# Riparian Grazing Management That Worked: I. Introduction and Winter Grazing

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Abundant nutritious grasses and other forages supplied excellent grazing opportunities for early ranching on western rangeland. By the late 1880s, about 19 million cattle and sheep grazed the arid west. By the turn of the century, uncontrolled use had deteriorated many arid lands. Range rehabilitation programs focused on uplands and have stabilized or improved much of the range (GAO 1988).

Rangeland riparian areas are the bands of greener vegetation along the banks of rivers and streams and around springs, bogs, and ponds (Platts 1981, Elmore and Beschta 1987). These areas represent about 1 percent of the 250 million acres of federally owned rangelands. Their condition is crucial to the general ecological health of western rangelands. Healthy riparian areas provide a wide range of ecological, aesthetic and recreation values and resources including forage for domestic animals, critical wildlife and fish habitat, and hydrologic benefits such as improved water quality, increased groundwater recharge and attenuation of flood peaks. (Elmore and Beschta 1987). Until recently any area near water was considered a sacrifice area (Stoddart and Smith 1955). Priorities have changed. Now riparian area conditions and values often dictate rangeland management practices.

As the demand for rangeland resource use grows and diversifies, public land management involves more special interest groups. Some of these groups oppose grazing on public lands unless rangeland managers apply better techniques for range and riparian areas. As custodians of the public rangelands, federal agencies must respond by developing appropriate management strategies. However, well-intentioned, but unenlightened public groups can create political pressures that impede just and logical solutions (Hyde 1986). Well-conducted research and demonstrations help diminish the emotions, and help users, activists, and managers plan for their mutual interests. When ranchers involve themselves in these changes and work with the agencies to maintain or improve rangeland resources, they protect the economic viability of their land and livestock operations. All parties need more understanding, cooperation and education to manage public lands well.

## Traditional Uses

Traditional grazing strategies may not solve the impacts of grazing on riparian habitats (Platts 1981). Cattle often graze riparian vegetation more intensively than any other (Elmore and Beschta 1987). Allotment Management Plans (AMPs), defining the amount and timing of grazing and other multiple use impacts, were historically developed using criteria developed for large upland expanses. Since riparian areas are usually a small part of the total area, they were usually not a separate item in these plans. While upland area management has been mostly successful, many riparian areas continued to suffer.

Responding to public demand and recognizing riparian values, government agencies often either use strict utilization standards on riparian vegetation or reduce livestock numbers in grazing allotments. Neither approach allows for effective upland use. Sometimes, managers remove livestock from pastures when localized riparian utilization reaches a moderate level even though cattle have only slightly grazed upland vegetation. Early removal of livestock or cutting numbers may unnecessarily threaten the economic stability of the livestock operation long before achieving desired riparian improvement. Methods that protect or restore riparian functions and allow effective and sustainable forage harvest throughout the allotment can prevent both ecologic and economic disruptions. Success in riparian management may depend more on changing the season of use and other techniques to improve livestock distribution.

Besides domestic livestock use, riparian areas attract many recreation activities that affect the ability of these zones to stay healthy (Carothers and Johnson 1982). Campsites, roads, and culverts along stream channels often contribute significantly to stream instability and degradation. Altering just livestock use in these areas will not fix the problem.

## Alternative Grazing Strategies

No single grazing strategy is successful on all riparian systems. Still, managers continue to look for "cookbook" solutions. Several riparian management strategies have been successful on a variety of streams in the West (Platts 1991, GAO 1988, Elmore and Beschta 1987). However, most management plans for riparian recovery in Nevada have stressed reduction of livestock numbers and fenced exclusion of livestock from riparian areas.

In recent decades, rotation and rest grazing strategies have been implemented on many allotments. Three-Pasture Rest-Rotation appears to be the most widely applied grazing strategy. This strategy has been very suc-

cessful at many sites, including some riparian areas. But has failed at others. Periodic season-long rest is not always necessary or desired. Other strategies may also work well, but all grazing plans must fit the conditions and goals in each allotment or watershed. Other herd management techniques, riding, salting, water development, animal selection, etc., can be as important to riparian management success as the appropriate grazing strategy.

## Winter Grazing

Winter grazing can benefit both range and riparian conditions by improving livestock distribution and plant response. Cattle congregate less in creek bottoms during colder months. Grazing dormant vegetation can decrease the stress of herbage removal, that occurs with summer grazing. It often increases the vigor of vegetation communities by pruning and removal of dead herbage. This stimulates spring growth. Following are some case examples of successful winter grazing.

### Wickiup Creek

Wickiup Creek (Fig.1) is in northern Nevada between Mountain City and the Jarbidge Wilderness. The Bruneau Allotment has been winter grazed by cattle since 1910 and the goal in recent decades was to maintain existing stable riparian conditions. In 1939, when many of Nevada's riparian systems lacked streamside vegetation, Wickiup Creek maintained dense stands of rye grass and other herbaceous and woody species (Photo 1).


**Fig. 1.** *Location of Wickiup and Meadow Valley Wash Creeks.*

*Photo 1. Wickiup Creek 1939.*

Wickiup Creek still has very stable stream reaches with dense graminoid streambank protection (Photo 2).

Winter grazing has maintained stable riparian conditions throughout both Wickiup and adjacent and similar Young American Creek drainages (Photo 3). Stream type and streamside vegetation varies on both streams but no evidence of erosion problems

*Photo 2. Wickiup Creek 1991.*

resulting from livestock grazing was apparent along either creek. A few minor erosion sites occurred near two-track road crossings and near older, large willow clumps.

Diligent herd management by the permittee accounts for a great deal of the success on this allotment. He varied turnout locations from year to year, placed salt blocks well away from riparian areas, and culled riparian loafers. The permittee states that the culling practices led to a more robust herd of mother cows. They remained on hillslopes more and produced larger calf crops and higher weaning weights.

*Photo 3. Young American Creek 1991.*

**Meadow Valley Wash**

Winter grazing has also been successful on Meadow Valley Wash which flows through Condor Canyon near Panaca in southern Nevada (Fig. 1). This location was historically grazed throughout much of the year. In contrast to the previous example, stable streamside vegetation was not present in 1984 when the permittee voluntarily initiated winter grazing to increase streamside vegetation and improve fish habitat (Photo 4). Ongoing mining (photo 5) activities and a railroad grade constructed in the early 1900s continue to influence stream function. Meadow Valley Wash downcut during the first decade of this century. It took out sections of the railroad and formed deep channels with highly erodible banks. At these sites, Meadow Valley Wash is forming a new channel within the vertical banks. The railroad tracks were removed through Condor Canyon. However, great quantities of large material, laid down during construction, continue to confine sections of the stream channel to only part of the canyon bottom (Photo 6). At other locations bedrock controls stream channel shape.

*Photo 4. Meadow Valley Wash 1981.*

Within Condor Canyon, herding and salting practices such as those used on the Bruneau Allotment are not possible. Although livestock drift in and out of the canyon, when cattle come

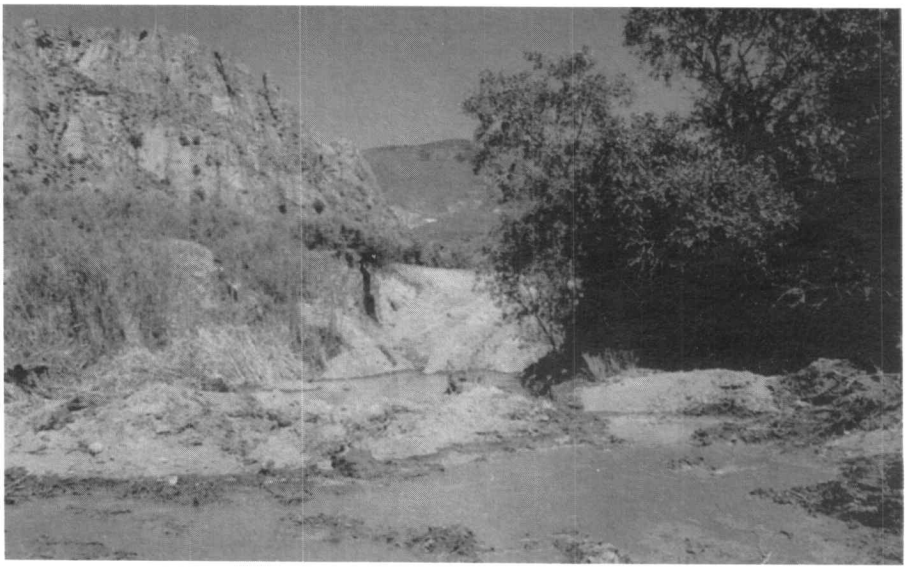

*Photo 5. Meadow Valley Wash 1991. Isolated mining disturbance.*

*Photo 6. Meadow Valley Wash 1991.*

into the canyon, they graze along or near the stream channel. In the 1960's, a twenty-five percent reduction in permitted animal unit months was an attempt to improve riparian conditions. Success was not achieved, however, until the season of use was limited to fall and winter grazing. The change in season of use was much more important than the stocking rate.

## Summary

These sites contrast in elevation, vegetation, precipitation patterns, and their historical uses. All these factors contributed to recent differences in watershed condition. On the Bruneau Allotment, long term winter use maintained healthy conditions along most of two streams. Along Meadow Valley Wash, winter grazing proved successful for restoring streamside vegetation and building new stream channels. This was after season-long and sometimes year round grazing in combination with other use impacts (railroad and mining) had created much more unstable conditions.

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