

Tallgrass/Mixed Prairie

Physical description

A prairie is inhabited by extensive grasses and forbs, but lacks large vegetation and trees. If trees do occur, they are widely distributed throughout the land or contained along riparian areas. Fire is a very important factor in tallgrass prairies. It is needed by the vegetation to grow and disperse their seeds. Typically the term “prairie” is reserved for areas with native plants, as such areas are quite different from agriculture fields.

The terrain is characterized by flat to rolling plains. Soils vary, but typically beneath the topsoil is a deep layer of dense clay that water cannot penetrate. Winters are cold; summers are hot.

An example is the Grand Prairie found in eastern Arkansas (Arkansas and Prairie counties). These prairie soils, with their very compact clay subsoil, are more suitable for grass than trees as a natural vegetation cover. The Grand Prairie is an extremely productive agricultural region and is noted for its high yields of rice. Stuttgart (Arkansas County) is known as the rice capital and duck capital of the world.

Other prairies in the state are Baker Prairie in northwest Arkansas, Cherokee Prairie Natural Area just north of Charleston in western Arkansas, and Rick Evans Grandview Prairie Conservation Education Center in southwest Arkansas. The Arkansas Natural Heritage Commission manages Roth Prairie Natural Area and Railroad Prairie Natural Area in the Grand Prairie region of the state.

Dominant vegetation

Tall grasses, such as various bluestems, indiangrass, and switchgrass, represent the dominant vegetation in the tallgrass prairie. Commonly occurring forbs include sunflowers, broomweed, western ragweed, and lespedezas. Tall grasses dominate moist sites with soil depth greater than 20 inches, such as floodplains and valleys. Dry sites, such as hill tops and south-facing slopes, are dominated by shortgrass species. Transition sites (in-between areas) consist of a mixture of tall, mixed, and short grasses, including bluegrasses, prairie sandreed, grama grasses, and various dropseeds are found in this area.

Drainages and other moist areas may have shrubs and trees, such as native plum, buttonbush, and cottonwood. Trees and shrubs, such as cottonwood, green ash, bur oak, American elm, box elder, eastern redcedar and various willows, occur along riparian areas with the Great Plains grasslands ecoregion. These sites are very attractive to various wildlife species that are adapted to woody vegetation cover.

Woodlands dominated by post oak and blackjack oak occur on upland sites. All of these vegetation types were historically maintained by a combination of grazing and fire. The lack of fire is a major cause of deterioration throughout this ecoregion.

Typical nonnative invasive plants in the Tallgrass ecoregion include sericea lespedeza, bermudagrass, Canada thistle, smooth brome, musk thistle, and tall fescue.

Special: Planting trees for wildlife in this ecoregion is only recommended in areas where trees would have occurred historically, such as in riparian areas or major drainages. The historic occurrence of these trees was influenced by soils, moisture, and fire.



Figure 20. Large expanses of prairie are critical to grassland species, such as the greater prairie-chicken.



Figure 21. Prairie is not only composed of grasses, but forbs are equally important. This recently burned prairie has abundant forbs and bare ground.

Farming and ranching

Cultivated cropland is found in portions of this ecoregion where precipitation is adequate or irrigation is possible. Large areas are planted into agricultural crops, such as barley, wheat, millet, flax, oats, corn, sunflowers, and alfalfa. In areas where soil is fertile, the main crops include wheat, corn, soybeans, grain sorghum, and alfalfa.

Changes in farm machinery and management have produced large areas of cropland with little or no other types of vegetation available for use by wildlife. Recent irrigation water management techniques have reduced the amount of wetlands and riparian vegetation associated with irrigated crops.

Most of the native range is grazed by livestock except for a few locations where terrain is too rugged or water is unavailable. Many acres of native rangelands in this ecoregion are being invaded by juniper (eastern redcedar) because of fire suppression. Fire is a critical component to rangeland health. The current lack of fire is the greatest threat to wildlife in this ecoregion.

Plant succession

Annual forbs and grasses represent the initial successional stage. Perennial grasses and forbs dominate the second successional stage. The climax community or third stage consists of woody species, such as elms. Shrubs and trees dominate riparian areas and other sufficiently moist areas that can support woody vegetation.

Wildlife associated with Tallgrass/Mixed Prairie

bluegill
blue-winged teal
coyote
crawfish frog
dickcissel
eastern cottontail
eastern hognose snake
eastern meadowlark
grasshopper sparrow
hispid cotton rat
largemouth bass
mourning dove
northern bobwhite
northern harrier
prairie kingsnake
prairie vole
red fox
spotted skunk
white-tailed deer
wild turkey