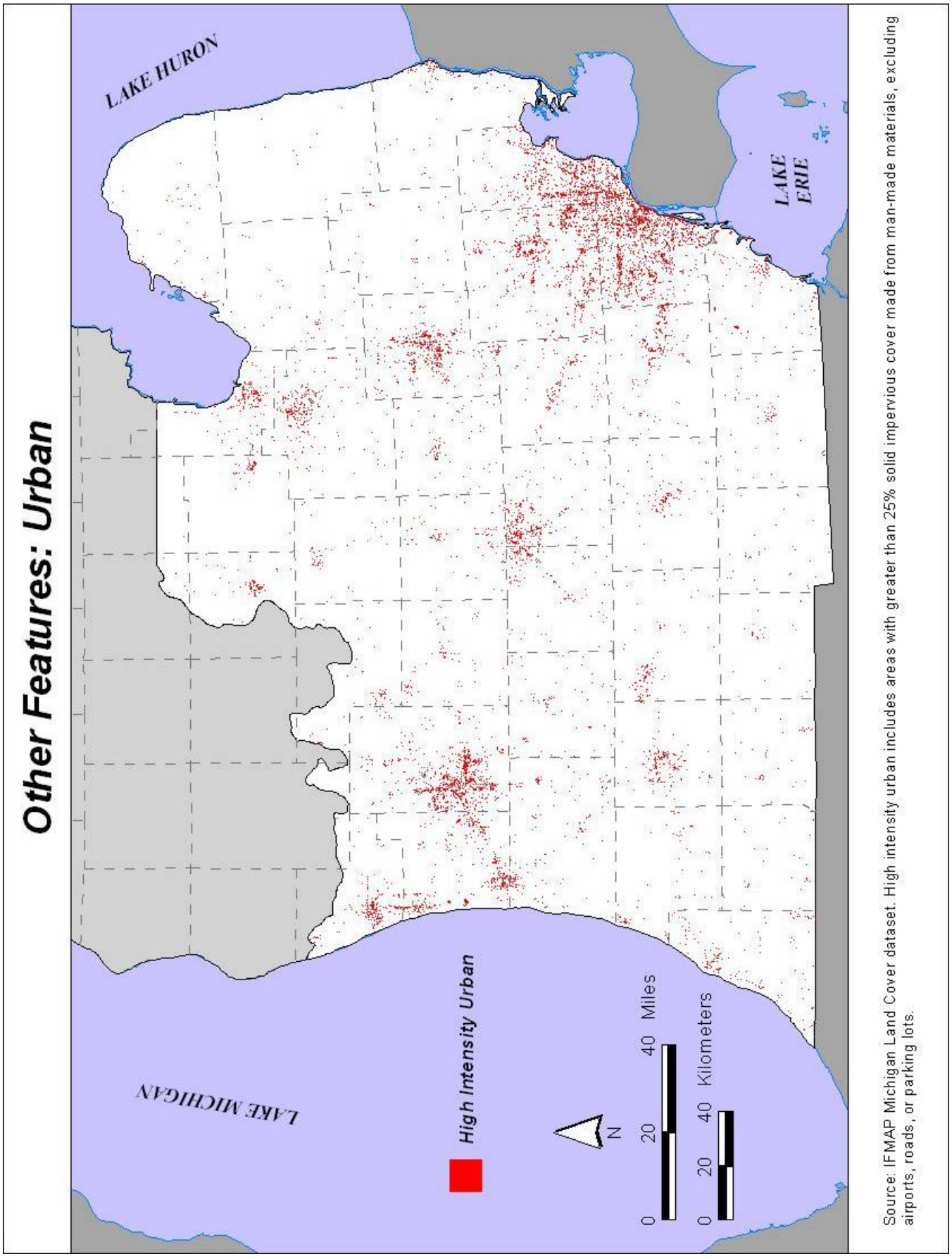
Other Features: Urban
LAKE HURON
LAKE ERIE
LAKE MICHIGAN
High Intensity Urban
N
0 20 40 Miles
0 20 40 Kilometers
Source: IFMAP Michigan Land Cover dataset. High intensity urban includes areas with greater than 25% solid impervious cover made from man-made materials, excluding airports, roads, or parking lots.

Other Features: Urban

Description

Urban areas are those areas where more than 25% of the structures are man-made (e.g., parking lots, buildings).

General Condition of Feature

Urban areas generally provide little wildlife habitat and new urban areas often displace more favorable wildlife habitat.

Associated Natural Communities

N/A – No defined natural communities

Associated Species of Greatest Conservation Need

REPTILES
Kirtland's snake *(Clonophis kirtlandii)*
black rat snake *(Elaphe obsoleta obsoleta)*

BIRDS
Peregrine Falcon *(Falco peregrinus)*
Common Nighthawk *(Chordeiles minor)*

Associated Threats

MODIFICATION OF NATURAL PROCESSES
- Altered hydrologic regime
- Fragmentation

HABITAT CONVERSION
- Industrial, residential, and recreational development: High use of glass in buildings contributes to increased bird mortality. Abundant vehicular traffic contributes to higher mortality due to collisions. Higher human population densities are likely to impact disturbance-sensitive species. Lighted towers (e.g., communications or cell towers) contribute to collision mortalities. Light pollution may modify wildlife behavior and vegetation communities.
- Wetland modifications
- Incompatible natural resource management: The loss of greenspace is a concern in urban systems. The lack of vegetation reduces the value of urban areas for wildlife.

POLLUTION
- Urban, municipal, and industrial: This pollution is generated within urban systems and is more prevalent than in other features.
- Pesticides and herbicides

EDUCATION
- Social attitudes

Conservation Actions Needed [Threats addressed]

LAND, WATER & SPECIES MANAGEMENT
- Manage to approximate natural disturbance regimes using restoration of natural water flow. [Altered hydrologic regimes]
- Assess management goals to ensure that they provide for a diversity of communities across the landscape. [Incompatible natural resource management]
- Coordinate trash and litter collection efforts to remove illegally dumped waste materials. [Urban, municipal, and industrial pollution]
- Develop and implement construction best management practices that incorporate consideration of wildlife use issues and wildlife habitat quality. Promote the establishment and improvement for wildlife of urban greenspace. [Fragmentation; Industrial, residential, and recreational development; Incompatible natural resource management]

LAW & POLICY
- Work with municipalities to promote planning and zoning insuring adequate protection for urban greenspace and potential wildlife habitat. [Industrial, residential, and recreational development; Incompatible natural resource management]
- Enforce existing and develop new legislation to restrict emissions that contribute to acid rain and mercury deposition. Also address industrial discharge issues for both waste chemicals and return of water used in cooling systems. [Urban, municipal, and industrial pollution]
- Enforce ordinances regarding dumping of waste materials in urban areas. [Urban, municipal, and industrial pollution]

EDUCATION & AWARENESS
- Educate the public about the dangers of light pollution to wildlife. [Industrial, residential, and recreational development; Social attitudes]

ECONOMIC & OTHER INCENTIVES
- Provide economic incentives for the development of corporate campuses that incorporate greenspace. [Industrial, residential, and recreational development; Incompatible natural resource management]

Research and Survey Needs

- Develop models which predict urban growth and its impacts on wildlife.
- Evaluate land management and development practices within urban settings to determine methods that minimize impacts on wildlife.
- Assess the impact of contaminants on wildlife. Which contaminants are present and in what concentrations? Does the reaction vary by species?
- Evaluate the impact on wildlife populations of collisions, both with stationary and mobile objects.
- Evaluate the impact on wildlife of light pollution. Do different wavelengths have different effects? Do effects vary by species? Are there other characteristics of artificial light which are important to wildlife behavior and the value of urban systems to wildlife?
- Assess the biological and chemical composition of effluent and run-off that is generated in urban systems. How does this affect the wildlife of these systems?
- Examine the status of wildlife corridors in urban systems. How large do they need to be? How far may isolated patches of greenspace be separated before individuals require connecting habitat to travel between them? Are there characteristics of corridors that increase their value to wildlife?

Monitoring

- Track the density and distribution of urban systems across the landscape.
- Track collision mortality (vehicle, tower, etc.) of wildlife species.
- Track the intensity and diversity of pesticide use.