If you have a stream on your land, you have a valuable natural gift - water for livestock, wildlife habitat, fishing, recreation and scenic beauty. A creek is an important part of the equity in your land. It pays to take care of it and the **riparian areas** that protect it.

What is a riparian area?

Riparian refers -to land areas directly adjacent to water bodies like creeks, rivers, lakes or wet-lands. They have distinct soil, plant and wildlife resources, with a unique blend of terrestrial and aquatic habitats.

In the Ozark streams of the Illinois Basin, the dominant riparian vegetation is woody brush - species like Black Willow and Boxelder. They have spreading root systems that can reinforce creek banks, the way steel mesh reinforces concrete. Their stems resprout rapidly when damaged by ice, floods or beavers. In floods, their bushy crowns reduce the effect of moving water and protect stream banks from erosion. During low flow, they provide the woody debris essential for good aquatic habitat, and good fishing.

Why are riparian areas important?

Riparian areas are natural "buffers" between land and water. Available moisture makes their vegetation productive and dense. Riparian corridors along streams provide food and cover for wildlife. The riparian vegetation intercepts runoff coming from upland areas, slows it down and allows it to soak in. This helps control flooding and stream bank erosion. Riparian areas also filter out sediment, organic matter, fertilizers and other pollutants before they reach the stream. Riparian vegetation provides shade along creeks, enhancing aquatic habitat by maintaining cooler temperatures.

Figure 1. Construction and removal of riparian vegetation cause stream bank erosion.

What are the causes of riparian degradation?

Residential development, intensive livestock grazing, and removal of streamside vegetation have put pressure on riparian areas throughout Northeast Oklahoma and Northwest Arkansas. Causes include:

- ❑ **Construction** Rooftops, roads, and other pavement, and bare soil reduce the area that can absorb rainfall. This increases runoff and sediment.
- ❑ **Clearing** Landowners remove riparian vegetation to improve access to streams or in the belief that they are preventing floods. This removes the root systems that protect banks.
- ❑ **Unrestricted grazing** - Livestock naturally congregate in riparian areas seeking shade and water.

What are the impacts?

- ❑ Unlimited cattle access leads to overgrazing, cattle trails, and soil compaction, leaving riparian areas exposed to erosion.
- ❑ Straightening or "cleaning out" channels increases water velocity, causing bank erosion and downstream flooding.
- ❑ Stream channels become clogged with sediment from the watershed until they cannot accommodate increased storm flows.
- ❑ Stream channels widen as banks collapse, yielding even more sediment.
- ❑ Wider, shallower stream channels mean warmer water and poor habitat for fish.

Figure 2. Shallow braided streams with poor habitat for fishing result from removal of riparian vegetation.