

**Woodford County Soil & Water Conservation District
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Rock Riffle



Stone Toe Protection

Streambank Stabilization on Red River

This project was funded through the Partners for Conservation Streambank Stabilization and Restoration Program (SSRP) in 2008. This 1400 foot stretch of the Red River southeast of Eureka had experienced severe channel down cutting and failing banks due to increased water flow and velocity. In the past several years, over 20 feet of bank had eroded into the stream in some places, taking away valuable farm ground. It was estimated that over 130 tons of soil a year was being lost from this site. It was determined that raising the water surface substantially in the stream would decrease the velocities in the channel and help protect the toe of the side slopes. In this particular case, we utilized both rock riffles and stone toe protection, shown above.

The Stone Toe Protection method is the placement of stone parallel to the stream at the toe of the eroding bank. This provides protection for the toe and stabilizes the lower portion of the bank. Over time a stable slope is created by the deposition of sediments behind the row of stone and the entire bank becomes stabilized. We installed 150 feet of stone toe protection on this project.

The Rock Riffles are a series of low rock dams, in this case about 3 feet high, and are designed to stabilize the bottom of the stream and decrease the velocity of the water so that the bank and channel erosion are controlled. In this project we installed a series of 3 riffles over the lower 900 feet of the stream.

For more information on projects and activities with the Woodford County Soil & Water Conservation District please contact our office.