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863-1150TYY.
STREAM BANK FENCING is a simple, effective way for farmers to improve water quality in the streams flowing through their farms. Placing a fence along stream banks controls livestock access and grazing. A buffer zone of vegetation will grow between the fence and the stream.

Including stream bank fencing in a farm management plan helps both the farmer and the environment. Federal and state agencies encourage fencing and provide technical and financial assistance to cooperating farmers. (See page 10.)

After streams are fenced, bands of lush vegetation develop, stabilizing the stream banks.

How does fencing help?

Stream bank fencing is a low-cost, low-maintenance farm management tool that provides many benefits.

- **Fencing stabilizes stream banks and reduces erosion.**
  By volume, sediment causes the most water pollution in Pennsylvania. Much of the sediment comes from soil erosion along stream banks that are grazed. After a stream is fenced, new vegetation binds the soil particles to create a stable structure that resists erosion and collapse. During high stream flows, a blanket of vegetation along the stream shields the bank against erosion. The vegetation also absorbs some of the water's force, helping to slow the current and reduce its erosive power.

  When livestock trample stream banks, the soil is left unprotected and may collapse. Limiting livestock access to stream banks is one of the best ways for a farmer to prevent erosion and loss of productive land.

  “The fence helps reduce erosion of the banks and improves water quality.”
Livestock with access to streams break down the banks, increasing erosion. As stream banks crumble, livestock risk leg injury.

Allowing cows to stand in streams reduces water quality and increases contact with waterborne bacteria.
Limiting livestock access to streams is one of the best ways for a farmer to prevent erosion and loss of productive land.

- **Fencing improves water quality.**
  Runoff from cultivated fields, pastures, and feedlots pollutes surface water by washing soil, fertilizers, and pesticides into nearby streams. Vegetation along streams traps sediment and pesticides and absorbs excess nutrients before they enter the water.

- **Fencing protects herd health.**
  Limiting livestock access to streams reduces contact with waterborne bacteria, which may cause bovine leptospirosis, mastitis, and other ailments. Controlling livestock access to streams and stream banks also reduces the risk of injury.

- **Fencing promotes modern pasture management.**
  The fence gives the farmer more control over where cattle graze. This is a first step in developing a more productive pasture management system.

- **Fencing provides habitat for birds and small mammals.**
  Streamside vegetation provides food, cover, and nesting sites for birds and small mammals. Over 80 kinds of birds, including herons, egrets, bluebirds, belted kingfishers, mallards, and ring-necked pheasants, use streamside vegetation for summer feeding or nesting. The quantity and variety of wildlife is greatest where a mix of grasses, shrubs, and trees is present and where the vegetation strip is wide.

- **Fencing improves fish habitat.**
  Streamside vegetation improves fish habitat by enhancing water quality, providing protective cover, and increasing food for fish. Organic matter, such as leaves and insects that fall into the stream, greatly increases the amount and diversity of aquatic life that the stream can support. Streamside shrubs and trees shade the water in summer and help keep it cool.
Streamside vegetation provides food, cover, and nesting sites for birds and small mammals.

- **Fencing enhances the landscape.**
  Wildflowers and shrubs as well as the birds and mammals these plants attract add a variety of shapes and colors to the farm landscape, enhancing its beauty.

- **Fencing supports a good neighbor policy.**
  Water is a shared resource. Improving conditions on your farm helps neighbors downstream. Setting a good example encourages upstream neighbors to protect their section of the stream.

**Frequently asked questions**

As the word about stream bank fencing spreads, landowners are asking a number of questions, including the following:

**What type of fencing should I use?**

The type of fence selected depends on site and livestock. The most economical option usually is a single- or double-strand high tensile electric fence. Woven wire is discouraged because it is much more likely to trap debris and be damaged during flooding.

**How far from the stream should the fence be located?**

Fencing should be placed as far from the stream as possible. The benefits of fencing—wildlife habitat, cleaner, clearer water, and reduced erosion and sedimentation—increase with wider corridors of streamside vegetation. Fences placed closer than ten feet from the stream are frequently damaged during high stream flow and provide minimal benefits.

**How much maintenance will be required?**

Choosing the right fence and carefully designing its layout will reduce maintenance. For example, a single-strand high-tensile fence with flexible line posts will not collect debris and is less likely to be damaged during flooding. If electric fencing is used, the area directly below the fence may have to be mowed periodically to keep tall vegetation from shorting out the fence. Farmers with cattle in an adjacent pasture may not have to mow because cattle often graze directly below the fence, keeping it free of tall vegetation.

**Will stream side vegetation be a source of weeds?**

Vegetation that grows along the stream bank after grazing stops is important for erosion control and wildlife habitat. Most of the “weeds” are beneficial, but mowing may be needed occasionally to control certain plants. You can minimize potential problems by preparing the site properly when the fence is installed and planting desired grasses and seedlings.
Single- or double-strand high tensile electric fencing is an economical and effective way to protect stream corridors.

Cattle in adjacent pastures often graze below the fence, keeping it free of tall vegetation.
Where will my livestock drink?
Livestock can drink from the stream at an access point. To minimize erosion, this watering site must be protected with materials such as stone or railroad ties. An alternative is to develop springs, wells, or ponds with watering troughs for livestock. Hydraulic ram or pasture pumps may be used to transport water to the watering site. These alternative sources often provide cleaner, more reliable sources of water than streams do. Also, the risk of waterborne disease is reduced if livestock do not drink water into which they defecate. Financial and technical assistance for developing alternative water sources is available from the USDA Agricultural Stabilization and Conservation Service and Soil Conservation Service as well as the Pennsylvania Chesapeake Bay program. (See pages 10-11.)

How will my livestock cross the stream?
If livestock and equipment need to cross the stream, the farmer’s fencing plan should include crossings. These areas must be stabilized, usually with railroad ties or rock, to minimize erosion. Directions for stabilizing crossings are available from the Pennsylvania Fish Commission. Hanging flood gates along the crossing will restrict livestock to a short stretch of stream yet will swing out during high water.

Do I need a permit to construct crossings?
Construction of stabilized crossings is regulated by the Pennsylvania Department of Environmental Resources (DER), which has issued a free general permit for agricultural crossings and ramps. For more information, contact the DER office in your area or the Bureau of Dams and Waterway Management, P.O. Box 8554, Harrisburg, PA 17105-8554; telephone 717-541-7900.

How can I locate a fencing contractor?
As managed grazing systems have become more popular, the number of fencing material suppliers and commercial fence builders has increased. Most contractors and suppliers can provide information on the selection, installation, and use of fencing materials. Names of reputable dealers may be found in farm publications. The Penn State Cooperative Extension office in your county or the Soil Conservation Service district office may also provide a list of dealers. In addition, commercial fence suppliers often exhibit and demonstrate their products at agricultural fairs or shows.

Watering troughs provide cleaner, more reliable sources of water than streams do.
If livestock or equipment needs to cross the stream, stabilized crossings should be included in the fencing plan.

Hanging flood gates parallel to the crossing will keep livestock from moving up the stream.
Where can I get technical and financial assistance?
The organizations listed below offer technical and/or financial assistance.

USDA Agricultural Stabilization and Conservation Service (ASCS)
1 Credit Union Place
Suite 320
Harrisburg, PA 17110
Telephone 717-782-4593

ASCS offers financial assistance for fencing and crossings for farmers in most counties. Applicants may apply for cost sharing at ASCS county offices. A county ASCS committee determines cost sharing, which usually is 50 to 75 percent of the fencing cost. Stabilized stream crossings are required and in some cases are funded as part of the cost-sharing program.

USDA-Soil Conservation Service (SCS)
Suite 340
1 Credit Union Place
Harrisburg, PA 17110
Telephone 717-782-4403

SCS offers technical assistance to farmers on the planning, design, construction, and maintenance of fencing and crossings. Farmers should contact their SCS county office for assistance.

Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Telephone 717-787-6818

Pennsylvania Game Commission offers financial and technical assistance to farmers who participate in one of the commission’s cooperative public-access programs. In addition, the farm must be located in a county participating in the Pennsylvania Chesapeake Bay Program. The commission purchases materials for fencing and installs the fence. Stabilized crossings are the responsibility of the farmer. The publication Within Pasture Stream Bank Fencing discusses the benefits of stream bank fencing and describes the commission’s fencing program.

Pennsylvania Fish Commission
Adopt-A-Stream Section
450 Robinson Lane
Bellefonte, PA 16823
Telephone 814-359-5185

Pennsylvania Fish Commission offers technical assistance on design and construction of stabilized stream crossings. Three publications are available: Stream Corridor Management; Fish Habitat Improvement, which covers in-stream fish habitat restoration and stream bank stabilization; and Adopt a Stream, which describes the Fish Commission’s program.

Pennsylvania Chesapeake Bay Program/County Conservation Districts
Bay Education Office
225 Pine St.
Harrisburg, PA 17101
Telephone 717-236-1006

“We enjoy seeing more wildlife since we fenced the stream.”

“We enjoy seeing more wildlife since we fenced the stream.”

“Fencing keeps cows’ udders out of the water.”

“Fencing keeps cows’ udders out of the water.”
Pennsylvania Chesapeake Bay Program and the County Conservation Districts provide financial, technical, and educational assistance to farmers interested in implementing management practices to help protect water quality. Cost-sharing up to 80 percent is available to eligible farmers through the Bay program for fencing and stream crossings.

Three publications are available: Pennsylvania Chesapeake Bay Program, which explains ways to reduce pollution and outlines the Bay program; Save Your Soil and Nutrients, which describes the cost-share program and eligible best management practices; and Bay Fact Sheet #2, which describes Pennsylvania’s connection with the Bay. For more information, contact your County Conservation District office or the Bay Education Office.

“A variety of publications are available describing the multiple benefits of stream bank fencing and providing sources of technical and financial assistance.”

“Fencing my stream gave me a sense of accomplishment and pride knowing that I contributed to the cleanup of Chesapeake Bay.”
What are farmers saying about stream bank fencing?

"The fence helps reduce erosion of the banks and improves water quality."

"I decided to fence the stream because cows don't belong in the water. Also, I wanted to plant willow trees along the stream to make it look nice and help keep the soil out of the water."

"Fencing the stream allows me to divide my pasture into smaller plots and rotate the cattle between pastures. This reduces compaction and improves the grass. The better the grass, the more milk."

"We enjoy seeing more wildlife since we fenced the stream."

"Fencing keeps cows' udders out of the water."

"Fencing lets us grow trees. I think everyone should fence their stream banks off in the future. We would have cleaner streams and more fish and wildlife."

"Over the past 20 years, we have removed some tree lines in our fields. Fencing the stream bank allows us to give back some of that cover to nature. I think the green belt will be important over the years."

"Fencing my stream gave me a sense of accomplishment and pride knowing that I contributed to the cleanup of the Chesapeake Bay."