Guidelines for management of grazing in New Mexico's riparian areas - towards protection of wildlife and fisheries resources

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Description:

Riparian areas are places on the landscape where land meets water. This interface between land and water most often shows a gradation from water-loving vegetation outward from the water's edge toward more upland vegetation types. Riparian corridors comprise less than two percent of New Mexico's landscape, yet they are the most important ecosystems in the state. Critical water, food, cover, and shade for wildlife as well as cattle are provided here. At least 80 percent of vertebrate wildlife occurring in New Mexico use riparian areas at some stage of their lives and half are even more dependent upon the corridors as riparian obligates. Riparian areas support a greater diversity of breeding birds than all other habitats in the state combined. These areas also serve the important functions of controlling sediment and slowing floodwaters.

Riparian areas are crucially important for New Mexico's wildlife, especially during periods of drought. The same can be said of the agricultural use of the riparian zone. Both must coexist in a sustainable manner. It is at times difficult to find a good balance between maintaining proper ecological function and utilizing natural resources.

Substantial changes have been made to these areas over the past few centuries. Beaver trapping, followed by mining, farming, and livestock grazing have, in turn, all had significant impacts on our streams and the surrounding vegetation. We have become increasingly aware that there is an urgent need to repair damage done to the landscape and protect it from further degradation in order to continue a sustainable relationship with our land. Proper management can result in improved water quality, reduced flooding effects, improved vegetative cover, better fish and wildlife habitat, *and* increased forage production.

Riparian areas differ in their altitude, aspect, hydrology, soil characteristics, and placement in the landscape, not just across the state, but from site to site on any given parcel of land. These differences serve to drive vegetation potential at each site. Some systems are dominated by woody vegetation – such as cottonwood and willow, while others are dominated by grasses, rushes, and sedge. Differing grazing strategies need to be applied for these different situations. The land manager should know the area well enough to assess the resilience of the riparian system. How much utilization will it take and still be able to protect itself - and then spring back? How do the livestock affect the vegetation and the land? What does the area look like at its best?

Recommendations:

Riparian condition is best maintained where it is able to withstand the disturbances of a high runoff event without showing negative effects such as erosion or alteration of the stream channel. Enough vegetation should remain after grazing to assure this condition persists. All grazing plans should include management that **restricts livestock from degraded** or recovering areas and reduces the impact on healthy riparian areas. Fencing riparian areas to restrict access is recommended where necessary to protect riparian condition. An effective means of keeping both livestock and wildlife away from the riparian area is to improve upland forage. Upland placement of water, salt, or nutrient is another method of reducing impact on the riparian area.

If a riparian corridor has become severely degraded, it may require a few years of **rest** to return to a productive state. Climatic conditions may be a determining factor in length of rest. Where practical,

fencing affected sections of the pasture to completely exclude grazing may be the best option for recovery. The fenced off area could be utilized in a new grazing plan once it has sufficiently recovered. Closely monitored (strike hyphen) seasonal use of the riparian corridor is recommended in most cases. After grazing, standing herbaceous vegetation should be high enough that livestock do not move their preference to woody vegetation.

Pastures that combine upland and riparian areas may be grazed or rested in rotation based on riparian condition. **Fencing** between pastures is an important component in the ability to manage grazing. Avoid grazing in riparian areas while rainfall or snowmelt has made the ground at the banks soft. Trampling of wet soils by livestock may increase erosion, compact soils, and prevent seedling establishment. Upland pastures and riparian areas should be incorporated into seasonal grazing plans that maintain the health and productivity of the land, while providing the best forage opportunities. Grazing **earlier in the growing season** allows for greater plant recovery time than summer or fall grazing, and can actually improve vegetation growth in riparian areas if carefully monitored.

Heavy or repeated utilization of riparian areas during the **summer growing season** generally results in negative impacts. To minimize impacts of livestock on riparian areas during this season, water and shade structures should be made available in upland areas. If riparian areas must be used in summer, periodic rest (every other year) through rotation should be used to allow the area to recover. Continued grazing **into the fall** may have detrimental effects on both grass productivity and woody vegetation as livestock deplete palatable grasses and move to woody riparian vegetation such as willows. Monitoring and herding is very important during this time of year to assure continued health of the area.

Winter grazing may be the least detrimental to riparian areas if sufficient forage is available. Long term use of this management option may eventually lead to decline of preferred forage and an increase of less desirable forage species. Woody vegetation may also be at risk during the winter if other resources are depleted. Close monitoring is important - as always.

Merging **early and late growing season** riparian grazing practices is acceptable if woody vegetation has matured to the point that it is not adversely affected by livestock. Residual vegetation should remain in the fall to protect the area from high flows before the next growing season.

Special Considerations for Threatened and Endangered Species:
Grazing in areas that provide nesting or foraging habitat for threatened and endangered species should be immediately discontinued. Southwestern willow flycatcher is a federally endangered species that nests in shrubby vegetation in riparian and meadow sites. Sites that have abundant willow and standing water are preferred by this species, although salt cedar (tamarisk) may be utilized. Known willow flycatcher sites should be avoided during all seasons. Nearby sites that contain possible flycatcher habitat should be carefully monitored and may be lightly grazed with low stocking rates during late season (after August 31). Care should be taken that no more than 20 percent of the annual leader growth of hardwood seedlings is browsed before cattle are removed.

Where rare, threatened, or endangered species of fish, amphibians, or reptiles are present, it is especially important that livestock be kept from loafing in backwaters, marshes, or standing water. Fish and amphibians most often depend on these areas for reproduction and brood sites, while reptiles use wet areas for feeding and other purposes. Pollution and siltation resulting from livestock loafing is likely to reduce water quality, decrease free oxygen in the water, increase siltation, and reduce reproductive success of aquatic organisms.

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