

The Wildlife Crossing

A FWS newsletter to facilitate collaboration between the Michigan Ecological Services Field Office and Michigan's transportation agencies

Indiana Bat in Michigan: Habitat, Threats, and How We Can Help

Michigan hosts nine bat species, including two federally endangered (Indiana and northern long-eared bats) and one proposed for listing (tricolored bat). Despite misconceptions about disease — rabies is very rare and occurs in only about 1% of bats — and their association with darkness, bats are generally harmless to humans and vital for pest control, pollination, and seed dispersal. Bats have been experiencing significant declines nationwide, and this has led to listing of some species under the Endangered Species Act.



The Indiana bat was the first bat species to be listed under the ESA in Michigan. It is a small, insect-eating, migratory bat about 3.3 inches long with grayish-brown fur and short rounded ears. In Michigan, it occurs mainly in the southern Lower Peninsula. They are primarily found in Michigan during summer, roosting in mature trees with hollows or loose bark, although they also hibernate at Tippy Dam. Summer habitat includes savannah or other moderately open natural areas adjacent to riparian areas, bottomland forest, and floodplain forest.

White-nose syndrome, a fungus which can disrupt hibernation, is the primary threat to Indiana bat. Other threats include habitat loss, contaminants, and disturbance of hibernaculum. In Michigan, transportation agencies can play a role in the conservation of the Indiana bat by applying a variety of conservation measures. Common measures include adhering to tree clearing restriction dates and conducting structure assessments before work on suitable bridges. Understanding the Indiana bat and its conservation measures can help transportation projects minimize and avoid impacts to species.

Endangered Species Act and EGLE Review

Understanding how state and federal laws intersect and how those laws can impact transportation projects can be complicated. One example where the Service's review intersects with state laws is through Michigan's Department of Environment, Great Lakes, and Energy administration of the Section 404 permit program under the Clean Water Act. While in most parts of the country the CWA is a federally administered program, Michigan is one of only two states that implements a state-assumed Section 404 program. Since EGLE is approved to administer this program, 404 permits are issued under state law, but the Environmental Protection Agency retains oversight of the state-assumed 404 program. The Army Corps of Engineers retains permitting authority over certain waters of the United States, including the Great Lakes and adjacent wetlands. EGLE may require Federal review for some permit applications (i.e., "red-filed") to document compliance with other federal laws, including the Endangered Species Act, the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Fish and Wildlife Coordination Act. Red-filed projects may require additional processing time to allow for federal agency input. Typically, project proponents are able to incorporate conservation measures into their project design to avoid impacts to listed species. Occasionally, applicants seek permits from the Service if take of a listed species can't be avoided. If a project were reasonably certain to result in unpermitted take of a listed species under the ESA, the Service can recommend that EPA object to permit issuance through this federal review process.

Endangered Species Act and EGLE Review (continued)

If you are applying for a Section 404 permit through EGLE for a transportation project, we recommend you first run your project through the [All-Species Michigan Determination Key in IPaC](#) to assess the potential impacts of your project to federally listed species. If you receive a not likely to adversely affect or no effect determination for all species, you should include your official species list and dkey letter with your permit application to EGLE. If your project receives a may affect determination for any threatened or endangered species, please email MIFO_Dkey@fws.gov to coordinate further with our office prior to submitting your EGLE permit application. Working with FWS before applying for an EGLE permit can often help make your project review timeline more efficient.

Streamlined Approach for Non-Federal Projects Impacting Mussels

The Service is piloting a new effort in Michigan to streamline Endangered Species Act compliance for non-federal bridge and culvert projects that may impact federally listed mussels. This completely voluntary approach utilizes the Partners for Fish and Wildlife Act and section 7(a)(1) of the ESA. The Wildlife Cooperative Extension Agreement Restoring Michigan Rivers for People and Wildlife (Mussel Agreement) provides a voluntary, optional process for applicants to help address regulatory requirements when they include measures that provide benefits to freshwater mussels that are above the robust measures otherwise required by other state and federal permits. To give applicants maximum flexibility to efficiently implement the Mussel Agreement for their project, we have developed a menu of options for applicants to select from. Each Agreement between the Service and applicant will reflect the final plan for that specific project. The Service intends for applicants to choose a combination of the following minimization, conservation and recovery funding, and restoration options to fully offset the impact of incidental take and lead to a net benefit for federally listed mussels and people across Michigan. The Service will provide the applicant with the necessary technical assistance when completing the Agreement to ensure options chosen are “right sized” with the scope of the potential impact of the project on federally listed mussels balanced with the suite of options recommended. The table below displays some of the options available in the Mussel Agreement. If you are interested in using the Mussel Agreement for your state or locally funded project or have any questions, please contact our office!

Minimization Options	Conservation and Recovery Funding Options	Restoration Options
<ul style="list-style-type: none">• Reduce area of direct impact• Conduct mussel survey• Conduct mussel salvage and relocation• Conduct post-relocation monitoring• Use soil and erosion control measures• Use turbidity curtains	<p>Provide funding that supports:</p> <ul style="list-style-type: none">• Restoration or preservation of instream habitat• Conservation propagation• Systemic surveys• Connectivity or floodplain restoration• Water quality enhancements in the watershed	<ul style="list-style-type: none">• Restore floodplain connectivity• Restore and enhance riparian buffers• Eliminate contaminant or nutrient inputs• Enhance instream habitat for mussels or their hosts• Improve stream connectivity• Mussel propagation and augmentation• Systemic mussel surveys• Develop outreach and education products or events