





# Virginia's Agricultural BMP Loan Program & AgBMP Success Story

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## Virginia Agriculture

- Virginia's largest private industry
- Approximately \$70 billion annually economic impact and provides more than 334,000 jobs
- Approximately \$3.9 billion in total agricultural outputs (2017)



Sources: The Economic Impact of Virginia's Agriculture and Forest Industries, Weldon Cooper Center for Public Service, University of Virginia, 2017 and 2017 USDA Census of Agriculture, 2016 survey data from NASS and the Economic Research Service (ERS)

# Virginia Agriculture

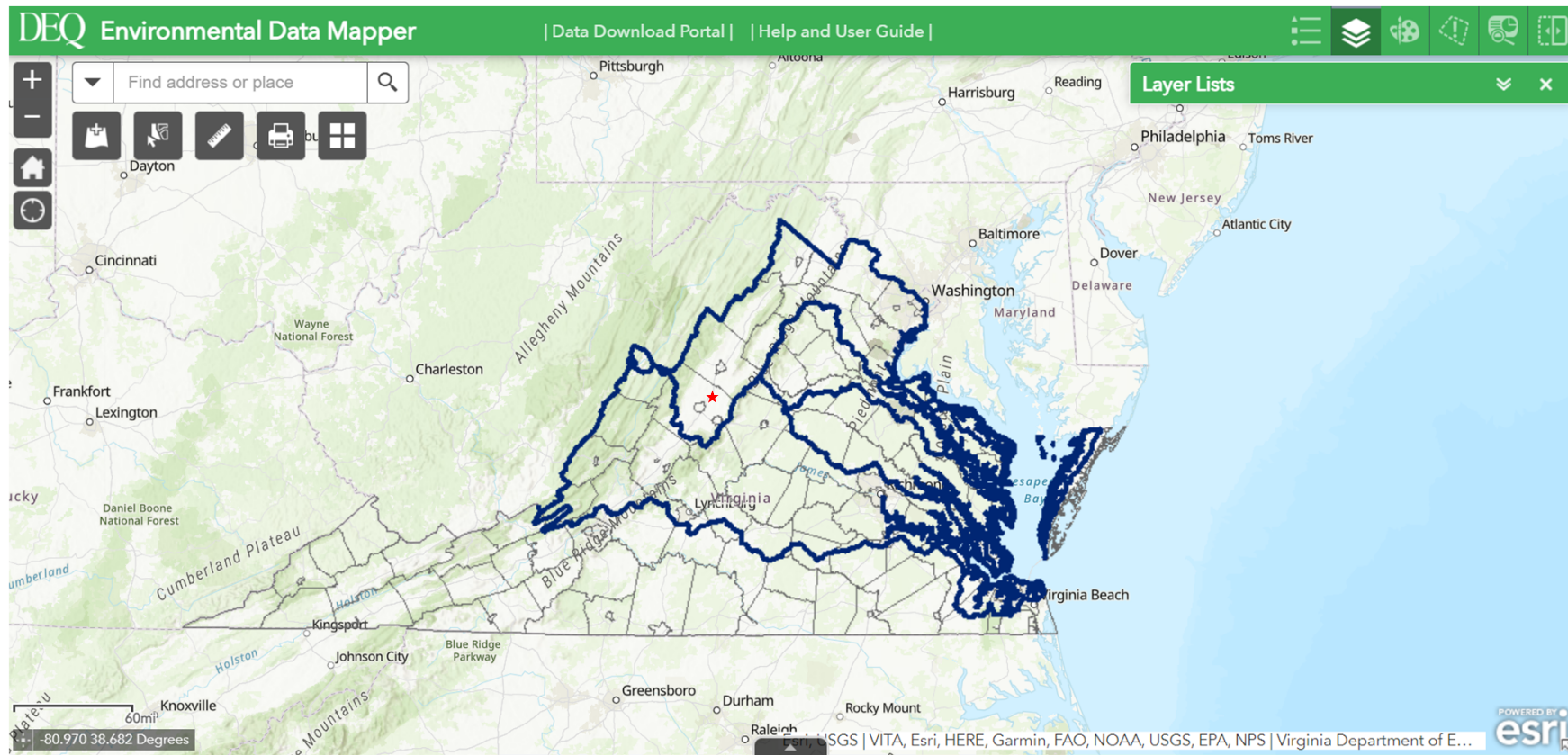
## Market Value of Agricultural Products sold in 2017

Rank	County	Total
1	Rockingham	\$795,919,000
2	Augusta	\$292,547,000
3	Accomack	\$163,269,000
4	Page	\$150,125,000
5	Shenandoah	\$142,825,000
6	Orange	\$113,069,000
7	Northampton	\$95,991,000
8	Amelia	\$86,577,000
9	Southampton	\$75,062,000
10	Pittsylvania	\$72,678,000



Source: 2017 USDA Census of Agriculture, 2016 survey data from NASS and the Economic Research Service (ERS). Highlighted counties are located in the Chesapeake Bay watershed

# Virginia Agriculture-Chesapeake Bay Watershed/Basins





# Virginia's Chesapeake Bay Phase III Watershed Implementation Plan (WIP)

<b>Table 2: Virginia's Bay Watershed Sector Loads and Reductions (in pounds)</b>			
<b>Nitrogen (pounds)</b>			<b>Reductions Identified in WIP III Final</b>
	<b>2017 Progress Load</b>	<b>WIP III Final Load</b>	
<b>Wastewater</b>	12,743,000	12,754,000	-11,000
<b>Agriculture</b>	19,726,000	13,145,000	<b>6,581,000</b>
<b>MS4 Developed</b>	3,708,000	3,483,000	225,000
<b>Non-MS4 Developed</b>	8,827,000	7,902,000	925,000
<b>Natural</b>	11,208,000	10,436,000	772,000
<b>Federal</b>	1,942,000	1,855,000	87,000
<b>Total</b>	<b>58,155,000</b>	<b>49,573,000</b>	<b>8,582,000</b>
<b>Phosphorus (pounds)</b>			<b>Reductions Identified in WIP III Final</b>
	<b>2017 Progress Load</b>	<b>WIP III Final Load</b>	
<b>Wastewater</b>	947,300	946,000	1,300
<b>Agriculture</b>	1,568,500	1,027,500	<b>541,000</b>
<b>MS4 Developed</b>	410,000	394,700	15,300
<b>Non-MS4 Developed</b>	881,100	766,900	114,200
<b>Natural</b>	2,023,000	1,822,900	200,100
<b>Federal</b>	292,200	272,000	20,200
<b>Total</b>	<b>6,122,200</b>	<b>5,230,000</b>	<b>892,200</b>

Source:  
Commonwealth  
of Virginia,  
Chesapeake Bay  
TMDL Phase III  
Watershed  
Implementation  
Plan, August 23,  
2019

## VA's Agricultural Best Management Practices (AgBMP) Program Background

- Original AgBMP Loan program
  - ❑ Established in 2000
  - ❑ Total of 491 projects
- Suspended in 2016
  - ❑ Due to waning interest
- Reinstated July 1, 2019
  - ❑ Recognized as critical in Virginia's efforts to meet Chesapeake Bay goals
  - ❑ Administration supported additional incentives
  - ❑ Incentives required Code changes

## Current DEQ AgBMP Loan Program

- Total revolving loan fund of \$28 Million
- Applications ranked based on TMDL watershed(s) and estimated nutrient reductions
- 0% interest for up to 10 years dependent on lifespan of practices and useful life (No Till Drill up to 7 years)
- Cost-share/financial assistance goes directly to pay down the principal as a balloon payment



## Current DEQ AgBMP Loan Program

- DEQ Clean Water Financing and Assistance Program Project Managers
  - Boots on the ground
  - Work directly with farmers (loan applicants/recipients), SWCD, and NRCS
- Virginia Resources Authority
  - Conduct credit reviews (Farm Credit assists in some cases)
  - Underwrite loans
  - Disburse eligible payments during construction
  - Collect payments upon project completion

# Current DEQ AgBMP Loan Program

Practice #	Practice Name
EM-1AT	Small Scale Manure Composting for Equine Operations – Aerated Systems
EM-1T	Small Scale Manure Composting for Equine Operations – Static Systems
FR-3	Woodland Buffer Filter Area
LE-1T*	Livestock Exclusion with Riparian Buffers
LE-2T*	Livestock Exclusion with Reduced Setback
SE-2	Shoreline Stabilization
SL-1**†	Long Term Vegetative Cover On Cropland
SL-4	Terrace System
SL-5	Diversion
SL-6A	Small Acreage Grazing System
SL-6AT	Small Acreage Grazing System
SL-6B	Alternative Water System
SL-6N	Stream Exclusion with Narrow (<35 ft) Width Buffer and Grazing Land Management
SL-6W	Stream Exclusion with Wide (>35 ft) Width Buffer and Grazing Land Management
SL-7	Extension of Watering Systems
SL-11B	Farm Road, Animal Travel Lane, Heavy Use Area Stabilization
WP-1	Sediment Retention, Erosion or Water Control Structures
WP-2A	Streambank Stabilization
WP-2B	Stream Crossing & Hardened Access
WP-2C	Stream Channel Stabilization
WP-2N	Stream Protection -Fencing with Narrow (<35 ft) Width Buffer

Practice #	Practice Name
WP-2W	Stream Protection - Fencing with Wide (>35 ft) Width Buffer
WP-2T*	Stream Protection (fencing)
WP-4	Animal Waste Control Facility
WP-4B	Dairy Loafing Lot Management System
WP-4C	Composter Facilities
WP-4E	Animal Waste Structure Pumping Equipment
WP-4F	Animal Mortality Incinerator Facilities
WP-4LC**	Animal Waste Control Facility for Confined Livestock Operations
WP-4LL**	Loafing Lot Management System with Manure Management (excluding bovine dairy)
WP-4SF**	Seasonal Feeding Facility with Attached Manure Storage
WP-5	Stormwater Retention Pond
WP-6	Agricultural Chemical & Fertilizer Handling Facility
WP-7	Surface Water Runoff Impoundment for Water Quality
WP-8	Relocation of Confined Feeding Operations From Environmentally Sensitive Areas
WQ-5	Water Table Control Structure
WQ-6	Constructed Wetlands
WQ-6B	Wetland Restoration
WQ-7	Irrigation Water Recycling System
WQ-8	Fuel Storage Treatment
WQ-11	Agricultural Sinkhole Protection
WQ-12	Roof Runoff Management System
NTD†	No-Till Planter/Drill

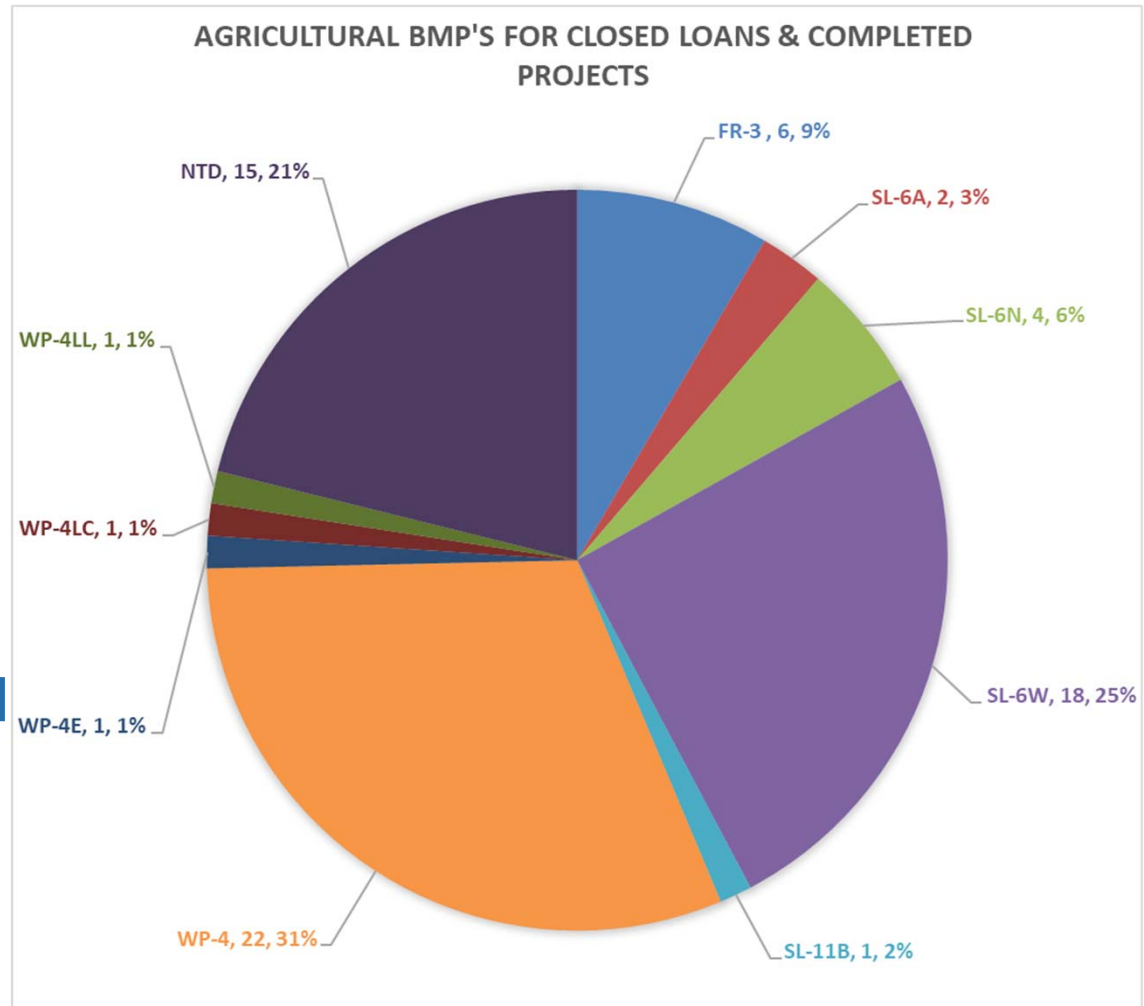
\* LE-1T replaced with SL-6W for FY2021, LE-2T replaced with SL-6N for FY2021, WP-2T replaced with WP-2N and/or WP-2W for FY 2021

\*\* Newly eligible loan practices beginning in FY 2021

† SL-1 has maximum loan term of 5 years, NTD has maximum loan term of 7 years

## AgBMP Loan Program- Current Dashboard as of 12-9-2021

- 185 total applications
- \$10,876,206.34 in 71 loans closed (30 completed projects)
- \$18,357,609 obligated
- \$3,604,253 cost-share repayments
- \$13,246,644 unobligated



# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Details

- 140 cow/calf pairs on approx. 375 acres
- 2 wells and pumping plants
- 11 troughs
- Approx. 12,000' or 2.2 miles of pipeline
- Approx. 23,104' or 4.3 miles of exclusion fence
- Approx. 77 acres of riparian buffers both herbaceous and forested
- Approx. 27,000 linear feet or 5.1 miles of streambank excluded



# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Details

- Reduced Annually
  - Approx. 3,481 lbs of Total P
  - 9,713 lbs of Total N
  - 1,056 tons of TSS
- Total project cost of \$229,412.20
  - Approx. \$66/lb of P
  - \$24/lb of N
  - \$217/ton of TSS
- Great example of funding and conservation partnerships!!



Above nutrient reductions calculated based on the Chesapeake Assessment Scenario Tool (CAST) Model for Virginia, Grass Buffer, Streamside with Exclusion Fencing

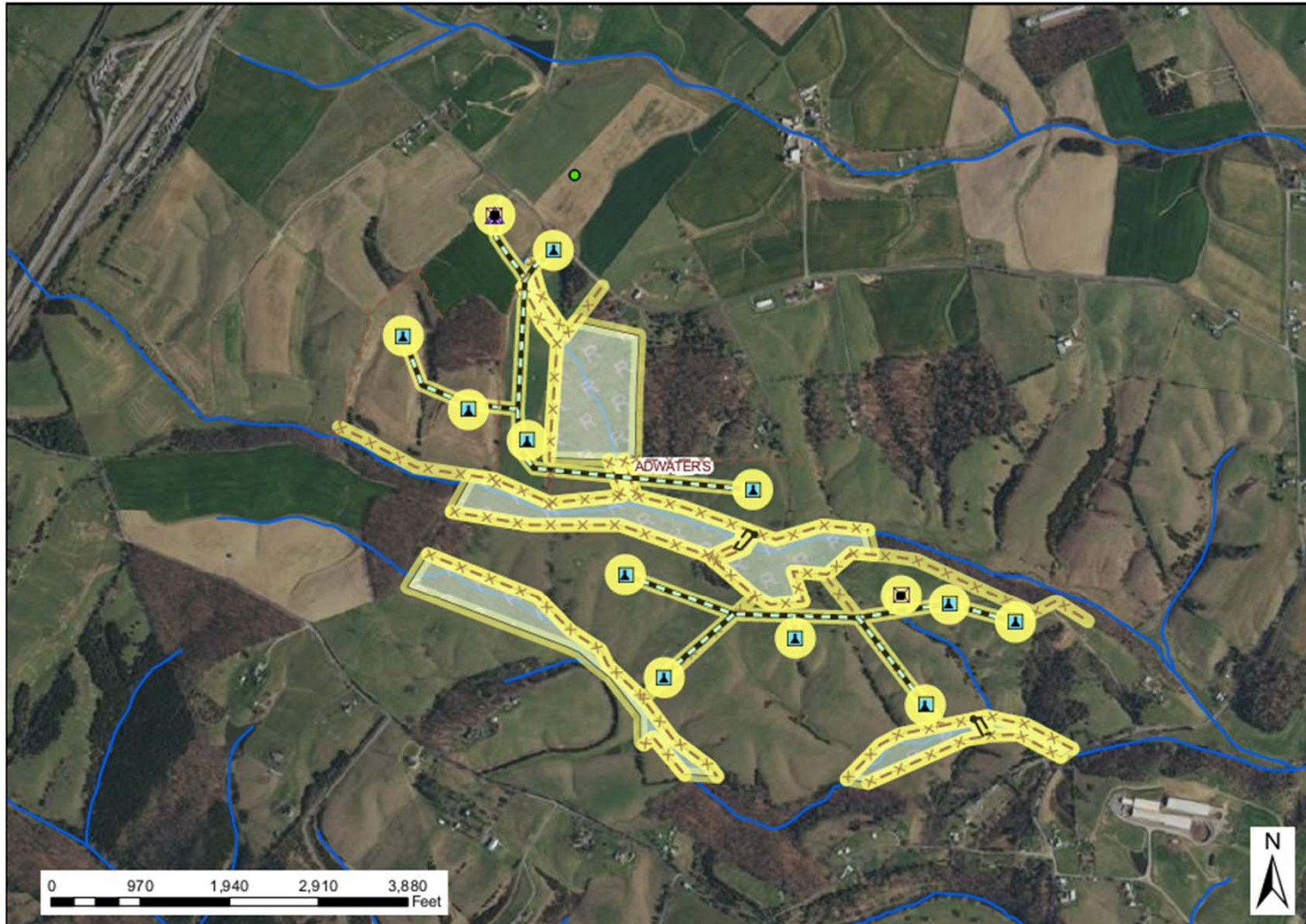


## BMP Map

**Practice:** SL-6W: Stream Exclusion with Wide Width Buffer and Grazing Land Management

**Instance ID:** 373323

**Date:** 12/03/2021



Final as-  
built map  
courtesy of  
Headwaters  
SWCD

DEQ



## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers



### Before

- Streambank Erosion
- Direct Deposition
- Over grazing & under grazing
- Streams as only water source
- Poor manure distribution





## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

**BEFORE**



**AFTER**





## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

**AFTER**



**AFTER**



17 Trough photo courtesy Headwaters SWCD



## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

**AFTER**



**AFTER**





## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

**AFTER**



**AFTER**





## Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

**AFTER**



**AFTER**



# **Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers**

**Garber Farms Interview Video December 2021**

# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Benefits

- Water Quality
  - ☐ Reduced streambank erosion and elimination of direct manure deposition
  - ☐ Better managed pasture paddocks = better forage and less run-off
  - ☐ Protected riparian buffers that will reduce run-off and nutrient loading to the streams
  - ☐ Potential for reduced stream temperatures in the forested buffer areas





# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Benefits

- Soil Quality (Soil Health)
  - ☐ Rotation grazing = better manure distribution
  - ☐ Better forage management = healthier forages and healthier soil
  - ☐ Less compaction in concentrated areas
  - ☐ No livestock access to streambanks



# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Benefits

- Financial
  - ☐ Pasture paddocks allow for better maintenance of fertilizer, lime, weed control
  - ☐ Easier pasture/herd management leads to less time and labor
  - ☐ Less calves lost due to calving in/near the streams





# Garber Farms, Inc.- Stream Exclusion and Grazing Land Management with Riparian Buffers

## Project Outcomes

- Partnership
  - ❑ 100% cost-share from two funding sources and 0% interest AgBMP loan
- Conservation Award Winners
  - ❑ EPA PISCES “Excellence in System Partnerships”
  - ❑ Clean Water Farm Award Winner-Headwaters SWCD
  - ❑ Shenandoah Grand Basin Clean Water Farm Award Winner-DCR



Photo Courtesy Headwaters SWCD 

**Questions?**

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