

Identifying Natural Areas for Conservation in Michigan's Thumb

HOW THE AREAS WERE EVALUATED Michigan Sea Grant conducted a series of analyses using Geographic Information System (GIS) software and a variety of data including the location, size and shape of wetlands, forests, streams, roads and parks in the region. Undeveloped patches of land in Michigan's Thumb were given an overall score, with 5 being the highest and 1 being the lowest priority for conservation based on the following:

- **Habitat Scores** Each patch of undeveloped land was evaluated based on its ability to provide habitat for five different animal groups: fish, amphibians and reptiles, raptors, waterfowl and shorebirds. For example, undeveloped lands within 0.4 km of Lake Huron provide a stop-over site for migrating landbirds and raptors and, therefore, received a higher habitat score. The five animal-specific scores were averaged creating a composite habitat score for each natural area.
- **Landscape Scores** Twelve different landscape and land cover characteristics were also used to evaluate the undeveloped patches of land. For example, natural areas that were large, adjacent to parks, contained streams and were surrounded by farms rather than pavement received a higher score because the site could provide a range of benefits for recreation, water quality and animals if adequately protected.
- **Overall Conservation Score** The habitat and landscape scores were added together, with each contributing equally to the final conservation scores shown in the maps. Statistical software was used to divide the natural areas into five groups based on their overall conservation score. Natural areas that received a high conservation score are seen as "hotspots" or high priorities for future conservation efforts.

MINDEN TOWNSHIP

Minden has a population of about 540 people with the majority of people working in agriculture and health care. The township features the Minden City State Game Area as well as a community park in close proximity to high-priority land; these protected areas could be expanded to include additional land for conservation and recreation. This township was identified as high priority due to the presence of the Minden Bog, a large peat wetland covering about 5,000 acres or nearly 8 square miles. The Minden Bog is part of the headwaters of the Black and Cass Rivers, with about a third of the bog lying within the boundaries of the Minden City State Game Area. Nearly 80 percent of the undeveloped land is considered high-priority for conservation in part because of the large wetland area and presence of the Minden bog. As you can see from the map and tables, 14.5 percent of land is already protected for conservation and recreation, while 24.5 percent is undeveloped and unprotected.

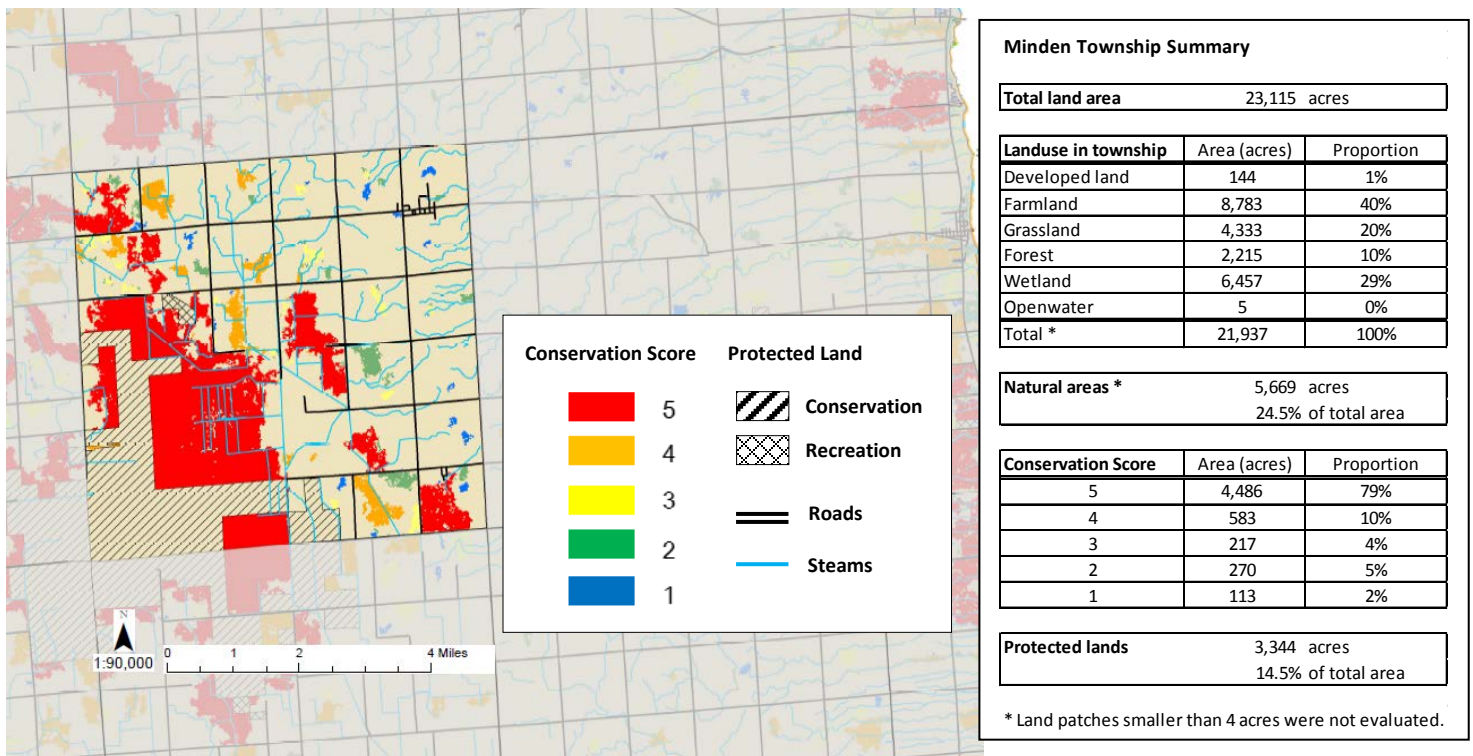


Figure 2. Map and summary data about Minden Township, illustrating areas that are important conservation opportunities.