



Sent Via Email Only

April 28, 2023

Tyler Rossmassler
Maple and Hill LLC
503 S. Saginaw Street, Suite 1000
Flint, MI 48502

*RE: Threatened and Endangered Species Assessment
Advanced Manufacturing District of Genesee County
Approximately 1000 acres between S. Linden, S. Elms, W. Hill, and W. Maple
Mundy Township, MI
ASTI File No. 12710*

On April 18 and 19, 2023, ASTI Environmental (ASTI) conducted a threatened and endangered species assessment for those plant and animal species protected by the Michigan Department of Natural Resources (DNR) under Part 365 (Endangered Species Protection) of the Natural Resources and Environmental Protection Act (1994 P.A. 451) or by the US Fish and Wildlife Service (USFWS) under the federal Endangered Species Act of 1973, as amended at multiple parcels between Linden Road, Elms Road, Hill Road, and Maple Avenue in Mundy Township, Genesee County, Michigan (Project Area).

The Project Area is currently comprised of the habitat types: Detention Pond, Drain, Open Water, Emergent Wetland, Scrub Shrub Wetland, Forested Wetland, Actively Farmed Area, Grassland, Hedgerow, Rural Developed Area, and Wooded Upland (Figure 1 – Habitat Types). Proposed project activities include developing the Project Area into future commercial/industrial uses (Project), the extent of those activities is unknown at this time.

A Rare Species Review for the Project Area was requested from the Michigan Natural Features Inventory (MNFI) by ASTI. The results of the MNFI review, received in a letter dated April 18, 2023. (Appendix A – MNFI Rare Species Review Letter), documents an MNFI database search for known rare Michigan species and unique natural feature occurrences within a 1.5-mile radius of the Project Area. The MNFI Rare Species Review also provides supplemental information regarding federally protected species within a 1.5-mile radius of the Project Area for projects involving federal funding or federal authorization. Using this information, ASTI conducted a field investigation to map habitat types that exist within the Project Area and to directly search for listed species and/or associated species and habitats, as appropriate. From the Rare Species Review and field investigation, ASTI was able to render a professional opinion on whether impacts to protected species could occur from the Project.

State Listed Species

According to the MNFI letter “there are no known occurrences of at-risk species and/or rare natural communities within 1.5 miles of the project site and it is highly unlikely that adverse impacts will occur.” No state-protected species or communities were identified by MNFI, nor did they provide comments regarding any species potentially associated with this project.

Federally Listed Species

MNFI also provided supplemental information regarding possible federally protected species that occur in Genesee County and may be impacted by the proposed Project. This supplemental information is for projects that will involve federal funding or federal agency authorization. In addition, pursuant to a 2011 Memorandum of Agreement between the Michigan Department of Environmental Quality (now EGLE) and the USEPA regarding Michigan’s administration of Section 404 (wetlands) of the federal Clean Water Act, EGLE permit applications with reasonable potential to affect federally listed species shall be submitted for federal review. This review may take the form of EGLE attaching special conditions to a wetland (Part 303) or inland lake and stream (Part 301) permit such as restricting the timing of construction activities within the Project Area or it may result in a “red-file,” requiring further USFWS review of the permit application. Please note that regardless of a federal project nexus, it is illegal to harm federally listed species; thus, ASTI has included a review of these species as part of this assessment.

MNFI indicates that according to the USFWS, the Project Area falls within the range of four federally listed species identified for Genesee County. For one of the four species listed, MNFI indicates that “there does not appear to be suitable habitat within the 1.5-mile search buffer.” Only three of the four species required further analysis (Table 1).

Table 1. Federally Listed Species Requiring Further Assessment Within Project Area

Common Name	Scientific Name	Status
Indiana bat	<i>Myotis sodalis</i>	State and Federally Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	State and Federally Endangered
Eastern massasauga rattlesnake	<i>Sistrurus catenatus</i>	State and Federally Threatened

Existing Property Conditions

On April 18 and 19, 2023, ASTI performed a threatened and endangered species survey and habitat assessment within the Project Area. ASTI searched for potential bat trees and, as appropriate given the time of year, directly searched for the listed species. The Project Area possesses multiple habitat types including: Detention Pond, Drain, Open Water, Emergent Wetland, Scrub Shrub Wetland, Forested Wetland, Actively Farmed Area, Grassland, Hedgerow, Rural Developed Area, and Wooded Upland. Each of the observed habitat types is identified on Figure 1 – Habitat Types, and briefly described in the following sections.

Detention Pond

A stormwater detention basin occurs in the northeastern corner of the Project Area near the New Life Wesleyan Church. It is a constructed feature and supports vegetation.

Drain

Three separate drains are present within the Project Area. The Howland Drain occurs on the eastern edge of the Project Area, Lizard Valley Drain occurs in the central portion of the Project Area, and Warner Drain occurs in the western portion of the Project Area. Each of them supports fringe vegetation and is bordered on at least one side by agricultural fields.

Open Water

An open water feature occurs within the wetland near the center of the Project Area. It maintains an emergent wetland fringe. There is a minimal hedgerow buffer between the wetland and the agricultural fields that border it.

Emergent Wetland

Emergent wetland occurs near the center of the Project Area in multiple locations and also within the utility easement on the western portion of the Project Area. Dominant vegetation includes reed canary grass (*Phalaris arundinacea*) and narrow-leaved cattail (*Typha angustifolia*).

Scrub Shrub Wetland

Scrub shrub wetland occurs within the eastern portion of the Project Area. Dominant vegetation includes green ash (*Fraxinus pennsylvanica*) and gray dogwood (*Cornus foemina*).

Forested Wetland

Forested wetland occurs throughout the Project Area and is bordered most often by upland forest. Dominant vegetation includes quaking aspen (*Populus tremuloides*), American elm (*Ulmus americana*), silver maple (*Acer saccharinum*), green ash, fowl manna grass (*Glyceria striata*), and wood reedgrass (*Cinna arundinacea*).

Actively Farmed Area

The vast majority of the Project Area is actively farmed area. Remnant stalks are visible throughout the Project Area, and farmland is evident on aerial images since at least the 1950's.

Grassland

A small amount of grassland occurs within the utility easement in the north western portion of the Project Area. It is bordered by emergent and forested wetland as well as wooded upland. Dominant vegetation includes reed canary grass and tall beggar-ticks (*Bidens vulgata*).

Hedgerow

Hedgerows occur along each of the three drains and throughout the Project Area. Dominant vegetation includes box elder (*Acer negundo*), cottonwood (*Populus deltoides*), crab apple (*Malus prunifolia*), gray dogwood (*Cornus foemina*), and reed canary grass.

Rural Developed Area

These areas occur exclusively on the northern half of the Project Area. They include the area around New Life Wesleyan Church and a dwelling with a yard. Both are bordered primarily by agricultural fields.

Wooded Upland

Wooded uplands occur throughout the Project Area. They are primarily bordered by agricultural fields. Dominant vegetation includes shagbark hickory (*Carya ovata*), hop-hornbeam (*Ostrya virginiana*), American beech (*Fagus grandifolia*), basswood (*Tilia americana*), red oak (*Quercus rubra*), bur oak (*Quercus macrocarpa*), wood sedge (*Carex woodii*), yellow trout lily (*Erythronium americanum*), white ash (*Fraxinus americana*), and prickly ash (*Zanthoxylum americanum*).

Assessment Methods and Results

ASTI evaluated suitable habitat for the listed species, as detailed in the following sections.

Indiana Bat & Northern Long-eared Bat

ASTI evaluated suitable habitat for the Indiana bat and the northern long-eared bat throughout the Project Area by conducting an inventory of trees that could be potentially used for roosting or colonizing for maternity sites. 55 trees suitable for bat habitat were observed within the Project Area; all other trees observed were healthy and devoid of cavities, holes, and/or peeling/sloughing bark. If tree removal occurs outside of the summer roosting period, i.e., between October 1 through March 31, when bats will be protected, it is ASTI's opinion that the Project will have No Effect on either bat species.

Eastern Massasauga Rattlesnake (EMR)

The Project Area does not fall within Tier 1 or Tier 2 EMR habitat. Tier 1 habitat means that the rattlesnake is known to occur within the Tier 1 mapped area; Tier 2 habitat means habitat that is highly suitable and EMR is likely present. EMR require sites that contain a minimum of 5 contiguous acres of suitable habitat, including adjacent properties. Sites must contain all of the snake's microhabitat requirements, either on the subject site or on immediately adjacent properties. Table 2 below summarizes the microhabitat requirements of the EMR and documents the rationale for determining if the Project Area meets each requirement.

Table 2. EMR Requirements and Site Suitability

Habitat Requirement	Description of Habitat Need	On Site	On Immediately Adjacent Properties (not separated by barriers)	Field Notes	Is Habitat Requirement Met?
At least 5 total acres	A minimum of 5 contiguous acres of wetland and upland habitat	X		Multiple locations, but isolated by agricultural fields	Yes
Basking areas	Either wetland or upland with open canopy, shorter vegetation, in close proximity to retreat cover	X		Evident but only exists within regularly maintained utility easement.	Yes
Retreat cover	Burrows, hummocks, rock piles, downed logs, dense vegetation	X		Noted throughout	Yes
Foraging areas	Areas with dense grasses or sedges that will attract small mammals	X		Evident but only within regularly maintained utility easement.	Yes
Migratory corridors	Between 100-600 meters of migration route between hibernaculum and foraging areas, wetland and upland, with no major barriers	X			Yes
Hibernation structures	Crayfish burrows, mammal burrows	X		Mammal burrows present	Yes

Based on ASTI’s field observations, it is ASTI’s opinion that it is unlikely that the EMR utilizes the Project Area. While the Project Area and adjoining properties do possess all elements of required habitat for EMR, the site as a whole is likely far too disturbed by agricultural activities to be used by this species. Wetlands and basking/foraging areas are isolated by nearly half a mile of agricultural fields. Additionally, the available basking and foraging areas are part of a utility easement that is regularly maintained. Finally, EMR has not been documented in this area and highly suitable habitat has not been documented by the regulatory agencies within the Project Area or the vicinity. It is highly unlikely EMR utilizes the Project Area, and this project should have No Effect on EMR.

Summary

Table 3 summarizes ASTI’s opinion regarding the presence of the species in question or suitable habitat for each of the identified protected species, as well as an opinion on the potential impact to each species from the Project.

Table 3. Listed Species and Potential Project Impact

Species/Natural Feature	Ranking	Habitat	ASTI Findings
Indiana Bat (<i>Myotis sodalis</i>)	State and Federally Endangered	<p>Winter habitat: caves and mines</p> <p>Summer habitat: Small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests.</p>	<p>55 suitable bat trees within the Project Area must be removed between October 1 and March 31.</p> <p>If the trees are removed outside of the roosting period, the Project will have No Effect on this species.</p>
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	State and Federally Endangered	<p>Winter habitat: caves and mines</p> <p>Summer habitat: Any forested areas with open understory where trees are exposed to direct sunlight and have sloughing bark or crevices. Will also roost in structures</p>	<p>55 suitable bat trees within the Project Area must be removed between October 1 and March 31.</p> <p>If the trees are removed outside of the roosting period, the Project will have No Effect on this species.</p>
Eastern Massasauga Rattlesnake (<i>Sistrurus catenatus</i>)	State and Federally Threatened	Open, sunny areas intermixed with high quality wetland.	<p>Site is regularly disturbed and required habitat areas are substantially isolated from one another.</p> <p>The Project will have No Effect on this species.</p>

Conclusions

The MNFI indicated in a Rare Species Review that there are no known occurrences of state listed species within 1.5 miles of the Project Area, and that it is highly unlikely that adverse impacts will occur. The Rare Species Review also indicated that three federally protected species have the potential to be within the Project Area. ASTI conducted an assessment for all appropriate state and federally listed species.



Fifty-five potential bat habitat trees for the northern long-eared bat and Indiana bat were present within the Project Area. If the suitable bat trees are removed outside of October 1 and March 31, this project will have No Effect on either bat species.

Thank you for the opportunity to work with you on this project. Please do not hesitate to contact us with questions.

ASTI ENVIRONMENTAL

A handwritten signature in blue ink, appearing to read 'Emmett Smrcka'.

Emmett Smrcka
Ecologist

A handwritten signature in blue ink, appearing to read 'Dianne C. Martin'.

Dianne C. Martin
Vice President
Professional Wetland Scientist #1313
MDNR T&E Permit TE060

Attachments:

Figure 1 – Habitat Types

Appendix A: MNFI Rare Species Review Letter

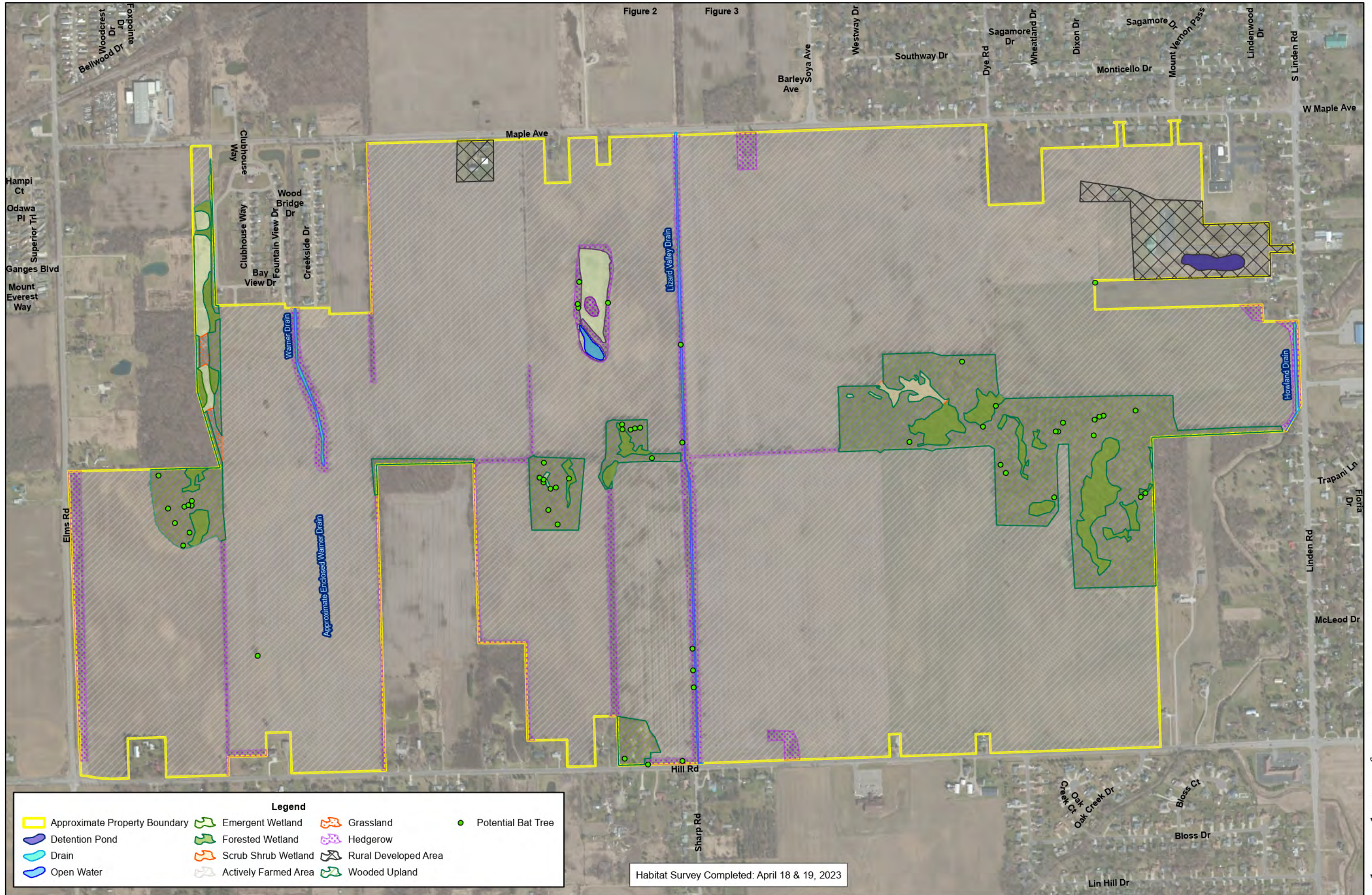


Figure 1 - Habitat Types

Elms, Maple, Linden, & Hill Roads,
Mundy Twp., Genesee Co., MI

Advanced Manufacturing
District of Genesee County

Client: Maple & Hill LLC
Created by: RMH, April 18, 2023, ASTI Project 12710
Imagery: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,
CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Habitat Survey Completed: April 18 & 19, 2023

Kyle Hottinger
ASTI Environmental
10448 Citation Drive
Suite 100
Brighton, MI 48116

April 18, 2023

Re: Rare Species Review #3451 – Mundy Township Ecological Review, Genesee County, MI

Hello:

The location for the proposed project was checked against known localities for rare species and unique natural features, which are recorded in the Michigan Natural Features Inventory (MNFI) natural heritage database. This continuously updated database is a comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features. The absence of records in the database for a particular site may mean that the site has not been surveyed. The only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

Under Act 451 of 1994, the Natural Resources and Environmental Protection Act, Part 365, Endangered Species Protection, "a person shall not take, possess, transport, ...fish, plants, and wildlife indigenous to the state and determined to be endangered or threatened," unless first receiving an Endangered Species Permit from the Michigan Department of Natural Resources (MDNR), Wildlife Division. Responsibility to protect endangered and threatened species is not limited to the lists below. Other species may be present that have not been recorded in the database.



MSU EXTENSION

**Michigan Natural
Features Inventory**

PO Box 13036
Lansing MI 48901

(517) 284-6200
Fax (517) 373-9566

mnfi.anr.msu.edu

There are no known occurrences of at-risk species and/or rare natural communities within 1.5 Miles of the project site and it is highly unlikely that adverse impacts will occur. This response reflects a desktop review of the database and MNFI cannot fully evaluate this project without visiting the area. MNFI offers several levels of [Rare Species Reviews](#), including field surveys which I would be happy to discuss with you.

Sincerely,

Michael A. Sanders

Michael A. Sanders
Environmental Review Specialist
Michigan Natural Features Inventory

Comments for Rare Species Review #3451:

It is important to note that it is the applicant's responsibility to comply with both state and federal threatened and endangered species legislation. Therefore, if a state listed species occurs at a project site, and you think you need an endangered species permit please contact: Casey Reitz, DNR-Wildlife Division, 517-284-6210, or ReitzC@michigan.gov. If a federally listed species is involved and, you think a permit is needed, please contact Jessica Pruden, U.S. Fish and Wildlife Service, East Lansing office, 517-351-8316, or Jessica_Pruden@fws.gov.

NOTE: special concern species and natural communities are not protected under endangered species legislation, but efforts should be taken to minimize any or all impacts. Please consult MNFI's [Rare Species Explorer](#) for additional information on Michigan's rare plants and animals.

Section 7 Comments for Rare Species Review #3451

Mundy Township Property

Kyle Hottinger

ASTI Environmental

April 17, 2023

For projects involving Federal funding or a federal agency authorization

The following information is provided to assist you with Section 7 compliance of the Federal Endangered Species Act (ESA). The ESA directs all Federal agencies "to work to conserve endangered and threatened species. Section 7 of the ESA, called "Interagency Cooperation," is the means by which Federal agencies ensure their actions, including those they authorize or fund, do not jeopardize the existence of any listed species."

The project falls within the range of the following federally listed/proposed/candidate species which have been identified by the U.S. Fish and Wildlife Service (USFWS) to occur in Genesee County, Michigan:

Federally endangered

Indiana bat - there appears to be suitable habitat within the 1.5-mile search buffer. Indiana bats (*Myotis sodalis*) are found only in the eastern United States and are typically confined to the southern three tiers of counties in Michigan. Indiana bats that summer in Michigan winter in caves in Indiana and Kentucky. This species forms colonies and forages in riparian and mature floodplain habitats. Nursery roost sites are usually located under loose bark or in hollows of trees near riparian habitat. Indiana bats typically avoid houses or other artificial structures and typically roost underneath loose bark of dead elm, maple and ash trees. Other dead trees used include oak, hickory and cottonwood. Foraging typically occurs over slow-moving, wooded streams and rivers as well as in the canopy of mature trees. Movements may also extend into the outer edge of the floodplain and to nearby solitary trees. A summer colony's foraging area usually encompasses a stretch of stream over a half-mile in length. Upland areas isolated from floodplains and non-wooded streams are generally avoided.

Management and Conservation: the suggested seasonal tree cutting range for Indiana bat is between October 1 and March 31 (i.e., no cutting April 1-September 30). This applies throughout the Indiana bat range in Michigan.

Poweshiek skipperling - there does not appear to be suitable habitat within the 1.5-mile search buffer. The state threatened and federally endangered poweshiek skipperling (*Oarisma poweshiek*) has been known to occur near the project area. In Michigan, the poweshiek skipperling inhabits alkaline wetlands known as fens. This habitat is characterized by scattered tamaracks, poison sumac, and dogwood clones with a ground cover of sedges and other herbaceous species. The poweshiek skipper has a single generation each year. Egg laying is believed to occur on sedges and rushes. Eggs are laid sometime around early July; larvae (caterpillar stage) hibernate through the winter on the underside of the blade of grass on which they have been feeding on. In early April, they resume feeding. Adult flight dates occur late June through the first three weeks of July.

Management and Conservation: the primary threat to the continued survival of this species is habitat loss and modification. Many of the wetland complexes occupied currently have been altered or drained for agriculture or development. Wetland alteration also can lead to invasion by exotic plant species such as glossy buckthorn (*Rhamnus frangula*), purple loosestrife (*Lythrum salicaria*), common buckthorn (*Rhamnus cathartica*), and the common reed (*Phragmites australis*). In addition, landscape-scale processes that may be important for maintaining suitable poweshiek habitat and/or creating new habitat, such as wildfires, fluctuations in hydrologic regimes, and flooding from beaver (*Castor canadensis*) activity, have been virtually eliminated or altered throughout the species' range.

Northern long-eared bat –Northern long-eared bat (*Myotis septentrionalis*) numbers in the northeast US have declined up to 99 percent. Loss or degradation of summer habitat, wind turbines, disturbance to hibernacula, predation, and

pesticides have contributed to declines in Northern long-eared bat populations. However, no other threat has been as severe to the decline as White-nose Syndrome (WNS). WNS is a fungus that thrives in the cold, damp conditions in caves and mines where bats hibernate. The disease is believed to disrupt the hibernation cycle by causing bats to repeatedly awake thereby depleting vital energy reserves. This species was federally listed in May 2015 primarily due to the threat from WNS.

Although no known hibernacula or roost trees have been documented within 1.5 miles of the project sites, this activity occurs within the designated **WNS zone** (i.e., within 150 miles of positive counties/districts impacted by WNS). In addition, there appears to be suitable habitat within the 1.5-mile search buffer.

Also called northern bat or northern myotis, this bat is distinguished from other *Myotis* species by its long ears. In Michigan, northern long-eared bats hibernate in abandoned mines and caves in the Upper Peninsula; they also commonly hibernate in the Tippy Dam spillway in Manistee County. This species is a regional migrant with migratory distance largely determined by locations of suitable hibernacula sites.

Northern long-eared bats typically roost and forage in forested areas. During the summer, these bats roost singly or in colonies underneath bark, in cavities or in crevices of both living and dead trees. These bats seem to select roost trees based on suitability to retain bark or provide cavities or crevices. Common roost trees in southern lower Michigan included species of ash, elm and maple. Foraging occurs primarily in areas along woodland edges, woodland clearings and over small woodland ponds. Moths, beetles and small flies are common food items. Like all temperate bats this species typically produces only 1-2 young per year.

Management and Conservation: when there are no known roost trees or hibernacula in the project area, we encourage you to conduct tree-cutting activities and prescribed burns in forested areas during October 1 through March 31 when possible, but you are not required by the ESA to do so. When that is not possible, we encourage you to remove trees prior to June 1 or after July 31, as that will help to protect young bats that may be in forested areas but are not yet able to fly.

Federally threatened

Eastern massasauga rattlesnake (EMR) - the project falls outside Tier 1 and Tier 2 EMR habitat as designated by the U.S. Fish & Wildlife Service (USFWS). The federally threatened and state special concern Eastern massasauga rattlesnake (*Sistrurus catenatus*) is Michigan's only venomous snake and is found in a variety of wetland habitats including bogs, fens, shrub swamps, wet meadows, marshes, moist grasslands, wet prairies, and floodplain forests. Eastern massasaugas occur throughout the Lower Peninsula but are not found in the Upper Peninsula. Populations in southern Michigan are typically associated with open wetlands, particularly prairie fens, while those in northern Michigan are better known from lowland coniferous forests, such as cedar swamps. These snakes normally overwinter in crayfish or small mammal burrows often close to the groundwater level and emerge in spring as water levels rise. During late spring, these snakes move into adjacent uplands they spend the warmer months foraging in shrubby fields and grasslands in search of mice and voles, their favorite food.

Often described as "shy and sluggish", these snakes avoid human confrontation and are not prone to strike, preferring to leave the area when they are threatened. However, like any wild animal, they will protect themselves from anything they see as a potential predator. Their short fangs can easily puncture skin and they do possess potent venom. Like many snakes, the first human reaction may be to kill the snake, but it is important to remember that all snakes play vital roles in the ecosystem. Some may eat harmful insects. Others like the massasauga consider rodents a delicacy and help control their population. Snakes are also a part of a larger food web and can provide food to eagles, herons, and several mammals.

Management and Conservation: protection of extant populations and suitable wetland and adjacent upland habitats is crucial for successful conservation of the Eastern Massasauga. Maintaining or restoring open habitat conditions is critical for this species. Fragmentation of suitable wetland-upland habitat complexes by roads or other barriers should be avoided or minimized. Land management practices such as timber harvesting, mowing, disking or prescribed burning

should be conducted in such a manner so as to minimize the potential for adverse impacts to massasaugas (e.g., conducting management activities during the snakes' inactive season (November through early March) or on days when snakes are less likely to be active on the surface during the active season). Protecting suitable hibernation sites also is critical.

Candidate Species

Monarch Butterfly (*Danaus plexipuss*) on December 15, 2020, the U.S. Fish and Wildlife Service announced that listing the monarch as endangered or threatened under the Endangered Species Act is warranted but precluded by higher priority listing actions. The decision is the result of an extensive status review of the monarch that compiled and assessed the monarch's current and future status. The monarch is now a candidate under the Endangered Species Act; we will review its status annually until a listing decision is made.

Management and Conservation: neither section 7 of the Endangered Species Act nor the implementing regulations for section 7 contain requirements for federal agencies with respect to candidate species. Habitat loss and fragmentation has occurred throughout the monarch's range. Pesticide use can destroy the milkweed monarchs need to survive. A changing climate has intensified weather events which may impact monarch populations.

USFWS Section 7 Consultation Technical Assistance can be found at:

<https://www.fws.gov/service/esa-section-7-consultation>

The website offers step-by-step instructions to guide you through the Section 7 consultation process with prepared templates for documenting "no effect." as well as requesting concurrence on "may affect, but not likely to adversely affect" determinations.

Please let us know if you have questions.

Michael Sanders
Environmental Review Specialist/Zoologist
Michigan Natural Features Inventory