



## Grassland: Prairie

### Description

Prairies are a type of natural grassland that is dominated by herbaceous plants. Trees are either absent or only widely scattered on the landscape (<5% canopy cover). There are many prairie communities that differ in plant composition due primarily to differences in soil moisture, hydrology, geology, landscape context, and frequency of disturbance. Prairies range from dry sandy prairies associated with savannas to wet prairies that are also ephemeral wetlands. Prairies are disturbance-dependent and must be maintained either by fire, seasonal inundation, or droughty soil conditions that are not amenable to tree growth. Without these frequent disturbances, prairies are invaded by trees or shrubs.

### General Condition of Feature

Many of the prairies in the Southern Lower Peninsula have been lost due to development, conversion to agriculture, or lack of disturbance leading to vegetative succession. Currently, most of the prairies in the Southern Lower Peninsula are considered to be degraded or highly degraded (>80%). Very few, roughly 5%, remain in good or excellent condition. Many of these natural communities are classified as imperiled or critically imperiled within the State or globally (e.g., lakeplain mesic sand prairie, mesic prairie), due to high or extreme rarity.

### Associated Natural Communities

Dry Sand Prairie  
 Hillside Prairie  
 Lakeplain Mesic Sand Prairie  
 Lakeplain Wet Prairie  
 Lakeplain Wet-mesic Prairie

Mesic Prairie  
 Mesic Sand Prairie  
 Wet Prairie  
 Wet-mesic Prairie  
 Woodland Prairie

### Associated Species of Greatest Conservation Need

#### INSECTS

barrens locust (*Orphulella pelidna*)  
 blue-legged locust (*Melanoplus flavidus*)  
 delicate meadow katydid (*Orchelimum delicatum*)  
 tamarack tree cricket (*Oecanthus laricis*)  
 angular spittlebug (*Lepyronia angulifera*)  
 great plains spittlebug (*Lepyronia gibbosa*)  
 a spittlebug (*Philaenarcys killa*)  
 red-legged spittlebug (*Prosapia ignipectus*)  
 a leafhopper (*Dorydiella kansana*)  
 a leafhopper (*Flexamia delongi*)  
 Huron River leafhopper (*Flexamia huroni*)  
 American burying beetle (*Nicrophorus americanus*)  
 wild indigo duskywing (*Erynnis baptisiae*)  
 poweshiek skipperling (*Oarisma poweshiek*)  
 ottoe skipper (*Hesperia ottoe*)  
 dusted skipper (*Atrytonopsis hianna*)  
 Karner blue (*Lycaeides melissa samuelis*)  
 frosted elfin (*Callophrys irus*)  
 regal fritillary (*Speyeria idalia*)  
 gorgone checkerspot (*Chlosyne gorgone carlota*)  
 Mitchell's satyr (*Neonympha mitchellii mitchellii*)  
 Sprague's pygarcia (*Pygarcia spraguei*)  
 three-staff underwing (*Catocala amestris*)  
 Newman's brocade (*Meropleon ambifusca*)  
 blazing star borer (*Papaipema beeriana*)  
 golden borer (*Papaipema cerina*)  
 maritime sunflower borer (*Papaipema maritima*)  
 Culvers root borer (*Papaipema sciata*)  
 silphium borer moth (*Papaipema silphii*)  
 regal fern borer (*Papaipema speciosissima*)  
 phlox moth (*Schinia indiana*)  
 spartina borer moth (*Spartiniphaga inops*)

#### AMPHIBIANS

smallmouth salamander (*Ambystoma texanum*)

#### AMPHIBIANS cont.

eastern tiger salamander (*Ambystoma tigrinum tigrinum*)  
 Fowler's toad (*Bufo fowleri*)  
 Blanchard's cricket frog (*Acris crepitans blanchardi*)  
 pickerel frog (*Rana palustris*)  
 northern leopard frog (*Rana pipiens*)

#### REPTILES

Kirtland's snake (*Clonophis kirtlandii*)  
 blue racer (*Coluber constrictor foxii*)  
 eastern fox snake (*Elaphe gloydi*)  
 black rat snake (*Elaphe obsoleta obsoleta*)  
 eastern hognose snake (*Heterodon platirhinos*)  
 smooth green snake (*Liochlorophis vernalis*)  
 six-lined racerunner (*Apidoscelis sexlineatus*)  
 eastern massasauga (*Sistrurus catenatus catenatus*)  
 spotted turtle (*Clemmys guttata*)  
 Blanding's turtle (*Emydoidea blandingii*)  
 eastern box turtle (*Terrapene carolina carolina*)

#### BIRDS

Blue-winged Teal (*Anas discors*)  
 Northern Bobwhite (*Colinus virginianus*)  
 American Bittern (*Botaurus lentiginosus*)  
 Northern Harrier (*Circus cyaneus*)  
 Upland Sandpiper (*Bartramia longicauda*)  
 Barn Owl (*Tyto alba*)  
 Short-eared Owl (*Asio flammeus*)  
 Red-headed Woodpecker (*Melanerpes erythrocephalus*)  
 Eastern Kingbird (*Tyrannus tyrannus*)  
 Purple Martin (*Progne subis*)  
 Sedge Wren (*Cistothorus platensis*)  
 Field Sparrow (*Spizella pusilla*)  
 Vesper Sparrow (*Pooecetes gramineus*)

**MICHIGAN'S WILDLIFE ACTION PLAN**  
**TERRESTRIAL SYSTEMS: SOUTHERN LOWER PENINSULA**

*BIRDS cont.*

Savannah Sparrow (*Passerculus sandwichensis*)  
Henslow's Sparrow (*Ammodramus henslowii*)  
Dickcissel (*Spiza americana*)  
Bobolink (*Dolichonyx oryzivorus*)  
Eastern Meadowlark (*Sturnella magna*)

*BIRDS cont.*

Western Meadowlark (*Sturnella neglecta*)  
**MAMMALS**  
Indiana bat or Indiana myotis (*Myotis sodalists*)  
prairie vole (*Microtus ochrogaster*)

Associated Threats

*MODIFICATION OF NATURAL PROCESSES*

- Grazing and mowing patterns
- Altered fire regime: Loss of a disturbance regime leads to succession to forested feature types.
- Altered hydrologic regime
- Fragmentation

*HABITAT CONVERSION*

- Industrial, residential, and recreational development: Many unprotected grasslands are being converted to residential development due to ease of conversion.
- Conversion to agriculture
- Incompatible natural resource management: There are a low number of prairie restoration efforts for existing and degraded prairies in the Southern Lower Peninsula. Some management priorities conflict with establishment of prairie, specifically those that favor species that depend on early successional woody feature types.

*CONSUMPTIVE BIOLOGICAL RESOURCE USE*

- Removal of non-timber flora: The historic removal of native prairie has resulted in a lack of a seed bank for prairie restoration.

*BIOLOGICAL INTERACTIONS*

- Invasive plants and animals
- Other biological interactions: alteration of native plant genotypes

*EDUCATION*

- Social attitudes: There is a lack of awareness of the value of prairie to wildlife. Prairies are seen as underutilized land. There is a fear of fire and its use by the general public and town managers. The cost of restoration may be perceived to be disproportionate to the result since it does not produce a visually massive product.

*OTHER*

- Historic status/current abundance: Very little prairie remains in the Southern Lower Peninsula.

Conservation Actions Needed [Threats addressed]

*LAND & WATER PROTECTION*

- Expand conservation easement programs [variety of threats]
- Support and expand conservation purchase of high quality occurrences [variety of threats]

*LAND, WATER & SPECIES MANAGEMENT*

- Manage to approximate natural disturbance regimes using managed grazing and mowing, prescribed burns, and through the dispersal of drainage into prairie systems to minimize the impact of flash flooding. [Grazing and mowing patterns; Altered fire regime; Altered hydrologic regimes]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- Develop new seed sources to restore degraded and converted prairie systems. [Removal of non-timber flora]
- Provide contiguous dry and mesic grassland areas of at least 250 acres. [Habitat Conversion—multiple]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]

*LAW & POLICY*

- Work with municipalities to promote planning and zoning insuring adequate protection for remnant prairie systems. [Fragmentation; Industrial, residential, and recreational development; Conversion to agriculture]

*EDUCATION & AWARENESS*

- Work with land managers to develop priorities for prairie restoration and management. [Incompatible natural resource management]
- Educate local planning and zoning boards about the value of prairie and methods to conserve prairie systems. [Social attitudes; Industrial, residential, and recreational development]
- Create awareness in the general public of the value of prairies to wildlife. Educate the public on the use and benefits of prescribed burns. [Social attitudes; Altered fire regime]
- Promote use of native species and genotypes, especially in restoration and remediation efforts [Invasive plants and animals; other biological interactions]

Research and Survey Needs

- An inventory needs to be conducted to determine the location, condition, and classification of remnants and of the opportunities for restoration.
- Test the assumption that remnants are widely dispersed and becoming more fragmented resulting in a loss of species diversity.
- Study the groundwater recharge capacity of prairie systems. High infiltration converts sheet flow to groundwater rather than increasing discharge into riparian systems. Determine the impacts on this dynamic and groundwater quality of the addition of pollution to prairies.
- Do structures like freeway corridors act as a substitute for prairie on the landscape?
- A better understanding is needed of the historical temporal distribution of fire and its influence.
- A better understanding of the history of prairie sites is needed. Many sites have been retained through cultural activities that foster maintenance of prairie features.
- Techniques need to be developed using remote sensing and physical inventorying to create digital data sources for use in research and planning.
- Need to better understand the threat of alteration or loss of plant genotypes, both in terms of severity and scope

Monitoring

- Track the total acreage of prairie in the ecoregion as well as its distribution across the landscape.
- Track changes in the floristic composition of prairies.
- Monitor the distribution and population size of invasive species