



Other Features: Inland rock/cliff/ledge

Description

Inland rock/cliff/ledge areas generally represent inland areas with significant rock substrate, including rock outcrops, rocky cliffs, and other areas that generally have significant rock available for wildlife use. Cliffs are geological features that form from a variety of rock types and erosion processes. Cliffs present very unique environmental conditions that allow for very specialized plant and animal associations. Rock outcrops are rocky areas that lack vegetation or differ in vegetation from the surrounding communities (these are often forest openings) due to the presence of rock on or near the land surface. Where rock isn't exposed, thin soils result in droughty conditions with sparse herbaceous communities, low shrubs, and/or stunted trees.

General Condition of Feature

Inland rock, cliff, or ledge features are generally considered to be in fair, good, or excellent condition in the Western Upper Peninsula. Rock, cliff, or ledge features contain several natural communities that are imperiled or critically imperiled in the State.

Associated Natural Communities

Basalt Bedrock Glade	Moist Non-acid Cliff
Dry Acid Cliff	Northern Bald (Krummholz Ridgetop)
Dry Non-acid Cliff	Sandstone Bedrock Glade
Igneous Bedrock Glade	Sinkhole
Moist Acid Cliff	Volcanic Conglomerate Bedrock Glade

Associated Species of Greatest Conservation Need

SNAILS

eastern flat-whorl (*Planogyra asteriscus*)
delicate vertigo (*Vertigo bollesiana*)
a land snail (*Vertigo cristata*)
cross vertigo (*Vertigo modesta*)
a land snail (*Vertigo modesta parietalis*)
a land snail (*Vertigo paradoxa*)

INSECTS

large marble (*Euchloe ausonides*)
northern blue (*Lycaeides idas nabokovi*)
Macoun's arctic (*Oeneis macounii*)

REPTILES

blue racer (*Coluber constrictor foxii*)

REPTILES cont.

northern ringneck snake (*Diadophis punctatus edwardsii*)
western fox snake (*Elaphe vulpina*)

BIRDS

Northern Bobwhite (*Colinus virginianus*)
Great Blue Heron (*Ardea herodias*)
Bald Eagle (*Haliaeetus leucocephalus*)
Peregrine Falcon (*Falco peregrinus*)

MAMMALS

least chipmunk (*Tamias minimus*)
woodland jumping mouse (*Napaeozapus insignis*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Climate change: Communities within these systems lack the ability to migrate in response to climate change.

CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Mining practices: Practices within gravel pits may affect the quality of these systems.

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Non-consumptive recreation: Activities such as rock climbing may impact these systems.

BIOLOGICAL INTERACTIONS

- Invasive plants and animals

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

- Develop and implement plans for invasive species control and prevention. [Invasive plants and animals]
- Maintain, to the extent feasible, geologically unique areas and natural karst processes. [Non-consumptive recreation]
- Avoid modifying microclimate and microhabitat condition within caves, cliffs, talus slopes, and areas of exposed bedrock. [Non-consumptive recreation]
- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]

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

LAW & POLICY

- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]
- Enact better mine and gravel pit reclamation efforts. [Mining practices]

RECREATION

- Promote responsible recreational use. [Non-consumptive recreation]

Research and Survey Needs

- Identify and quantify recreational use and its impacts on the value to wildlife of rock, cliff, and ledge systems.
- Identify the characteristics of rock, cliff, and ledge systems that provide benefits to wildlife and which species may be affected by changes in these characteristics.
- Inventory rock, cliff, and ledge systems to determine location and condition.

Monitoring

- Track the use of cliff and ledge features by peregrine falcons.