



Grassland: Row-crop

Description

Row-crop areas are agricultural fields that are planted with a single species (usually corn or soybeans) in evenly spaced rows and harvested annually.

General Condition of Feature

Much of the row crop in the Southern Lower Peninsula is considered to be in fair, good, or excellent condition (~85%) as wildlife habitat. Most of the remaining row crop is considered degraded. Row crop is generally not important habitat to most SGCN.

Associated Natural Communities

N/A – no native natural communities

Associated Species of Greatest Conservation Need

BIRDS

Northern Bobwhite (*Colinus virginianus*)
Northern Harrier (*Circus cyaneus*)
Killdeer (*Charadrius vociferus*)
Common Nighthawk (*Chordeiles minor*)
Migrant Loggerhead Shrike (*Lanius ludovicianus migrans*)

BIRDS cont.

Purple Martin (*Progne subis*)
Vesper Sparrow (*Pooecetes gramineus*)
Savannah Sparrow (*Passerculus sandwichensis*)

MAMMALS

red bat (*Lasiurus borealis*)
prairie vole (*Microtus ochrogaster*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Climate change
- Grazing and mowing patterns: Timing and methods of harvest may affect species composition and species use.

HABITAT CONVERSION

- Industrial, residential and recreational development: Conversion pressure leads to residential and industrial development.
- Conversion to agriculture: Some row crop land is being converted to confined animal feeding operation (CAFO) lots. Fall tillage/plowing of fields reduces the presence of stubble and increases vulnerability to erosion.

POLLUTION

- Pesticides and herbicides

BIOLOGICAL INTERACTIONS

- Invasive plants and animals
- Other biological interactions: The use of genetically engineered crops may impact the association of wildlife to row-crop areas.

Conservation Actions Needed [Threats addressed]

LAND, WATER & SPECIES MANAGEMENT

- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]

LAW & POLICY

- Work with municipalities to promote planning and zoning to protect row-crop from development or to convert it to features that have greater value to wildlife. [Industrial, residential, and recreational development]

EDUCATION & AWARENESS

- Inform farmers of the benefits of practices which increase the value of row crops to wildlife, including the reduction of fall tillage/plowing. [Grazing and mowing patterns, Conversion to agriculture; Other biological interactions]

Research and Survey Needs

- Determine the effect of soil homogenization on wildlife species diversity.
- Determine the effect on microtopography on wildlife species diversity. Agricultural practices tend to level land, flattening hills and filling potholes, resulting in relocation of topsoil and exposure of soil substrates. How great is this effect across the landscape? What are the implications for restoration of natural features where this has occurred?
- Study the effects of timing and method of harvest and cultivation on the value to wildlife of these systems. Are there other variables associated with harvest and cultivation that affect their value to wildlife? Are there differences in the value to wildlife between spring plowing, fall plowing, and no-till practices?
- Determine the effects on wildlife of herbicide and pesticide use. Examine the impacts of genetically engineered crops. How do increased levels of fertilization impact these systems?
- Determine the effects of offsetting high impact tilling practices with higher herbicide use. Is there a combination of tilling and herbicide use which optimizes the value to wildlife and economic value?

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

- Evaluate the effects on wildlife of crop rotation. How prevalent is crop rotation? Is the type of crop planted significant?
- Determine the value of these systems to migrating wildlife. How is value affected by farm management practices?

Monitoring

- Track changes in agricultural practices across the landscape.
- Track fall tillage practices.
- Track economic incentives, locally and nationally, and their impact on crop selection.
- Monitor the distribution of invasive species