

Riparian Forest Buffer Program

What is a Riparian Forest Buffer?

A Riparian Forest Buffer is a streamside forest composed of native trees, shrubs and herbaceous plants. The buffer may be as narrow as 35 feet or as wide as 180 feet on either side of the stream.

Three hundred years ago southeastern Pennsylvania was entirely forested. The streams were shaded and all the organisms that lived in them were adapted to woodland conditions. As the land was settled, the forests were cut down and replaced with agricultural fields to provide food for the growing population. Today, urban sprawl threatens many existing riparian forests, almost all of which are secondary growth.

Why are Riparian Forest Buffers important?

Riparian Forests are essential to the health of our streams and rivers in a number of ways.

- They are natural filters. Leaf litter on the forest floor traps sediments before they can enter the stream. In addition, the presence of trees and shrubs along a stream's banks minimizes erosion and the effects of flooding.
- They encourage groundwater infiltration. Trees convert the excess nutrients in stormwater runoff into a form that actually sustains the growth of the forest.
- They provide shade necessary to maintain cool water temperatures and rich oxygen levels. Native brook trout, for example, require water temperatures below 68 degrees to survive, and forested streams are as much as 10 degrees cooler than streams that flow through meadows. In addition, insects, the primary food for trout, are abundant both above and in wooded streams.
- They enable the stream to grow forms of algae (i.e. diatoms) that are preferred by stream herbivores.
- They provide food, in the form of leaf litter, for the critters that live in the stream, thus ensuring a rich diversity of organisms. The more diversity of life in the stream, the healthier the stream and the better it is able to process pollutants.
- They provide habitat and cover for spawning fish. Fallen trees and limbs create plunge pools, riffles and gravel beds that enable fish to rest and stave off predators.
- They are home to a variety of mammals, birds, amphibians and reptiles. The forested edge between land and water is prime habitat for many creatures – berries, buds, fruits and nuts offer a varied menu and there are plentiful places for nesting. The Riparian Forest offers a continuous transportation corridor for the migration of plant and animal species.

In general, unforested streams tend to be overly narrow with unstable banks; they have less diversity and less habitat than forested streams; and the quality of their habitat (temperature, light, velocity) is less optimal than their forested counterparts.

What are the details of the Riparian Forest Buffer Program?

Stroud Water Research Center received a grant from the Natural Resources Conservation Service to provide technical assistance to landowners for the establishment of Riparian Forest Buffers in the Red Clay, White Clay and Tulpehocken Watersheds. The program's goal is to plan Riparian Forest Buffers for 50 stream miles in the Red and White Clay Creek watersheds and 25 stream miles in the Tulpehocken.

A consultant will prepare, at no cost to the landowner, a Riparian Buffer Planting and Management Plan that will provide all the information needed to plant and manage a Riparian Forest Buffer, including:

- Recommendations for removing invasive species
- Planting specifications
- Management plan and schedule
- Species lists and sources where materials may be purchased

To be eligible, a landowner must have a stream on his or her property that is not completely forested and that is in the Red Clay, White Clay or Tulpehocken watershed. The property may be residential or commercial.

Once the plan has been completed, the landowner is eligible for financial assistance to install the buffer. The federal government provides 75 percent of the cost to install the buffer, and the landowner is responsible for the remaining 25 percent. The budget is based on \$2,500 per acre – so the government's share is \$1,875 per acre and the landowner's is \$625 per acre. The landowner pays all expenses up front, and funds are usually reimbursed within six weeks from the date of installation. Assistance is also available for the installation of a fence for livestock exclusion, livestock and equipment stream crossings and streambank restoration.

If you are interested in a plan, please contact [Jessie Benjamin](mailto:jessie.benjamin@delaware.gov) (610-869-4285) or [Bern Sweeney](mailto:bern.sweeney@delaware.gov) (610-268-2153 X 222). In the Tulpehocken Watershed, contact Lori Sandman (610-488-0218).