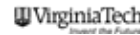


Adaptive Streambank Fencing Program

Context, steps, and insights to help other communities replicate a successful program in Virginia's Shenandoah Valley





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The Chesapeake Bay Funders Network (CBFN) is a funding collaborative of private nonprofit foundations helping communities to initiate and sustain the necessary changes to promote and protect the health of the Chesapeake Bay. CBFN allows grantmakers to network, exchange information, and pool resources to advance shared interests in the Chesapeake Bay watershed.

The CBFN Agricultural Initiative—Strong Communities, Healthy Waters—strengthens the economic sustainability of farms while promoting conservation practices that improve the health of the Bay. Grantmakers in the Agricultural Initiative have pioneered an innovative approach to identify and support strategic projects in key farming communities. Each project includes strong evaluation and communication components, providing a transferable model that can be applied to other locations.

This publication is one of a series featuring agricultural projects funded by the CBFN. For more information and additional publications, visit www.chesbayfunders.org or call (410) 974-2941.

CBFN grantmakers guiding and supporting the Agricultural Initiative include: The Abell Foundation, Agua Fund, Inc., The Biophilia Foundation, Blue Moon Fund, Keith Campbell Foundation for the Environment, Chesapeake Bay Trust, Degenstein Foundation, Foundation for Pennsylvania Watersheds, MARPAT Foundation, The Curtis and Edith Munson Foundation, National Fish and Wildlife Foundation, The Oak Hill Fund, Prince Charitable Trusts, Town Creek Foundation, Virginia Environmental Endowment, The Wallace Genetic Foundation, William Penn Foundation, with the support of the W.K. Kellogg Foundation.

Streambank Fencing

A Flexible Approach for Virginia Farmland

In Virginia's Shenandoah Valley, streams are ailing. Cattle and other livestock that wander through the streams are a significant source of bacteria, nutrients, and sediment in the waterways. Both the USDA Natural Resources Conservation Service and the Virginia Department of Conservation and Recreation offer programs to help farmers pay for fencing and other practices that keep livestock out of streams.

However, recruiting farmers to use these cost-share programs has been a challenge. Guidelines designed to ensure high quality management practices sometimes deter farmers from participating. For example, the guidelines specify the width and management of the buffer between the stream and the fence, as well as the type of fencing to be used. Usually, farmers must also commit to maintaining all cost-share items—including the fence, watering systems, and buffer—for between ten and fifteen years.

Many farmers decline to participate in these programs because the requirements aren't a good fit for their farms. Farmers may have financial constraints that make them unwilling to take the required amount of buffer land out of active cultivation, or they may have farm geography that makes the required buffer width almost impossible. In some cases, farmers don't have the financial ability to operate under the reimbursement schedules. Others are concerned about the long-term costs because no funds are available to help with future maintenance. Still others don't participate in these programs because they hold convictions that reject the use of government funds.

The Shenandoah Resource Conservation and Development Council led an effort to provide farmers with a more flexible cost-share program. Launched with a \$250,000 grant from the Chesapeake Bay Funders Network, the project successfully recruited seventeen farmer participants and protected more than 52,000 linear feet of streams with this program alone—more, when combined with standard cost-share programs. It was highly effective in attracting farmers who ordinarily would not participate in government programs and in protecting areas that would not be covered under existing programs. The process—and lessons learned—are detailed on the following pages.

"The beauty of this program is that it allows you to apply common sense to what needs to be done."

- Rockingham County farmer



Protecting Streams in the Shenandoah Valley



Opportunity for Innovation

The Shenandoah Resource Conservation and Development Council (RC&D) met with an unexpected opportunity. Grantmakers came calling, and asked for their advice.

The Chesapeake Bay Funders Network, a consortium of private grantmakers, wanted to support conservation practices on Shenandoah farmland. They asked the RC&D and other public agencies active in the Shenandoah Valley to identify the needs beyond existing cost-share programs. The need for a more flexible stream bank fencing program was a top priority. The Funders Network provided a \$250,000 grant to develop and operate the pilot project over a three-year period.

The RC&D formed a steering committee comprised of staff from the USDA Natural Resources Conservation Service (NRCS), Headwaters and Shenandoah Valley Soil and Water Conservation Districts (SWCDs), Chesapeake Bay Foundation, Virginia State Dairymen's Association, Trout Unlimited, Virginia Department of Conservation and Recreation, Shenandoah Riverkeeper, and Virginia Cooperative Extension.

The committee decided to lead the project with people who were *already known and trusted by the farm community*: the existing SWCD and NRCS technical staff.

The committee laid out the program so that farmers could design a system that made sense for their particular situations. The idea for "adaptive" fencing came from the observation that the standard requirements of state and federal cost-share programs like the Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP) don't always fit the landscape of the property or needs of the

farmer. Both the CRP and CREP require a 20- to 35-foot buffer. However, a farmer may not want to give up that much acreage in a narrow pasture or along a stream that runs near farm structures. In Virginia, CREP also specified the number and type of wires required in the fence design. Plus, the landowner usually must commit to maintaining all cost-share related practices for a ten- to fifteen-year period and agree to "spot check" monitoring. Replacement and maintenance costs can be high, but there is no financial assistance for these tasks. After an application process involving numerous forms and site visits, cost-share and incentive programs can cover a combined total of 75 to 115 percent of the project costs. Reimbursements can take months, depending on the contract.

The steering committee designed a more flexible program that paid up to 75 percent of the costs but did not require a buffer. Instead, the fence position of each fence was based on the topography of the individual farm and the recommendations from the conservation technician. Farmers committed to excluding their livestock from the waterways for at least five years. Expenses were quickly reimbursed. Because the program was backed with private grants, it also appealed to farmers who won't accept government funds.

Testing the Waters

Most of the outreach was undertaken by technicians making one-on-one contact with select farmers who they felt could benefit most from this program. A fact sheet was developed for sharing with these candidates and other interested farmers. There was no mass promotion or "roll-out event." *All seventeen participants enrolled through direct technician contact.*

The project targeted places with a dense livestock population: first within Rockingham County's Muddy Creek watershed, and then moving to Augusta County and other areas of Rockingham.

The Virginia State Dairymen's Association supported this effort by encouraging dairy farmers to fence their cattle out of streams and by publicizing the program in newsletters and meetings. They went a step further by helping with introductions to Mennonite bishops, which was essential for building relationships with Mennonite farmers. They also provided assistance to the RC&D by reimbursing Mennonite farmers who felt more comfortable being reimbursed by the Dairymen's Association than the RC&D.

Over time, the visible locations of several projects allowed neighboring farmers to observe and learn about the program.

In-Roads & Outcomes

Although this program relaxed some requirements of traditional cost-share programs, it protected portions of streams that would otherwise have no protection at all. Overall, the installed buffer width averaged 24 feet. However, some farmers opted for buffers as wide as fifty or seventy-five feet in sections of their property where this made sense. Also, the flexibility of the program opened the door to discuss and implement other conservation practices. For example:

- One farmer needed more watering troughs and pipelines than standard cost-share programs would fund. By combining those programs with this adaptive option, she was able to obtain additional troughs and pipeline, and



also place fencing in a narrow area where CREP funds could not be applied. As a result, she completely excluded her livestock from the stream that runs through her farm and provided them with alternative water sources.

- Another farmer was not interested in creating the 35-foot buffer required by CREP. With the more flexible program, he completely fenced his cattle out of the stream and improved water quality without losing valuable pasture land.

Reviewing a livestock exclusion plan for a farm in Augusta County.

Success in the Shenandoah Valley

- Seventeen farmers from 12 watersheds participated in the program, including some who would not participate in standard government programs.
- Farmers felt the program "made sense" on their farm.
- Approximately 940 head of livestock (primarily cattle) were excluded from tributaries of the Shenandoah River. More than 52,000 linear stream feet were fenced and alternative water sources were provided for 17 projects.
- Six fencing projects added value by including other cost-share practices.
- Effective partnerships developed between project partner organizations.
- The program encouraged changes in related programs, including a streambank fencing campaign in Lancaster County, Pennsylvania, and more flexible cost-share options offered by the Virginia NRCS, Virginia Department of Conservation and Recreation, and the Maryland NRCS.

Important Project Steps

1 Determine through NRCS and the SWCD offices the need for or interest in a more flexible cost-share program.

2 Create a steering committee that can provide guidance and create buy-in. The full team should be assembled at the start of the project and collaborate on a work plan. As the Shenandoah project evolved, some partners became less actively involved, and later meetings mostly involved the technical staff. Technician input was especially important throughout the project because they have on-the-ground experience with the agricultural community and understand the concerns of farmers.

3 Be sure that project managers communicate with senior managers of associated state and federal programs about the project goals. While the Shenandoah project was underway, concerns arose that this project might discourage the use of traditional cost-share programs, and that it might not meet standards and specifications. The project team responded by taking senior agency managers on a tour to see the program in action. Avoid these issues by arranging for early communication between key managers. Also, consider outreach to local or regional environmental groups that might have concerns about project goals.

4 Secure a combination of private and public funding, and identify a fiscal agent for fund management (such as an RC&D or SWCD).

5 Develop project guidelines to be used by all field staff, including a clear definition of each exclusion practice, the equipment that can be used, time requirements, the identification of any up-front costs, and a swift reimbursement process.

6 Develop a strategy for selecting participating farms. Will it be first-come, first-served, or based on particular criteria? For the Shenandoah project, technicians personally approached a group of farmers they thought would be receptive to the program. Interested farmers were then enrolled on a first-come, first-served basis. Each farmer helped plan his or her project and usually provided the labor.

7 Develop simple, straightforward outreach materials that show sample projects, point out the benefits to herd health and water quality, and describe how this practice can be paired with other practices to meet farmer goals. For the Shenandoah project, the process of securing a farmer's commitment and then installing the fence (sometimes in combination with other practices) generally took from six months to a year. More time was needed in the first year for farmers to learn about the program, develop interest, sign up, and complete projects. Weather and farmer workload also created variability.

8 Establish files and protocols for documenting and assessing projects. In the Shenandoah Valley, landowner agreements, forms, site plans, and other supportive information was shared with the RC&D and duplicated for their files.

9 Conduct a training session for field technicians. It's important to have a unified approach to billing, monitoring, technical standards, and documentation.

10 Monitor and assess project outcomes. A file was developed to track the outcomes of each Shenandoah project. The RC&D used an Excel spreadsheet to track the increasing number of cattle excluded from streams; the amount of streambank fenced; and the number of

additional conservation practices applied. Before-and-after photos were maintained in hard files and electronically. Landowners were interviewed when possible, and technicians provided feedback using standardized forms. Some Shenandoah farmers began installation as soon as they signed their contracts. Others needed follow-up, mostly through phone calls or visits. In two cases, letters were issued with a deadline for completing the work and a caution that the money would not be available if the deadline wasn't met.

11 Gather input from farmers and technicians. If changes are needed, make them quickly. An important change in the Shenandoah cost-share process was driven by technician input. The original plan was to pay 75 percent of the project costs. However, a SWCD technician found it simpler and more appealing to farmers in his area to pay all of the material costs while the farmer provided the labor. As a result, two payment options and two slightly different landowner agreements were developed.

Partnership Roles

The Shenandoah steering committee represented key partners: the Shenandoah RC&D Council, Shenandoah Valley SWCD, Headwaters SWCD, NRCS, Virginia State Dairymen's Association, Virginia Department of Conservation and Recreation, Trout Unlimited, Shenandoah Riverkeeper, Chesapeake Bay Foundation, and Virginia Cooperative Extension.

Farmers were primarily the target audience, rather than the planners. However, some SWCD representatives on the project team were also farmers. Roles of key partner organizations were as follows:

- **RC&D Council:** Provided program oversight, including managing grants and reporting, reimbursing farmers, creating factsheets, and developing protocols and forms.
- **SWCDs:** Provided technical expertise and outreach to farmers, as well as ongoing feedback to project managers.
- **NRCS:** Provided technical expertise and outreach to farmers, as well as ongoing feedback to project managers.
- **Chesapeake Bay Foundation:** Provided templates for landowner contracts.
- **Virginia Cooperative Extension:** Helped with evaluation, outreach, and water quality monitoring, including a successful field day and outreach to Mennonite farmers.
- **Virginia State Dairymen's Association:** Promoted the program to dairy farmers and helped build relationships with the Mennonite community.

"I'm extremely happy to have protected a section of Poague Run and have no regrets—at least not yet. The process was seamless."

—Staunton area farmer

Presenting signage to an Augusta County farm owner who participated in the adaptive streambank fencing program.



Foundations of Success

Context Desire for and acknowledgement of more flexible cost-share alternatives for excluding livestock from streams.

- Staffing**
- Buy-in from technical partners, including early communication between project representatives and senior staff of agencies that offer cost-share programs.
 - At least one technician, but preferably multiple staff, in each SWCD committed to supporting the project by making it another “tool in their toolbox.” These can be existing positions.
 - NRCS and SWCD staff who know how this project can work with other best management practices for holistic solutions on the farm.

- Partnerships & Process**
- Farmers who are partners in designing their own systems.
 - A reimbursement process that is timely and flexible, including pay-as-you-go options.

- Funding**
- A source of private grant funds. This is critical in order to work with farmers who will not accept government money, such as those in the Old Order Mennonite community. Strategies for obtaining private funding include applying for grants, creating or partnering with a 501(c)(3) entity to raise money, or using initial program success and partnerships to market the idea to targeted funders.
 - Flexibility to adjust for individual project costs and a substantial amount of the overall budget dedicated to materials and equipment.



Livestock crossings were a critical part of this project that helped keep livestock out of streams. These images contrast the situation before and after a stream crossing was installed.



Planning Notes

Funding and Budget

This project was funded with one three-year grant for approximately \$250,000 from the Chesapeake Bay Funders Network. Approximately \$181,300 of this grant was dedicated to equipment, supplies, and materials for fencing and related features such as watering systems and stream crossings.

Individual project costs ranged from \$400 to more than \$44,000, with an average project cost of approximately \$10,000.

Staff and travel costs were mostly absorbed by the partner agencies, and travel costs were low. Partner expenses were supported in part with modest contributions from the grant funds.

Flexibility in the budget process was critical. Farmers estimated their project costs, and final costs fell both over and under the original estimates. Expenses were monitored very closely and funds were frequently transferred between categories to address developing needs. A surplus in any category was usually transferred to equipment, where the need was constant. Final expenditures broke down as follows:

	Year 1	Year 2	Year 3
Personnel	\$19,000	\$26,500	\$20,145
Includes education, outreach, planning, documentation, and administration.			
Equipment/Materials/Supplies	\$50,224	\$63,915	\$69,873
Includes materials for fencing, watering systems, and stream crossings; printing/ mailings, office supplies, meeting expenses.			
Travel*	\$0	\$0	\$0
	<hr/>	<hr/>	<hr/>
	\$69,224	\$90,415	\$90,018

*Travel costs were absorbed by the partner agencies.

"The grass is already growing right down to the water... This is an excellent program."

– Augusta County farmer

Lessons, Insights, and Timesavers

1 Senior managers at each of the related agencies, including project managers and those at the state NRCS office, should communicate closely at the outset of the project. This will help address any concerns about practice standards and outreach plans, and help prevent miscommunication.

2 Coordinate outreach plans with those of the NRCS or state agencies, and be mindful that those efforts don't compete with other programs.

3 Share before-and-after photos widely with agencies, funders, and the agricultural community to garner community support and funding.

4 Find private grants to enable the participation of farmers who don't accept government money. Give frequent progress reports on successes.

5 Seek funds to provide livestock crossings and water sources, not just fencing.

6 Budget carefully for equipment needs. Most farmers provided their own labor, so equipment—including fencing (wire and posts), piping, pumps, water troughs, stone, concrete, and solar chargers—became the greatest expense.

7 Be flexible and responsive to budget issues. Budget adjustments were made each year of the Shenandoah project. For instance, the committee determined that the \$9,000 budgeted one year for documentation exceeded the need and redirected \$6,000 to equipment. The committee also redirected \$2,500 from travel to equipment each year because staff vehicles at NRCS and SWCD met this need. Having the flexibility to redirect funds to equipment was helpful, because the equipment category had greatest need.


8 Direct personal contact between technicians and farmers was critical for recruiting participating farmers. Nevertheless, promotions through existing workshops, targeted newsletters, and mailings are also important. The effectiveness of these secondary tools may increase once they can point to successful on-the-ground projects. Recognize that decision timeframes for farmers vary widely—from six months to a year.

9 The grant manager/fiscal agent must have an efficient and flexible process that can respond to the need for quick payments to farmers, pay-as-you-go scenarios, and changes at the program level as needed.

10 Include an "up-to" clause in the contract that sets the upper limits of the cost estimate. This is very helpful for budgeting purposes, and the final amount can always be adjusted later as appropriate.

11 Include a six-month completion clause on all contracts to ensure that farmers install the fencing in a timely manner.

12 Combining this practice with other practices (CREP, rotational grazing) added great value and beneficial outcomes.



Questions?

For more information about this adaptive streambank fencing program, please contact:

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