

# Virginia & Pennsylvania Nutrient Trading Programs

Jim Pease  
Dept. of Agricultural &  
Applied Economics  
Virginia Tech

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Virginia:  
Chesapeake Bay Watershed Nutrient Credit  
Exchange Program

## Legal Authority

- General Assembly: Watershed general permit and market-based nutrient credit trading will assist in: a) cost-effective attainment of nutrient goals within 2010 timeline, b) accommodate growth, and c) provide foundation of market-based incentives for attaining NPS reduction goals.
- Authorized by statute implemented through VPDES General Permit, permit term 1/1/2007 – 12/31/2011
- PS compliance by January 2011

# Virginia Program, General Points

- Nitrogen and phosphorus loads traded, no cross-trading
- Implemented only in Chesapeake Bay sub-basins
- Not labeled as “trading program”. A principal goal is scheduling of PS compliance

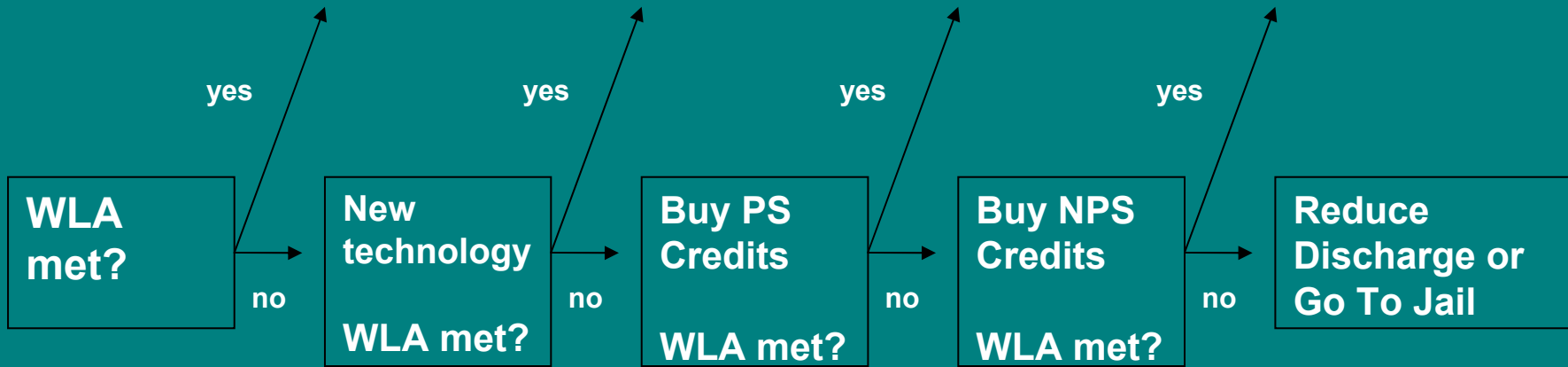
# PS Waste Load Allocation

- Waste Load Allocation is product of
  - Current permitted design capacity
  - Concentration limits?
    - 3-6 mg/L nitrogen
    - 0.3-1.0 mg/L phosphorus
- Trading is compliance sequence tool leading to:

# Happy PS Manager



# Existing PS Compliance Sequence



# Unhappy PS Manager



# PS Credits

- Credits expressed in N or P lbs/year
- Credits created if monitored annual discharge less than WLA. Credit “value” is adjusted by delivery ratios to CB.
- PS with excess mass load must purchase credits from existing PS in same tributary basin. Credit terms and price established by Association of PS.
- If PS credits not available, PS can secure NPS credits from Water Quality Improvement Fund (\$11.06/lb N and \$5.04/lb P)

# Restrictions on Credit Trading

- Credits may not be “banked” to use in a future year
- Credits may not be traded across tributary basins
- Credits do not alter local compliance requirements with water quality limitations

# NPS Credits

- Credits generated by NPS for practices/structures:
  - beyond those required by or funded under state/federal law;
  - beyond those required by tributary strategy
  - Installed in the same tributary basin as PS needing credits
  - NPS credits trade at 2:1 with PS allocations
  - Cost-shared reductions **CANNOT** be traded
  - Included as conditions of the acquiring PS permit

# Draft VA Edge of Stream Nutrient Reductions

## Early Planted Cover Crops (Lbs reductions/acre compared to baseline)

### Above Fall Line

	<u>TN</u>	<u>TP</u>
E. Shore	NA	NA
Potomac	1.54	NA
Rappahannock	0.74	NA
York	0.94	NA
James	1.04	NA

### Below Fall Line

	<u>TN</u>	<u>TP</u>
E. Shore	2.01	NA
Potomac	1.10	NA
Rappahannock	0.68	NA
York	0.87	NA
James	0.91	NA

Do not reflect 2:1 NPS/PS trading ratio or delivery factor to tidal waters.

# Some Other BMPs Under Discussion for Generating NPS Credits

- 15% N rate reduction on corn
- Continuous no-till
- Combinations of the above and/or early cover crop
- Cropland or hay or pasture or mixed open use conversion to forest
- Cropland conversion to hay
- Cropland or hay conversion to mixed open use
- Pervious/impervious urban conversion to forest

# New and Expanding PS

- No WLA allocated, must meet limit of control nutrient concentration standards for N and P (3 mg/L N, 0.3 mg/L P).
- Must acquire WLA to offset new discharge by:
  - Purchasing WLA from existing PS
  - Acquiring NPS offsets at 2:1 trading ratio
  - If still cannot offset:
    - Secure offset by other means approved by DEQ (?)
    - If nothing else feasible, pay Water Quality Improvement Fund
- NPS offsets included within PS VPDES permit. Offsets *do not* transfer legal responsibility.

# Pennsylvania: Trading of Nutrient and Sediment Reduction Credits

# Legal Authority

- Maryland statute (downstream)
- Federal Water Pollution Control Act
- Pennsylvania Clean Streams Law
- 25 Pa Code Chapters 92, 93 and 96

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“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.” DEP Doc. 392-0900-001

# PA Nutrient Trading Program

- Caps for N, P, and sediment by PS & NPS in Chesapeake Bay sub-basins
- Trades only within “DEP defined watershed”
- N and P traded, credits in lbs/year, no cross-trades
- Trades may occur between
  - PS, NPS (farmers, forest landowners, developers, etc), 3<sup>rd</sup> parties (brokers, aggregators); or combinations
- Permit compliance and trades within “water year” Oct 1 – Sept 30



# Targets for PS

- Sub-basin targets for PS
  - WWTPs targets: New renewal permits for existing WWTP concentration limits at 2010 design flow
    - 6 mg/L nitrogen
    - 0.8 mg/L phosphorus
  - Industrial dischargers targets:  
2002 discharge less 10% reserve for growth
  - New or expanding sources: Zero

# PS Credits

- Difference between permitted discharge and monitored treatment level
- Reduced by delivery ratio and reserve ratio

# How to Generate NPS Credits

- Practices / structures beyond required under state/federal law and PA Tributary Strategy
- Generated in the same tributary basin as used
- Cost-shared reductions **CAN** be traded
- Distinguishes structure and non-structural BMPs
- BMPs initiated after Jan 1, 2005 eligible

# How to Generate NPS Credits

- Agricultural baseline & threshold conditions:
  - Baseline: Verified compliance with applicable state regulations
  - Threshold: 100' setback or 35' buffer or ↓20% farm nutrient balance
- Non-ag w/o NPDES, CAFO, and TMDL baseline and threshold conditions are as required by state regulations
- NPS credits adjusted for:
  - Delivery ratio (nutrient movement in water to mainstem of CB)
  - Reserve ratio (10% held by DEP to cover failure)
  - Edge of Segment (EOS) ratio (NPS delivery to surface water)
- After adjustment, NPS credits trade at 1:1 with PS loads

# Max Tradeable Credits for NPS in Chesapeake Bay Watershed

- Max tradeable credits are difference between:
  - CB model load reductions from max possible application of BMPs within basin
  - CB model application of BMPs necessary to meet Tributary Strategy within basin

# PS/NPS Trades

- PS/NPDES permittee must ensure credits approved by DEP
- Credits purchased are included as conditions of the acquiring PS permit
- PS must enforce credit purchase contract, failure results in action at discretion of DEP
- DEP will not act on NPS BMP failure it considers “uncontrollable or unforeseeable,” but will act if “willful”. Credit reserve may be used by DEP to make up for failure

# Questions??

[www.duiops.net/seresvivos](http://www.duiops.net/seresvivos)

