



Evaluating the Influence of Riparian Management Practices on Ecosystem Services

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The CEAP Riparian Team reviewed the influence of riparian management practices (RMP) on vegetation, soils and ecosystem services. We developed a conceptual model that links management practices to riparian vegetation and soil attributes and then links these attributes to ecosystem services such as wildlife habitat, clean water and carbon sequestration. The model acknowledges the dependence of these linkages on state factors such as climate and geomorphology, but focuses on how management and resource availability in riparian systems interact to determine ecosystem services. From this model, we generated hypotheses for evaluation using peer reviewed literature. We placed the hypotheses into three groups: 1) RMP that protect or restore vegetation attributes, 2) RMP that protect or restore soil attributes, and 3) RMP that protect or enhance ecosystem services. Our ability to evaluate hypotheses was limited by site-specific results that were conditioned by resource availability and studies of management effects on ecosystem services that ignore underlying ecological processes supporting those services. As a result, it is difficult to generalize about relationships between management practices and anticipated benefits. However, we were able to find support for conservation practices that influence 1) livestock distribution, 2) riparian herbaceous and woody vegetation attributes such as cover, structure, and diversity, 3) soil compaction and bank stability, 4) water quality, 5) the abundance and diversity of riparian obligate wildlife and 6) carbon sequestration inferred from vegetation productivity.

2009. 62nd Society for Range Management Annual Meeting. Paper No. 11-8.