

Reducing Pollution Loads from Centre County Farms
Growing Greener Program / Project #4100080567
Sponsor: Centre County Conservation District

Project Description: This Project involved the development of required farm plans and the construction of BMPs to reduce polluted runoff from entering local streams and groundwater. These activities follow recommendations listed in the PA Chesapeake Bay Watershed Implementation Plan and the Centre County Chesapeake Bay Tributary Strategy. **Project timeframe:** January 2018 thru November 2021.

Project Goal: The goal of this grant was to reduce non-point source pollution that is attributed to agricultural operations located in the Halfmoon, Marsh and Elk Creek Watersheds. This Growing Greener Grant was used in conjunction with other funding sources to install Best Management Practices on the Weaver Davison Farm, Weaver Family Home Farm, Dave Burkey Farm and the Amos H. Stoltzfus Farm. The BMPs help reduce nutrient and sediment loading into local streams and ultimately the Chesapeake Bay. The Centre County Conservation District targeted Nutrient Management & Conservation Plan development, Riparian Restoration, Manure Storage Systems and treating runoff from Animal Concentration Areas in the implementation of this grant agreement.

Project Results: Below summarizes the BMPs and quantities installed on the 4 farms

1066 acres- Comprehensive Nutrient Management Plan Development	3 Manure Stacking Facilities (38,089cuft)
15,482 feet of Streambank Fence	1 Liquid Manure Storage Facility (118,164cuft)
24.8 acres of Forested Riparian Buffer plantings	32,224sqft of Heavy Use Area Protection
5 Stabilized Stream Crossings	32,070sqft of Roof & Covers
1 Stabilized Stream Access Ramps	2,234 feet of Roof Runoff Controls
1,881 feet of Stabilized Cattle Walkway	3,784 feet of Underground Outlet
17,400sqft of Stabilized Access Road	300sqft of Lined Outlet
1,520 feet of Diversion	5,200sqft of Obstruction Removal
12,063 feet of Fence (Pasture / Walkway / Diversion / HUA / Manure Storage)	992 feet of Subsurface Drain
2 Structures For Water Control (Type M Inlets)	460 feet Waste Transfer Pipeline (Silage Leachate)
4.25 acres of Critical Area Planting	1 Pumping Plant (Pump & Tank-Silage Leachate)
2,600sqft of Vegetative Buffer	1,995 feet of Water Supply Pipeline
12 acres of Forage Planting	9 Watering Facilities
6.2 acres Conservation Cover (Pollinator Habitat)	1 Spring Development
1 Rain Garden (treatment for roof runoff)	1 Sediment Basin (NPDES)



Before



After

Estimated Pollution Load Reductions (Obtained from FieldDoc & PSU Agronomy Guide)

Nitrogen ---11,300 lbs. per year
 Phosphorus--- 4,544 lbs. per year
 Sediment--- 80 tons per year

In addition livestock were excluded from 8,775 linear feet of stream, 24.8 acres of forested riparian buffer were restored, 24 acres of Animal Concentration Areas were eliminated, 4 manure storage facilities were constructed to store 3,412 tons and 1.7 million gallons of manure. Nutrient Management / Conservation Plan development on over 1,000 acres.

Project Costs: Total costs for installing BMPs on 4 farms was \$1,738,910.50. The Growing Grant #567 accounted for 40.4% of the total cost. We were able to obtain 42.1% of the total cost as match. 17.5% of the costs came from Growing Greener #701.

Breakdown of cost share:

Growing Greener Grant #4100080567: **\$702,147.00** (cash)
 NRCS (EQIP): **\$610,722.04** (cash)
 Growing Greener Grant #4100080701: **\$303,941.50** (cash)
 Landowner Contributions: **\$44,071.48** (cash)
 Conservation Reserve Enhancement Program: **\$33,766.60** (cash)
 Chesapeake Bay Foundation (Buffer Bonus): **\$24,722.35** (cash)
 Chesapeake Conservancy (NFWF): **\$10,381.99** (cash)
 Centre CCD Staff: **\$9,157.54** (In-Kind)

Lessons Learned: Heavy Use Area Protection is only effective in reducing nutrient & sediment runoff if properly managed.

Project Partners: Centre County Conservation District, Natural Resources Conservation Service, Chesapeake Bay Foundation, Chesapeake Conservancy, ClearWater Conservancy, State Conservation Commission, Department of Environmental Protection, and the landowners.

Programs: Growing Greener, Environmental Quality Incentive Program, Conservation Reserve Enhancement Program, Buffer Bonus Program, Resource Enhancement and Protection Program, National Fish & Wildlife Foundation and Penn Vest

Engineering Consultants: R&R Engineering & TeamAg Inc.

Contractors: T.M. Perryman Excavating, Bud Snyder Excavating, Yarnell Excavating, Jim Confirm Excavating, Creekside Concrete Construction, S&L Builders, White Deer Concrete, Native Creations, Warriors Mark Fencing.

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