

About this poster: OAK SAVANNAS

Savannas are known for their scattered trees – often large, wide-crowned oaks – that tower above a prairie groundcover. These “oak openings” were often described by early settlers as “park-like” or “orchard-like.” Some of the savanna’s grasses and wildflowers are unique to this plant community, thriving in the partial shade that occurs under the spreading canopy of mature oaks.

Generally, savannas occur in the transition zone between the eastern deciduous forest and the tallgrass prairie. Historically, the oak savanna was maintained by wild-fire. Unlike most trees of the deciduous forest, oaks – especially bur oaks – are relatively fire resistant. Periodic bison and elk grazing also helped maintain the savannas.

With the suppression of fire, the absence of grazing, and clearing and plowing, undisturbed oak savannas have become virtually non-existent. Much of what is known about these communities comes from the descriptions of early settlers.

THE TALLGRASS PRAIRIE

Tallgrass prairie is the name given to the grassland ecosystem that covered much of the Upper Midwest and most of Iowa for over 8000 years. When early French explorers emerged from the dense, hardwood forests of the East, they unexpectedly encountered large, grassy openings scattered with bur oaks and other massive-crowned trees. Traveling further west, the openings stretched into vast, treeless oceans of grasses and wildflowers which took weeks to traverse on horseback. The explorers called these grasslands “prairie.”

In the eastern portion of this prairie region, there was enough annual rainfall to support tall grasses like Big bluestem and Indiangrass. These grasses grew 7 to 8 ft. tall and dominated the landscape. Further west, in the mixed-grass and shortgrass prairies, the grasses were shorter, adapting to that region’s drier conditions.

When the first European settlers arrived in Iowa in the early 1800s, they too were greeted by the tallgrass prairie landscape. These prairies were composed of hundreds of plant species, including a colorful array of wildflowers that bloomed from early spring to late fall. Cougar, wolves, bears, elk and bison were among the many animals that roamed the region. Endless flocks of waterfowl, upland gamebirds and songbirds filled the prairie skies.

Along with its beauty and diversity, the early Iowa prairie held deadly perils. Fierce winter storms howled for days, and raging wildfires could overcome a person on horseback at full gallop. Though frightening, these periodic fires were beneficial to the landscape, allowing the deep-rooted prairie plants to flourish, while most invading trees and shrubs perished.

Because the first settlers found so few trees on the prairie, they assumed the soil was poor. But they soon learned the prairie had created some of the deepest, blackest, richest topsoil in the world. It was no easy feat to plow through the dense root mass of the prairie sod, but with the advent of the steel moldboard plow, the pioneers began to plow with a vengeance. Within a few short decades, one of the greatest ecosystems in the world was almost entirely converted to agricultural cropland. Of the original 30 million acres of tallgrass prairie that once covered more than 80% of Iowa, less than 0.1% remains.

NATIVE PRAIRIE PLANTINGS

Today, prairie restorations and other native prairie plantings give 21st century Iowans a glimpse of what their state looked like when tall grasses and colorful wildflowers graced the landscape. In addition to restoring a piece of Iowa’s natural heritage, these plantings are durable and long-lived – well-adapted to Iowa’s climate and growing season. Because of the beneficial services prairie plantings provide, they’re now planted in a variety of landscapes, including roadsides.

Iowa road departments plant native prairie vegetation for many reasons:

- Native plants are hardy perennials, adapting to a wide range of soil and moisture conditions.
- Extensive, native plant root systems provide superior erosion control.
- Deep roots and dense, above-ground foliage reduce stormwater runoff by intercepting raindrops, slowing water flow and increasing infiltration.
- Extensive roots and decaying foliage further increase stormwater infiltration by adding organic matter to the soil, making it spongier and more absorbent.
- Root systems penetrate 6-8 ft. or deeper, enabling prairie plants to survive drought and high salt concentrations.
- Extensive root systems deprive weed roots of water, nutrients and space.
- Tall prairie vegetation shades out weed seedlings.
- A wide swath of prairie grass in the right-of-way traps blowing snow, reducing the amount deposited on the road.
- Native roadside plantings provide valuable food and cover for songbirds, game birds and small mammals.
- Native roadside plantings provide important habitat for agricultural crop pollinators.
- Native plants add color and natural beauty to the right-of-way.



The LIVING ROADWAY TRUST FUND

Recognizing the value of native plants in roadsides, the Iowa Legislature established the Living Roadway Trust Fund (LRTF) in 1989. This annual, competitive grant program provides funding for integrated roadside vegetation management (IRVM) activities, including the preservation, establishment, and maintenance of native vegetation along Iowa’s roadsides. To learn more about the LRTF and the projects it funds, visit www.iowalivingroadway.com.

This poster series, illustrated by Iowa native, Mark Müller, is one of many educational tools provided by the LRTF to promote public awareness of native prairie and the benefits it provides in highway rights-of-way. Iowa residents may order a complimentary set of posters at www.iowalivingroadway.com.