



Other Features: Edge

Description

Edge is “an outer band of a patch that has an environment significantly different from the interior of the patch.” Edge areas often result in an “edge effect” or “a distinctive species composition or relative abundance in the outer band of a patch (i.e. different from the species composition or relative abundance of the patch interior).” The edge type that is most widely considered is the transitional area between forested and grassland communities.

General Condition of Feature

Edge habitat as a landscape feature characteristic is mostly considered to be in fair, good or excellent condition (~90%) in the Southern Lower Peninsula since there is plenty of this feature across the region. About 10% of edge is considered degraded or very degraded due to poor quality edge habitat for wildlife caused by invasive species, poor landscape context, and other factors.

Associated Natural Communities

N/A – No defined natural communities

Associated Species of Greatest Conservation Need

INSECTS

Atlantic-coast locust (*Psinidia fenestralis*)
post-oak grasshopper (*Dendrotettix quercus*)
woodland meadow katydid (*Conocephalus nemoralis*)
pipevine swallowtail (*Battus philenor*)
northern hairstreak (*Fixsenia favonius ontario*)
Karner blue (*Lycaeides melissa samuelis*)
Henry's elfin (*Callophrys henrici*)
frosted elfin (*Callophrys irus*)
regal fritillary (*Speyeria idalia*)
gorgone checkerspot (*Chlosyne gorgone carlota*)
Mitchell's satyr (*Neonympha mitchellii mitchellii*)
quiet underwing (*Catocala dulciola*)

REPTILES

blue racer (*Coluber constrictor foxii*)
northern ringneck snake (*Diadophis punctatus edwardsii*)
black rat snake (*Elaphe obsoleta obsoleta*)
eastern hognose snake (*Heterodon platirhinos*)
smooth green snake (*Liochlorophis vernalis*)
copperbelly water snake (*Nerodia erythrogaster neglecta*)
eastern massasauga (*Sistrurus catenatus catenatus*)
eastern box turtle (*Terrapene carolina carolina*)

BIRDS

Northern Bobwhite (*Colinus virginianus*)

BIRDS cont.

Green Heron (*Butorides virescens*)
Cooper's Hawk (*Accipiter cooperii*)
American Woodcock (*Scolopax minor*)
Red-headed Woodpecker (*Melanerpes erythrocephalus*)
Northern Flicker (*Colaptes auratus*)
Least Flycatcher (*Empidonax minimus*)
Eastern Kingbird (*Tyrannus tyrannus*)
White-eyed Vireo (*Vireo griseus*)
Ruby-crowned Kinglet (*Regulus calendula*)
Northern Mockingbird (*Mimus polyglottos*)
Brown Thrasher (*Toxostoma rufum*)
Blue-winged Warbler (*Vermivora pinus*)
Golden-winged Warbler (*Vermivora chrysoptera*)
Eastern Towhee (*Pipilo erythrophthalmus*)

MAMMALS

least shrew (*Cryptotis parva*)
red bat (*Lasiurus borealis*)
hoary bat (*Lasiurus cinereus*)
northern bat or northern myotis (*Myotis septentrionalis*)
Indiana bat or Indiana myotis (*Myotis sodalis*)
evening bat (*Nycticeius humeralis*)
eastern pipistrelle (*Pipistrellus subflavus*)
least weasel (*Mustela nivalis*)
prairie vole (*Microtus ochrogaster*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

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

HABITAT CONVERSION

- Industrial, residential, and recreational development
- Conversion to agriculture: Clean farming practices encourage the removal of fence rows and shrubby vegetation along field edges.
- Incompatible natural resource management: Management that leads to abrupt transitions between feature types, i.e. a “hard” edge, reduces the value of edge for wildlife. Management goals that include the creation or maintenance of large contiguous blocks reduce the amount of edge.

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

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Invasive plants may alter species composition within edge communities. Concern about edge associated invasive species, e.g., brown-headed cowbirds (*Molothrus ater*), may lead to management goals that eliminate edge.
- Other biological interactions: White-tailed deer (*Odocoileus virginianus*) browse may reduce vegetation along edge and hinder regeneration.

Conservation Actions Needed [Threats addressed]

LAND, WATER & SPECIES MANAGEMENT

- Manage to approximate natural disturbance regimes using grazing, cutting, or prescribed fire. [Grazing and mowing patterns; Altered fire regime]
- Assess management goals to ensure that they provide for a diversity of communities across the landscape. [Incompatible natural resource management]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]

EDUCATION & AWARENESS

- Educate farmers about the value to wildlife of leaving buffers along field edges (e.g., not cultivating to the tree line). [Conversion to agriculture; Incompatible natural resource management]

Research and Survey Needs

- Identify and quantify differences in the value to wildlife between hard edges and soft edges. Hard edges display abrupt transitions between features, often with significant structural differences, and are associated with man-made edges (e.g., row crop planted to the edge of a woodlot without intermediate height vegetation); soft edges display gradual transitions between features and are generally more typical of natural edges. Do species composition and density depend on the type of edge? Are other variables influenced by the type of edge?
- Determine whether or not edges act as sink habitats. Does this vary by species?
- Determine threshold and optimal ratios of edge to interior area for wildlife species of greatest conservation need.

Monitoring

- Track the abundance and distribution of edge across the landscape.