

Economic and Ecological Benefits of Sustainable Grazing in Iowa's Little Sioux Watershed

Sustainable grazing lowers grassland management costs while increasing grassland health and wildlife habitat. High native plant diversity keeps noxious weeds at bay and requires no chemical fertilizer or interseeding. Producers may generate greater profit with fewer head and report increased rates of gain and better body condition with less management effort than when grazing pastures consisting of non-native forage species. Native vegetation and lower stocking rates also provide more and better quality wildlife habitat, which has been tied to better pasture health, herd health, and cropland health.

Sustainable grazing practitioners are more grassland managers than livestock managers. Successful managers are educated in grassland health and strive to improve their personal knowledge of grassland components and processes.



Capitalizing on Pasture Composition

The prairie pastures of the Little Sioux Watershed have been home to cattle for over 150 years. Historically, they contained both native cool and warm season grasses and forbs (broadleaf plants). Although these pastures have decreased in number, size, and forage quality, there is still a culture of grazing the steep, gravelly side slopes and stream bottoms.

The majority of remaining pastures in the focus area consist of native warm season vegetation on the uplands and side slopes with the stream bottoms containing smooth brome, an introduced Eurasian grass. Although smooth brome is neither native nor ideal because of its tendency to outcompete native vegetation, this combination works well for cattle producers as smooth brome is most nutritious in early spring and late fall, while the upslope native vegetation is most nutritious from late spring through early fall.

A diversity of healthy vegetation is necessary for animal nutritional needs as well as pollinator and wildlife habitat and overall grassland health. This diversity can be maintained, and sometimes increased, by managing livestock stocking times and rates and by incorporating prescribed fire into your management regime.

Grassland Health Management



Forage Monitoring Tracking plant quantity, patchiness, and location is important throughout the grazing season. Measure forage abundance using a pasture stick or Robel pole and Daubenmire frame to determine if stocking rates are adequate or need to be adjusted. Taking time to measure forage prior to putting out livestock gives you a baseline and will set you up for quick periodic monitoring during the grazing season. End of season measurements allow you to determine if your grassland management goals were achieved and help you to plan for the next year.



Patch Burn Grazing Native grasslands evolved with climate, grazing, and fire as the three major influences. We can manage for changes in weather and climate using grazing and fire. Fire has many benefits to grassland communities such as nutrient cycling, rejuvenation of plant community, increased grass and forb production, and a decrease in many invasive species. Green shoots will reappear days after a fire and animals will utilize the area more intensively for the majority of the grazing season or until another area is burned. This is a good alternative to paddock grazing as animals will naturally move to more recently burned areas.



Record Keeping Good records can make managing your grassland much easier in the long term by identifying trends and determining if your management methods are achieving your desired goals. There are many record keeping methods from a spiral notebook to a printed pasture guide to Excel spreadsheets and computer programs. Use the method that you're most comfortable with and the time spent keeping records will pay back in dividends when planning next year's grazing regime. Some items to consider recording include rainfall amounts and dates, grazing dates, stocking rates, management changes and results, rates of gain, body condition scores, and wildlife observations.



Drought Planning Well managed, high diversity native grasslands are resilient systems. Native prairie plants evolved over thousands of years to handle local stressors such as flood and drought. However, drought slows forage growth and makes plants more susceptible to trampling and overgrazing. Planning for drought involves using the aforementioned grassland management tools to determine trigger, or stress, points for changes in your grazing regime in order to mitigate pasture or wildlife habitat damage.

Flexibility in your herd, such as multiple age classes, culling cows early in the season, or early weaning, can help reduce grassland stress and lower feed costs in times of drought.

Fertilization

Chemical fertilization of native grasslands is not only unnecessary, but detrimental to a diverse plant community. Although the addition of nitrogen fertilizer will increase grass growth, it will cause grasses to out compete and crowd out many desirable native broadleaf species that add diversity, nutrients, and wildlife habitat. Additionally, many non-native and invasive species increase in abundance with the addition of fertilizer. The resiliency of the grassland will be adversely impacted and the temporary increase in grass output is not worth the financial and ecological cost of fertilization.

Water Considerations

Quality Water quality is as important to animals as water quantity. Cattle graze longer and gain better when clean water is available and wildlife habitat is greatly improved when streams and wetlands aren't heavily utilized by grazing animals.

Riparian Areas Special attention should be paid to areas near streams, wetlands, and ponds. These are sensitive areas that can be easily damaged by too much traffic from grazing animals. Encourage animals to spend as little time as possible in riparian areas by using patch burn grazing or locating mineral and lick tubs away from water. If possible, fence grazers out of these areas.

Wildlife

Well managed grasslands will provide good wildlife habitat through a diversity of plant structure and types, accommodating everything from insects to birds to small mammals. The presence of wildlife is a good indicator of grassland health.



For More Information

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[Patch Burn Grazing](https://efotg.sc.egov.usda.gov/references/public/OK/range_ok-16_Attachment.pdf) (https://efotg.sc.egov.usda.gov/references/public/OK/range_ok-16_Attachment.pdf)

[Forage Monitoring](http://drought.unl.edu/ranchplan/InventoryMonitor/ForageRange.aspx) (http://drought.unl.edu/ranchplan/InventoryMonitor/ForageRange.aspx)

[Range and Pasture Resources](https://www.nrcs.usda.gov/wps/portal/nrcs/main/sd/technical/landuse/pasture/) (https://www.nrcs.usda.gov/wps/portal/nrcs/main/sd/technical/landuse/pasture/)

[Working Lands for Wildlife](https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=stelprdb1046975) (https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=stelprdb1046975)

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