

## **GIS Critical Habitat Modeling for Northeastern Wisconsin**

This project will use Geographic Information System (GIS) to identify natural areas that are critical to the survival of rare, threatened, and endangered species within the Upper Green Bay Basin of northeastern Wisconsin. The model will be developed in a way that will not reveal the specific locations of any critical species, but will be used to identify those areas that contain a combination of features vital to the sustainability of critical species.

To create a good inventory of critical habitats, we will use the expertise of a technical advisory group, the Wisconsin DNR Natural Heritage Inventory database of rare, threatened, and endangered resources in Wisconsin, and ground-truthing to verify accuracy of the model.

Each natural feature criterion will be evaluated and its importance to that species will be weighed. The importance of various buffer distances will also be evaluated.

The study will identify critical habitat areas that possess vital resources but have no legal protections. This information will be used along with additional components to prioritize the habitat areas based on the urgency of acquisition. Such additional components include the level of the species' endangerment or extinction (i.e. rare, threatened, or endangered), the species significance range (i.e. local, regional, state, national), the level of development risk, land values, etc.

The outputs of this project include:

- 1) A map of the northeast Wisconsin Lake Michigan Basin depicting high-quality natural areas and/or critical habitats;
- 2) A GIS critical habitat model that can be used to determine the impacts of development on natural and critical resources;
- 3) inventory report (with maps and prioritization results) depicting high-quality natural areas and critical habitats to be disseminated to the units of government in the project area;
- 4) Documented methodology on developing a GIS critical habitat model that can be duplicated elsewhere.