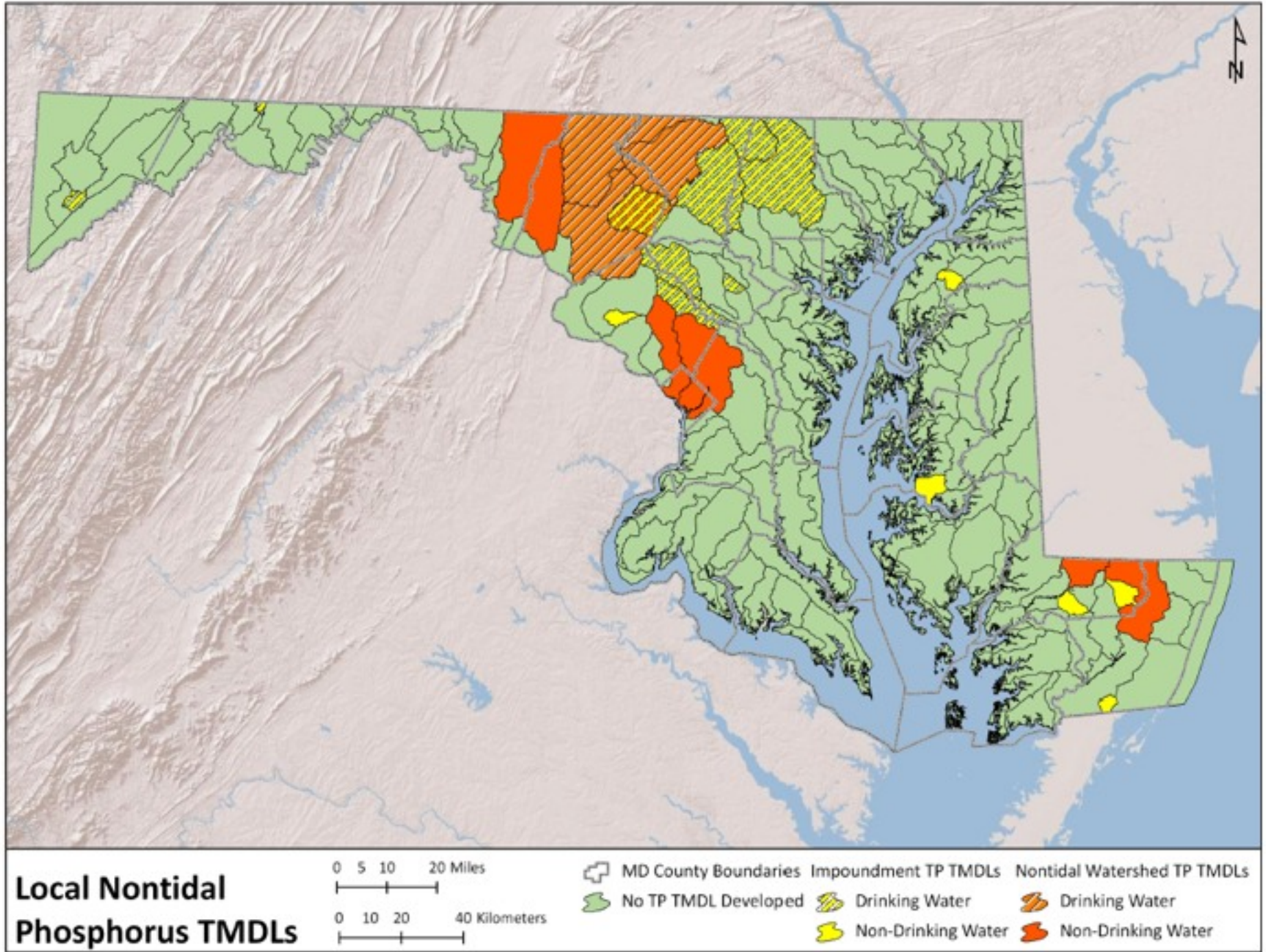
Bay TMDL

New Ag Baseline Based on Model Version 5.32

	PTX	POT	SUS	WS	ES
N =	10.3	24.9	17.6	15.9	11.7
P =	1.34	1.78	0.9	1.1	1.0
Sediment	51.35	552.56	48.58	89.25	117.50
Statewide N =			16.7		
Statewide P =			1.3		
Statewide			859.24		

Addressing Local Water Quality Impairments vs. Chesapeake Bay TMDL

- MDE has developed 42 local nutrient TMDLs and 26 sediment TMDLs
- 26 of the local nutrient TMDLs require Ag load reduction lower than the Bay TMDL for nitrogen, phosphorus, and sediments



Local TMDL vs Bay TMDL Examples

Western Shore Bay TMDL Nitrogen		Prettyboy Reservoir Local
Raw	26.86 mg/l	—
TMDL	15.90 mg/l	—
% Red	41%	—
Phosphorus		Phosphorus
Raw	2.01 mg/l	2.01 mg/l
TMDL	1.1 mg/l	0.56 mg/l
% Red	52%	83%

Local TMDL vs Bay TMDL Examples

Eastern Shore Bay TMDL Nitrogen		Chester River (Middle) Local TMDL
Raw	29.96 lbs	29.96 mg/l
TMDL	11.7 lbs	6.91 mg/l
% Red	61%	77%
Phosphorus		Phosphorus
Raw	2.01 mg/l	2.01 mg/l
TMDL	1.03 mg/l	0.49 mg/l
% Red	49%	73%

Offset Calculations and Onsite Mitigation Tools

Accountability/Verification/Administration

- A practice can only generate credits once it is installed and functioning
- An inspection to certify standards and spec were met and the BMP is functional is required
- The full annual credit produced by the practice will not be certified until the year following the year of installation
- Credits are used in the year they are generated
- Credits can not be banked for sale and used in future years
- The Maryland Department of Agriculture (or its designee) will perform annual spot checks on a minimum of 10% of all traded agricultural credits

Current Guidelines

- Practices verified at three different levels once they are part of a trade contract
 - A. Installation, meets standards and specs
 - B. Requirements for annual inspection and verification by buyer's representative and/or MDE
 - C. Random spot checks by MDA representative
- Report is issued and provided to all parties - farmer/landowner, MDA, MDE, buyer, aggregator
- Requires certification and verification by technically proficient, third party personnel with annual review of baseline practices and credit generating practices
- "Technical proficient" – Requires Nutrient Management Planner certification, and demonstrated knowledge and practical application of the NRCS Technical Guide/Practice Standards