



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

Approximately three-quarters of the prairie in the Northern Lower Peninsula is considered degraded or highly degraded. The remaining prairie area is generally in fair or good condition. Prairies include natural communities that are classified as imperiled or critically imperiled within the State, and sometimes globally, due to high or extreme rarity.

Associated Natural Communities

Dry Sand Prairie
Mesic Sand Prairie
Northern Wet-mesic Prairie

Associated Species of Greatest Conservation Need

INSECTS

blue-legged locust (*Melanoplus flavidus*)
secretive locust (*Appalachia arcana*)
great plains spittlebug (*Lepyronia gibbosa*)
a spittlebug (*Philaenarcys killa*)
red-legged spittlebug (*Prosapia ignipectus*)
ottoe skipper (*Hesperia ottoe*)
dusted skipper (*Atrytonopsis hianna*)
Karner blue (*Lycaeides melissa samuelis*)
frosted elfin (*Callophrys irus*)
gorgone checkerspot (*Chlosyne gorgone carlota*)
Sprague's pygarcia (*Pygarcia spraguei*)
blazing star borer (*Papaipema beeriana*)
phlox moth (*Schinia indiana*)

AMPHIBIANS

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

REPTILES

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*)
eastern massasauga (*Sistrurus catenatus catenatus*)

REPTILES cont.

spotted turtle (*Clemmys guttata*)
Blanding's turtle (*Emydoidea blandingii*)
eastern box turtle (*Terrapene carolina carolina*)

BIRDS

Blue-winged Teal (*Anas discors*)
Sharp-tailed Grouse (*Tympanuchus phasianellus*)
Northern Bobwhite (*Colinus virginianus*)
American Bittern (*Botaurus lentiginosus*)
Northern Harrier (*Circus cyaneus*)
Upland Sandpiper (*Bartramia longicauda*)
Short-eared Owl (*Asio flammeus*)
Red-headed Woodpecker (*Melanerpes erythrocephalus*)
Eastern Kingbird (*Tyrannus tyrannus*)
Purple Martin (*Progne subis*)
Sedge Wren (*Cistothorus platensis*)
Prairie Warbler (*Dendroica discolor*)
Field Sparrow (*Spizella pusilla*)
Vesper Sparrow (*Pooecetes gramineus*)
Savannah Sparrow (*Passerculus sandwichensis*)
Henslow's Sparrow (*Ammodramus henslowii*)
Dickcissel (*Spiza americana*)
Bobolink (*Dolichonyx oryzivorus*)
Eastern Meadowlark (*Sturnella magna*)
Western Meadowlark (*Sturnella neglecta*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Grazing and mowing patterns
- Altered fire regime: A lack of fire may lead to succession to forested feature types.
- Fragmentation

HABITAT CONVERSION

- Industrial, residential, and recreational development: Residential development threatens prairies in the Northern Lower Peninsula.
- Wetland modifications

MICHIGAN'S WILDLIFE ACTION PLAN
TERRESTRIAL SYSTEMS: NORTHERN LOWER PENINSULA

- Conversion to agriculture: Development of wildlife food plots results in conversion of prairies.
- Incompatible natural resource management: Planting of trees by private landowners within prairie systems may affect their value to wildlife.

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Mining practices: Oil and gas extraction facilities degrade prairies in the Northern Lower Peninsula.

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Uncontrolled ATV and ORV use can impact prairies in the Northern Lower Peninsula.
- Military maneuvers: Some of the best prairies in the Northern Lower Peninsula are on military land. Many of the activities that threaten prairies actually maintain the early successional conditions that allow for their persistence.

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: ATV and ORV use or residential development may aid incursion of invasive plant species.
- Other biological interactions. White-tailed deer (*Odocoileus virginianus*) may impact prairies.

EDUCATION

- Social attitudes: There is a lack of awareness of the value of prairie to wildlife. There is a bias against idle, "non-productive" land.

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 prescribed fire. [Altered fire regime]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- Coordinate with military land managers to develop land use practices which promote prairie maintenance and restoration. [Military maneuvers]
- Work with public and private land managers to develop priorities for prairie restoration and management. [Fragmentation; Social attitudes; Incompatible natural resource management; Conversion to agriculture]
- Provide contiguous dry and mesic grassland areas of at least 250 acres. [Habitat Conversion—multiple]
- Temporary roads or clearings for oil and gas extraction should be planned and constructed to be revegetated. [Mining practices]
- 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]
- Develop new and enforce existing regulations for mitigation of oil and gas extraction facilities. [Mining practices]
- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]

EDUCATION & AWARENESS

- Educate local planning and zoning boards about the value of prairie and methods to conserve prairie systems. [Social attitudes]
- Create awareness in the general public of the value of prairies to wildlife. Educate the public on the use of fire for prescribed burns. [Altered fire regime; Social attitudes]

RECREATION

- Promote responsible ATV and ORV use. [Non-consumptive recreation; Social attitudes]

Research and Survey Needs

- An inventory needs to be conducted to determine the location, condition, and classification of prairie 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 is needed of the history of prairie sites. 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.

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.