Stormwater Quality Trades:
Virginia
Farms and Highways

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- Why is USDA involved?
- Why Virginia?
- What are the insights
- or take-ways?

Why Environmental Markets?

- New dollars from point sources and private sources to support and expand conservation cost-effectively

Why USDA? *Farm Bills: 2008 & 2014*

- New revenue stream for private farms and forests to supply quantified and verified ecosystem services and environmental credits
  - Supports and expands conservation on farms
  - Keeps farmers farming

Why the Chesapeake Bay? *Executive Order: 2009 & 2014*

- Restore the Chesapeake through federal and state agency partnerships
- Environmental markets as an important mechanism

VA Dept of Environmental Quality (DEQ) provides clear guidance for:

- Landowners and credit aggregators to create verified nutrient credit banks

  "VA DEQ Trading Nutrient Reductions from Nonpoint Source Best Management Practices in the Chesapeake Bay Watershed: Guidance Agricultural Landowners and Your Potential Trading Partners, 2009"

  - Narrative that describes how to qualify credit generation projects, and then how to secure, verify, and register credits once the practices are implemented
  - Look up chart of calculations for phosphorus and nitrogen pounds retained per type of practice and location
  - Forms for qualifying credit generation projects, and then securing, verifying, and registering credits are provided

VA Dept of Environmental Quality (DEQ) provides clear guidance for:

- New commercial, residential, and highway construction projects to partially offset stormwater quality discharge loads, *if there are no negative impacts to local water quality,* and when:
  - The project will disturb less than 5 acres of land; or
  - The phosphorus removal requirement of the project is less than 10 lbs per year; or
  - The applicant demonstrates that 75% of the water quality requirement is met on-site, allowing the remainder to be met through offset purchase; **or**
  - The applicant demonstrates that on-site practices have been considered to the maximum extent practicable and that full compliance to the water quality requirements cannot be met on-site.

Timeline of Activities:

- May 2012 — USEPA and USDA reach out to USDOT and FHWA: State DOTS have authority to use water quality credits under CWA and can use their federal dollars to purchase them (if needed).
- Summer '12 — EPA and USDA foster communications between VA DOT and DCR (Now DEQ) about the increased stormwater nutrient management under the TMDL.
- Winter '12 — USDOT hosts VTC between federal and state agencies to identify issues, respond to questions, and need for assistance
- May 2013 — USDA, FHWA and VDOT hold strategy session in Virginia to discuss project needs assessment and cost-effectiveness analysis
- July 2013 — VDOT Policy Memo IIM-LD-251: The Purchase of Nutrient Credits to Address Post-Construction Water Quality Reduction Requirements for Construction Activities
- Fall 2013 — VDOT issues Invitations To Bid (ITB) for Potomac & James Rivers basins and issued first contracts for nutrient credit purchases

VDOT Projects – VA Stormwater Management Program (VSMP) Permits

- Small road construction projects connected to existing roads, such as
  - Turn lane or extra lane
  - New approach to bridge
  - No available land to expand project to manage nutrients
  - Need 0.2 to 4.5 lbs of phosphorus per project
  - 42 projects in the James & Potomac River Basins since December 2013

VA DEQ Verified Credit Generation Type Supplied by Farmers

- Permanent or perpetual
- There are no baseline set of practices described in Virginia for land conversions, but the nutrient reduction calculations are conservative
- Secured by deed restriction and letter of credit
- Verification every few years – the presence of trees is easy to verify
- Land conversion to “forest” – now defined in the draft proposed rule as **400 woody stems per acre**
  - *They are willing to consider agroforestry practices on a case by case basis, and could calculate based on the woody stem count*

VDOT - Actual Credits Purchased and "Trued-Up" to Date

2014	Price/ lb	January		February		March		April	
Basins		Credits	Dollars	Credits	Dollars	Credits	Dollars	Credits	Dollars
Potomac	18,700	16.87	$ 315,469.00	10.8	$ 201,960.00	8.52	$ 159,324.00		$ -
James	10,430	2.02	$ 21,068.60	1.22	$ 12,724.60	0	$ -	2.75	$ 28,682.50
Monthly SubTotals		18.89	$ 336,537.60	12.02	$ 214,684.60	8.52	$ 159,324.00		$ 28,682.50
Total-to-Date		18.89	**$ 336,537.60**	30.91	**$ 551,222.20**	39.43	**$ 710,546.20**	39.43	**$ 739,228.70**

VDOT – Potential by end of 2014

- $185,000 per month projects to $ 2 million in 2014
- Plus additional "Invitations To Bid (ITB)
  - Rappahannock is "out on the street"
  - York is in process as a sole source

INSIGHTS AND TAKE-AWAYS

• Offsetting new construction loads only	Non-controversial as compared to water treatment plants or MS4s
• Offsetting small projects that could not be done otherwise	Because land is unavailable or excessively expensive*
• Permanent or perpetual credits - high value, but lower cost /risk	Lower cost to maintain* and less risk of failure or fraud than annual practices
• Aggregated land-based credits	Greater environmental efficiencies and long-term benefit than on-site engineered solutions
• Agroforestry potential	*May* be lower per acre nutrient credit value because may be less dense, but could increase farmer participation if there is potential for more long-term farm income. *Also, GHG credits possible?*

**** Further analysis – VDOT Report***