



## Inland wetlands/water: River/stream/riparian/floodplain corridor

### Description

Floodplains are low-lying areas adjacent to streams and rivers that are subject to periodic over-the-bank flooding and cycles of erosion and deposition, which allow for exchanges of energy and nutrients between terrestrial and aquatic systems. The soils tend to be high in nutrients. Species composition and community structure vary regionally along with varying flooding frequency and duration. Silver maple (*Acer saccharinum*), green ash (*Fraxinus pennsylvanica*) and cottonwood (*Populus deltoides*) are major overstory dominants.

### General Condition of Feature

About 45% of the river and stream riparian areas in the Eastern Upper Peninsula are considered to be in fair or good condition as wildlife habitat and about 10% is considered to be in excellent condition. The remaining areas are considered degraded or very degraded. River and stream riparian areas include natural communities that are considered rare, uncommon, or imperiled in the State.

### Associated Natural Communities

Emergent Marsh	Rich Conifer Swamp
Hardwood-Conifer Swamp	Southern Floodplain Forest
Northern Shrub Thicket	Submergent Marsh
Northern Wet Meadow	

### Associated Species of Greatest Conservation Need

#### SNAILS

six-whorl vertigo (*Vertigo morsei*)  
cherrystone drop (*Hendersonia occulta*)

#### CRAYFISH

devil crawfish (*Cambarus diogenes*)  
digger crayfish (*Fallicambarus fodiens*)

#### INSECTS

arrowhead spiketail (*Cordulegaster obliqua*)  
lake emerald (*Somatochlora cingulata*)  
Hine's emerald dragonfly (*Somatochlora hineana*)  
a tiger beetle (*Cicindela hirticollis rhodensis*)  
a tiger beetle (*Cicindela limbalis*)  
tawny crescent (*Phyciodes batesii*)  
hoary comma (*Polygonia gracilis*)

#### AMPHIBIANS

blue-spotted salamander (*Ambystoma laterale*)  
spotted salamander (*Ambystoma maculatum*)  
eastern tiger salamander (*Ambystoma tigrinum tigrinum*)  
four-toed salamander (*Hemidactylium scutatum*)  
boreal chorus frog (*Pseudacris triseriata maculata*)  
western chorus frog (*Pseudacris triseriata triseriata*)  
pickerel frog (*Rana palustris*)  
northern leopard frog (*Rana pipiens*)

#### REPTILES

western fox snake (*Elaphe vulpina*)  
eastern massasauga (*Sistrurus catenatus catenatus*)  
Blanding's turtle (*Emydoidea blandingii*)

#### REPTILES cont.

wood turtle (*Glyptemys insculpta*)

#### BIRDS

American Black Duck (*Anas rubripes*)  
Pied-billed Grebe (*Podilymbus podiceps*)  
Great Blue Heron (*Ardea herodias*)  
Osprey (*Pandion haliaetus*)  
Bald Eagle (*Haliaeetus leucocephalus*)  
Northern Harrier (*Circus cyaneus*)  
Cooper's Hawk (*Accipiter cooperii*)  
Red-shouldered Hawk (*Buteo lineatus*)  
Peregrine Falcon (*Falco peregrinus*)  
American Coot (*Fulica americana*)  
Spotted Sandpiper (*Actitis macularia*)  
American Woodcock (*Scolopax minor*)  
Acadian Flycatcher (*Empidonax virescens*)  
Northern Shrike (*Lanius excubitor*)  
Gray Jay (*Perisoreus canadensis*)  
Wood Thrush (*Hylocichla mustelina*)  
Northern Parula (*Parula americana*)  
Eastern Meadowlark (*Sturnella magna*)

#### MAMMALS

arctic shrew (*Sorex arcticus*)  
pygmy shrew (*Sorex hoyi*)  
water shrew (*Sorex palustris*)  
silver-haired bat (*Lasionycteris noctivagans*)  
red bat (*Lasiurus borealis*)  
hoary bat (*Lasiurus cinereus*)  
northern bat or northern myotis (*Myotis septentrionalis*)  
gray wolf (*Canis lupus*)  
moose (*Alces alces*)  
least chipmunk (*Tamias minimus*)  
woodland jumping mouse (*Napaeozapus insignis*)

### Associated Threats

#### MODIFICATION OF NATURAL PROCESSES

- Grazing and mowing patterns: Effluent from cattle pastures can contribute to nitrification of streams.
- Altered hydrologic regimes: The creation of impoundments can alter water flow.

*HABITAT CONVERSION*

- Industrial, residential, and recreational development: Residential development impacts riparian systems in the Eastern Upper Peninsula.
- Dams: The development of hydroelectric power facilities impacts riparian systems.

*CONSUMPTIVE BIOLOGICAL RESOURCE USE*

- Forestry practices: The use of poor forestry practices may impact riparian systems.

*BIOLOGICAL INTERACTIONS*

- Invasive plants and animals
- Other biological interactions: Beavers (*Castor canadensis*) may alter the hydrology within riparian systems.

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 by restoring water flow patterns. [Altered hydrologic regimes]
- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- Manage local beaver densities to maintain water flow patterns. [Other biological interactions]
- Implement forestry best management practices which address the value of riparian systems for wildlife. [Forestry practices]
- Restore severe and moderately eroding streambanks using natural materials and by mimicking natural processes. [Altered hydrologic regimes]
- Where possible, motorized vehicle trails should be located a minimum of 100 feet (and preferably more than 500 feet) from rivers, streams, lakes and other wetlands except at designated crossings. [Non-consumptive recreation]
- Road, trail, and pipeline systems should be planned to avoid stream crossings and riparian corridors whenever practical. When crossings are unavoidable, they should be designed to preserve and enhance natural stream processes. [Industrial, residential, and recreational development]
- Use best management practices for development, management, and recreational activities around lakes, streams, and wetlands to maintain natural shoreline stability (thereby reducing the need for restoration or artificial structures). [Industrial, residential, and recreational development]
- Use best management practices for development or management activities to limit soil, nutrient, and pesticide runoff into aquatic ecosystems. [Industrial, residential, and recreational development]
- Where large diameter tree snags and coarse woody debris are occasional or rare, seek to increase their volume. [Forestry practices]
- Maintain physical habitat characteristics associated with freshwater mussel beds and lake sturgeon spawning areas. [Habitat conversion—multiple]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits [variety of threats]

*LAW & POLICY*

- Work with municipalities to promote planning and zoning insuring adequate protection for riparian systems and adjacent uplands. [Industrial, residential and recreational development]

Research and Survey Needs

- Conduct a statewide wetlands inventory.
- Evaluate the impacts of modifications of natural hydrologic regimes and local water chemistry.
- A common classification system to define wetlands is needed.
- A better understanding is needed of the techniques and results of riparian restoration.
- Evaluate the value to wildlife of these systems for connecting other landscape features.
- Evaluate the role of managed wetlands in contributing to landscape diversity. How do flooded cornfields impact diversity? Is there a difference in the value to wildlife between intensive wetland management and passive wetland management?
- Develop and test forestry best management practices which address the value of riparian systems for wildlife.
- Develop best management practices for development, management, and recreational activities around lakes, streams, and wetlands to maintain natural shoreline stability (thereby reducing the need for restoration or artificial structures).
- Assess the impact of wetland creation by beavers. Do these impacts vary regionally?
- Document the historic and current range of variation between riparian systems. This includes variables such as species composition and size.
- Assess the influence of storm water influx on the value to wildlife of riparian systems.
- Evaluate the impact of channelization of riverine systems on their value to wildlife.

**MICHIGAN'S WILDLIFE ACTION PLAN**  
**TERRESTRIAL SYSTEMS: EASTERN UPPER PENINSULA**

- Identify invasive species that may degrade the value of riparian corridors for wildlife. Develop techniques to control invasive species. Common invasive species include glossy buckthorn (*Rhamnus frangula*), garlic mustard (*Alliaria petiolata*) and common carp (*Cyprinus carpio*).
- Develop and test best management practices for development or management activities to limit soil, nutrient, and pesticide runoff into aquatic ecosystems.
- Assess management techniques used in and around riparian systems to develop management guidelines for landowners.

Monitoring

- Track riparian acreage, composition, distribution and modification across the landscape.
- Identify and track floristic composition and diversity.
- Track water level and flow fluctuations and its impacts on vegetation and wildlife.
- Track water chemistry and quality trends.