

The Stabilization of Weakley Creek in Giles County

Stream bank erosion is a problem many Giles County landowners are face in the Weakley Creek Watershed. Some of the factors that attribute to this can be traced back over 12 years to a 1992 ice storm. This started a pattern of trees falling into the stream channel, followed by 4 years of extreme drought, which limited plant growth around stream banks, and then 4 years of heavy flooding.

Making matters worse are the unstable gravelly soils which are common in the watershed. When trees fall into narrow streams, they will often collect at one point creating log jams. As debris piles up, flood waters will be deflected into the sides of the banks causing the stream bank to erode. More trees fall, leaving open gaps in the bank which also begin to erode. This pattern is common in many streams, but for Weakley Creek, it has become much too aggressive and can continue to degrade the watershed if not managed.

Several landowners in the watershed have started to take control of the situation and are partnering with the Giles County Soil Conservation District, the Natural Resources Conservation Service (NRCS) and the Tennessee Department. of Agriculture (TDA). Through this partnership, a landowner can apply for both technical and financial assistance to install stream bank protection practices. At one of the project sites located on the W. C. Wells farm the stream had "blown out" the banks over 100' wide and 17' deep. This may not sound critical unless you consider that Weakley Creek has an average width of about 40' and a 6' depth in places that are 4 miles downstream.

After a landowner applies for assistance through the local Soil Conservation District office, an NRCS District Conservationist will evaluate the site and provide options for correcting the problem. Sometimes this may be as simple as removing a stream obstacle that is creating the problem, or it may involve surveying the site and bringing in an engineer to develop a design. If the landowner decides to continue with a project, the soil conservationist can review any available sources of financial assistance to offset the cost of installation. Within the Weakley Creek Watershed, the NRCS Environmental Quality Incentive Program (EQIP) and a special program partnering the local Soil Conservation District and the Tennessee Department of Agriculture has been used to help get the projects implemented.

The traditional method of stabilizing a stream bank would be to install rock riprap on the banks. In some cases that is still the best option, but on this project landowners have started using a combination of rock jetties, stream bank seeding with the deep rooted native grasses and tree plantings to help cut costs and improve water quality.

All of the landowners who completed projects last year are pleased with their success, and several more sites are scheduled to be completed in 2005.