



EXTENSION NOTES

WHAT IS TALLGRASS PRAIRIE?

Prairie is the French word for meadow and includes a mixture of warm season grasses and wildflowers (forbs). Grasses such as big bluestem, Indian grass, little bluestem and switch grass, some of which can grow over 2 metres tall, are combined with colourful, vibrant wildflowers like butterfly milkweed, dense blazingstar and tall coreopsis creating a sea of ever-changing blooms.

Prairie is not simply a mix of grasses and wildflowers, it is home to numerous species of wildlife. Most mammals are of the smaller variety and include red fox, coyote, American badger, eastern cottontail rabbit, meadow vole and the common shrew. Bird species such as bobolink, eastern meadowlark, savannah sparrow and Northern bobwhite thrive in the open ground spaces and tall cover created by tallgrass prairie which is utilized for food and shelter. In greatest abundance are the diversity of invertebrates, like butterflies, grasshoppers, dragonflies, ants, beetles and spiders you will find hiding amongst the prairie. Together with the movement of grasses in the wind, the sounds of the prairie have been described as creating their own musical symphony.



To most people's surprise, tallgrass prairie is native to parts of southern Ontario and covered approximately 100,000 hectares. Over the past 200 years, the majority of prairie habitat has been converted to agricultural land or covered by urban development, leaving scattered and disconnected remnants, making tallgrass prairie and related oak savannah two of the most endangered habitats on the continent.

Today less than 1 percent of the original tallgrass prairie is protected. As this ecosystem continues to be rare and threatened, so too does the wildlife that depend on it for their survival.



WHAT IS TALLGRASS PRAIRIE?

4. Wildlife Benefits of Native Tallgrass Prairie

Wildlife populations thrive in patches of warm season grasses and forbs, since they offer better nesting and brood rearing cover, winter survival cover (rank cover) and provide a critical food source.

Most native warm season grasses grow in clumps which create spaces of bare ground around them. In contrast, most cool season grasses tend to grow together forming mats or sods. The bare ground around the base of warm season grasses creates spaces that wildlife can maneuver and forage in, while at the same time have protective cover from these tall grasses. This is particularly important for seed eating birds that pick seed from the ground.

Native warm season grasses' growing structure also creates the perfect nursery or brooding area for newly hatched birds, providing protection from predators instead of the dense mat of vegetation created by cool season grasses that is difficult to maneuver through.

Most importantly, native warm season grasses remain standing during winter months providing critical rank habitat for wildlife by providing shelter and protection during long winter months.



Northern Bobwhite

Incorporating legumes and forbs in a warm season grass planting will enhance habitat biodiversity and attract insects providing a food source for many bird species. Plant seeds provide another food source, especially during winter months. Seeds are more accessible for wildlife since they fall into the open spaces around the plant instead of dropping into a thick mat of grasses.

5. Warm Season Grasses and Livestock



Traditionally cool season grasses such as timothy and fescue have been used as a forage stand for livestock. However, research is showing that adding warm season grasses to a cool season pasture system will improve the efficiency of a forage program. Warm season grasses (big bluestem, Indian grass, switchgrass), as the name implies, grow during the warmer months of the year. Cool season grasses, (fescue, timothy, quack grass) grow during the cool months of the year. By combining warm season and cool season grasses in a rotational grazing system allows for forage to be utilized during its respective growing seasons. This practice will extend the length of time the pasture is providing quality forage without the need for supplemental feed, thereby lowering management costs.

Warm season grasses have a higher digestibility, allowing the animals to process feed faster, leading to greater and faster forage intake, thus faster weight gain. Rotating livestock from cool season grass paddocks during summer months into warm season grass paddocks and returning during spring months utilizes forages when they are most nutritious and therefore provide the most weight gain in livestock.

For more information, please contact:

Ontario NativeScape

A division of Rural Lambton Stewardship Network

6890 Baseline Road, Wallaceburg, ON N8A 2K6

(519) 809-5767 or (519) 809-5759 or visit our website at:

OntarioNativeScape.ca

This fact sheet is one in a series about Tallgrass Prairie restoration. Others included are:

- Planning Your Project
- Maintaining Your Tallgrass Prairie
- Tallgrass Prairie and Agricultural Practices

Photo credits: P.A. Woodliffe, District Ecologist, Ministry of Natural Resources and Rural Lambton Stewardship Network staff

WHAT IS TALLGRASS PRAIRIE?

Today, we realize the important role tallgrass prairie can play in sustainable agricultural practices and a healthy environment. Plantings can be established on or along:

- agricultural fields
- streams
- drains/ditches
- roadsides
- pits and quarries
- schoolyards
- landfills
- parks and conservation areas
- utility corridors
- industrial lands

All of these plantings, regardless of focus, will create habitat and contribute to a healthy, vibrant environment. Prairie can once again be an integral part of our landscape in southwestern Ontario.



WHY TALLGRASS PRAIRIE?



The importance of protecting tallgrass prairie was largely overlooked and therefore, much of it has been largely replaced with other types of vegetation, usually non-native vegetation. Unfortunately changing native tallgrass prairie to non-native vegetation has had detrimental effects on our landscape in a number of ways:

- Existing natural landscapes have become disconnected and rare, threatening the survival of the wildlife that depend on them.
- The quality of our water is compromised since native warm season grasses are far superior in filtering sediment and other contaminants from our waters.
- Soil stability and productivity are affected since tallgrass prairie plants are better adapted to climate and soil conditions, have extensive root systems, which help them survive drought conditions, and are able to out compete weedy vegetation.

1. All Grasses Are Not All Created Equally

All grasses are not created equal. In the mixture of grasses and forbs that comprise tallgrass prairie, the grasses are quite different than those many people are used to seeing along the roadsides or in pastures. Tallgrass prairie is made up of native grasses called warm season grasses which are very different than the cool season grasses such as smooth brome, Kentucky bluegrass and quack grass mixtures that have been traditionally planted. Warm season grasses acquired their name because they actively grow during the warm, dry months when most cool season grasses are dormant. Since they are native, they are more adapted to our climatic and soil conditions. They can survive drought conditions, out compete weedy vegetation, and stabilize the soil year-round. Some grow to over 2 metres tall and in clumps rather than in thick mats like cool season grasses. This growing structure provides overhead cover and protection for wildlife during all seasons, enabling small birds and mammals to easily move and forage on the ground between the clumps of grasses.



2. Tallgrass Prairie and Water Quality

Today landowners are more aware than ever of the environmental concerns over the water quality of our streams, rivers and drains. Sediments, nutrients, contaminants and pesticides can run off farm fields, roads, and developed lands to our rivers and streams, greatly deteriorating the quality of water.

Unlike cool season grasses, native warm season grasses have strong, stiff, multiple stems and deep root systems. The structure of these grasses provides significantly better erosion control and water protection than trees or cool season grasses, trapping more sediment and contaminant runoff when used as buffer strips. In fact, warm season grasses require half as much land width to establish an effective buffer strip as cool season grasses.

Furthermore, the deep root system of warm season grasses aids in water infiltration and promotes the uptake of nutrients before they make their way through the groundwater to our lakes and streams.



3. Soil Stabilization

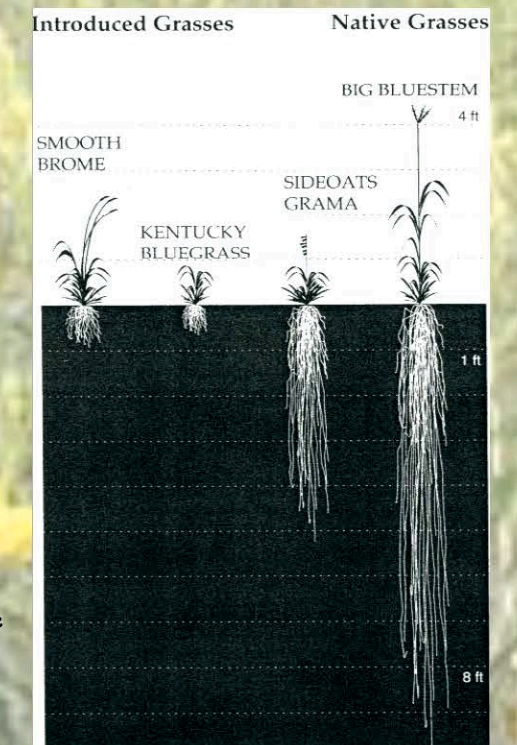
Non-native grasses, mostly introduced from Europe and Asia, have been used to vegetate roadsides, ditches and drains. While they establish quickly, they are not adapted to our climate conditions and deteriorate quickly often creating open spaces for weeds to invade.

Native grasses like big bluestem and Indian grass are well adapted to our climate conditions. They have extensive root systems that can reach 2.5 metres (9 feet) in depth. This enables these grasses to withstand drought and weed competition by gaining access to water and nutrients that shallower rooted grasses cannot reach. Although they require time to establish, once they do, their extensive root systems stabilize the soil, reducing the impacts of erosion.

Native warm season grasses provide a long-term solution to erosion problems along streambanks. They are long-lived, living a minimum of 30 years and have extensive root systems unlike non-native grasses.



Although trees have a place in streambank stabilization and shading, they take longer to establish than warm season grasses and, in some circumstances, can uproot leaving large sections of the bank exposed to erosion.



Native grasses like big bluestem and sideoats grama out compete non-native grasses like smooth brome and Kentucky bluegrass through their extensive root growth system. As demonstrated big bluestem's roots can grow to 9 feet (2.5 metres) long.