

COOL SEASON GRASSES



Grasslands are areas often referred to as prairies or meadows, consisting primarily of grasses with associated wildflowers. These areas provide essential habitat for many species of wildlife. Presently, Michigan has only small remnant prairies scattered across the state. At the time of Michigan's settlement, there were approximately 2.35 million acres of grasslands. Historically ranging from several to thousands of acres, grasslands have drastically declined because they have been converted to agricultural fields or lost because of fire suppression.

Although we have lost almost all of our native prairies, Michigan still has some grassland areas. Non-native cool season grasses have been planted along roadsides, as hayfields and pastures, and often establish themselves in the fields retired from farming. These fields can provide important wildlife food and cover.

Within grasslands, a variety of wildlife such as pheasants, wild turkeys, songbirds, foxes, hawks, raccoons, and sandhill cranes eat abundant insects, seeds, and small rodents that grasslands produce. Also, mice, voles, shrews, woodchucks, and many kinds of ground-nesting birds raise their young there. The size of the grassland plays a significant role in attracting certain species of wildlife. Small grasslands one to five acres in size are activity zones for deer and rab-

bits. Other wildlife species, such as bobolinks and meadowlarks, may require 20 or more acres of grassland to survive.

There are two types of grasses to consider planting: cool season and warm season. For more information about warm season grasses, please refer to the chapter on **Warm Season Grasses**. Cool season grasses develop most rapidly during spring and early summer



Canada wildrye

when cool nights follow warm days. They begin to grow again in late summer and early fall when these same conditions apply. Growing best in temperatures of 55 to 75 degrees Fahrenheit, cool season grasses go dormant when temperatures reach 90 to 95. These grasses include timothy, orchard grass, and brome grass--all introduced species--and native Canada wildrye, redtop, and June grass, which is also called blue grass. Legumes such as alfalfa and the clovers--ladino, sweet, white, red, and others--are often included in plantings of cool season grasses.



redtop

Most wildlife managers in Michigan prefer that warm season grasses and cool season grasses be incorporated into wildlife plans that contain grasses because they provide excellent wildlife habitat. However, for the novice, cool season grasses are easier and less expensive to establish. Normally, cool season grasses are established in one growing season, whereas warm season grasses take three to five years. However, warm and cool season grasses planted in separate side by side stands will provide more diversity and are extremely valuable for wildlife.

Stand Composition

Soil type will determine what kinds of cool season grasses to plant. The Natural Resource Conservation Service can supply, free of charge, a soil survey of your property, which identifies the type of soils you have and where they are located. For a small fee you can purchase a soil test kit from your county Michigan State University Extension office. The test determines if lime or fertilizers need to be applied to the soil for the particular grass that you choose to plant.

Canada wildrye is a native tall erect bunch grass that does not grow into dense stands. Found most often in sandy or marshy shores, it may also grow within sand dunes, and in forests along. Usually reaches a height of two to six feet. A palatable grain, it also

provides good nesting and roosting cover.

Redtop, also native, grows to four feet tall, has delicate leaves and stems, and also provides good nesting and roosting cover, even into winter if snowfalls are scarce.

June grass is a short, nearly prostrate variety that is usually mixed with common white clover or alsike clover, and planted in large meadows for browse. The mixture is tolerant of partial shade and will grow well on the north edge of a woodland.

Timothy and **orchard grass** are both about 30 inches high, ideal for nesting and brood-rearing cover. Timothy grass grows well on sandy loam soils that are fairly well drained, and orchard grass does better on mostly loam soils. Orchard grass is a clump grass, which permits pheasant chicks to easily walk through it. A large variety of protein-rich insects eat its soft, succulent leaves, but it produces poor-quality hay. The stiff, erect stems of timothy create good fall roosts for pheasants as well as good nesting cover for some songbirds. Mixed with ladino clover and red clover, timothy produces an excellent hay crop in early July. When the legumes die back after five or six years, timothy will form a useful pure stand.

Although hated by farmers and gardeners, **quack grass** has high value to wildlife, mostly because its seed head provides food. You may wish to avoid planting fescue and brome grass for wildlife. These sod-forming grasses tend to become too thick to allow easy movement by some wildlife and provide little food value.



orchard grass



timothy



red clover



alsike clover



quack grass



birdsfoot trefoil



smooth brome - A sod-forming grass that tends to become too thick for wildlife to move through.

Clover, alfalfa, and the other legumes remove nitrogen from the air and add it to the soil where it becomes available as fertilizer for other plants. Grasslands do not need to be fertilized as long as legumes are actively growing. Adding legumes to cool season grasses improves the variety of the stand by increasing the mix of structure and palatability of plants to plant eaters from insects to deer.

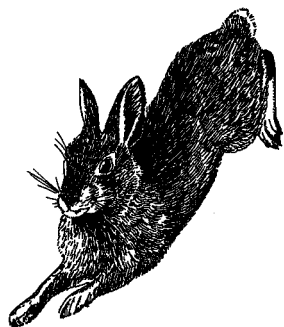
Common white clover is a short creeping clover, very persistent and well suited to wet soils with poor drainage. It also grows well in partial shade and is often selected for woodland trails, forest openings, and logging roads where ruffed grouse, wild turkeys, deer, and rabbits eat it. **Medium red clover** lives three to six years, reaches a height of 12 to 16 inches, and grows on soils ranging from poorly drained to dry, sandy types. It does best, though, on well-drained sandy loams and clay loam soils. Mixed with orchard grass or timothy, it helps provide cover and food, called browse.

Alsike clover lives only two or three years but is well suited to wet, poorly drained sites. An excellent companion to birdsfoot trefoil, orchard grass, and redtop, alsike provides browse and brood habitat in wet meadows.

Ladino clover lives six to ten years and thrives on soils that are well drained or fairly well drained. Planted with orchard grass and timothy, ladino attracts deer, turkeys, grouse, and rabbits in spring and summer.

Both white and yellow blossom **sweet clovers** make high-quality spring browse, excellent fall seed,

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eastern cottontail rabbit

and good winter roosting cover for pheasants, quail, and rabbits. The white blossom variety is taller (to six feet), better tolerates droughty soils, and stands more erect during the winter to provide better cover than yellow.

Birdsfoot trefoil looks much like alfalfa but will tolerate more soil types than does alfalfa. Although it grows on a variety of soils from well-drained loams to wet clays and mucks, birdsfoot trefoil is harder to establish than clovers. In addition, birdsfoot trefoil is extremely aggressive after it becomes established and is not always highly recommended.

Alfalfa tolerates only well-drained sites and requires the highest pH soil of all the legumes. It will last six or seven years when annually mowed.

Planting Rates

The kind of habitat you wish to establish will also determine what kind of cool season grasses and legumes you should plant and how much of each. For example, if your goal is to provide one acre of meadow for nesting pheasants, a commonly used mixture is 7 lbs. of medium red clover, 2 lbs. of alfalfa, 3 lbs. of timothy grass, and 3 lbs. of redbud grass.

Cool season grasses are popular with farmers because they estab-

lish quickly and respond to heavy fertilization, which can be reduced when mixed with legumes. They do better in high pH soils (5.8-7.0), which are maintained through the use of agricultural lime. The grasses typically outlive the legumes. Legumes should be inoculated with the proper bacteria before planting to increase germination. Seed three or more varieties of grass/legume mixtures at the rate of 8 to 12 lbs. per acre. For best results and highest benefit to wildlife, legumes should comprise 50 to 60 percent of the mix. Sow with conventional tillage (plow/disc/drag/plant), conservation (no-till) methods, or frost seed. More information is available in the **Grass Planting** chapter.

Stand Size

Pheasants, bobolinks, and meadowlarks are among many wildlife species that do best in habitats where the predominant landscape type is grass. Township-sized areas containing 25 percent grassland have the highest benefit to these species. Grasslands larger than 40 acres are usually more beneficial to wildlife than are smaller fields because they make it more difficult for predators to find nesting birds and other prey. One consideration, however, is that if your plan calls for making a large field from several smaller fields, the removal of fencerows may destroy travel corridors and food/shelter habitats for other kinds of wildlife. Also, cool season fields larger than 80 acres begin to have less favorable impact on edge-loving species such as deer.

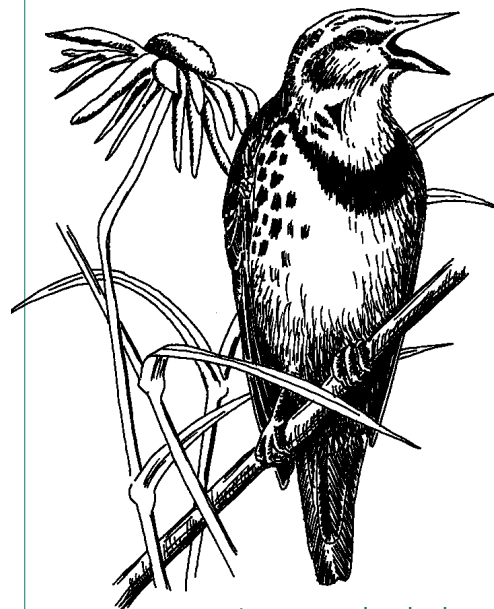
Stand Management

The quality of cool season grasses usually peaks at two to four years after establishment. Subsequently, they become filled

with matted grasses and dead vegetation, reducing their vigor and offering less variety. In time, woody plants (shrubs, brush and small trees) move in and dominate. The grassland then becomes a brushland and habitat for other wildlife species.

To keep the stand in high-quality grasses and legumes, management tools such as burning, mowing, discing, fertilizing, and grazing may be needed. The controlled use of selective herbicides is another consideration. These tools stimulate regrowth and reduce the competition from dogwood, sumac, aspen, and other woody plants; increase stand vigor; and provide quality grassland habitat.

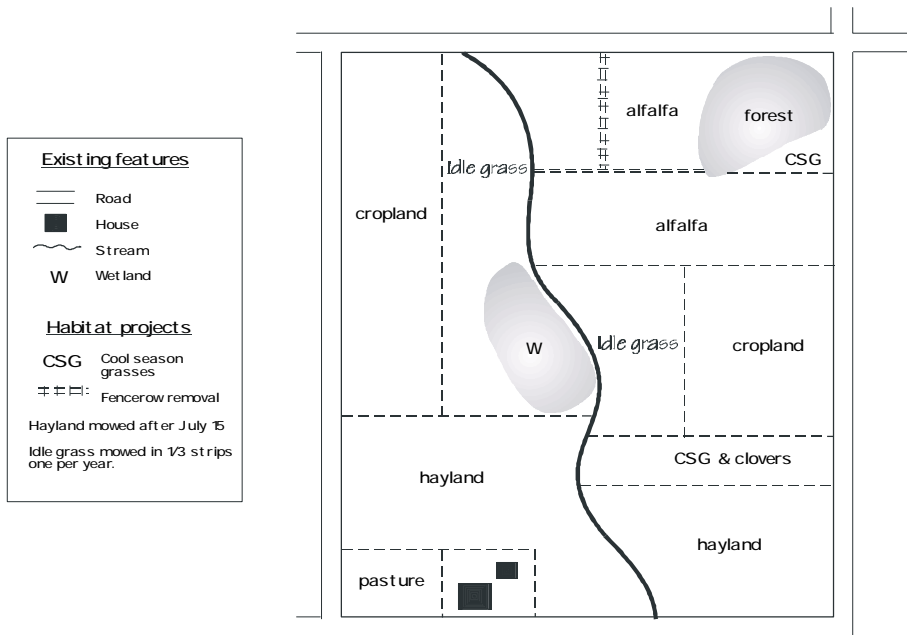
A **prescribed burn** is a planned fire, burning with a specific purpose. It is best done on a day with little or no wind, in early spring or late fall when vegetation is dry. Discuss your plans with local authorities, obtain the necessary burning permit, and observe all restrictions and safety procedures.



eastern meadowlark

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40 Acres



low label directions and take care not to excessively damage non-targeted vegetation.

In summary, cool season grasses provide a variety of benefits to wildlife. They are easy to establish and less costly than other grass options. However, read the additional chapters within this section to determine if cool season grasses are the right choice for you.

This map is an example that demonstrates the many management options discussed throughout this chapter. The option(s) you choose should depend not only on your goals, but the location, condition, and present use of your land.

For more information see the **Prescribed Burning** chapter in this section.

If you plan on a **mechanical treatment**, you could--depending on your goals--mow or disc about one-third of the grassland each year. Mow in strips of 30 to 60 feet wide and leave undisturbed areas from 60 to 100 feet wide between the mowed areas. Mow between July 15 and August 31 to avoid destroying nest sites and give the grassland enough time for regrowth before winter. Mowing height should be four to six inches. Light discing has the added advantage of bringing back annual weeds, legume seeds, and grasses,

whose seeds have been lying dormant. However, these annuals may not be the preferred types. Like the mowing treatment, disc in strips 30 to 60 feet wide, but leave at least twice that width of undisturbed cover between strips.

Grazing will also help to set back succession but must be done carefully because overgrazed grass loses productivity. Do not graze during the wildlife nesting season, and do not reduce plant height below eight inches.

Chemical treatment is also an effective means of controlling woody invaders. However, correct application is critical. Carefully fol-

FOR ADDITIONAL CHAPTERS CONTACT:

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Private Land Partnerships: This partnership was formed between both private and public organizations in order to address private lands wildlife issues. Individuals share resources, information, and expertise. This landowner's guide has been a combined effort between these groups working towards one goal: Natural Resources Education. We hope this manual provides you with the knowledge and the motivation to make positive changes for our environment.

FOR ADDITIONAL ASSISTANCE: CONTACT YOUR LOCAL CONSERVATION DISTRICT