Cattle
As a Conservation Tool

We use a lot of tools in our conservation work – from hand-held GPS units and remote cameras to the purchase of land and conservation easements. In the grasslands, one of the most flexible and effective tools at our disposal is cattle. While some people have condemned cattle, in some cases rightfully, as anathema to conservation, that’s “like saying that food is bad because some people are obese,” says prairie ecologist Chris Helzer.

In Montana, the Conservancy doesn’t own livestock, but we do lease our land to neighboring ranchers in all the landscapes where we work. We also work in partnership with landowners to help plan grazing on their private land that can help accomplish conservation goals.

Montana’s grasslands evolved with grazing, most notably with the millions of bison that once covered the Great Plains in a woolly black blanket. Scientists are mostly left to offer educated guesses as to the precise patterns of their foraging, but there’s no question that they performed an essential role in maintaining the health and resilience of grasslands. With the bison’s demise, cattle can now pick up the work once accomplished by bison, although how well they do the job is very much up to the people who manage them.

For decades, it was considered good stewardship to allow livestock to eat grasses down to a moderate level over the entire area they foraged. This allowed the animals to make good weight gains without doing long-term damage to the prairie. It turns out, that seemingly sensible treatment of grass wasn’t ideal for everything that lived in the prairie.

A healthy prairie is a mosaic of plant species, with a good mix of different height and density of growth. This is especially important for grassland birds which vary widely in their preferences according to species. For example, the Mountain Plover prefers level ground grazed down to the nub, with substantial amounts of bare ground. By contrast, the Long-billed Curlew likes a mixed setting. During nesting, it often prefers short grass where it can blend in with “bovid fecal piles” (yep, cow patties) for concealment. Once the brood is hatched, the mothers seek out more mid-height grass to keep their young out of sight. In the world of mammals, the tiny swift fox is also partial to level ground with very low vegetation, a landscape that allows it to see for vast distances in order to avoid predators that would make it an easy meal.

By reading historic accounts, such as the journals of Lewis and Clark, we know that bison really pummeled the grassland in places where water was abundant, laying the land barren before moving on. Areas far from regular water were likely foraged more lightly. As weather and bison populations fluctuated, so did grazing patterns. Fire periodically scorched the land, leading to periods of deep renewal. Hence, that patchwork of grass cover so beneficial to
to wildlife was maintained.

Today, our science is showing us how to use cattle and controlled burns to replicate the work once accomplished by bison and natural fire without taking away from the ranchers’ bottom line. For example, land that is grazed nearly bare or burned offers the sparse cover that helps animals such as prairie dogs, Burrowing Owls, and Mountain Plovers as well as cattle. It turns out that the bright green grass that springs up on these sites the following season is far richer in protein and nitrogen than the plants that were foraged more moderately. By grazing yearling cattle there, we provide them with a huge nutritional boost.

Through the use of fences, the strategic placement of water tanks and mineral/salt blocks, and strategic rotation of livestock into different pastures, we maintain a desirable mix of habitat that is good for both wildlife and livestock. Plus, we can quickly adapt to the changes in weather, precipitation, and other factors.

Another less measurable, but certainly important, function of this tool is that it has helped us build invaluable partnerships with the ranching communities where we work. Ranchers not only provide the livestock, they share a knowledge of the land that can only be gained by living and working here through their families’ many generations as stewards of the prairie.