



Grassland: Fence row

Description

Fence rows are a linear area of idle vegetation that interrupts large blocks of continuous grassland (e.g. hedge row adjacent to pasture or row crop).

General Condition of Feature

Most of the fence rows in the Western Upper Peninsula are considered to be degraded as wildlife habitat (~90%) because they have generally been lost as a landscape feature due to forest succession.

Associated Natural Communities

N/A – no native natural communities

Associated Species of Greatest Conservation Need

REPTILES

blue racer (*Coluber constrictor foxii*)
western fox snake (*Elaphe vulpina*)

BIRDS

Sharp-tailed Grouse (*Tympanuchus phasianellus*)
Northern Bobwhite (*Colinus virginianus*)
Eastern Kingbird (*Tyrannus tyrannus*)
Brown Thrasher (*Toxostoma rufum*)

BIRDS cont.

Vesper Sparrow (*Pooecetes gramineus*)
Dickcissel (*Spiza americana*)

MAMMALS

red bat (*Lasiurus borealis*)
least weasel (*Mustela nivalis*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Grazing and mowing patterns: Lack of maintenance results in succession to forested landscape features. Farm abandonment results in a loss of fence row maintenance.

HABITAT CONVERSION

- Industrial, residential, and recreational development
- Conversion to agriculture: Fence rows are lost as farms convert to “clean” farming methods which minimize non-crop flora on the landscape. Conversion of fence rows to potential crop land increases total potential crop yield, reducing the economic incentive to retain fence rows.

POLLUTION

- Pesticides and herbicides

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Removal of wildlife

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Invasive species, such as glossy buckthorn (*Rhamnus frangula*) are prevalent within fence rows.
- Other biological interactions: Fence rows act to fragment grassland landscape features and act as corridors between landscape features.

EDUCATION

- Lack of scientific knowledge: The relative value of fence row characteristics to wildlife is not well known. Issues of size, shape, and connectivity may be of varying levels of import to different species.
- Social attitudes

Conservation Actions Needed [Threats addressed]

LAND, WATER, & SPECIES MANAGEMENT

- Encourage agriculture practices that reduce the use of pesticides and herbicides. [Pesticides and herbicides]
- Develop and implement plans for invasive species control and prevention. [Invasive plants and animals]
- Manage to approximate natural disturbance regimes using managed fire, grazing and mowing. [Grazing and mowing patterns]
- Develop best management practices for agriculture which provide alternatives to “clean” farming practices. [Grazing and mowing patterns; Pesticides and herbicides]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for fence rows or their conversion to features that have greater value to wildlife. [Industrial, residential, and recreational development]

MICHIGAN'S WILDLIFE ACTION PLAN
TERRESTRIAL SYSTEMS: WESTERN UPPER PENINSULA

ECONOMIC & OTHER INCENTIVES

- Encourage maintenance of fence row features through private land conservation initiatives (CRP, CREP, etc.). Provide sustainable agriculture strategy training to help keep family farms afloat. [Grazing and mowing patterns; Industrial, residential, and recreational development; Social attitudes]

Research and Survey Needs

- Determine and describe the relationships between fence row characteristics (e.g. size, location, composition, shape) and wildlife use. Determine the impact of fence rows on increased fragmentation. Determine the prevalence of the use of fence rows as travel corridors for wildlife and whether it acts as a sink habitat for shrubland wildlife species.
- Examine how the width of fence rows and their vegetative species composition affect their value to wildlife. Are there other variables of fence row condition that influence their value to wildlife? Does the feature type or species composition of the surrounding matrix have a significant effect on the value to wildlife?
- Determine the effects of management and maintenance of fence rows on wildlife within fence rows and in the surrounding matrix.
- Examine both the positive and negative values of fence rows to wildlife. These systems contribute to fragmentation but may also provide travel corridors or patches of necessary habitat. Is there an optimal amount of fence row which balances these effects? Increased field size and cultivation on agricultural land generally results in fewer and smaller fence rows. Is there a combination of fence row and cultivation which optimizes the value to wildlife and economic return?
- Determine whether fence rows function as sinks. Determine how this varies by species?
- Inventory fence row management methodologies. How prevalent are these techniques? What are the impacts of each technique on wildlife?
- Evaluate the impacts of fence rows on invasive and non-invasive species. Quantify the role of fence rows as corridors for invasive species. Quantify the role of fence rows as barriers to native species.
- Develop a functional definition of fence row. At what point (size, configuration, etc.) does a fence row become a patch or does it become the surrounding matrix? Is a fence row adjacent to a right-of-way functionally different than a fence row isolated within a grassland matrix?

Monitoring

- Track acreage and distribution of fence rows across the landscape.
- Track changes in the floristic composition of fence rows.
- Analyze changes in agricultural practices and their impact on the abundance and distribution of fence rows.