

Streambank Stabilization History of Young Conservation Area

By: Kevin Meneau, Missouri Department of Conservation, Fisheries Management Biologist

When the Missouri Department of Conservation (MDC) obtained Young Conservation Area in 1986, portions of LaBarque Creek had no trees growing on the stream banks. Without tree roots to hold soil in place, stream bank erosion was a problem. To prevent further erosion, a band of trees along the creek (riparian corridor) needed to be established. But first, the stream banks required stabilizing.

So, beginning in 1987, MDC began installing cedar tree revetments and willow plantings. Cedar tree



MDC stream biologists anchor a cedar tree, as part of a revetment at Young Conservation Area in

retvetments were installed in three locations to slow LaBarque Creek's current along eroding stream banks, decrease erosion and catch eroding soil. Bushy, densely-branched cedar trees were cut and placed along the bottom (toe) of the stream bank and overlapped in shingle fashion with butt ends facing upstream.

Trees were secured with earth anchors driven into the stream bank. Steel cable was attached to each anchor, wrapped around the top and bottom of the trees and secured with clamps. This kept cedar trees in place, even during the worst floods.

Behind the revetments and along treeless stream banks without severe erosion, MDC planted over 1,300 willow stakes to stabilize stream bank soil. In March, before buds swell, willow trees (from a nearby source) were cut into 36-inch sections. The bottom end of each stake was given a 45-degree cut to allow stakes to be driven about $\frac{3}{4}$ of their length into the stream bank. Weeks later, the exposed portion of stakes sprouted leaves, as new roots grew from the buried portions. Those willows still hold stream bank soil in some places today, while the majority has given way to larger trees.

After stream banks were stable, many of those larger trees were planted by MDC and Stream Team #271 between 1988 and 1994. Over 7,000 MDC tree seedlings were planted along the entire LaBarque Creek riparian corridor within Young CA. Planted species included sycamore,



green ash, silver maple, black walnut, river birch, tulip popular and sweet gum.

These trees now form much of the wooded riparian corridor present in Young CA. They stand as an example of the best and most natural method of long-term streambank protection – a wooded riparian corridor, at least 100 feet wide on each stream bank.

