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Training Livestock to Leave Streams and Use Uplands

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Cattle can damage streams and surrounding vegetation (riparian areas) by over-grazing riparian vegetation, breaking down banks, decreasing water quality, which can reduce fish populations and wildlife numbers. Suggested solutions to this problem have traditionally ranged from the cost prohibitive - constructing fences along waterways – to the extreme – removing livestock completely from rangelands. Using the principles of livestock behavior offers a third, often more cost-effective solution: Using riders to train animals to leave riparian areas and graze on uplands.

Changing Preferences

By understanding that behavior is a result of consequences, a rider can change habitat preferences of livestock from shady riparian areas to nutritious uplands. The negative consequence of being pushed away from the stream banks, combined with the positive consequences of arriving at upland sites with adequate forage and supplements, changes the behavior of a herd over time. If moves normally coincide with a decrease of nutritious forage in one location and an abundance of forage in the new location, cattle learn to move because good things happen when they change locations.

Both research and anecdotal evidence demonstrate that calves learn from their mothers to eat particular foods at particular locations, and are more likely to use those same areas and eat those same foods as adults. Thus, calves that learn to prefer foods on upland sites prefer to graze in upland sites as adults. Managers who keep replacement heifers from their own herd use the power of experience early in life to develop a herd that uses riparian areas for drinking and upland areas for grazing. Given time, the amount of time and effort required for by riders to move cattle out of riparian areas decrease as the herd changes its behavior and the herd becomes dominated by cattle that prefer to graze in uplands.

Making Social Behavior Work for You

Occasionally harassing cattle to disperse them from stream bottoms is not effective, because they will return quickly once you leave. To be successful, riding must be persistent and consistent and moving cattle must provide positive consequences for them. Low-stress livestock handling techniques decrease the stress of moving and increases the likelihood that cattle will stay in their new location. Taking time to make sure that cows and calves are paired up prior to moving, and keeping social groups together during the move can prevent short drives from becoming rodeos. A cow without her calf moves slowly, and eventually runs back, taking most of the herd with her. Likewise, if individuals are separated from their subgroup they will return to former locations. The animals need to be settled in their new location before the rider leaves the herd.

Timing moves to coincide with the animals' regular routine increases success and reduces training time. When moving cattle to a new foraging site, it is best to move them before they have fed. When moving them to new loafing areas, it is best to move them soon after they have fed and watered. By showing

the animals the locations of forage, salt and water at the new location, the rider can emphasize the positive consequence of the move. These tactics ensure that cows are more inclined to graze or rest when they reach their new locations and reduce the likelihood they will return to former locations.

Not all animals learn to use new habitats and foods. A rider can identify cows and calves that consistently use riparian and upland areas allowing managers to cull cows or subgroups of cows that repeatedly use riparian areas, despite herding, and to keep cows that use upland sites. Simply culling cows that repeatedly use riparian areas in the absence of herding is unlikely to change grazing in riparian areas, because cows using the areas next to riparian area will likely move into that area as soon as competition is removed. The key is to implement herding and remove animals who refuse to learn to use uplands and stay out of the riparian area.

Healthy Uplands Required

The degree to which riding and selective culling of animals is effective in protecting sensitive areas will depend on the availability of resources - food, water, salt and shelter - in upland sites. Young females are more likely to occupy the same areas as their mothers provided resources within those areas plentiful. On the other hand, resource-poor areas force young females to range further from familiar areas to meet their needs. This increases the likelihood they will discover and settle in other areas, including riparian areas, especially if they contain ample forage.

Riding vs. Fencing: Costs and Benefits

Hiring a rider is a expense most ranchers are don't include in their budgets, but a good herders can be profitable. Bob Budd, former manager of the Nature Conservancy's Red Canyon Ranch, used riders during the last 10 years he managed the ranch. He found that the costs of riding are offset by the benefits from the use of additional forage in the uplands, better herd health, reduced death loss, increased animal performance and improved riparian health. Thanks to his riders, he was able to increase the number of cattle the ranch could sustain by as much as 50% in normal rainfall years, while also increasing the fish, birds, and wildlife on the ranch.

Training Takes Time

Managers who want to retrain their herds must realize that changing habits of animals takes time. Budd says it took them 3 years to retrain their animals to use uplands instead of riparian sites. In that time, overall productivity actually declined before it rebounded and then improved. He also points out that herding and effectively managing livestock distribution increases the pounds of beef per acre produced but may not produce calves with the heaviest weaning weights.

Conclusions

Training livestock to avoid sensitive areas and to use alternative sites gives land managers another option to maintain healthy riparian areas other than removing or fencing cattle from rangelands containing sensitive areas such as riparian areas. Changes in grazing management and training cattle to use uplands can have positive effects on riparian vegetation by resting it from grazing and allowing it to recover. (See Figures 1 and 2.) If training livestock to use new areas is to be successful, the availability of food, water, salt and shelter at alternative upland sites and social factors must be considered as well as employing low-stress livestock training techniques for handling and placing animals in new areas.

References

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Figure 1. Changes in riparian area cover from 1994 to 2001 after herding was implemented at Red Canyon Ranch.

Figure 2. Changes in riparian area cover from 1995 to 1998 after herding was implemented at Red Canyon Ranch.