Nonpoint Source Nutrient Bank Permitting in Virginia

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VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Legislative Findings and Purposes

General Assembly finds and determines that adoption and utilization of a watershed general permit and market-based point source nutrient credit trading program will assist in:

a) meeting the nutrient cap load allocations cost-effectively and as soon as possible in keeping with the 2010 timeline and objectives of the Chesapeake 2000 agreement,

b) accommodating continued growth and economic development in the Chesapeake Bay watershed, and

c) providing a foundation for establishing market-based incentives to help achieve the Chesapeake Bay Program's nonpoint source reduction goals.

New and Expanded Facilities

- Any new or expanded discharge ≥ 40,000 gpd after 7/1/05 must acquire waste load allocations sufficient to *offset* any *increase* in delivered loads and meet the appropriate technology requirement.
- Allocations shall be acquired by...

  a. From one or more permitted facilities in the same tributary

  b. Acquisition of NPS load allocations through the use of BMPs. BMPs must exceed baseline threshold and be included in the individual VPDES permit.

  c. Allocations purchased from the Water Quality Improvement Fund

  d. Other means as approved by DEQ on a case-by-case basis

Nonpoint Source Load *Offset* Provisions

Special provisions for acquisition of non-point source load allocations through the use of BMP's:

- Work through a public or private entity ~~acting on behalf of land owner~~
- BMP's must achieve reductions beyond those required by or funded under federal or state law, or the VA tributary strategies plans
- Included as conditions in the individual VPDES permit.
- Aggregators may serve as nutrient banks.

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Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: Guidance for Agricultural Landowners and Your Potential Trading Partners

Step 7 Authenticate offsets and trade
Step 6 Implement project
Step 5 Qualify offset project
Phase II
Implementing Your Trade
Step 4 Achieve and verify baseline requirements
Step 3 Identify an offset broker
Step 2 Calculate potential offsets
Phase I
Planning Your Trade
Step 1 Assess progress toward baseline

Ag Baseline BMP Requirements

Implementation of.....

- Soil Conservation Plan
- Nutrient Management Plans
- Cover Crops
- Livestock Stream Exclusion w/ 35’ buffer
- 35’ Riparian buffer

Baseline requirements apply to entire FSA Tract.

Ag BMP Enhancements to Generate Credits

Implementation of.....

- Soil Conservation Plan – Continuous No-Till
- Nutrient Management Plans – 15% N reduction on corn
- Cover Crops – Early planting date
- Livestock Stream Exclusion w/ 35’ buffer – Increase size
- 35’ Riparian buffer – Increase size
- Land Conversion

It takes lots of acreage to create a meaningful offset

James Basin BMPs: Single BMP

BMP	West of I-95		East of I-95	
	TN	TP	TN	TP
Early Planted Cover Crops	0.54	0	0.91	0
15% Nitrogen Reduction on Corn	1.75	0	3.70	0
Continuous No-Till	1.05	0.49	1.13	0.19

James Basin BMPs: Combination BMPs

BMP	West of I-95		East of I-95	
	TN	TP	TN	TP
Early Planted Cover Crops & 15% Nitrogen Reduction on Corn	2.14	NA	4.29	0
Early Cover Crop & Continuous No-Till	1.38	0.49	1.66	0.19
15% Nitrogen Reduction on Corn & Continuous No-Till	2.53	0.49	4.46	0.19
Early Cover Crop & 15% Nitrogen Reduction on Corn & Continuous No-Till	2.86	0.49	4.99	0.19

James Basin Land Conversion

BMP	West of I-95		East of I-95	
	TN	TP	TN	TP
Cropland to Forest	5.48	1.22	9.34	0.93
Cropland to Hay	4.05	0.60	3.45	0.36
Cropland to Mixed Open (fallow)	3.44	0.33	3.08	0
Hay to Forest	3.28	0.98	13.35	2.16
Hay to Mixed Open (fallow)	1.24	0.09	7.09	0.47
Pasture to Forest	0.67	0.50	13.33	1.74

Nonpoint Source Nutrient Banks Approved to Date

Project Name	Urban/ Ag BMPs	County	Basin	Credits Released		Credits Used/Retired		Credits Available	
				TP	TN	TP	TN	TP	TN
Wildwood Properties	Ag land conversion	Appomattox	James	101	376	13.084	48.71	87.916	327.29
Cranston Millpond	Urban BMP	James City	James	752	1655	5.91	13.01	746.09	1641.99
Malvern Landbank	Ag land conversion	Powhatan	James	62.04	278.66	15.9	71.39	46.14	207.27
Eastern Henrico Nutrient Bank	Ag land conversion	Henrico	James	31.08	115.81	0.00	0.00	31.08	115.81
Rappahannock Nutrient Bank	Ag land conversion	Orange	Rappahannock	81.80	260.93	0.00	0.00	81.8	260.93
Pamunkey Farms	Ag land conversion	New Kent	York	41.93	436.8	0.00	0.00	41.93	436.8
Swiss Dixie	Ag land conversion	Amelia	James	250.39	838.04	0.00	0.00	250.39	838.04

October 2012

Current DEQ/DCR Processing

- Initial site visit
  - Establish land use as of July 1, 2005 – can be difficult
  - Establish baseline requirements for FSA tract
- Trees planted and formal Nutrient Reduction Plan submitted
  - Management practices and baseline documentation
  - Forest Stewardship Plan
  - Restrictive Covenants for land conversion
  - Financial Assurance (CD, Letter of Credit or Bond)
  - Calculation of TP and TN offsets generated
  - Reporting Procedures
- DCR issues recommendation letter
- DEQ issues Nutrient Reduction Certificate
- Credits released for sale upon completing any conditions of approval (financial assurance, covenants recorded, etc.)

Tree Planting

Managing Competition

Machine planted hay field followed by herbicide application

Managing Competition

Row crop site left fallow for one year and then hand planted in trees with no further management

Urban Storm Water BMP's

Stream Restoration

Wetland Mitigation Banks

Shellfish Aquaculture?

Algal Turf Scrubbing?

Questions?

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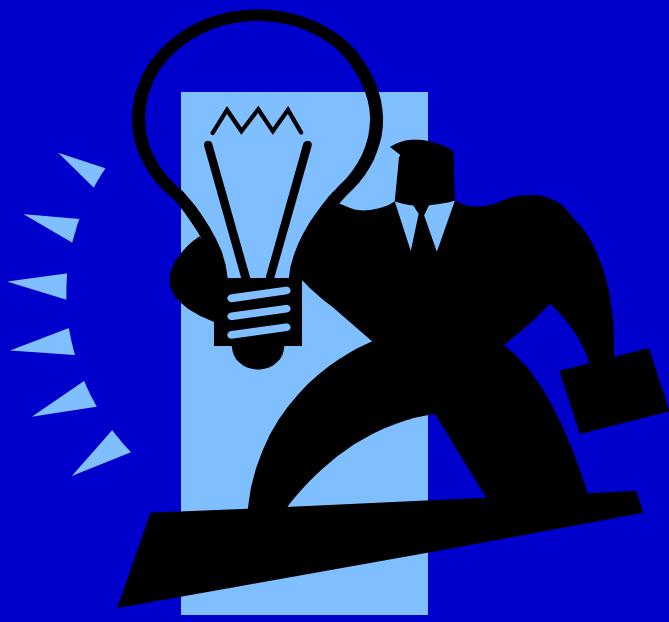
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