
2015 Achievement Awards Virginia Association of Counties

APPLICATION FORM

All applications must include the following information. Separate applications must be submitted for each eligible program. **Deadline: June 1, 2015.** Please include this application form with electronic entry.

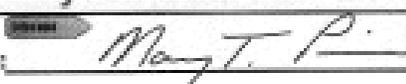
PROGRAM INFORMATION

Locality: Shenandoah County
Program Title: Shenandoah County Sustainable Farm Demonstration
Program Category: Environmental

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR CHIEF ADMINISTRATIVE OFFICER

Name: Mary Beth Price
Title: County Administrator
Signature: 

Shenandoah County Sustainable Farm Demonstration

Overview of Situation

According to the Census of Agriculture, 34% of all farmland in Virginia is rented to farmers. This equates to almost 40,000 acres of Shenandoah County farmland. Rented farmland often becomes unproductive due to excessive erosion, poor fertility, overgrown pasture, fence and building disrepair or related problems. Also, it is important for this land to be farmed in an environmentally sound manner. Otherwise, we will not be able to maintain good water quality or achieve goals associated with the Chesapeake Bay. In short, the long term viability of agriculture in Shenandoah County and throughout Virginia is dependent upon this rented land being both productive and managed in an environmentally sound manner. Shenandoah County's comprehensive plan calls for maintaining our rural character AND a vibrant agricultural economy. This County Farm Demonstration contributes to achieving that vision.

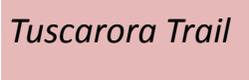
The Shenandoah County Farm is in a unique position to help address these issues. The farm is owned by Shenandoah County. It was released to the county in the year 1798 for the sole use and benefit of the poor. The historic Alms House located on the county farm was used for this purpose until a tragic fire destroyed the house in April 2014. The county's goal is to convert the 160 acres farmland surrounding the Alms House site into this Sustainable Farm Demonstration. There are about 55 acres of pasture on the farm. Cattle were using a pond and a small stream for their water supply. Cattle were continuously grazed (with no cross fencing). A portion of this pasture was highly overgrown because the fence was in disrepair. A barn on the farm was beginning to show significant disrepair. The lease was a year-to-year affair and the farmer had little certainty he would have the property from one year to the next. The farmer had been using no-till farming practices on the 90 acres of cropland. Thus, soil erosion was minimal. However, even with the no-till there were gullies on the farm. Also, some of the cropland needed to be rotated to grass hay but due to the year-to-year nature of the lease, the farmer could not justify the investment. This type of scenario is repeated hundreds of times across the Shenandoah Valley.

Response to the Problem

We decided to transform the County Farm into a ten year whole farm demonstration called the ***Shenandoah County Sustainable Farm Demonstration***. This is a full systems approach that integrates all aspects of long-term farmland sustainability. Sustainable in this context has three distinct meanings: First, the farm demonstrations showcase farming practices that are ***environmentally-sound***. A multitude of Best Management Practices (BMPs) are planned to showcase environmentally-sound agriculture. Second, the farm is sustainable from the viewpoint of ***farm profitability***. A full time farmer is leasing the land. This farmer (or any other farmer) cannot stay in business without being profitable. Finally, the farm will be sustainable from the viewpoint of the ***landowner***. Often landowners will not invest in fencing, building repair, or BMPs because of a lack of certainty that they will recover their investment from land rent. There are seven smaller demonstrations that all focus on achieving the broader goals of a Sustainable farm. These include: (1) a Multi-Year Lease Arrangement; (2) Managed Grazing; (3) Renovating Overgrown Pasture; (4) Excluding Livestock from Surface Water; (5) Grassed Waterways; (6) Continuous No-Till; and (7) Rejuvenating Forest.



Partnerships: This project is a collaborative effort of a multitude of groups.



We work with the people who work the land.



The demonstration was also designed to accommodate other community needs.

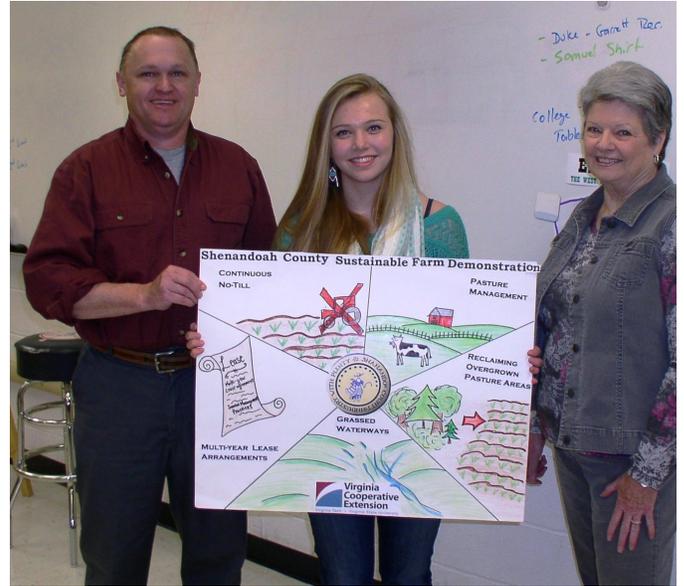
Livestock were excluded from a pond on the farm (to improve water quality). The pond and a small portion of land adjacent to the pond were transferred to the County Park to benefit light recreation. This allowed the Park to expand its disc golf course from nine holes to eighteen holes. The pond is also available for educational purposes.

An unserviceable fence was replaced along a public road (that was needed for the pasture). Removing the fence and excess growth improved road safety. Also, the fence was set back from the road by 15 feet to improve the Tuscarora Trail (The **Tuscarora Trail** is a 252-mile long bypass route of the [Appalachian Trail](#) that passes through Virginia, West Virginia, Maryland and Pennsylvania). It also improved the view of the County Farm for battlefield interpretation (because the County Farm is part of the Civil War Battle of Toms Brook). In the future, this 15 foot wide foot trail will allow people to walk from the park to property owned by the Shenandoah Valley Battlefields Foundation.

Progress to Date

Multi-Year Lease Arrangement: Shenandoah County signed a 10 year lease with a farmer effective February 2013. Components of this lease have been used to assist 10 additional landowners with designing leases for their farmland. There will be additional landowner educational meetings in the future.

A contest was held with the three school Vocational Agriculture Programs and the Massanutten Governor's School for Integrated Environmental Science & Technology. Twenty-one students entered signs. The winning design was used to prepare the sign that represents the demonstration. In addition, 500 copies of a tri-fold brochure were printed to educate people about the Sustainable Farm Demonstration.



Picture Above: Nicole Baker; a student at Central High School (center) displays her winning design with Extension Agent Bobby Clark and Valley Conservation Council Representative Joan Comanor.

Picture Below: Ms. Baker's vision was used to create the sign that represents the Shenandoah County Sustainable farm Demonstration.



Pasture Management and Excluding Livestock from Surface Water:

All fencing and a watering system have been installed for both the managed grazing demonstration and the demonstration of reclaiming the overgrown pasture. This includes over 10,000 feet of fence and 2,000 feet of pipeline. Funding for this effort was a collaborative venture between Shenandoah County, the farmer leasing the land and the Lord Fairfax Soil and Water Conservation District.



A water trough installed to provide water to livestock in lieu of using the pond or small stream.

Livestock were excluded from a pond and a small stream. The pond and a small portion of the pasture was subsequently allocated to the County Park. They have expanded the Disc Golf Course from a nine-hole course to an 18 hole course. The pond and surrounding area is also open to light recreation.



Picture Above Left: The pond on the Shenandoah County Farm prior to livestock exclusion. Picture Above Right: Pond and a portion of farmland adjacent to the pond was made available to the county park. It is being used for disc golf and other light recreation. Picture Below: Aerial image showing the pond and the light recreation area around the pond.



Photo Courtesy of Marty French

Shenandoah County paid for the construction of a new fence along a public road that adjoins the County Farm. This fence is part of the pasture system on the County Farm. This fence had become highly overgrown. Removing the fence and excess growth improved road safety and it improved the view of the county farm. Also, the fence was set back from the road by 15 feet to allow better access to the park for the Tuscarora Trail.



Picture Top Left and Right: Fence along Teaberry Road prior to fence construction (left) and after new fence construction (right). Note the blue paint on the nearest post marking the Tuscarora Trail.

Picture Bottom Left and Right: The County Farm is part of the Civil War Battle of Toms Brook. Removing the overgrown fence along Teaberry Road allows visitors to view the County Farm.

Grassed Waterways: Grassed waterways are installed on farmland to prevent soil erosion in areas where surface runoff is inevitable. Approximately 2.8 acres of grassed waterways have been installed to date. An additional 2 acres will be installed in the future. The waterways are designed to allow surface water to exit the field without causing erosion. Also the grass will filter sediment and nutrients that may run off of the cropland.



The installation of these grassed waterways was a collaborative effort between the USDA Natural Resources Conservation Service; the Lord Fairfax Soil and Water Conservation District; the farmer renting the land and



Shenandoah County (all four paid a portion of the cost for installing these waterways).



Renovating Overgrown Pastures: Three different techniques have been used to remove some of the brush and invasive species (shown in the pictures below). The cost of each has been documented. We conducted one educational meeting about brush control. Landowners and farmers will be able to visit the farm in the future so they can choose the method that is most appropriate for their farm.



This machine, equipped with a shear (hydraulic scissors) were used to remove about 140 honey locust from the county farm.



Top Picture: An invasive tree called Honey Locust were overtaking the pasture. Bottom Picture: These trees were removed to both improve the pasture and improve the view of the battlefield site.

Financial Summary: The table below shows a summary of the expenses associated with this effort. The data in this table is being shared with both farmers and owners of farmland to teach them how to establish long term sustainable relationships. One goal of this project is for the landowner (Shenandoah County) to be financially whole at the end of ten years. As shown in this table current projections show that it is still possible to achieve this goal by the end of the project.

Summary of Work Completed to Date
Fence Constructed: 2 Miles
Underground Pipeline: 2,120 feet
Above Ground Pipeline: 200 feet
Grassed Waterways: 3,099 feet 2.8 acres
Honey Locust Trees Removed: 200
Land Reclaimed: 2 acres

Summary of work to be done:
Grassed Waterways: 2,200 feet
Honey Locust Trees to Remove: 100
Significant Barn and Outbuilding Repair:
Rejuvenation of Wood Land:

	County Portion
Perimeter Fence	\$27,737
Alternative Water System and Interior Cross Fence	
Grassed Waterways	\$5,568
Farm Building Maintenance	\$150
Educational Expenses	None to date
Electricity	\$1,000
Expenses to Date	\$34,455
Projected Future Expenses	
Additional Grassed Waterway Installation	\$4,000
Additional Building Maintenance	\$15,000
Other Maintenance	\$2,000
Educational Expense	\$3,000
Electricity	\$3,500
Projected Total Expenses	\$61,955
Projected Income	\$68,000
Projected Net Return to Landowner	\$6,045

Additional Investment into the County Farm Demonstration

The Combined Investment from GG Farms, the Lord Fairfax Soil and Water Conservation District, the USDA Natural Resources Conservation Service and Valley Conservation Council toward this project to date is over \$65,000 and will likely exceed \$85,000 by the end of the project.

Benefits of the Shenandoah County Sustainable Farm Demonstration:

- We collaborated with Water Stewardship to develop a Continuous Quality Improvement Plan for the County Farm. This plan shows that the installation of the BMP's planned for this demonstration will result in an annual bay load reduction of 1,746 pounds of nitrogen, 107 pounds of phosphorus and 101 tons of sediment per year from the County Farm.
- Components of the 10 year lease have been used to help at least another 10 landowners achieve their goals.
- Hikers (of the Tuscarora Trail); County Park goers, Disc Golf players; and people living along Teaberry Road have benefited from the 15 foot walking trail installed along Teaberry Road and by allowing the pond to be used by the park.
- The landowner (Shenandoah County) is benefiting from significant improvements to the land.
- The farmer (GG Farms) is benefiting from the security of a long term lease.

Future Benefits of the Shenandoah County Sustainable Farm Demonstration:

This farm demonstration will serve as a classroom to benefit a multitude of people in the future. Future plans include the following.

- A fencing school to teach farmers and professional fence builders the latest technologies for fencing.
- We will provide landowners information on options for controlling brush on their farm that includes data on real experiences on the County Farm.
- We will provide actual water and electricity use data for both farmers and landowners (many landowners want to know how much water and electricity is needed to provide water to livestock).
- We will continue sharing information with farmland owners to help them have successful landowner/tenant relationships with farmers.

- BMPs -

Farmland and Pond Now Open to County Park

Shenandoah Valley Battlegrounds Foundation Property

Buried Water Line

15' Wide Grassed Trail for the Tuscarora Trail and future Access to Battlegrounds Foundation Land

Legend

- Shenandoah Valley Battlegrounds Property
- Cropland
- Grazing Demonstration
- Forestry Demonstration
- Farm Land to Park
- Interior Fence
- Grassed Waterways

