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Lancaster County Farm Statistics 2005 USDA NASS Data

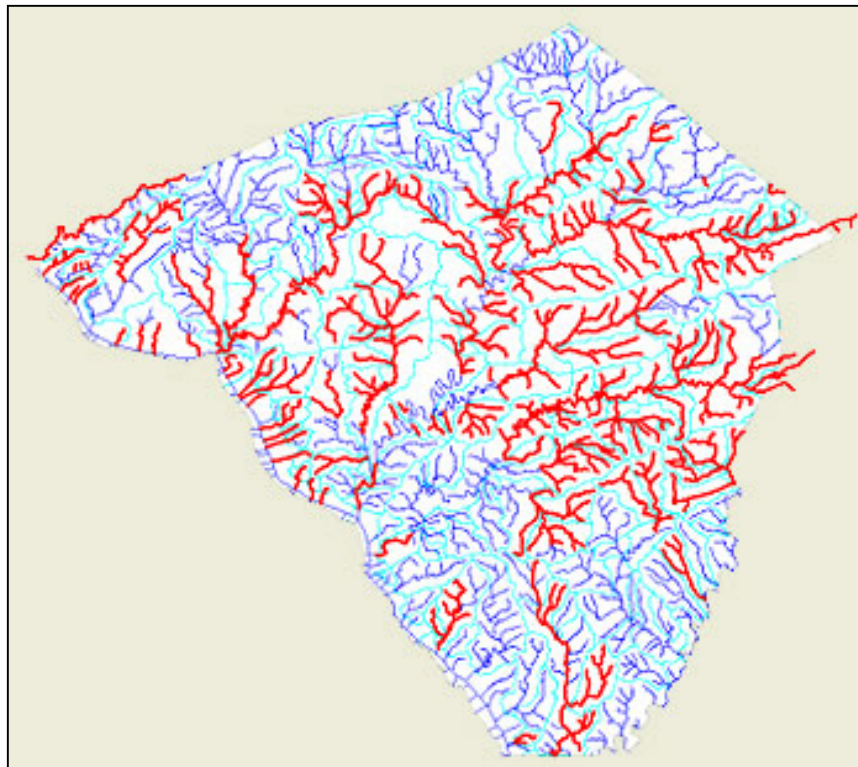
- 5,305 Farms
- 409,500 Acres in Farm Production
- 77 Acres is Average Farm Size
- 102,300 Milk Cows
- 9,344,300 Poultry Broilers & Egg Layers
- 335,000 Head of Swine

Lancaster County Land Use Data



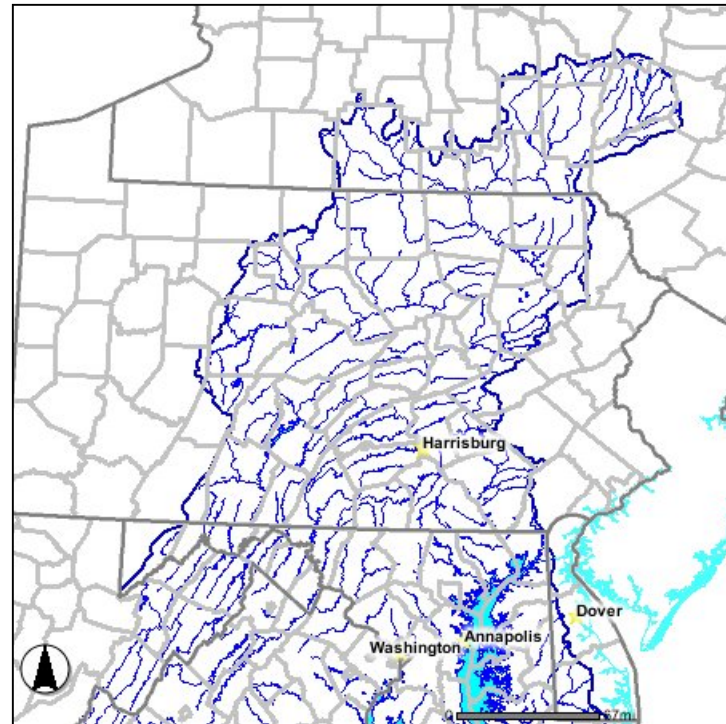
Lancaster County Stream Data

- 1,300 miles of streams and creeks
- 40% of these streams are impaired



Chesapeake Bay

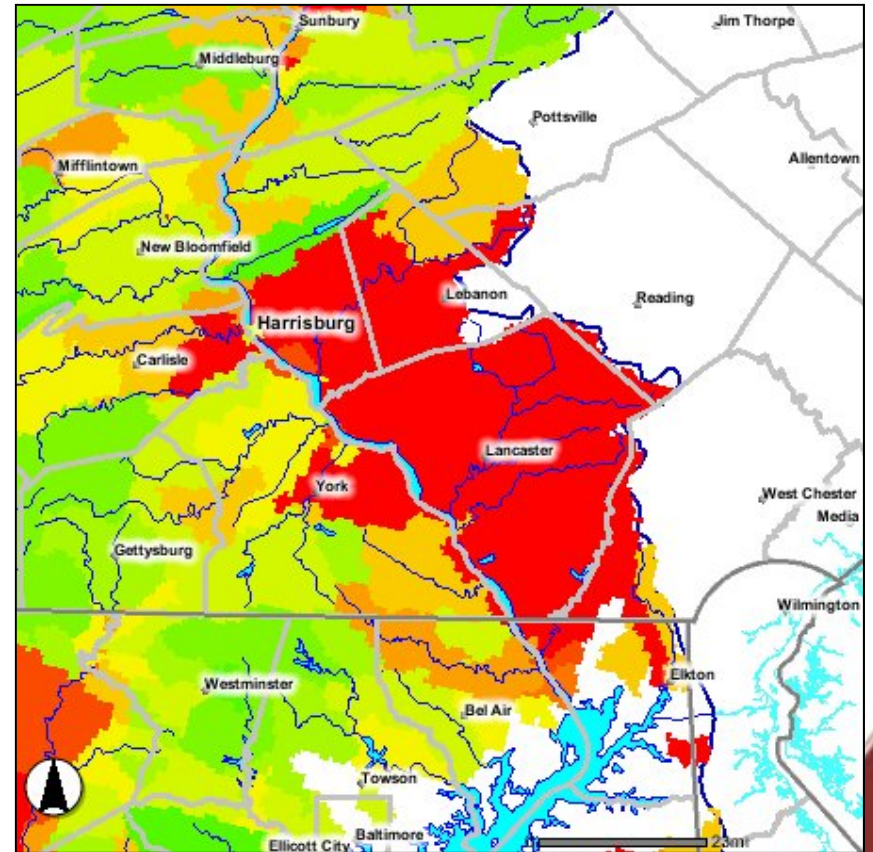
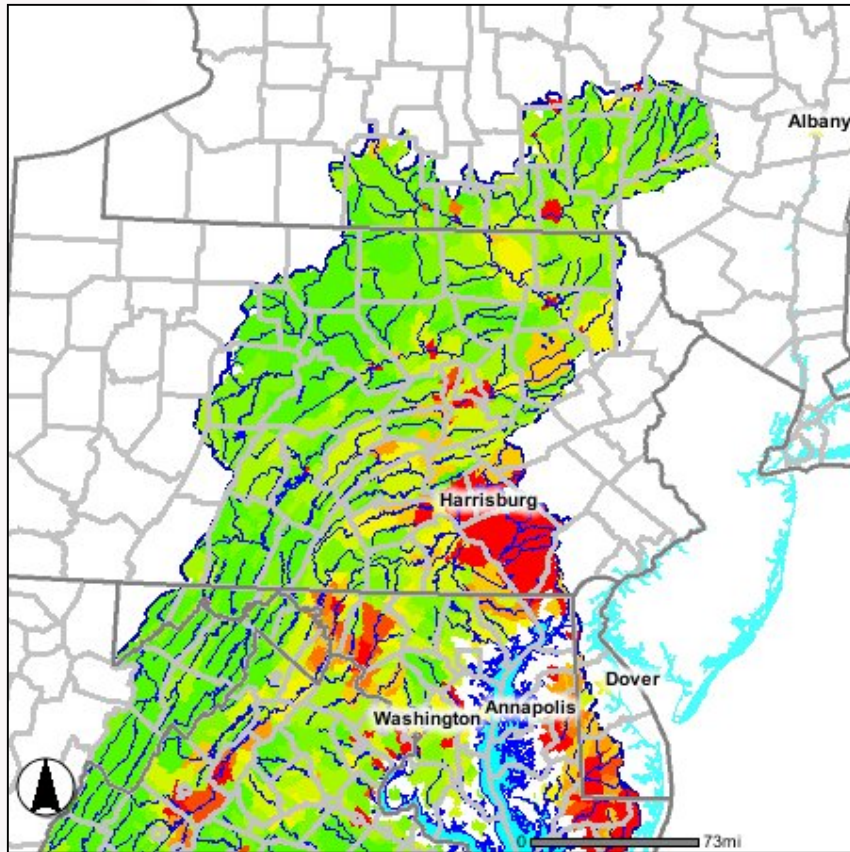
New York, Pennsylvania, West Virginia,
Maryland, Virginia.



PA Specific Agreement

- CAP Nutrient Load to the Bay
 - 71.9 million pounds nitrogen
 - 2.46 million pounds phosphorous
 - 0.995 million tons sediment
- Reduction Goals to Meet CAP
 - 48.2 million pounds nitrogen
 - 1.98 million pounds phosphorous
 - 0.25 million tons

Annual Nitrogen Loads Delivered to the Chesapeake Bay



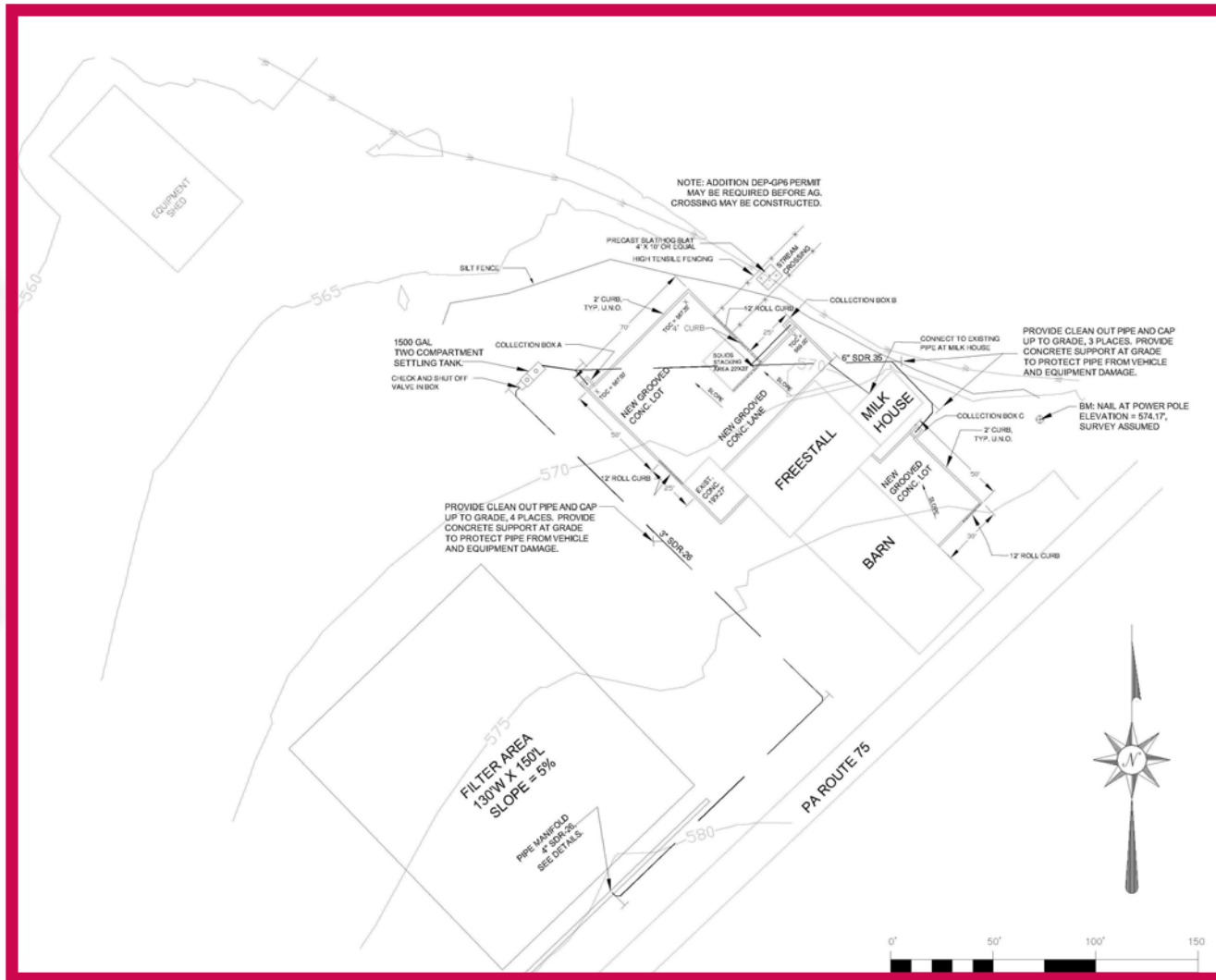
Barnyard BMP Example A Before



Barnyard BMP Example A Before



Barnyard BMP Example



Barnyard BMP Example A After



Barnyard BMP Example A After



Types of Nutrient Credit Projects

- 26 ag-related non-point source BMP's listed in the Chesapeake Bay Model:
 - Removal of manure application from watershed
 - Combustion of manure
 - Nutrient treatment of manure
 - No-Till Farming
 - Cover crops
 - Riparian buffers
 - Reduced nutrient applications
 - Precision nutrient management

Nutrient Trading Basics

- 1 pound of Nitrogen = 1 N Nutrient Credit
- 1 pound of Phosphorous = 1 P Nutrient Credit
- A non-point source must first meet baseline and threshold requirements before they are able to trade. BMP's above and beyond baseline standards constitute nutrient credit generating projects.
- Shelf life of credits is the water year (October – September)
 - Credits cannot currently be banked one year and sold in another year
- Chesapeake Bay made up of two watersheds
 - Susquehanna Watershed and the Potomac Watershed
 - Credits must be generated and traded in the same watershed

Nutrient Trading Basics

- Site specific BMP for credit generation must first be approved by DEP.
 - Credit Calculations
 - Watershed Delivery Ratio
 - Edge of Segment Ratio
 - DEP Reserve Ratio
- After DEP approval we are issued a site specific credit certification for that project.
- Only DEP certified credits can be sold on the open market.

Where we are Today

- Executed the first nutrient credit point to non-point source trade in Pennsylvania 10/18/2006.
- Executed the first long term sales agreement with Fairview Township 4/10/2008.
 - 15 year contract
 - 20,000 pounds of nitrogen per year
- 450,000 certified nutrient credits
- Reserving credits for both municipal authorities and developers.
 - Sales agreements
 - Letter of credit reservation

Does Trading Make \$ense

- Nutrient Credit Trading is not a panacea to meet Chesapeake Bay Tributary Strategy Goals
- Nutrient Credit Trading needs to work within capitol upgrades for the most cost effective solution for POTW's.
- Nutrient Credits can satisfy the gap in regulatory requirements during the time before capital upgrades are implemented.
- Developers and new point sources don't have an option with purchasing credits since they must treat to 0. Developers will need a trading component to satisfy their NPDES permit.

Peter's Soap Box



Thank You / Questions



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