



Fencing



Fencing encloses or divides an area with a suitable permanent structure that acts as a barrier to livestock or people. The type of fence selected depends on the site and livestock. The most economical option is a single- or double-strand high-tensile electric fence. However, maintenance of electric fences can be time consuming, since vegetation below the fence needs to be mowed periodically to prevent the fence from shorting.

Another option is to use barbed wire or double-strand smooth wire. A barbed-wire or double-strand smooth-wire fence is more permanent and only requires periodic inspection and maintenance.

High-tensile nonelectric fences may be appropriate as a permanent fence but require more wire than barbed-wire fences. High-tensile nonelectric fences are also friendlier to livestock and wildlife.

Woven wire fences are not usually a good choice for riparian fencing. Woven wire can trap debris and is likely to be damaged by flooding.

Place fencing as far from the stream as possible (desired minimum is 66 feet). The benefits of fencing greatly increase with wider corridors of riparian vegetation. Fences placed too close to streams are frequently damaged from high stream flow and benefits are minimized.

Benefits and Value

Unrestricted grazing removes desirable vegetation, compacts soil, and can cause bank erosion. Ground cover is an essential component of riparian areas. Riparian vegetation provides erosion control from runoff and offers important habitat for wildlife. Without ground cover, runoff rates increase and infiltration is reduced.

Riparian areas with little or no ground cover also lose their ability to trap and filter out sediments, nutrients, and bacteria. The end result will be erosion and water quality problems (Figure 1). Restricted grazing limits damage to seedlings and groundcover by reducing browse, rubbing, and effects of soil compaction. Less damage to vegetation means a healthier understory and a more effective riparian buffer.



Figure 1. Uncontrolled access to riparian areas by livestock can decrease water quality and destroy wildlife habitat.

Riparian areas are often used as a water source for livestock. If alternative water sources are not available, it is difficult to eliminate livestock from riparian areas.

Fencing can maintain access areas for watering livestock while allowing the rest of the riparian zone to remain undisturbed (Figure 2). Access areas should be selected carefully where erosion won't be a problem. If there are grazing lands located on either side of the stream, stream crossings for livestock can also be constructed in a manner that will cause minimal disturbance to the stream channel and banks.

Implementation of Practice

Landowners strive to develop productive pasture management systems. Fencing is one practice used to achieve this by controlling where livestock graze. Some systems incorporate livestock exclusion, which is simple and requires the least amount of management. It allows riparian areas to be managed as separate units, rather than inclusions in the pasture. Livestock exclusion will help ensure the protection of the seedlings from browse, rubbing, and effects of soil compaction. This is especially important during the initial establishment of a riparian area.

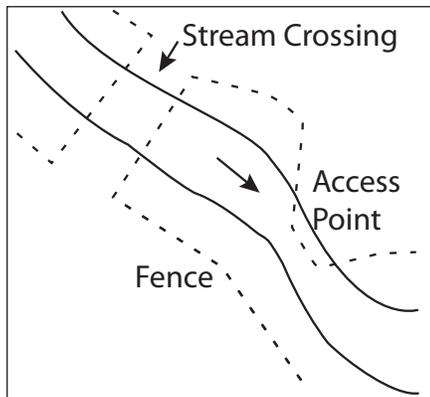


Figure 2. Riparian fencing with crossing and access points located in stable areas.

Since it is difficult to manage riparian areas included in extremely large acreages of grazing land, fencing can be used to subdivide grazing land into smaller management units. This allows uplands and riparian areas to be more intensively managed. If riparian areas are included in grazing units, management will be important for them to remain healthy. With added management efforts, riparian areas can be grazed with little impact to their condition.

Management decisions need to address both uplands and riparian areas. Riparian areas are difficult to manage properly if there are problems with the uplands. Grazing riparian areas can be done in a manner that maintains healthy

vegetation and produces suitable forage for livestock. Timing of grazing is an important factor in riparian area management. Riparian pastures should be grazed when the palatability of grass and forbs species in the uplands are greater than the palatability of woody species.

Weather conditions should be considered when deciding when to graze riparian areas. Livestock occupy riparian areas for longer periods of time on hot summer days and seek protection from the wind on cold days. This leads to more forage consumption and mechanical damage to the vegetation from trampling. To help alleviate these problems, consider establishing windbreaks and alternative water sources, (wells or solar pumps), away from the riparian area. Salt and mineral blocks should also be moved away from riparian areas.

If access points and stream crossings are included when fencing out riparian areas they should be located in areas and constructed in a way that will minimize disturbance to the stream channel. The streambed and banks should be stable, preferably composed of bedrock and/or large rocks that are not easily moved by fast water. The grade of the crossing should

be stable. The crossing should not interfere with the water's flow or aquatic life in the stream channel. Fencing used for stream crossings and access points should be able to withstand high flows and allow the passage of debris that may come downstream with high flow events.

Class of livestock is also important from the riparian management perspective. Goats and sheep are generally not compatible with conserving riparian areas. They prefer woody species much more than cattle do.

For additional information on fencing, cost-share opportunities, or technical assistance, contact the Kansas Forest Service, your local conservation district office, K-State Research and Extension office, Natural Resources Conservation Service office, or the Kansas Department of Wildlife and Parks.

References

- Kansas Field office Technical Guide, Section IV. Kansas standards for fencing.* USDA., Natural Resource Conservation Service
- Kansas Field office Technical Guide, Section IV. Kansas standards for stream crossings.* USDA., Natural Resource Conservation Service
- Streambank Fencing: Green Banks, Clean Streams.* Extension Circular 397, College of Agriculture, Penn State University.

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The Kansas Department of Health and Environment has provided financial assistance to this project through EPA Section 319 Nonpoint Source Pollution Control Grant #C9007405 11.



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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

MF-2752

August 2006

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