



## Terrestrial characteristics: Down woody debris

### Description

Down woody debris refers to large woody material lying on the ground. This usually refers to tree trunks, boles, or large limbs lying on the forest floor. Down woody debris tends to be more prevalent in mature forests that do not regularly experience understory fire.

### General Condition of Feature

The status of down woody debris as a landscape feature characteristic in the Southern Lower Peninsula is considered to be degraded or very degraded over most of the region (~65%) due to a predominance of early successional forests within the region. Only about a quarter of the region contains enough down woody debris to be considered in fair condition and only about 10% would be considered in good condition.

### Associated Natural Communities

N/A – No defined natural communities

### Associated Species of Greatest Conservation Need

#### INSECTS

- zigzag darner (*Aeshna sitchensis*)
- arrowhead spiketail (*Cordulegaster obliqua*)
- Hoosier locust (*Paroxya hoosieri*)
- woodland camel cricket (*Ceuthophilus uhleri*)
- woodland meadow katydid (*Conocephalus nemoralis*)
- melodious ground cricket (*Eunemobius melodius*)

#### AMPHIBIANS

- blue-spotted salamander (*Ambystoma laterale*)
- spotted salamander (*Ambystoma maculatum*)
- marbled salamander (*Ambystoma opacum*)
- smallmouth salamander (*Ambystoma texanum*)
- four-toed salamander (*Hemidactylum scutatum*)
- western chorus frog (*Pseudacris triseriata triseriata*)
- pickereel frog (*Rana palustris*)

#### REPTILES

- Kirtland's snake (*Clonophis kirtlandii*)
- blue racer (*Coluber constrictor foxii*)
- northern ringneck snake (*Diadophis punctatus edwardsii*)

#### REPTILES cont.

- eastern fox snake (*Elaphe gloydi*)
- black rat snake (*Elaphe obsoleta obsoleta*)
- eastern hognose snake (*Heterodon platirhinos*)
- smooth green snake (*Liochlorophis vernalis*)
- copperbelly water snake (*Nerodia erythrogaster neglecta*)
- queen snake (*Regina septemvittata*)
- six-lined racerunner (*Apidoscelis sexlineatus*)
- eastern massasauga (*Sistrurus catenatus catenatus*)
- eastern box turtle (*Terrapene carolina carolina*)

#### BIRDS

- Green Heron (*Butorides virescens*)
- Red-headed Woodpecker (*Melanerpes erythrocephalus*)

#### MAMMALS

- woodland vole (*Microtus pinetorum*)
- southern bog lemming (*Synaptomys cooperi*)

### Associated Threats

#### MODIFICATION OF NATURAL PROCESSES

- Altered fire regime: Prescribed burns can reduce woody debris.
- Fragmentation

#### HABITAT CONVERSION

- Industrial, residential, and recreational development
- Incompatible natural resource management

#### CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Forestry practices: Sanitation harvests reduce the potential for compromised trees to be converted to down woody debris. Salvage logging and whole tree harvest create similar situations. Cutting younger trees prevents them from maturing to the point where they may contribute down woody debris.
- Removal of non-timber flora: Firewood collection eliminates down woody debris.

#### BIOLOGICAL INTERACTIONS

- Invasive plants and animals

#### EDUCATION

- Social attitudes: Down woody debris is not aesthetically appealing to the public and may be treated as litter.

### Conservation Actions Needed [Threats addressed]

#### LAND, WATER & SPECIES MANAGEMENT

- Manage to approximate natural disturbance regimes using prescribed fire. [Altered fire regime]
- Assess management goals to ensure that they provide for a diversity of communities across the landscape. [Incompatible natural resource management]

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

- Institute invasive species monitoring, prevention and control programs. [Invasive plants and animals]
- Develop and implement best management practices for timber harvests that address wildlife needs including the importance of down woody debris. [Forestry practices]
- Develop and implement best management practices to guide issuance of firewood permits that incorporate the value of down woody debris to wildlife. [Removal of non-timber flora]

*LAW & POLICY*

- Work with municipalities to promote planning and zoning insuring adequate protection for forest stands which can generate down woody debris. [Industrial, residential, and recreational development]

*EDUCATION & AWARENESS*

- Educate the public about the value of down woody debris for the management of quality wildlife habitat. [Social attitudes]

Research and Survey Needs

- Assess the impact of prescribed fire on the abundance and quality of down woody debris for wildlife. [Altered fire regime; Incompatible natural resource management]
- Document the historic and current range of variation of down woody debris. This includes variables such as species composition and size.
- Develop a methodology for quantifying down woody debris.
- Identify the characteristics of down woody debris that contribute to its value to wildlife and which species may be affected by changes in these characteristics.

Monitoring

- Track the abundance and distribution and wildlife use of down woody debris across the landscape with attention to individual characteristics such as woody plant species and structural components.