

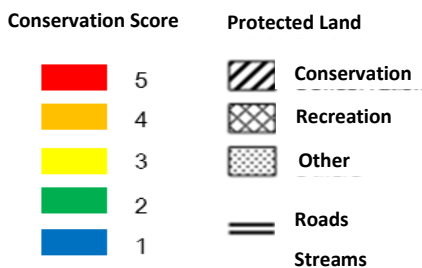
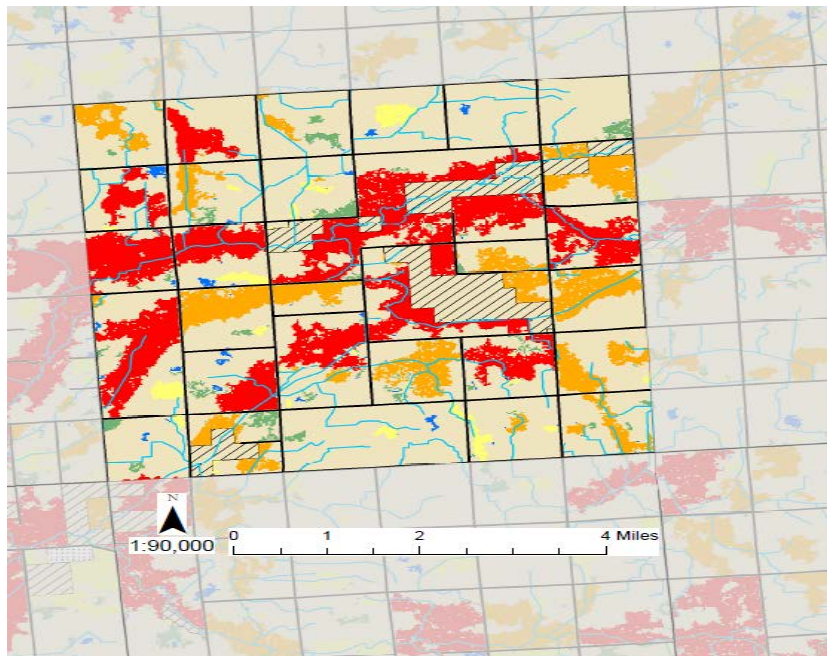
# Identifying Natural Areas for Conservation in Michigan's Thumb

**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.

## GREENLEAF TOWNSHIP

Greenleaf has a population of about 800 people with the majority of people working in agriculture, forestry, fishing, hunting, accommodation and food services. The township includes some high-priority land in close proximity to Sanilac Petroglyphs Historic State Park, which could be expanded. More than 50 percent of the undeveloped land in the township is considered high priority for conservation in part because of the large wetland and forested areas in the headwaters of the Cass River. As you can see from the map and tables, 7.3 percent of the land is already protected for conservation and recreation, while 31.5 percent is undeveloped and unprotected.



### Greenleaf Township Summary

<b>Total land area</b>	23,061 acres
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Landuse in township	Area (acres)	Proportion
Developed land	153	1%
Farmland	8,715	40%
Grassland	3,733	17%
Forest	4,227	19%
Wetland	4,876	22%
Openwater	14	0%
<b>Total *</b>	<b>21,718</b>	<b>100%</b>

<b>Natural areas *</b>	7,268 acres 31.5% of total area
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Conservation Score	Area (acres)	Proportion
5	4,153	57%
4	2,331	32%
3	360	5%
2	334	5%
1	90	1%

<b>Protected lands</b>	1,683 acres 7.3% of total area
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\* Land areas smaller than 4 acres were not evaluated.

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