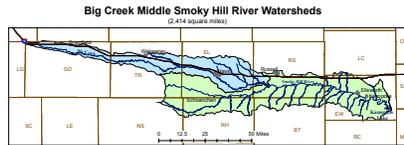


Rock Channel Crossing Demonstration Project

Kansas State University Research & Extension

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Big Creek, along with other tributaries of the Smoky Hill River, provide recreational opportunities and public drinking water for Kanopolis Reservoir.

Creeks provide a water source and a variety of vegetation for cattle and wildlife, but uncontrolled access can result in:



Disturbance of stream bottom sediment and re-suspension of bacteria in water.



Loss of vegetative cover and increased erosion.



Fecal bacteria contamination.

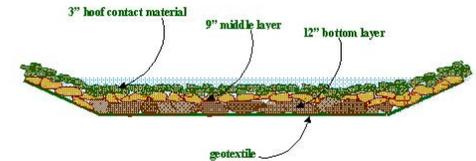


Poor water quality downstream.

Funding provided by EPA 319 grant administered through Kansas Department of Health and Environment

Background

A rock channel stream crossing was constructed in the Big Creek Watershed of western Kansas. This crossing will permit cattle to cross the stream without allowing access to the stream itself. Limiting cattle contact to surface waters and riparian areas will preserve streambank stability and ultimately improve water quality.



Cross section of stream crossing

Construction of the stream crossing:

Rock Channel Crossing Water Quality Protection Benefits:

- reduce Total Maximum Daily Loads (N & P levels)
- minimize erosive effects of streambank
- reduction of fecal coliform bacteria
- decrease sediment loading
- restore vegetative cover on streambanks
- no fencing of stream required

Rock Layers

-Top Layer (hoof contact material)
Crushed rock
3" layer placed on the approaches and in the creek
Provides secure footing for livestock



-Middle Layer
At least 50% 3-6" in diameter
9" layer placed on the approaches and in the creek
Provides strength and compaction



-Bottom Layer
At least 50% 6-12" in diameter
12" layer in the creek
Provides strength



Rock layers are placed in the stream channel



Finished crossing is level with the channel or 0.2' below channel



Crossing several weeks after installation.



Project Partners



"Working together to protect water quality"

