Environmental Assessment

DRAFT - Roscommon County Shooting Range

Richfield Township, Roscommon County, Michigan

Prepared for:
Nowak & Fraus Engineers
46777 Woodward Avenue
Pontiac, Michigan 48342

Prepared by:
GEI Consultants of Michigan, P.C.
4472 Mount Hope Road,
Suite A
Williamsburg, MI 49690
(231) 933-4041

December 17, 2021
Project 2103558

Daniel Kowalski, Project Professional

Stu Kogge, PWS, Sr. Wetland/Aquatic Biologist
Reviewer

Table of Contents

Tables

Figures

Appendices

1. Project Summary, Purpose, and Need

1.1 Project Summary

The proposed project involves the development of a State of Michigan (State-run) shooting range within Roscommon State Forest in Richfield Township, Roscommon County, Michigan (Figure 1). The subject parcel is approximately 61.5 acres in size and is currently owned by the Michigan Department of Natural Resources (MDNR).

1.2 Purpose

The purpose of this assessment is to identify potential environmental features that may be associated with the subject property, and which may impact or influence the proposed design and intended use of the property for a shooting range. The assessment is to also ascertain whether there have been any recent uses of the property unbeknownst to the MDNR.

1.3 Need

In 2020, MDNR reported 540,174 hunters statewide, deer hunter numbers increased by five percent from 2019 (Frawley 2020). As hunter numbers increase, so does MDNR's commitment to providing safe/secure practice shooting ranges for the public use. There are currently no safe/secure State-run shooting facilities within 50 miles of the subject property and proposed shooting range. The State of Michigan currently operates 12 shooting ranges throughout Michigan. Two of those ranges are within the Northern Lower Peninsula deer harvest area, with the nearest approximately 54 miles away from the subject property. Development of the proposed parcel into a State-run operation would allow for a controlled, accessible, and safe location for the use of firearms.

1.4 Decisions that Need to be Made

Prior to development, this environmental assessment will be used to assist with the siting and initial design of the shooting range. This assessment and subsequent documents will be posted online for public comment. Public comments will be encouraged, and adjustments may be made to the proposed range layouts and alternatives in response to those comments provided by citizens and other interested parties. The MDNR will consider public comments, cost, operational characteristics, environmental impacts and other relevant factors for range design and construction of the proposed shooting range at this site. Grant approval from the United States Fish and Wildlife Service will be required prior to commencement of design and construction of the proposed shooting range project.

2. Alternatives, Including the Proposed Action

2.1 Alternatives Carried Forward for Detailed Analysis

Two alternatives related to the development of the Richfield Township DNR parcel are under consideration: "Proposed Action" and "No Build" (Table 1).

2.1.1 Alternative A (Proposed Action)

Under this alternative, the MDNR property would be developed into a State-run shooting facility and would provide a safe and secure place for the public to learn and hone safe shooting practices.

2.1.2 Alternative B (No Build)

With this alternative, no new shooting range nor improvements to the MDNR property would be made. Roscommon County would continue to have no State-run (managed or monitored) shooting range for the public to use.

Table 1. Alternative Characteristics

Characteristic	Alternative A - DNR Parcel	Alternative B - No Build
Accessible to Public?	Yes	Yes
Site Development Required?	Yes	No
Addresses ADA Issues?	Presumed	No
Addresses Hunter Education Needs / Outdoor Skill Training Addresses Purpose and Need?	Yes	No
Provide a Safe Place for firearm use?	Yes	No

ADA = Americans with Disabilities Act

3. Affected Environment

A biologist from GEI Consultants, Inc. (GEI) experienced with identifying wetlands, mapping vegetative communities, and documenting biological resources (i.e., flora and fauna), conducted a field site assessment of the subject property on October 1, 2021. Additional physical and ecological features of the subject property were assessed utilizing aerial photography and agency resource database information received.

3.1 Physical Characteristics

The proposed development site is approximately 61.5 acres in size and is located within Richfield Township, Roscommon County, Michigan (T22N R1W Sections 13 and 14).

Physical features and attributes associated with this site are bulleted below:

- Bordered to the south by East West Branch Road.
- Quaternary geological classification of the parcel is: Ice-contact outwash sand and gravel (EGLE a; EGLE b).
- The subject property and surrounding properties are part of the Roscommon State Forest owned by MDNR.
- The parcel was formerly a ski resort with remnants of its former infrastructure still visible.
- Dominant vegetation present (but not limited to): red oak (*Quercus rubra*), white oak (*Quercus alba*), jack pine (*Pinus banksiana*), red pine (*Pinus resinosa*), and white pine (*Pinus strobus*)
- There are no defined streams, pursuant to Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994, as amended, on the subject property. However, there is an unnamed stream within approximately 0.5 miles from the subject property (EGLE a).
- There is one small, isolated wetland complex, approximately 0.13 acres in size, on the subject property. Additional information about this wetland will be provided in the following sections of this report

3.2 Biological Environment (Habitat/Vegetation)

The subject property was formerly utilized as a ski resort and the main features are several long, steep hills which extend westerly from a high plateau at the eastern boundary of the property. These hills were formerly ski slopes, and many old trails cross the property. Along the southern property boundary, the largest hill extends westward almost to the road. Several dilapidated buildings occupy an area near the

western property boundary at the terminus of a gravel driveway. These buildings include the old ski lodge and several outbuildings and utility sheds. Old wooden ski lift poles and metal cables still run up two of the hills just east of the ski lodge.

Flora

Most of the property is occupied by upland deciduous forest on sandy soils. The forest changes in character from west to east. The forest along the far western boundary occupies has more moderate slopes and includes a component of red maple (*Acer rubrum*), cottonwood (*Populus deltoides*), and white ash (*Fraxinus americana*) which is almost completely absent moving east up the steep slopes. The remaining forested areas which occupy the remaining property represent dry-mesic northern forest and are dominated by red oak, white oak, jack pine, red pine, and white pine. In the southeast, large mature red pines occupy much of the high plateau. Many areas on the old ski slopes are reminiscent of open woodlands. Some small clearings have the characteristics of oak-pine barrens with scattered jack pine and white oak surrounded by big bluestem (*Andropogon gerardii*), poverty grass (*Danthonia spicata*), and Pennsylvania sedge (*Carex pensylvanica*). These clearings are very small and mostly occupy the slopes directly behind (east of) the ski lodge and along the powerline corridor at the south end of the property. A listing of flora observed, and the floristic quality assessment metrics associated with the subject property, are provided in Appendix A.

Fauna

Several species of birds, mammals, and amphibians were directly observed, or signs of their presence noted within the subject property. This included game species such as wild turkey (*Meleagris gallopavo*), ruffed grouse (*Bonasa umbellus*), and white-tailed deer (*Odocoileus virginianus*). None of the species observed are state nor federally listed. A listing of fauna observed and/or visual signs of their presence within or use of the subject property, are provided in Appendix A.

Natural Features of Special Concern

Michigan's Natural Features Inventory (MNFI) database review did not identify the presence of any known natural communities or natural features of special concern within or proximal to the subject property (Appendix B). GEI's field site assessment did not observe any geological or natural features of interest during field observations.

Wetlands

The field assessment conducted on October 1, 2021, identified one wetland within the subject property which consisted of emergent and scrub-shrub wetland vegetation. Wetland plants colonizing this wetland include scouring rush (*Equisetum hyemale*), common water horehound (*Lycopus americanus*), rough goldenrod (*Solidago rugosa*), and red-osier dogwood (*Cornus sericea*). The altered hydrology from the combination

of the excavated area and the sand quarry are responsible for the formation of this perched wetland.

This wetland was apparently created from the excavation of upland for either making snow or controlling and storing stormwater runoff within the northwest portion of the property. The wetland extends south (downhill) from an area of standing water and transitions to a series of groundwater seeps emerging from a steep slope above a large sand quarry. GEI opines that this wetland on the subject property is not regulated pursuant to Part 303, Wetland Protection, of the Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994, as amended, since it is approximately 0.13 acres in size (less than 5-acre threshold provided by statute), and it is not within 500 feet of an defined inland lake or stream, pursuant to Part 301, Inland Lakes and Streams, of NREPA. A permit from EGLE pursuant to Part 303of NREPA would not be required for the proposed shooting range on the subject property.

Water Quality

There are no visual signs of any surface water features on the subject property. Specifically, no open water ponds, waterbodies, or watercourses, as defined by Part 301 of NREPA. To which there was no sampling or assessment of surface waters or water quality of the site.

Streams, Lakes and Drains

As noted above, there are no defined streams, ponds, nor lakes on or adjacent to the subject property. A permit from EGLE pursuant to Part 301 of NREPA is not required for the proposed shooting range on the subject property. The nearest waterbody is Ninemile Lake, approximately 2.2 miles to the southwest. The nearest watercourse is an unnamed stream approximately 0.5 miles to the northeast.

Geological Features

Michigan's Natural Features Inventory (MNFI) database review did not identify the presence of any known threatened geological features within or proximal to the subject property (Appendix B). GEI's field site assessment did not observe any geological feature of interest during field observations.

3.3 Listed Flora and Candidate Species

MNFI's response to GEI's information request indicated that Hill's thistle (*Cirsium hillii*) was the only state-listed flora species to have occurred within 1.5 miles of the subject property. The following is a brief discussion of the preferred habitats for Hill's thistle and its associated species; additional information about this species is also provided in Appendix B.

Hill's thistle

Hill's thistle is known to occur in dry, sandy, gravelly soils in prairies, jack pine barrens, oak savanna, and open woods and limestone pavement communities. Species associates include typical prairie/savanna grasses such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparius*), Indian grass (*Sorghastrum nutans*), poverty grass (*Danthonia spicata*), hair grass (*Deschampsia flexuosa*), June grass (*Koeleria macrantha*), and a variety of goldenrods, asters, and other prairie forbs. Pine barren communities include jack pine and Pennsylvania sedge, in addition to the state threatened rough fescue (*Festuca scabrella*), state special concern Cooper's milk-vetch (*Astragalus neglectus*), and state threatened pale agoseris (*Agoseris glauca*) (MNFI 2004).

GEI's assessments of the subject property determined that the preferred habitats for Hill's thistle are not present on the subject property. The presence/use of the subject property for this species are highly unlikely. While the presence of these species on site is unlikely, additional surveys may be warranted by MDNR and/or EGLE prior to development

3.4 Threatened/Endangered Fauna and Candidate Species

MNFI's response to GEI's information request provided additional information as to the potential presence of federally- and state-listed fauna species within the geographic area associated with the subject property. State and federally listed taxa and occurrences provided by MNFI are summarized in Table 2. Each of these species and their optimal habitats are briefly described below. Additional information about these species is provided in Appendix B.

Table 2. Occurrences of Listed Fauna Species within 1.5 miles of the Project Area

Taxa	Common Name	Status		Last Observed
		Federal	State	
Myotis septentrionalis	Northern long-eared bat	T	SC	-
Sistrurus catenatus	Eastern massasauga rattlesnake	T	SC	2019
Appalachia arcana	Secretive locust	-	SC	2018
Danaus plexipuss	Monarch Butterfly	C	-	-

Protection Status Code: E = Endangered; T = Threatened; SC = Special Concern; C = Candidate

Northern long-eared bat

During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees), caves and mines. This bat has also been found rarely roosting in structures, like barns and sheds. Winter hibernacula are areas in various sized caves or mines with constant temperatures, high humidity, and no air currents (USFWS 2018).

Trees within the subject property were devoid of hickory trees and trees having exfoliating or peeling bark that would provide refugia for this bat species. The existing structures also did not appear to be providing potential habitat for this species. It is GEI's professional opinion that this bat species is not present within the subject property based upon assessment of available habitat.

Eastern massasauga rattlesnake

The eastern massasauga rattlesnake 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. Populations are typically associated with prairie fens and cedar swamps (Appendix B). No wetlands or habitats described above for this state and federally listed snake species are present on the subject property. Although a wetland is present on the subject property, this man-made wetland is of relatively poor quality and does not provide optimal nor preferred habitat for this species. It is GEI's professional opinion that this reptile species is not present within the subject property based upon assessment of available habitat.

GEI's assessments of the subject property determined that the preferred habitats for the state- and federally listed fauna are not present on the subject property. The presence/use of the subject property by these species are highly unlikely. While the presence of these species on site is unlikely, additional surveys may be warranted by MDNR and/or EGLE prior to development

3.5 Cultural/Paleontological Resources

A Part 106 was submitted to the Michigan State Historic Preservation Office (SHPO) in September 2021.

The records on file at the MSHPO list zero known cultural resources within one mile of the project. Historic maps show the project area as undeveloped and in a relatively remote part of Roscommon County (Appendix C).

Two factors contribute to the lack of documented cultural resources in the project area: 1) the project area has not been previously surveyed and 2) the level of detail is low on available historic maps.

Archaeological resources may occur in areas in the project that contain intact soils. These may include sites associated with precontact Native populations in the area. However, the limited available information suggests people in the area were primarily located near Houghton Lake, well outside the project. If people in the past used this area it was likely limited and ephemeral.

While the area has not been previously surveyed it is unlikely to contain significant intact archaeological resources or historic structures. Based on the results of the desktop review and the limited effects of the proposed shooting range, we recommend

a determination of "No Historic Properties Affected" is appropriate. Hence, no additional cultural resource actions need to be taken.

3.6 Contamination

The subject property was historically developed as a ski resort with related mechanical infrastructure. The presence of this infrastructure leads GEI to recommend a Phase 1 investigation prior to development.

The development and use of the site as a shooting range will inherently result in the deposition of lead from hunters' bullets (unless the use of only steel shot is required). Dissolved lead can migrate through soils to groundwater. Factors which may cause lead contamination issues and mitigation techniques are outlined in USEPA's "Best Management Practices for Lead at Outdoor Shooting Range" (USEPA 2005).

3.7 Local Socio-Economic Conditions

The proposed project site is located on MDNR property within Richfield Township, Roscommon County. Local socio-economic data is provided in provided in Table 3 (MTA; USCB, USDOJ). It is not anticipated that the proposed project would cause any adverse impacts to any local demographic group.

Table 3. Census Data

Metric	State of Michigan	Roscommon County	Richfield Township
Total Population	9,986,857	23,851	3,648
% Minority	25.3	5	4
% Below Poverty	13	16.7	22.5
%LEP	3.24	<1	<1

LEP refers to the portion of the population with Limited English Proficiency

3.8 Economic Issues

The subject property is currently owned by MDNR as a portion of the Roscommon State Forest with no historical sales record (ArcGIS 2021). The parcel is surrounded by State-owned property, except for a privately owned parcel directly to the south, and bordered to the south by East West Branch Road. The privately owned parcel houses a telecommunications tower operated by Centennial Michigan RSA 7 Cellular Corp (Centennial). The development of this site would change the current land use and could possibly add positive economic influences. The establishment of the range may increase firearm related sales such as firearms, ammunition, targets, safety equipment and increase consumer traffic for proximal businesses.

3.9 Noise

The residence nearest the subject property is approximately 1.4 miles to the northwest. It is GEI's understanding that a sound study is under way at this site as a portion of the planning process.

4. Environmental Consequences

4.1 Impact Specific to Alternatives Considered

4.1.1 Alternative A (Proposed Action)

This alternative would result in the development of the site into a State-run shooting range. Development of the range on the MDNR property will result in impacts to natural resources. Although MFNI listed several species were reported within 1.5 miles of the site, there likelihood of being present at this site and being impacted by the proposed activities within the already impacted areas are minimal/unlikely.

One wetland is present within the subject property. Due to its small size and location in a corner of the property, it is apparent that any proposed design and construction for a shooting range on this property could avoid this wetland complex and avoid impacts to the flora and fauna observed within and surrounding this wetland complex.

No culturally significant resources were identified within the subject property; therefore, no impacts to such resources are anticipated.

4.1.2 Alternative B (No Build)

With the No Build alternative, development of the subject property would not occur and there would be no further impacts to the flora or fauna of the subject property.

5. List of Preparer(s)

Daniel Kowalski
Project Professional
GEI Consultants of Michigan, P.C.

Zack Pitman
Wetland Ecologist
GEI Consultants of Michigan, P.C.

Stu Kogge, PWS
Senior Wetland/Aquatic Biologist, Vice-President
GEI Consultants of Michigan, P.C.

6. Consultation and Coordination with the Public and Others

To GEI's knowledge no public consultation or meetings are scheduled at this time. It is advised, a draft of this assessment along with site development plans be provided to the public prior to plan commencement.

7. References Cited

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Figures

Soil Core

Field Delineated Wetland (+/- 0.13 acres)

Property Boundary

0 125 250

Feet

MDNR Roscommon County Shooting Range EA
Roscommon County, Michigan

Nowak & Fraus Engineers
Pontica, Michigan

GEI Consultants

Project 2103558

LOCATION OF PROPOSED MDNR SHOOTING RANGE WITH FIELD DELINEATED WETLANDS

October 2021 Fig. 1

W:\GIS_Misc\2103558_Roscommon_Range\GIS\Field_Delineated_Wetlands.mxd

Aerial Photo Source: Google Earth Pro

Appendix A Flora and Fauna List and FQA Form

Shooting Range FQA
10/01/2021
Roscommon DNR Range
Roscommon County
Michigan

Practitioner: Zack Pitman
Community Type Notes: Dry northern forest

Conservation-Based Metrics:	Wetlands	Uplands
Total Mean C:	2.5	3
Native Mean C:	2.7	3.6
Total FQI:	12.5	22.4
Native FQI:	12.9	24.4

Species Richness:	Wetlands	Uplands
Total Species:	25	56
Native Species:	23	46
Non-native Species:	2	10

Wetland Vegetation Inventory

Species	Common Name	Native or Non-Native	Coefficient of Conservatism	Coefficient of Wetness	Physiognomy
Acer rubrum	red maple	native	1	0	tree
Aquilegia canadensis	wild columbine	native	5	3	forb
Betula papyrifera	paper birch	native	2	3	tree
Bromus ciliatus	fringed brome	native	6	-3	grass
Cornus sericea	red osier	native	2	-3	shrub
Epilobium hirsutum	great hairy willow-herb	non-native	0	-3	forb
Equisetum arvense	common horsetail	native	0	0	fern
Equisetum hyemale	scouring rush	native	2	0	fern
Eupatorium perfoliatum	boneset	native	4	-3	forb
Euthamia graminifolia	grass-leaved goldenrod	native	3	0	forb
Glyceria striata	fowl manna grass	native	4	-5	grass
Juncus effusus	soft-stemmed rush	native	3	-5	rush
Lemna minor	common duckweed	native	5	-5	forb
Lycopus americanus	common water horehound	native	2	-5	forb
Matteuccia struthiopteris	ostrich fern	native	3	0	fern
Monarda fistulosa	wild bergamot	native	2	3	forb
Populus balsamifera	balsam poplar	native	2	-3	tree
Populus deltoides	cottonwood	native	1	0	tree
Salix discolor	pussy willow	native	1	-3	shrub
Salix exigua	sandbar willow	native	1	-3	shrub
Scirpus cyperinus	wool-grass	native	5	-5	sedge

Species	Common Name	Native or Non-Native	Coefficient of Conservatism	Coefficient of Wetness	Physiognomy
Solidago rugosa	rough-leaved goldenrod	native	3	0	forb
Symphyotrichum lanceolatum	panicled aster	native	2	-3	forb
Typha x glauca	hybrid cattail	non-native	0	-5	forb

Upland Vegetation Inventory

Species	Common Name	Native or Non-Native	Coefficient of Conservatism	Coefficient of Wetness	Physiognomy
Acer rubrum	red maple	native	1	0	tree
Achillea millefolium	yarrow	native	1	3	forb
Adiantum pedatum	maidenhair fern	native	6	3	fern
Ambrosia artemisiifolia	common ragweed	native	0	3	forb
Andropogon gerardii	big bluestem	native	5	0	grass
Aralia nudicaulis	wild sarsaparilla	native	5	3	forb
Asclepias syriaca	common milkweed	native	1	5	forb
Betula papyrifera	paper birch	native	2	3	tree
Bromus inermis	smooth brome	non-native	0	5	grass
Carex eburnea	sedge	native	7	3	sedge
Carex pensylvanica	sedge	native	4	5	sedge
Centaurea stoebe	spotted knapweed	non-native	0	5	forb
Comptonia peregrina	sweetfern	native	6	5	shrub
Cornus rugosa	round-leaved dogwood	native	6	5	shrub
Corylus cornuta	beaked hazelnut	native	5	3	shrub
Crataegus macrosperma	hawthorn	native	5	5	tree
Danthonia spicata	poverty grass	native	4	5	grass
Dryopteris carthusiana	spinulose woodfern	native	5	-3	fern
Elaeagnus umbellata	autumn-olive	non-native	0	3	shrub
Epigaea repens	trailing-arbutus	native	7	3	shrub
Epipactis helleborine	helleborine	non-native	0	0	forb
Fragaria virginiana	wild strawberry	native	2	3	forb
Fraxinus americana	white ash	native	5	3	tree
Galium triflorum	fragrant bedstraw	native	4	3	forb
Hamamelis virginiana	witch-hazel	native	5	3	shrub
Helianthus divaricatus	Woodland sunflower	native	5	5	forb
Hieracium aurantiacum	orange hawkweed	non-native	0	5	forb
Hypericum perforatum	common St. John's-wort	non-native	0	5	forb
Matteuccia struthiopteris	ostrich fern	native	3	0	fern
Picea glauca	white spruce	native	3	3	tree
Pinus banksiana	jack pine	native	5	3	tree
Pinus resinosa	red pine	native	6	3	tree

Species	Common Name	Native or Non-Native	Coefficient of Conservatism	Coefficient of Wetness	Physiognomy
Pinus strobus	white pine	native	3	3	tree
Pinus sylvestris	scotch pine	non-native	0	3	tree
Poa compressa	Canada bluegrass	non-native	0	3	grass
Polygonatum pubescens	downy solomon seal	native	5	5	forb
Populus deltoides	cottonwood	native	1	0	tree
Prunus serotina	wild black cherry	native	2	3	tree
Pseudognaphalium macounii	clammy cudweed	native	2	5	forb
Pteridium aquilinum	bracken fern	native	0	3	fern
Quercus alba	white oak	native	5	3	tree
Quercus rubra	red oak	native	5	3	tree
Rhus typhina	staghorn sumac	native	2	3	shrub
Rubus allegheniensis	common blackberry	native	1	3	shrub
Rubus strigosus	wild red raspberry	native	2	0	shrub
Rumex acetosella	sheep sorrel	non-native	0	3	forb
Salix discolor	pussy willow	native	1	-3	shrub
Schizachyrium scoparium	little bluestem	native	5	3	grass
Solidago altissima	tall goldenrod	native	1	3	forb
Solidago canadensis	Canada goldenrod	native	1	3	forb
Solidago speciosa	showy goldenrod	native	5	5	forb
Symphyotrichum laeve	smooth aster	native	5	3	forb
Symphyotrichum urophyllum	arrow-leaved aster	native	2	5	forb
Trifolium repens	white clover	non-native	0	3	forb
Vaccinium angustifolium	low sweet blueberry	native	4	3	shrub
Viburnum acerifolium	maple-leaved viburnum	native	6	5	shrub

Wetland Fauna Observed

Species	Common Name
Lithobates pipiens	Northern Leopard Frog
Rana clamitans	Green Frog

Woodland Fauna

Species	Common Name
Cathartes aura	Turkey Vulture
Baeolophus bicolor	Tufted Titmouse
Bonasa umbellus	Ruffed Grouse
Buteo jamaicensis	Red-tailed Hawk
Catharus ustulatus	Swainson's Thrush
Certhia americana	Brown Creeper
Colaptes auratus	Northern Flicker
Corvus brachyrhynchos	American Crow
Corvus corax	Common Raven
Cyanocitta cristata	Blue Jay
Dryobates pubescens	Downy Woodpecker
Dryobates villosus	Hairy Woodpecker
Lithobates sylvaticus	Wood Frog
Meleagris gallopavo	Wild Turkey
Melospiza melodia	Song Sparrow
Odocoileus virginianus	White-tailed Deer
Poecile atricapillus	Black-capped Chickadee
Regulus satrapa	Golden-crowned Kinglet
Sciurus carolinensis	Eastern Gray Squirrel
Sciurus vulgaris	Red Squirrel
Sitta canadensis	Red-breasted Nuthatch
Sitta carolinensis	White-breasted Nuthatch
Tamias striatus	Eastern Chipmunk
Turdus migratorius	American Robin

Appendix B MNFI Report

MICHIGAN STATE UNIVERSITY | Extension

Mr. Daniel G. Kowalski
GEI Consultants
230 N. Washington Square
Suite 201
Lansing, MI 48933

October 12, 2021

Re: Rare Species Review #3000 – Property Review, Richfield Township, Roscommon County, MI (T22N R1W Section 14).

Mr. Kowalski:

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 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.

At-risk species have been documented within 1.5 miles of the site and **it is possible negative 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/Zoologist
Michigan Natural Features Inventory

MSU EXTENSION

Michigan Natural Features Inventory

PO Box 13036
Lansing MI 48901

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

mnfi.anr.msu.edu

Comments for Rare Species Review #3000:

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 Chris Mensing, Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, East Lansing office, 517-351-8316, or Chris_Mensing@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.

Table 1: Occurrences of special concern species & natural features within 1.5 miles of RSR #3000

ELCAT	SNAME	SCOMNAME	USESA	SPROT	G_RANK	S_RANK	FIRSTOBS	LASTOBS	EORANK
Animal	*Appalachia arcana*	Secretive locust		SC	G2G3	S2	1999	1999-09-01	BC
Plant	*Cirsium hillii*	Hill's thistle		SC	G3	S3	1953	1953-07-24	H

Comments for Table 1:

Secretive locust - the state special concern secretive locust *(Appalachia arcana)* has been known to occur in the area. The habitat of this species (looks like a short-horned grasshopper) may not be fully known. However, the species is best known from bogs where leatherleaf and Labrador tea typically occur in dense stands underlain by deep, hummocky sphagnum. These bogs often are surrounded by stands of jack pine and some tamarack which may encroach along the margins of the bog. The species also has been documented on bracken fern and sweetfern in open groves of aspen and pines, in early shrub thicket stages of second-growth hardwood forests, in shrubby undergrowth in jack pine barrens, and in northern wet prairies and intermittent wetlands. Best survey time: Adults have been observed from early July until November, though typically they are found between August and September. They are most easily seen in the mid-mornings and early evenings when activity peaks. This is the only grasshopper endemic to Michigan.

Conservation and Management: maintain a suitable mosaic of bog and jack pine habitat. Leave sufficient buffer around boggy wetlands surrounded by jack pine when conducting timber operations. Avoid draining, filling, or other hydrologic alterations to suitable bog habitat. Species may be fire adapted, but until more research on this topic is conducted, fire management in occupied habitat should be used cautiously. **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.

Codes for Occurrence Tables:

State Protection Status Code Definitions (SPROT)
E: Endangered
T: Threatened
SC: Special concern

Federal Protection Status Code Definitions (USESA)
LE = listed endangered
LT = listed threatened
LELT = partly listed endangered and partly listed threatened
PDL = proposed delist
E(S/A) = endangered based on similarities/appearance
PS = partial status (federally listed in only part of its range)
C = species being considered for federal status

Global Heritage Status Rank Definitions (GRANK)
The priority assigned by NatureServe's national office for data collection and protection based upon the element's status throughout its entire world-wide range. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.
G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
G2 = imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
G3: Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
G4: Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
Q: Taxonomy uncertain

State Heritage Status Rank Definitions (SRANK)
The priority assigned by the Michigan Natural Features Inventory for data collection and protection based upon the element's status within the state. Criteria not based only on number of occurrences; other critical factors also apply. Note that ranks are frequently combined.
S1: Critically imperiled in the state because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation in the state.
S2: Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.
S3: Rare or uncommon in state (on the order of 21 to 100 occurrences).
S4 = apparently secure in state, with many occurrences.
S5 = demonstrably secure in state and essentially ineradicable under present conditions.
SX = apparently extirpated from state.

Rare Species Review #3000
GEI Consultants
Property Review
Richfield Township
Roscommon County, MI
October 12, 2021

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 (3) federally listed/proposed species which have been identified by the U.S. Fish and Wildlife Service (USFWS) to occur in Roscommon County, Michigan:

Federally Threatened

Northern long-eared bat - Northern long-eared bat (*M. 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 area, 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 as well. The USFWS has prepared a dichotomous key to help determine if this action may cause prohibited take of this bat. Please consult the USFWS Endangered Species Page for more information.

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. Roost trees are selected based on the suitability to retain bark or provide cavities or crevices. Common roost trees in southern Lower Michigan include 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 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.

Eastern massasauga rattlesnake - the project falls outside Tier 1 and Tier 2 eastern massasauga 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 occurs 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: any sightings of these snakes should be reported to the Michigan Department of Natural Resources, Wildlife Division. If possible, a photo of the live snake is also recommended.

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/midwest/endangered/section7/index.html

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
Sander75@msu.edu
517-284-6215

Appendix C SHPO Findings

Orbis Environmental Consulting
PO Box 10235 South Bend, IN 46680
574-635-1338

December 6, 2021

Stu Kogge
GEI Consultants, Inc
4472 Mount Hope Road, Suite A
Williamsburg, MI 49690

Re: Cultural resources desktop review, Development for shooting range, Roscommon County, Michigan

Stu:

PROJECT DESCRIPTION

GEI Consultants, Inc (GEI) contracted Orbis Environmental Consulting (Orbis) to conduct a cultural resources desktop review of a proposed shooting range in Richfield Township, Roscommon County, Michigan (Figure 1). The 62-acre project area is along the north side of West Branch Road/Old M-55 and corresponds to an existing recreational area that has a few modern park buildings and is otherwise wooded and undeveloped.

CULTURAL RESOURCES DESKTOP REVIEW

The records on file at the Michigan State Historic Preservation Office (MSHPO) list the following resources within one mile of the project components (study area):

Historic Structures

The records list zero known historic resources in the study area. Most of the historic structures in Richfield Township are east of the project near the town of West Branch.

Archaeological Sites

The records list zero known archaeological sites in the study area.

Previous Cultural Resources Surveys

The records list zero previous cultural resources surveys in the study area. The project area has not been surveyed.

Historic Maps

Orbis reviewed one available historic atlas map (B.F. Bowen Co., 1916). This is an early twentieth century map for hunting, fishing, and other outdoor activities and focuses

on the roads and major natural features in Roscommon County. The map does not show individual structures or any notable features in or near the project.

In addition to the historic atlas maps, Orbis also reviewed the archaeological map "Archaeological Atlas of Michigan" (Hinsdale 1931). Like other historic archaeological maps of its time, this map depicts archaeological resources at a county-wide scale. This provides an overview of sites across the county but limits the locational accuracy of these features.

The Hinsdale map shows the Saginaw Trail, three villages, a burying ground, and 19 mounds in Roscommon County. Most of these places are along the shore of Houghton Lake over 10 miles west of the project.

CONCLUSIONS AND RECOMMENDATIONS

The records on file at the MSHPO list zero known cultural resources within one mile of the project. Historic maps show the project area as undeveloped and in a relatively remote part of Roscommon County.

Two factors contribute to the lack of documented cultural resources in the project area: 1) the project area has not been previously surveyed and 2) the level of detail is low on available historic maps.

Archaeological resources may occur in areas in the project that contain intact soils. These may include sites associated with precontact Native populations in the area. However, the limited available information suggests people in the area were primarily located near Houghton Lake, well outside the project. If people in the past used this area it was likely limited and ephemeral.

While the area has not been previously surveyed it is unlikely to contain significant intact archaeological resources or historic structures. Based on the results of the desktop review and the limited effects of the proposed shooting range, we recommend a determination of "No Historic Properties Affected" is appropriate.

Regards,

J Ryan Duddleson
Senior Archaeologist

James L. Ingermann Heimlich
Architectural Historian

cc: #2109007

Attachments:
Figure 1 – Project Location
Figure 2 – Area of Potential Effect

REFERENCES CITED

B.F. Bowen Co.
1916 Michigan State Atlas 1916 Automobile and Sportsman's Guide.

Hinsdale, W.B
1931 Archaeological Atlas of Michigan. University of Michigan Press, Ann Arbor.

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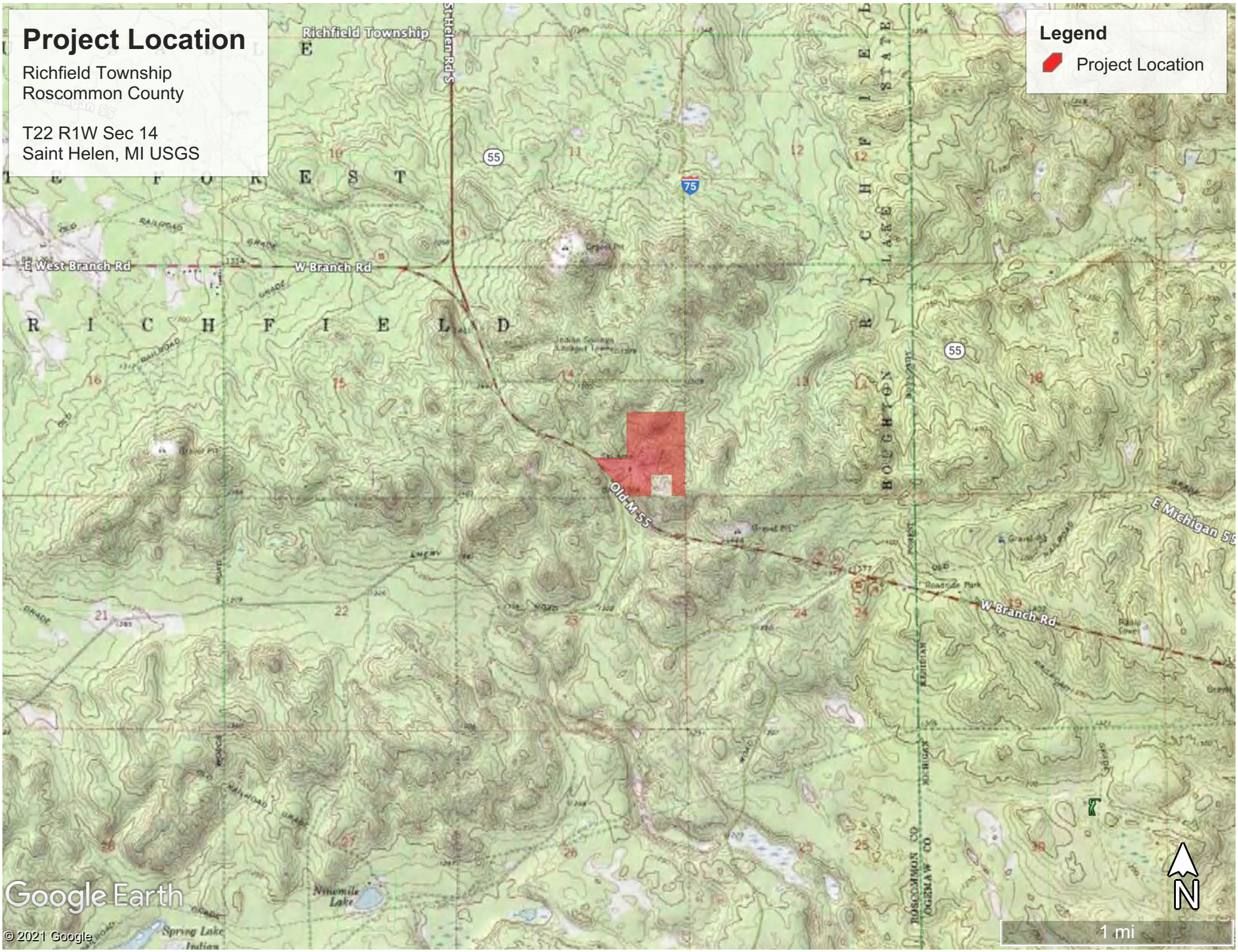
Project Location
Richfield Township
Roscommon County
T22 R1W Sec 14
Saint Helen, MI USGS
Legend
Project Location
Richfield Township
St Helen Rd S
E West Branch Rd
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Old M 55
E Michigan 55
W Branch Rd
55
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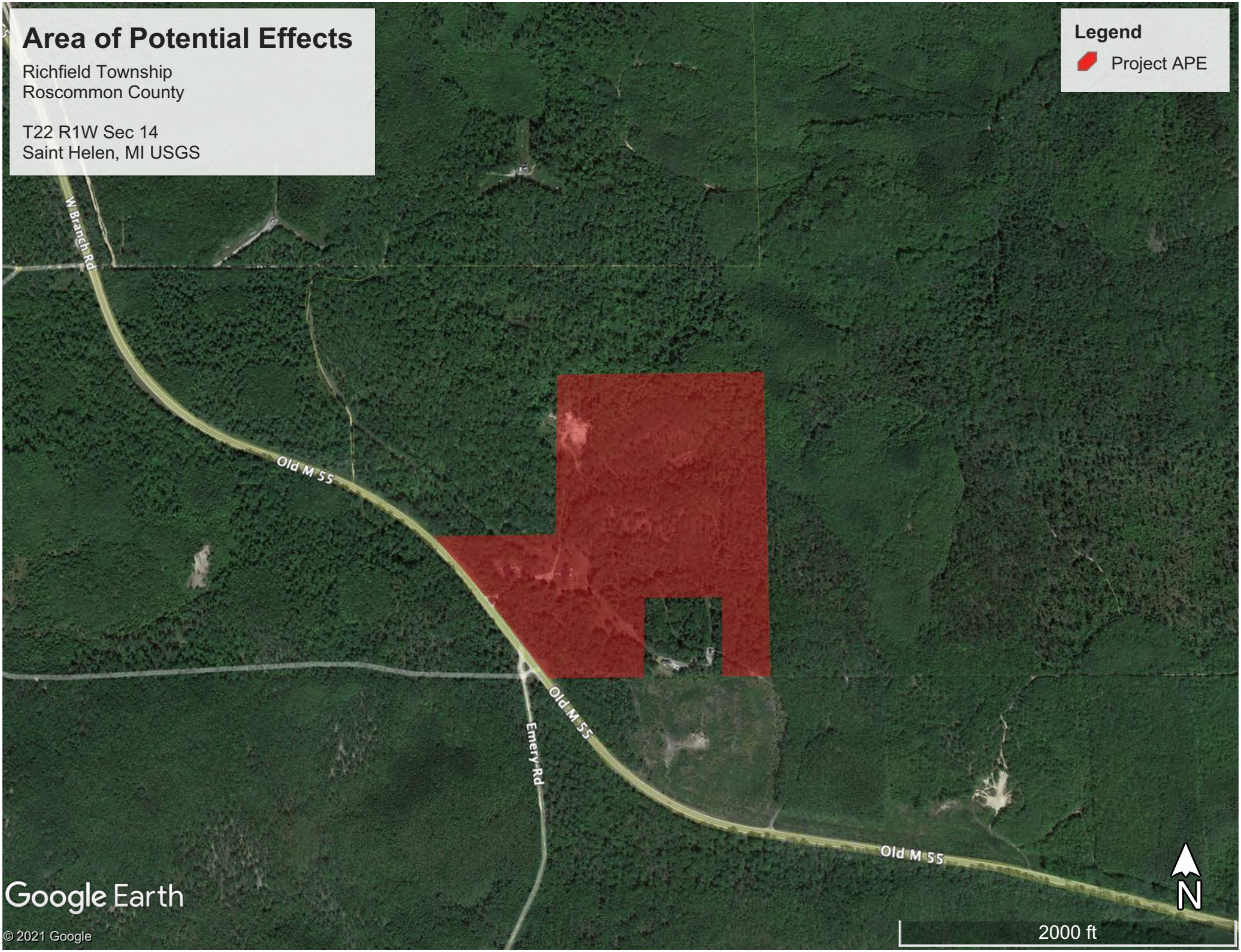
Area of Potential Effects
Richfield Township
Roscommon County
T22 R1W Sec 14
Saint Helen, MI USGS
Legend
Project APE
W Branch Rd
Old M 55
Old M 55
Emery Rd
Old M 55
N
2000 ft
Google Earth
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