

Summary

Resource managers, landowners, and ranch operators share many management issues and concerns relating to riparian areas in western South Dakota. The primary issues involve water management (too much vs. too little), channel erosion and geomorphology, and riparian vegetation management. Most streams in the region are ephemeral or intermittent; therefore, slight changes in hydrology can have powerful impacts on local species. Geomorphologically, many of the streams are very sensitive to erosion and headcutting due to the nature of the climate, plant cover, soil, channel material, and historic land use.

Vegetation management to provide adequate forage for grazing animals, ensure healthy/stable stream channels, and create wildlife habitat is often a shared goal among partners. Each site has unique features and properties, so careful observation, discussion, and repeat adjustments are needed to choose the best stream management and restoration options. Vegetation management through grazing and process-based in-channel restoration practices are feasible for many land managers and can provide valuable returns.

With collaborative efforts and thoughtful, strategic planning, meaningful riparian restoration and management are achievable for western South Dakota. Healthy riparian areas provide tangible benefits, not just to the landowner but also to the greater community in the form of quality aquatic and wildlife habitat, flood protection, improved water quality, and sustained water storage. Riparian areas are unique features that require special and at times creative management; the better we understand these systems, the better we can manage them.

Nature is resilient, and our grassland systems are particularly remarkable in their ability to recover and heal. We are still learning about our prairie stream systems, but we already have many of the tools needed to support them; with proactive adaptive management, watershed-scale partnerships, and investment in nature-based low-tech solutions, we can build healthy self-sustaining streams and riparian areas that support both ranch economics and our diverse natural landscape.

Future Science and Management Information Needs

The success of riparian best management practices such as buffers, rotational grazing, and low-tech channel interventions is not well documented in the region. Therefore, there is a strong need for monitoring and peer-to-peer learning to better understand the effectiveness of these practices over time. Regarding beavers specifically, we lack significant information about their past range and where they could live and thrive today. As the climate changes and rainfall variability increases in western South Dakota, we need to record the effects of these changes and to collect case studies of how landscapes are being successfully managed. Restoring the connectivity and resiliency of riparian areas will help these systems adapt to climate change, and continued monitoring and assessment of management practices can help us achieve greater success.