

Pasture management and riparian buffers reduce erosion

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This watershed picture was taken from a drone on April 12, 2017. Credit: P. Moore.

Sediment is the number one pollutant in U.S. waterways. Over grazing can increase soil erosion from pastures as well as sediment loading into aquatic systems. Grazing management and buffer strips may reduce erosion, however, few studies evaluating these practices have been reported.

In the March- April issue of the *Journal of Environmental Quality*, researchers report on the results of a 12 year study using 15 small watersheds near Booneville, Arkansas where the effects of five treatments were evaluated. The five treatments were hayed, continuously grazed, rotationally grazed, rotationally grazed with an unfertilized buffer strip, and rotationally grazed with a fenced riparian buffer.

The team found that soil bulk density increased with increasing grazing pressure and was highest in continuously grazed watersheds. Runoff volumes, sediment concentrations and sediment loads were also highest for the continuously grazed treatment and lowest for paddocks that were hayed or those that were rotationally grazed with a fenced riparian buffer. The Revised Universal Soil Loss Equation (RUSLE2) predicted soil loss fairly well for the rotationally grazed treatments, but over-predicted [soil loss](#) from the continuously grazed and hayed treatments.

Using [rotational grazing](#) in combination with fenced riparian buffers or converting pastures to hayfields appear to be good options for reducing [soil erosion](#) and runoff to waterways.

More information: C. Pilon et al, Long-term Effects of Grazing Management and Buffer Strips on Soil Erosion from Pastures, *Journal of Environment Quality* (2017). [DOI: 10.2134/jeq2016.09.0378](https://doi.org/10.2134/jeq2016.09.0378)

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