

# *grassland* MANAGEMENT TOOLS



**GRAZING  
HAYING  
BURNING  
RESTING**



*Grasslands appear to be simple landscapes, but are actually very complex. Before European settlement, millions of bison trampled and grazed their way across the Great Plains of North America. Wildfires were common and swept across prairie landscapes, helping prairie grasses and flowering plants to germinate, reproduce, and thrive.*

*The mechanisms that shaped the prairies of Minnesota are gone, but managed grazing, haying, and burning can be used to restore and maintain these grassland ecosystems. Grazing animals are vital to maintaining grassland health and help prairie wildlife flourish by providing habitat for insects, birds, and small animals.*

*Grassland health and vigor is improved and maintained by periodic disturbance from managed grazing, haying, or burning when combined with rest. Land managers use grazing, burning, and haying as land management tools to manipulate and improve grasslands. Rest periods provide optimum habitat conditions for nesting birds such as pheasants, waterfowl, and grassland songbirds, but periodic disturbances are necessary to invigorate grassland habitat towards its optimum health and vigor before senescence sets in once again.*

*Grassland vigor declines in the absence of disturbance. The primary reason is the build-up of dead plant material. When dead plant material or litter accumulates, prairie grasses are unable to utilize the nutrients held up in the litter.*



**Grassland health**  
*and vigor are improved and maintained by periodic disturbance.*



# GRAZING

Grassland ecosystems are improved with proper grazing management. Well managed and timely grazing maintains soil cover, keeps grass healthy and more productive, and generally enhances the local ecosystem processes.

Grazing results in rapid nutrient cycling. Manure left behind by grazing animals provides greater insect populations that are food for many grassland birds. Grazing wetland margins helps to open up the dense vegetation perimeter and allows for waterbird access to food resources.

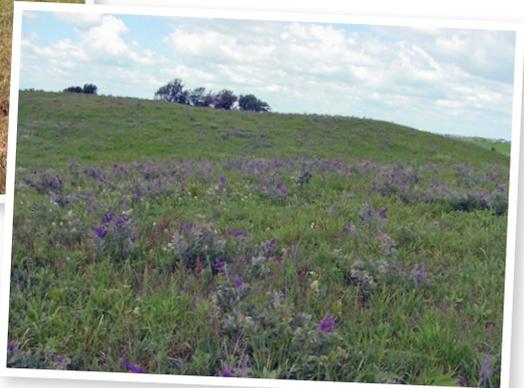
Managed grazing reduces woody plant encroachment, reduces excessive litter accumulation, improves seed germination, and stimulates native plant growth.

The use of public lands for grazing can also have many benefits for wildlife and livestock producers. The producer helps the agency manage public lands that need to be grazed, hayed, or burned, and in return the producer is able to rest their pasture. The term for this arrangement is called grass banking. Grass banking is a win-win relationship for both the agency and producer.

Managed livestock grazing is a compatible land use for waterfowl and pheasant nesting habitat because it improves the quality, diversity, and health of grasslands habitats.



*30 Days of Grazing*



*40 Days Later*



# HAYING

Haying is an important management tool for maintaining grasslands. Hayed areas are quickly revegetated. Haying can restrict woody plant encroachment and help control weeds.

Well-timed haying can create the habitat structure that many grassland birds need to survive. Haying in the fall can also open up seasonal and temporary wetland basins for the following spring and improve waterfowl use of this essential breeding habitat.



# BURNING

Fire is probably the most ancient tool used by humans to modify their environment and may be the most widely used tool employed by land managers today. Prescribed burning has many benefits.

Burning top-kills encroaching trees that would otherwise shade out needed grassland nesting cover. Allowing trees to become established in grasslands is counter-productive for grassland wildlife like meadowlarks, bobolinks, and ring-necked pheasants which prefer landscapes without trees.

As with grazing and haying, a well-timed burn also discourages non-native (exotic) species and stimulates growth of native species. Fire stimulates native grass and flower seed production. Fire breaks litter down and releases nutrients back into the soil for use by plants.

After a burn, plants grow larger and more vigorously, tend to produce more flowers and seeds, and these plants are more nutritious than plants in unburned prairie, a definite bonus for wildlife.

Prescribed burning may increase and attract some insects to the burned area. This is an important concept because many grassland bird species feed upon insects, especially during the chick rearing period. The year following a fire, the number of nesting birds increases greatly due to the quality of nesting cover available.





## RESTING

Rest is perhaps the most misunderstood tool for grassland management. Rested or idled grassland is defined as any habitat that is not cut, burned, grazed, or otherwise disturbed during the bird breeding season. There is no doubt that idle grasslands provide nesting habitat for a myriad of bird species. Undisturbed grasslands are essential for producing young pheasants, songbirds, and ducklings. Dabbling ducks demonstrate strong preferences for nesting in idle versus non-idled areas.

Grasslands, however, lose their nesting attractiveness if idled for too many years. In the long term, grasslands commonly undergo plant succession: lose diversity, woody vegetation and trees become established, soil is exposed as spaces between plants are increased, and over time the most important habitat components for pheasant, duck, and grassland birds are lost.

## GRASSLAND DIVERSITY

Each bird species has a unique set of habitat conditions to which it is best adapted. Because grassland bird habitat requirements are diverse, management designed to benefit one or a few species will not adequately accommodate the needs of other species.

Effective management produces a variety of habitats across the region and takes into account the amount, size and shape, structure, distribution, surrounding land use, woody cover and edge issues, disturbance patterns, and the impacts of land management practices. In general, the more complex and diverse plant communities become, the more stable populations tend to be within suitable biological parameters.



*Healthy  
Grasslands  
cannot exist  
without periodic  
disturbance.*



## SUMMARY

*High quality prairies and grasslands are biologically diverse, and provide important breeding and winter habitat needed for many wildlife species.*

*Periodic disturbance in the form of grazing, haying or burning interspersed with periods of rest are essential for maintaining the grassland quality. Grasslands cannot exist without periodic disturbance, yet too much disturbance also degrades grassland habitat and quality. Without periodic disturbances, grassland quality declines along with use by grassland nesting birds such as ducks and pheasants.*

*Although we will never again see the buffalo run free or the once large scale fires, land stewards can mimic these processes on a small scale to manage grasslands and prairies to benefit wildlife and grassland nesting bird species.*



*Grazing promotes rapid nutrient cycling, increased insect populations, reduces woody vegetation encroachment, removes excessive litter accumulation, improves seed germination, and stimulates native plant growth.*

*Haying restricts woody plant encroachment, provides weed control, and helps to create a diversified landscape. A well-timed burn discourages non-native (exotic) species, stimulates growth of native grass and flower species, increases seed production, breaks down litter, and releases important nutrients to plants.*

*In the absence of disturbance, grassland vigor declines, resulting in a diminished grassland quality and nesting attractiveness for birds.*

*Conservation agencies and livestock producers realize that they have much more in common than once thought. Both groups know the importance of quality grasslands for both wildlife and grazing value, and are beginning to understand how grasslands can be better managed.*

*Left Half:  
11 Days Post Grazing  
Right Half:  
27 Days Post Burn*



*In the absence of disturbance, grassland vigor declines.*

*Collaboration between conservation agencies and livestock producers is beneficial to ensure healthy and functioning ecosystems.*



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