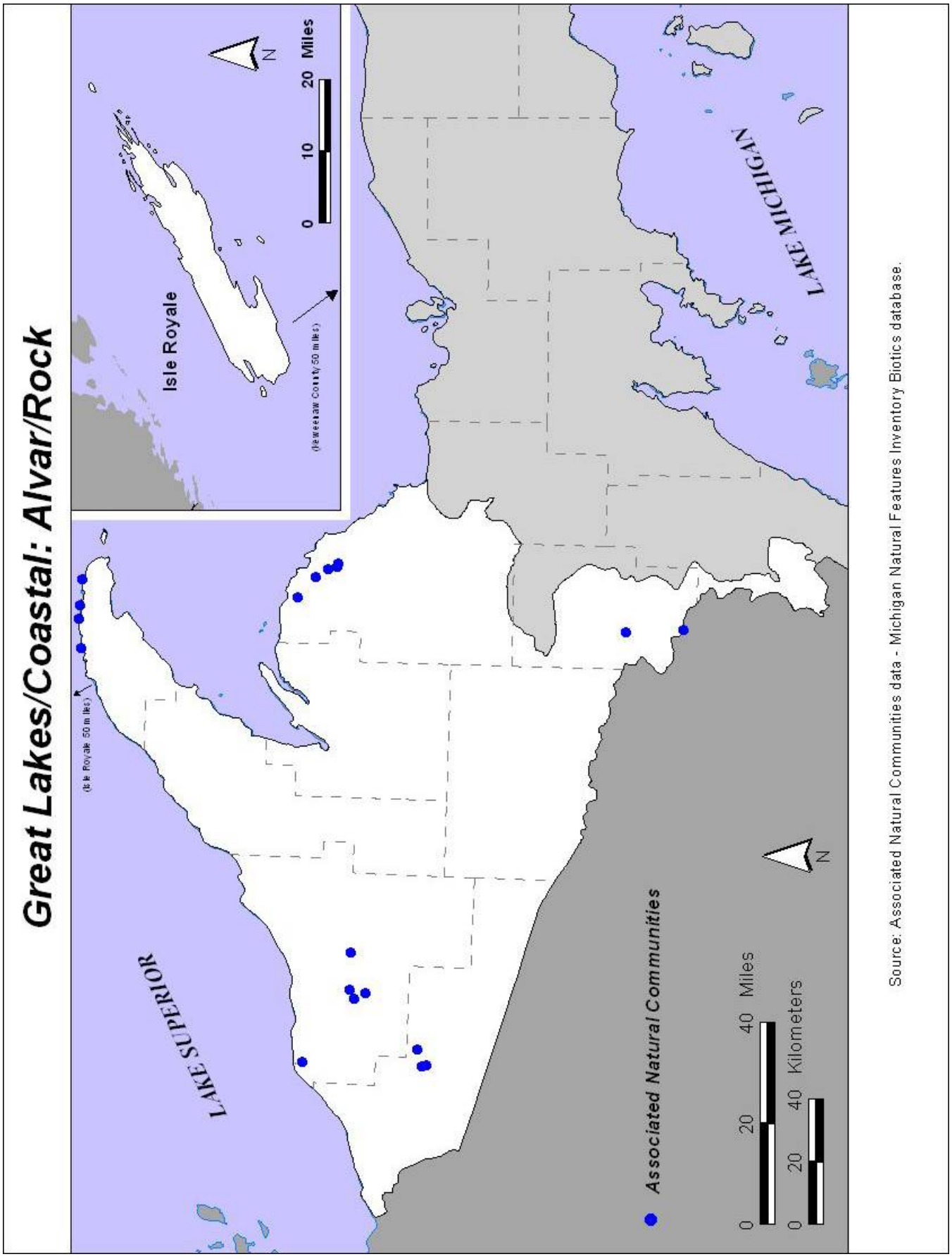
Great Lakes/Coastal: Alvar/Rock
Isle Royale
(Isle Royale 50 miles)
(Keweenaw County 50 miles)
0 10 20 Miles
N
LAKE SUPERIOR
LAKE MICHIGAN
Associated Natural Communities
0 20 40 Miles
0 20 40 Kilometers
N
Source: Associated Natural Communities data - Michigan Natural Features Inventory Biotics database.

Great Lakes/Coastal: Alvar/rock

Description

Alvar/rock Great Lakes features represent the various rocky shoreline areas along the Great Lakes. Alvar/rock includes a wide variety of distinct bedrock types including limestone, sandstone, basalt, volcanic conglomerate, and other igneous and metamorphic bedrock types. While all of the shoreline bedrock communities are considered rare in Michigan, alvar or limestone pavement lakeshores is an ecologically significant natural community that is considered globally rare. Alvar communities generally have a distinctive vegetative zonation from the non-vegetated wave-swept shoreline to the more densely vegetated herbaceous or shrubby areas inland that grade into the upland forest. Because of their stability and diversity of habitats, alvars generally possess very diverse plant communities.

General Condition of Feature

Most of the alvar or bedrock lakeshore in the Western Upper Peninsula is considered to be in fair or good condition (~85%). Most of the remaining area is considered to be in excellent condition. Alvar or bedrock lakeshore contains several natural communities that are imperiled or critically imperiled in the State.

Associated Natural Communities

Basalt Bedrock Glade
Basalt Bedrock Lakeshore
Basalt Lakeshore Cliff
Igneous Bedrock Glade
Igneous Bedrock Lakeshore
Sandstone Bedrock Glade
Sandstone Lakeshore Cliff
Volcanic Conglomerate Bedrock Glade
Volcanic Conglomerate Bedrock Lakeshore
Volcanic Conglomerate Lakeshore Cliff

Associated Species of Greatest Conservation Need

SNAILS
a land snail *(Vertigo cristata)*

BIRDS
Le Conte's Sparrow *(Ammodramus leconteii)*

Associated Threats

MODIFICATION OF NATURAL PROCESSES
- Altered hydrologic regimes

HABITAT CONVERSION
- Industrial, residential, and recreational development

CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Mining practices

NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Non-consumptive recreation

BIOLOGICAL INTERACTIONS
- Invasive plants and animals: Invasive species such as St. John's wort *(Hypericum perforatum)* may affect these systems.

OTHER
- Historic status/current abundance: This feature may not be a significant component within the Western Upper Peninsula.

EDUCATION
- Lack of scientific knowledge

Conservation Actions Needed [Threats addressed]

LAND & WATER PROTECTION
- Expand conservation easement programs [variety of threats]
- Support and expand conservation purchase of high quality occurences [variety of threats]

LAND, WATER, & SPECIES MANAGEMENT
- Manage to approximate natural disturbance regimes using by restoring water flow patterns. [Altered hydrologic regimes]
- Develop and implement plans for invasive species control and prevention. [Invasive plants and animals]
- 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]
- Maintain, to the extent feasible, geologically unique areas and natural karst processes. [Industrial, residential, and recreational development; Non-consumptive recreation]
- Avoid modifying microclimate and microhabitat condition within caves, cliffs, talus slopes, and areas of exposed bedrock. [Industrial, residential, and recreational development; Non-consumptive recreation]

- Support Landowner Incentive Programs to foster conservation on private land [variety of threats]

LAW & POLICY

- Work with municipalities to promote planning and zoning insuring adequate protection for alvar communities. [Industrial, residential, and recreational development; Mining practices]
- Develop and enforce regulations to curtail recreational activities that cause significant damage. [Non-consumptive recreation]
- Enact better reclamation efforts for abandoned mines. [Mining practices]

RECREATION

- Promote responsible ATV and ORV use. [Non-consumptive recreation]

Research and Survey Needs

- Identify and quantify sources of disturbance. How does recreational use impact alvar and coastal rock communities? What are the natural disturbance factors and what is their periodicity?
- Identify the characteristics of alvar systems that provide benefits to wildlife and which species may be affected by changes in these characteristics.

Monitoring

- Track alvar acreage and distribution across the landscape.
- Track damage and disturbance intensity and distribution.
- Track indicator species abundance and distribution. Associated plant species may provide the best indicators.