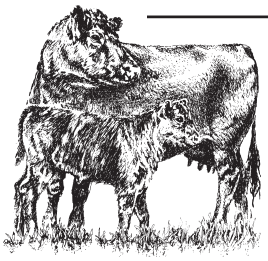

Western Beef Resource Committee

Cattle Producer's Library

Range and Pasture Section CL522

# Options for Riparian Grazing Management

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Riparian areas include riparian ecosystems and aquatic ecosystems such as streams, lakes, ponds, and springs. Riparian ecosystems serve as the transition between the aquatic ecosystem and the nearby upland terrestrial ecosystem. They are identified by soil characteristics or plant communities that indicate free or unbound water.

## Riparian Values

Riparian areas add tremendous diversity and value to arid and semiarid rangelands. Water and wet soils sustain lush vegetation that serves many uses: riparian vegetation may control water flow and other stream characteristics such as fish habitat; most livestock in desert areas use riparian vegetation at some time; the majority of wildlife species depend on or use riparian areas during some critical phase of their life; and people enjoying outdoor recreation use riparian areas more than any other type of rangeland. Yet, riparian areas are small. All this use is concentrated on less than 1 percent of the land.

The water in riparian areas provides many valuable functions on rangeland and downstream. Livestock and wildlife depend on riparian water supplies for using vast areas of rangeland. Streams provide valuable habitat for fish prized by recreationists. Downstream, water is commonly diverted to irrigate hundreds or thousands of acres. It may also serve as potable water for ranges, towns or industries.

## Livestock Use

Cattle naturally concentrate in riparian areas. They find green grass, water and often shade, all within easy walking. Cattle often stay in riparian areas after forage is scarce even when they don't find a full day's ration. Areas around water troughs typically have been considered sacrifice areas because of the intensive use made by cattle near water. We are beginning to realize that riparian areas are too valuable to sacrifice, especially where vegetation depends on abundant water and this vegetation in turn controls water flow.

Livestock use concentrated over a substantial part of the growing season damages the very resource that attracts such use. It damages vegetation that may be holding a stream bank together. A narrow, deep stream that supports a healthy fishery may turn into a shallow, wide stream where water becomes too warm for fish and where fish, without cover, fall easy prey to predators. Some streams have their meanders cut when the vegetation weakens. Cutting out through meanders increases stream gradient, velocity and cutting power. Soon the stream erodes deeply into its bed, leaving the riparian flood plain high and dry. Old meadows that now produce little vegetation but sagebrush and weeds can be found in many areas of the arid West. They are part of the cost people now pay for their predecessors not knowing how, nor having the ability, to conserve range. Now that problems have been identified, solutions must be found.

## Management

Proper management pays dividends more quickly on riparian areas than on any other part of the range. The combination of high payoff and high return to management input has made riparian areas the focus of much action and some controversy in recent years.

A fisheries biologist widely acknowledged for having discovered many of the problems common to cattle grazing in pastures with riparian zones (William Platts, personal communication) makes four noteworthy points on the question, "Can we graze riparian areas?" First, he says, "Yes, we can graze riparian areas." Secondly, "We ought to be able to increase the AUMs of forage harvested in riparian areas without damaging fish and wildlife habitat." Thirdly, "We don't yet know how to do this in all areas because riparian areas and their manage-

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ment situations are so diverse." Finally, according to Platts, "If we don't get our management act together, the public won't let us graze riparian areas because of the high resource value and the potential for damage from improper grazing."

The challenge for range managers is to use the high potential for returns with proper riparian management to increase livestock forage and, in the process, increase values for other users as well.

## Diversity

The tremendous diversity of riparian areas means that no treatment or system of treatments will work everywhere. Some riparian areas respond well to proper management of the surrounding allotment or pasture; others must be managed as separate units. Different riparian areas have different potentials. Some will produce trees that provide shade and nesting habitat for birds, including raptors (predatory birds), and others will produce lush meadow vegetation as their best crop. Most riparian areas support a diversity of vegetation types that may each encompass only a small area. Some streams can support productive fisheries, and others never could.

## Rancher's Role

Ranchers must be involved with other riparian managers to develop the best plan. Nobody knows the allotment, cattle, and management alternatives better than an experienced ranchers. In some respects, riparian management is not a large problem. It just takes someone looking for problems and solving them. In that way it is no different from any other grazing management situation. The point is, fencing cows out of riparian areas is *not* the only solution to riparian grazing problems.

Many grazing management tricks will help keep cattle distributed in a pasture. Any rancher or range conservationist has some that work for his or her cattle, or work for their country. Grazing managers have known for a long time that there are no alternatives to riding in wide open country with big pastures typical of the western range. Pushing cows into new territory and getting them situated is a continual chore that never goes away. Besides, if a rancher is not out there riding, he/she won't see the problems developing soon enough to prevent them. The problems that ranchers didn't prevent are the ones that have many concerned citizens talking about national legislation today.

## Fences

Perhaps the worst case scenario for national legislation requiring "projects" and "action plans" is that well-meaning people will interpret these words to mean "build exclosures." The job of ranchers and other range managers is to solve riparian problems before the exclosures get built, and to prove it with monitoring. Riparian exclosures have been a menace to many ranches. They mean forage unused, problems in animal movement, and annual maintenance hassles in the floodway. On the other hand, exclosures can take the pressure off a trout stream or spring/bog so that appropriate use can made of the rest of the pasture.

## Riparian Pasture

A riparian pasture is an alternative to a riparian exclosure. What are the differences? An exclosure is narrow and is not designed for any grazing use. A pasture is large enough to be grazed efficiently. An exclosure fence is near the stream and often needs repair after spring flooding and the fishing season. A pasture fence is on or near the hillside. It may be harder to build, but it needs less repair. The area fenced may differ by tenfold, yet the amount of fence materials needed may be nearly the same. A riparian exclosure may increase cattle management difficulties; a riparian pasture increases riparian grazing management options. However, a riparian pasture concentrates livestock use, and a few days can make a great difference in level of use. Riparian pasture management must be closely watched and may be labor intensive.

## Grazing Systems

Some range management plans call for division fences that will cross a stream. In steep country, putting the fence in at a low angle is sometimes useful for coaxing cows up slope of a hill. As cows go up country, they do so gradually and willingly. If cross fences are in, or in some country, even if they're not in, there's the option of grazing systems, and if one fits, it may work. Deferred rotation, rest rotation, short duration, time control, and other grazing systems work in some country. None of them work everywhere.

## Season of Use

Another management tool is the season of use. In some areas, turning cows out earlier helps because the cows graze hillside feed while it's still green. A recent grazing plan called for grazing earlier in the spring when cheatgrass is green. This solved not only a riparian problem but a fire hazard problem as well. Later grazing works better in some areas because the stream banks have dried out and firmed up so trampling doesn't damage fish habitat. It may be important to graze in the summer when grass is still green and palatable if willows or aspen suffer from fall grazing. In addition, seasonal grazing in riparian pastures can be used to increase the green-feed period and increase calf weights. In some low elevation areas, winter grazing is an alternative to hay costs, and results in less stream bank damage.

## Kinds or Class of Livestock

Well-herded sheep cause few problems in riparian areas. Yearling cattle may be much more willing and able to forage widely and get out of the bottoms than

cows with calves. The same can be said of certain breeds. Even within breeds and within a herd, some cattle are bottom crawlers and others are ridge climbers. If allowable use is measured in riparian areas, then bottom crawlers set stocking rate below what ridge climbers can safely graze.

## Range Improvements

Range improvements can alter livestock distribution. Cattle will go up country much quicker if they know there is something up there worth going after. Grazing before flowering on cheatgrass will pull livestock onto the dry sites, but the trick is keeping them there when forage preferences switches. Burned areas have long been known to attract grazing, as have fertilized range and seedings at certain times of the year if they don't get wolfy. If the seedings are just grass, then the time of year is early and short at most elevations. If the seedings have some deep-rooted forbs like alfalfa or shrubs like fourwing saltbrush, they may be favored into mid- to late summer. Of course, any forage will be of little value without water and salt nearby. A lot of bad grazing habits get started when cows come to the stream looking for a drink or a salt lick.

## CRMP

Coordinated resource management and planning (CRMP) is an ideal approach for solving riparian problems. It uses the expertise of many professionals and locally involved citizens to develop a site-specific appraisal of problems and to develop solutions. The more others think they're helping to solve a problem, the more they'll want to find evidence of the improvement. But more important, a coordinated resource management and planning approach ensures that everything decided is practical. It has to be practical if it's CRMP because if it isn't, everyone won't agree. And if everyone doesn't agree, it isn't CRMP. No participant has perfect knowledge, but all can share the knowledge they do have and help develop a reasonable approach.

## Monitoring

Any plan should be monitored to see if it gets implemented as planned, and to see if it works. Monitoring means observing what happens and keeping records of actual use, growing conditions, and events that change things such as floods, beaver dams, etc. Monitoring involves riding the allotment with one or more key members of the planning team and looking for problems, such as damage to the resource, underuse, or nonuse of feed. Also, monitoring includes taking pictures, especially of areas where improvement is targeted.

## Recovery

Riparian areas are called fragile by many. Anyone who has looked has seen areas that look mistreated. But where the water table remains where it should be, riparian vegetation is the most resilient on the range. Many range and ranch managers are probably a little miffed by all the hubbub, since they've seen their riparian areas improve over the years. But do they have pictures to prove it? By all means, pictures should be taken showing the problems that are being solved so the next generation can learn from current experience, apply more refined management, and be able to talk convincingly to concerned citizens and agency biologists.

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