Viewpoint: An appeal for riparian zone standards to be based on real world models.

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A great deal of attention is focused on livestock impacts on riparian ecosystems in western North America's rangelands. Many large ungulates, both domestic and wild, concentrate activities in these ecosystems because they usually have more forage, water, and cover than other range sites. It is difficult to graze rangelands with cattle or many species of wild animals without heavy use of riparian zones in spots. Curiously, there is a tendency among many managers, scientists, and laypeople to judge these overutilized spots acceptable when native large ungulates are involved but judge them as unacceptable when they are caused by domestic livestock. Does it make sense to have one standard for riparian zones that are utilized by wild ungulates and another standard for riparian zones that are used, at least partially, by domestic ungulates?

In July 1990, I participated in a qualitative survey of riparian zone vegetation along perennial and intermittent streams in Yellowstone Park. Willow was usually present but browsed short, some banks were broken off, and trails and dung piles were obvious and numerous. The National Park Service ecologist leading the tour was not alarmed with the ecological condition of these riparian zones and considered them stable, self-perpetuating, and within the normal limits of naturalness. He made the point that willow plants and riparian zones are well adapted to heavy use by ungulates. I agree and believe this is the case in riparian zones of most rangelands.

A year earlier, August 1989, I took part in a USFS-led saddle survey of some of the riparian zones in the Big Horn National Forest (BHNF) that the USFS classified as damaged by cattle. The BHNF riparian zones were in higher successional status, the willows were browsed less, and the stream banks were more stable than in the Park. I do not subscribe to the belief that the Park has been uniformly overgrazed, damaged, or destroyed by elk, moose, and buffalo. The Park's riparian zones, like those on the BHNF, have been disturbed in spots. These local areas are occupied by a variety of successional communities that constitute several legitimate versions of natural or pristine conditions. They demonstrate the resilience and dynamics of riparian ecosystems.

I have also travelled along miles of riparian zones in numerous national parks and various other rangelands in Kenya. African riparian zones that are not linked with crop agriculture resemble those of Yellowstone in that portions are frequently hit hard by nature's forces. Hippo, cape buffalo, wildebeest, zebra, elephant, forest hog populations, unregulated streamflow and wildfires routinely inflict what is labeled by fantasy ecologists as devastation upon riparian zones. The ecological fact is, the riparian zone tolerates these spatially and temporally scattered disturbances. According to disturbance ecology theory, these local perturbations may well contribute to the long term good of the system.

In sharp contrast to the real ecosystems of Africa and North America, riparian zones I have seen at Disneyland in California differ in that they are planted or plastic, groomed by gardeners, and are never impacted by large ungulates, floods, or fires. They are not self-perpetuating nor natural but always look great—especially to fantasy ecologists that do not understand or appreciate the value of ecosystem dynamics.

I am convinced that many professional rangeland ecologists and managers are attempting to establish artificial and unnatural guidelines for riparian zones that do not allow for local disturbances and normal ecosystem dynamics. Such standards might better be called the Disneyland standards for riparian zones. Most of the riparian zones I saw in the Yellowstone Park and African rangelands are in terrible shape by Disneyland standards because they contain noticeable local perturbations. However, they are in good condition when judged by sound ecological and naturalness standards. Standards setters and managers must use real world models when setting guidelines for management of riparian zones. Real world ecologists abandoned the idea that fire and Bambi-eating wolves were devastating ecological processes long ago. Let's get realistic about large ungulates and their role in riparian zone ecosystem dynamics.

I do not suggest that all segments of riparian zones should look as though they have been recently visited by thousands of thirsty bison seeking the only succulent forage and water in 30 miles during the dry season—a scene that must have been common two hundred years ago. But we must recognize that local disturbances are a natural part of large ungulate herbivory that these systems evolved with. The standards need to account for this ecological fact of life—regardless of whether the disturbances are caused by domestic or wild ungulates. •

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