

## Managing Riparian Corridor Forests in a Grassland Environment.

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Riparian forest corridors provide a wide array of ecological services in the grassland systems of North America, Africa and Asia. These narrow ribbons of woody vegetation winding through prairie and steppe landscapes provide an added measure of structural and biotic diversity to an otherwise homogenous environment. Cottonwoods, green ash and peachleaf willows protect water temperature by reducing direct solar heating of streambank soils and limit water quality degradation through uptake of nutrients previously entrapped by the herbaceous understory. Water quality is further enhanced when dense stands of young trees and willows within the floodplain reduce water velocity and collect sediment suspended in floodwaters. These ecological services maintain stream habitat quality and provide forage and cover for multiple grassland bird, small mammal, predator and large mammal species. Rather than being a separate system riparian processes and function are directly linked to conditions in surrounding uplands. In short, riparian processes don't act independently of the surrounding grassland watershed. Wildfire, drought and grazing induced changes in upland plant community composition and structure ultimately affect the rate and amount of shallow groundwater recharge that supports seasonal stream flow patterns in prairie streams. In similar fashion climate changes and land use patterns in upstream watersheds dampen or exacerbate fluctuations in riparian processes that shape local stream reaches and habitat. Consequently, successful rehabilitation and protection of prairie streams begin in the cropland, developed areas and grazing lands of the contributing watershed.