Perspectives In Conservation

Jesse Lincoln - Plant Ecologist - Michigan Natural Features Inventory - 2020

Michigan Natural Features Inventory

MNFI's **mission** is to guide the conservation of Michigan's biodiversity by providing the highest quality scientific expertise and information.

MICHIGAN STATE UNIVERSITY

Michigan Natural Features Inventory

MSU Extension

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The Science that Guides Biodiversity Conservation

Our Public Impact

We **discover** new knowledge. We **define** and organize it in the Natural Heritage Database. We interpret and **deliver** it to governmental agencies, NGOs, industry, researchers, and the public.

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Michigan Natural Features Inventory

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Amorpha canescens

Leadplant

Key Characteristics

Small semi-woody perennial (50-100 cm) of dry openings; leaves pinnately compound, leaflets pubescent, 1-2 cm; flowers small, purple, in dense terminal spikes.

Status and Rank

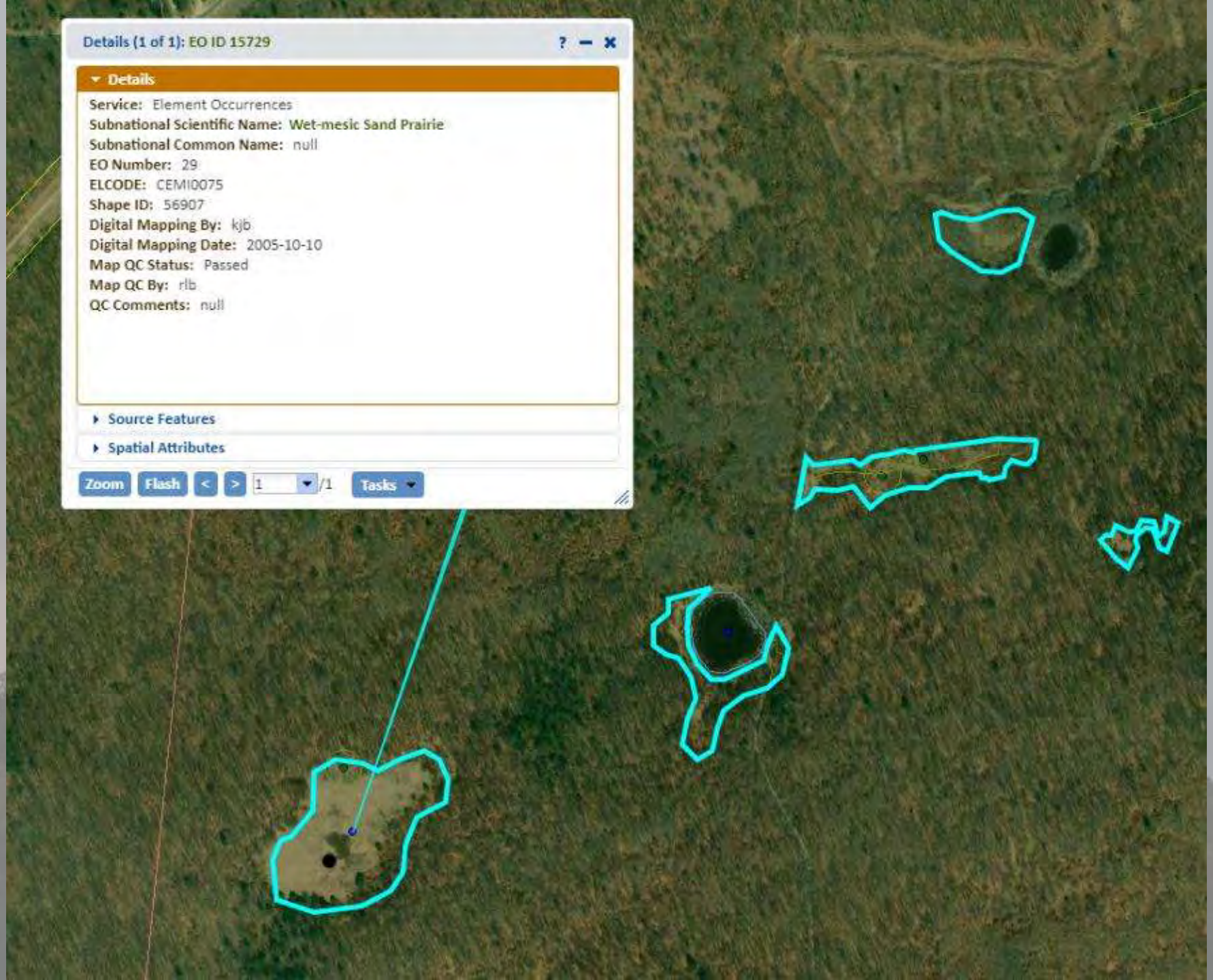
US Status: No Status/Not Listed
State Status: SC - Special Concern (rare or uncertain; not legally protected)
Global Rank: G5 - Secure
State Rank: S3 - Vulnerable

Susan R. Crispin

SC	G5	S3
E	G5	SX
SC	G5	S3
E	G5	SX
X	G5	SX
T	G5	S2
E	G5	S1
E	G5	S1

Statewide Natural Heritage Database

- The most comprehensive geo-database of endangered, threatened, and special concern species, and natural communities in Michigan
- Over 800 elements tracked
- Over 20,000 element occurrences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Subnational Common Name: null
EO Number: 29
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Digital Mapping Date: 2005-10-10
Map QC Status: Passed
Map QC By: rlb
QC Comments: null
Source Features
Spatial Attributes
Zoom
Flash
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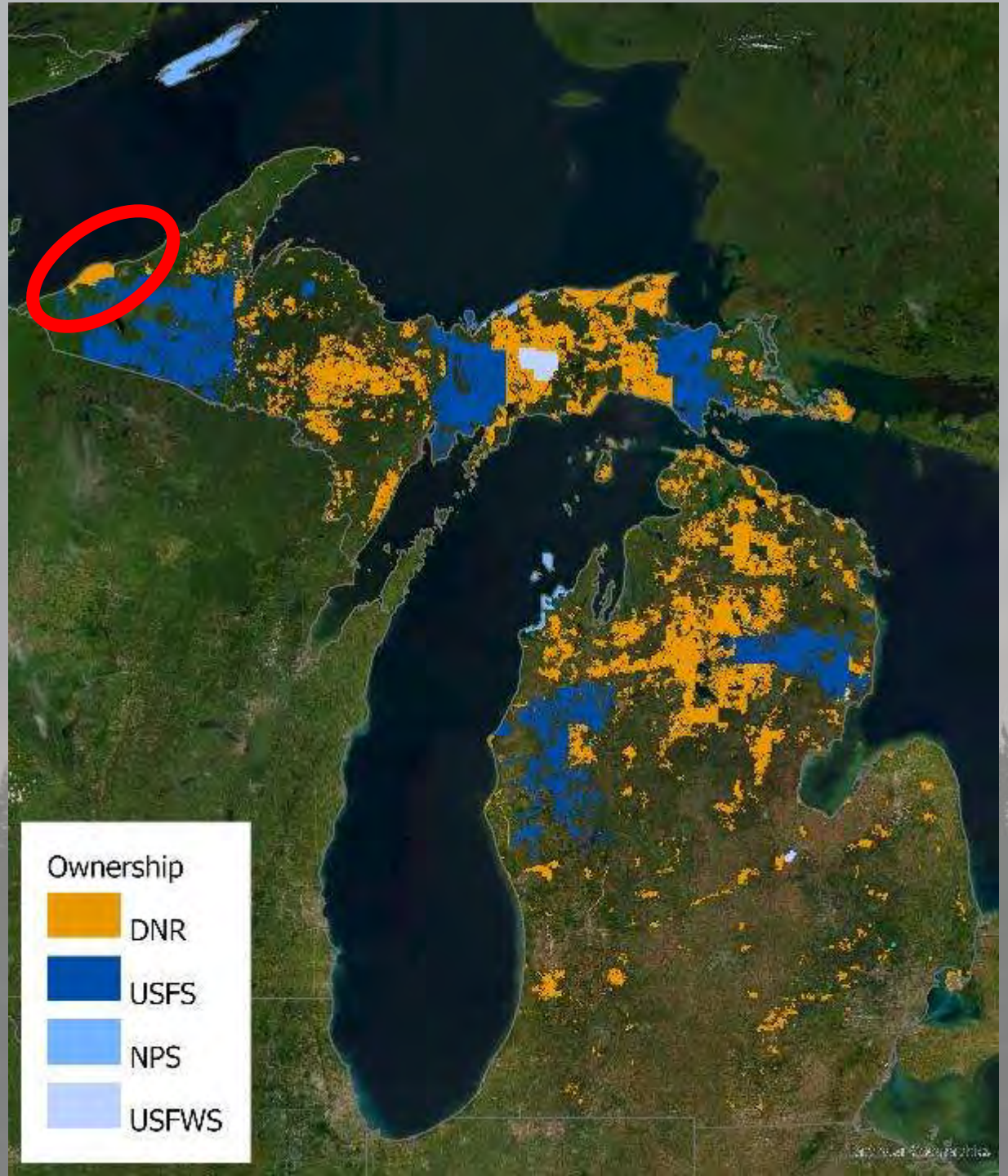
/1
Tasks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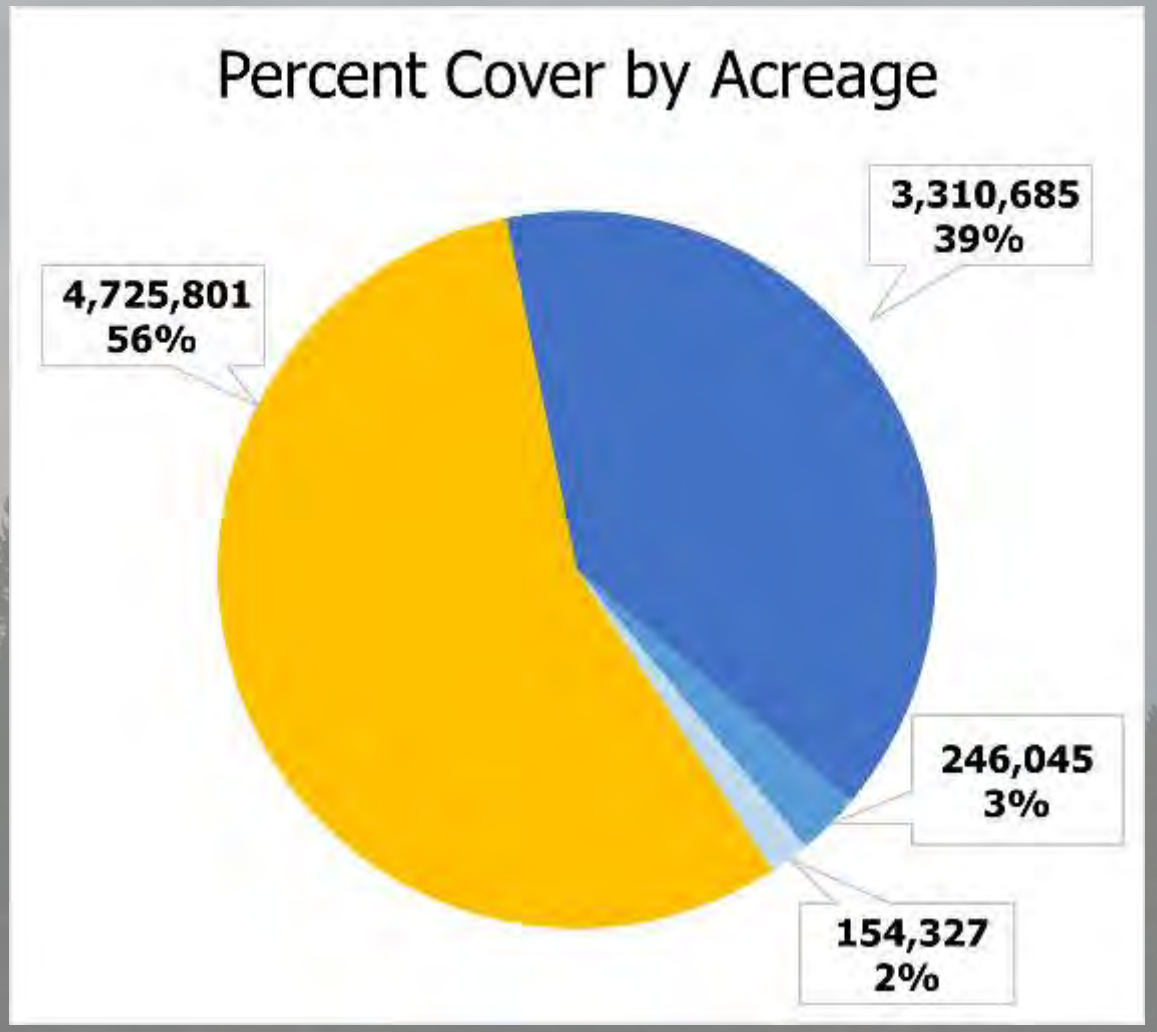
DNR
USFS
NPS
USFWS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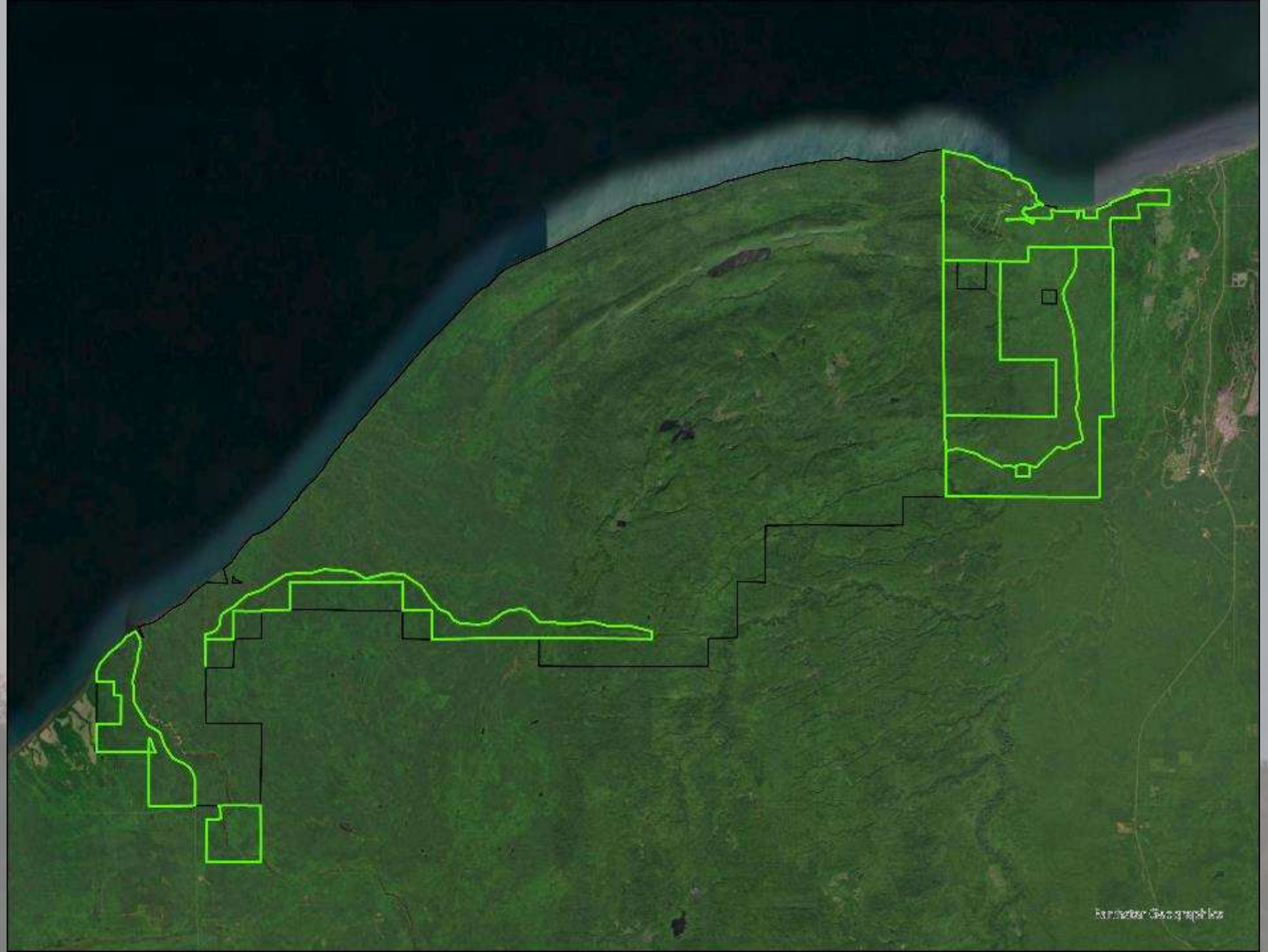
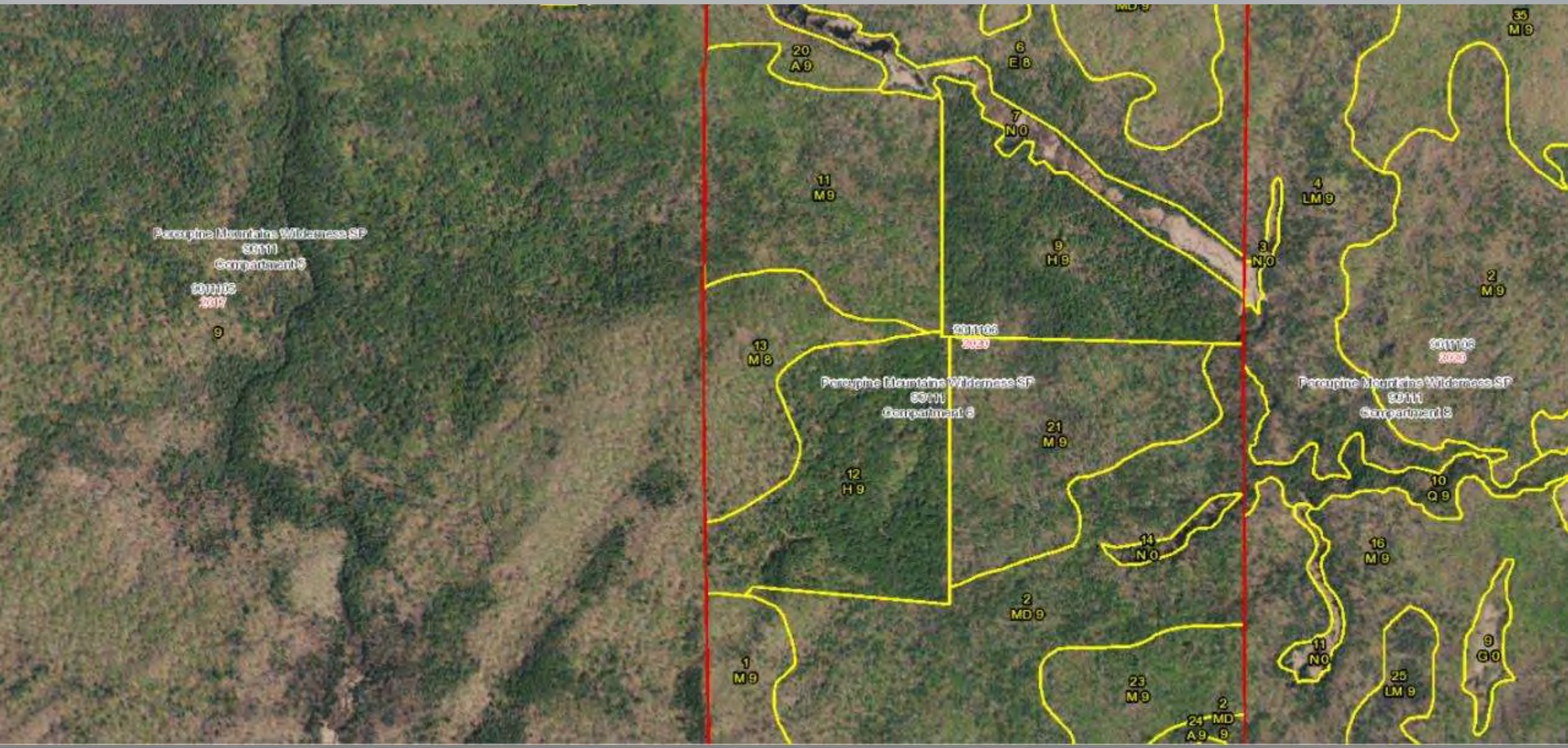
39%
4,725,801
56%
246,045
3%
154,327
2%




Porcupine Mountains Wilderness SP
50111
Compartment 5
9
20
A 9
6
E 8
7
N 0
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M 9
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H 9
13
M 8
Porcupine Mountains Wilderness SP
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Compartment 6
21
M 9
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H 9
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N 0
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MD 9
1
M 9
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M 9
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N 0
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LM 9
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M 9
2
M 9
Porcupine Mountains Wilderness SP
50111
Compartment 8
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Q 9
16
M 9
11
N 0
25
LM 9
9
G 0

Natural Community Classification

- What is this?
- How many?
- How do we talk about it?

Natural community classification creates a common language about an area's native biodiversity and ecological context.

Divides the complex natural landscape of Michigan into easily understood and describable components called natural communities

Documenting Natural Communities

Ranking

- Size
- Condition
  - Anthropogenic disturbance
  - Invasive species
- Landscape Rank
- Overall Rank
- A - D

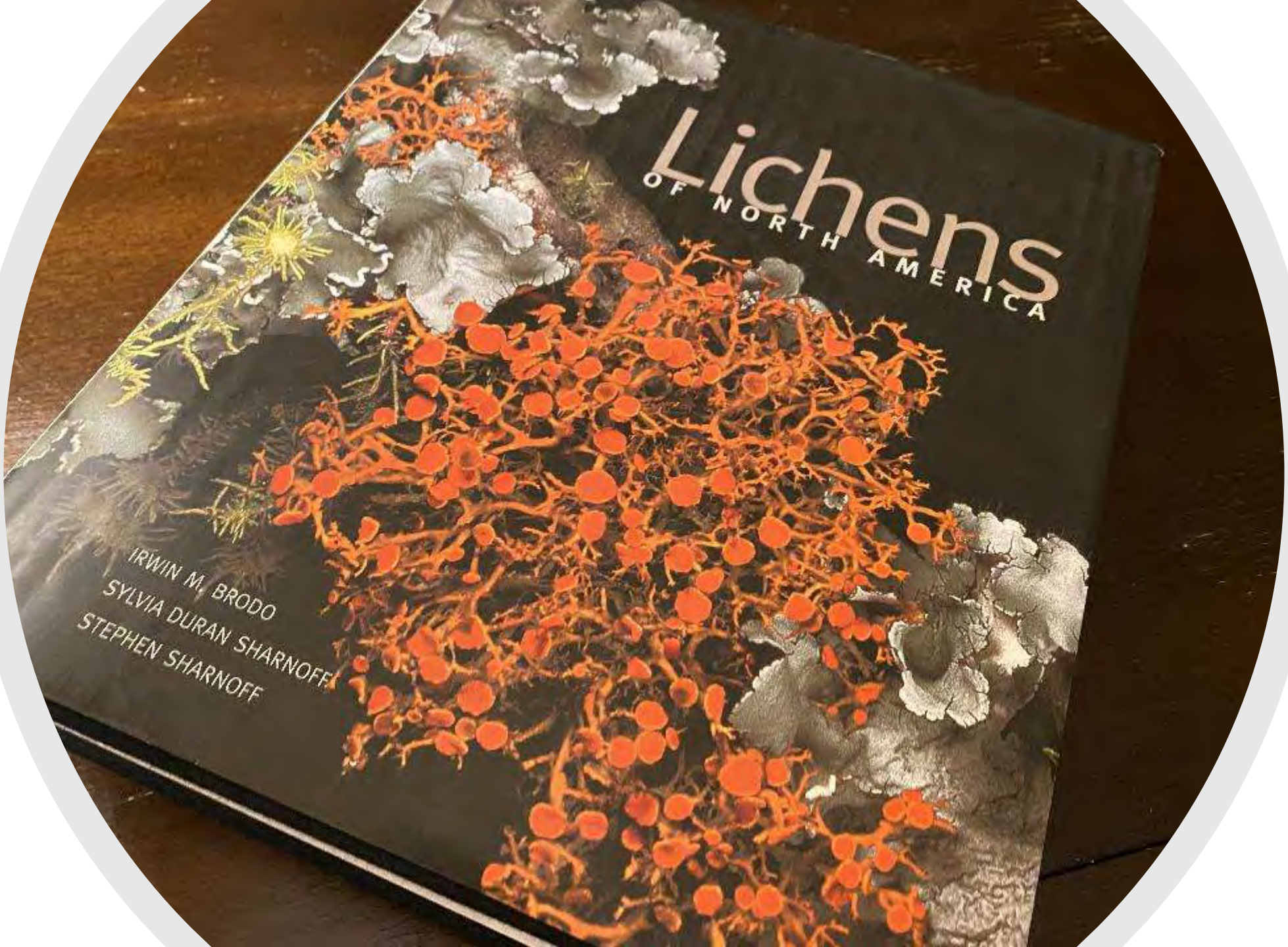
- Soils
- Landform
- Ecological processes
- Threats

Description of Vegetation

- Canopy Composition and Structure
- Tree size and age
- Understory/Shrubs
- Herbaceous vegetation


4 9
4 8
4 7
4 6
MADE IN GERMANY


LICHENS!!!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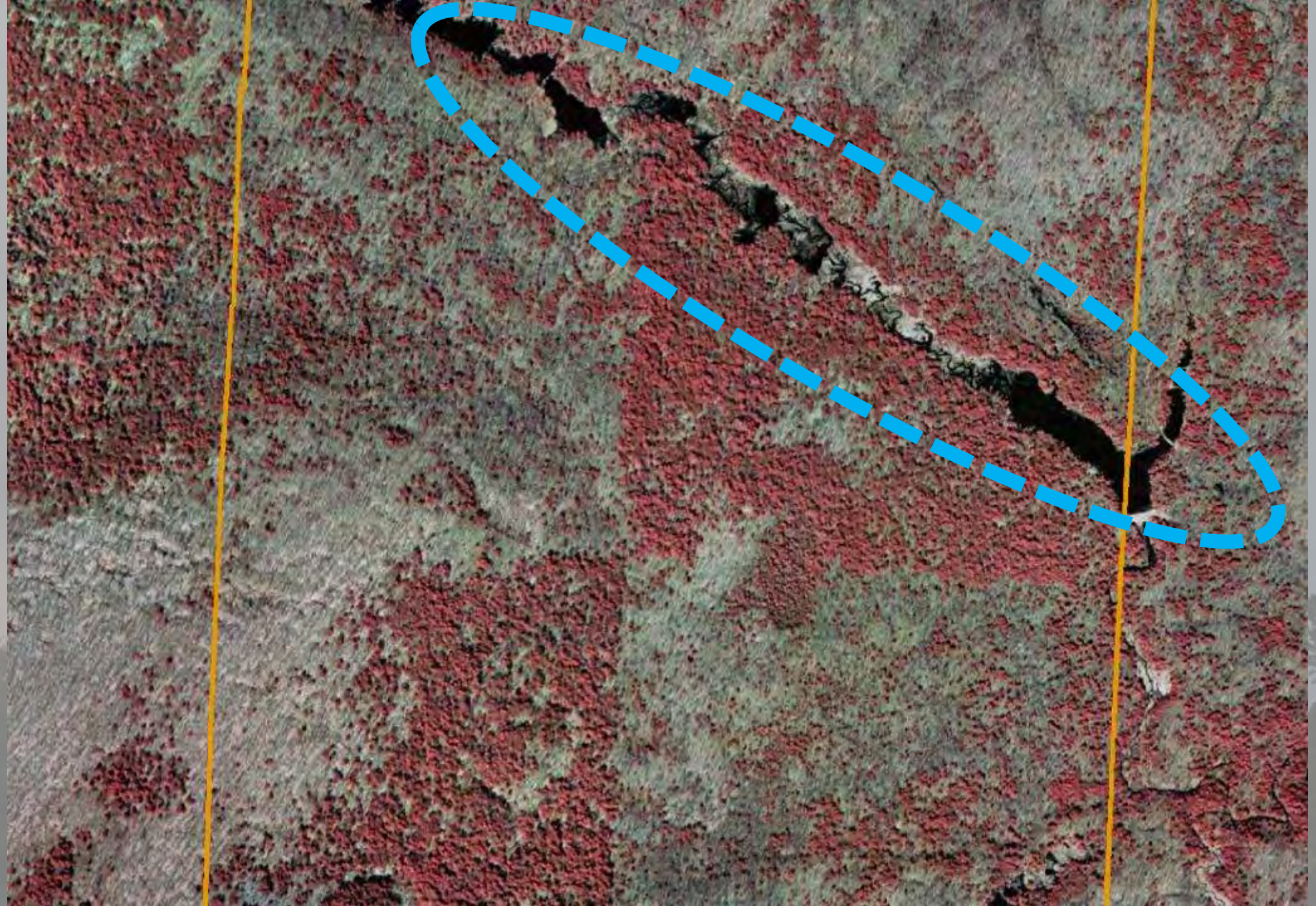
OF NORTH AMERICA
IRWIN M. BRODO
SYLVIA DURAN SHARNOFF
STEPHEN SHARNOFF




1740
TOYOTA
TACOMA
MICHIGAN
004
V6

Natural Features Inventory and Management Recommendations for Muskegon State Game Area

Prepared by:
Jesse M. Lincoln, Michael J. Monfils, Yu Man Lee, Peter J. Badra, Aaron P. Kortenhoven, Helen D. Enander, Brian Klatt, and Joshua G. Cohen

Michigan Natural Features Inventory
P.O. Box 13036
Lansing, MI 48901-3036

For:
Michigan Department of Natural Resources
Wildlife Division
March 31, 2019

Report No. 2019-11

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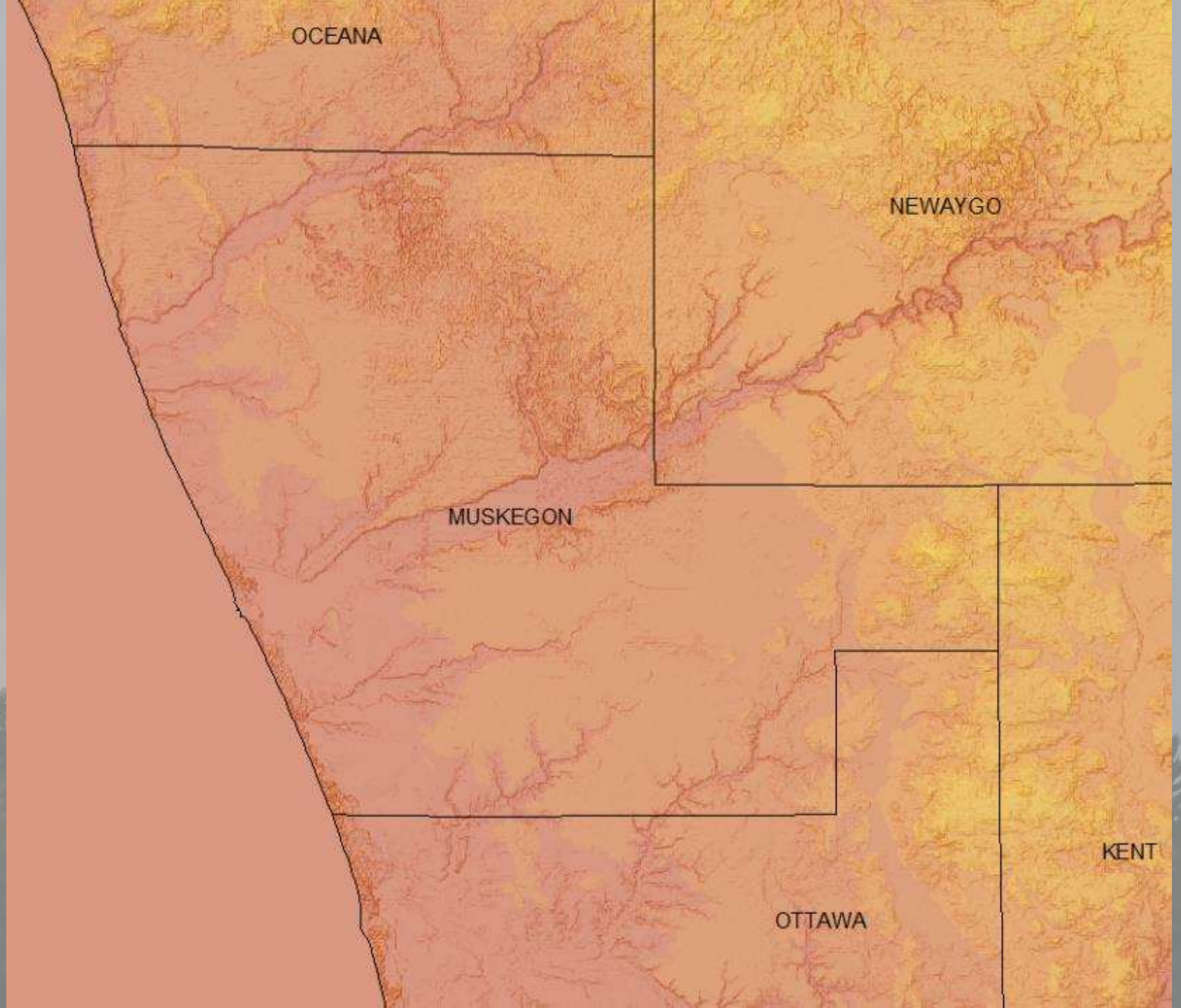
Michigan Natural Features Inventory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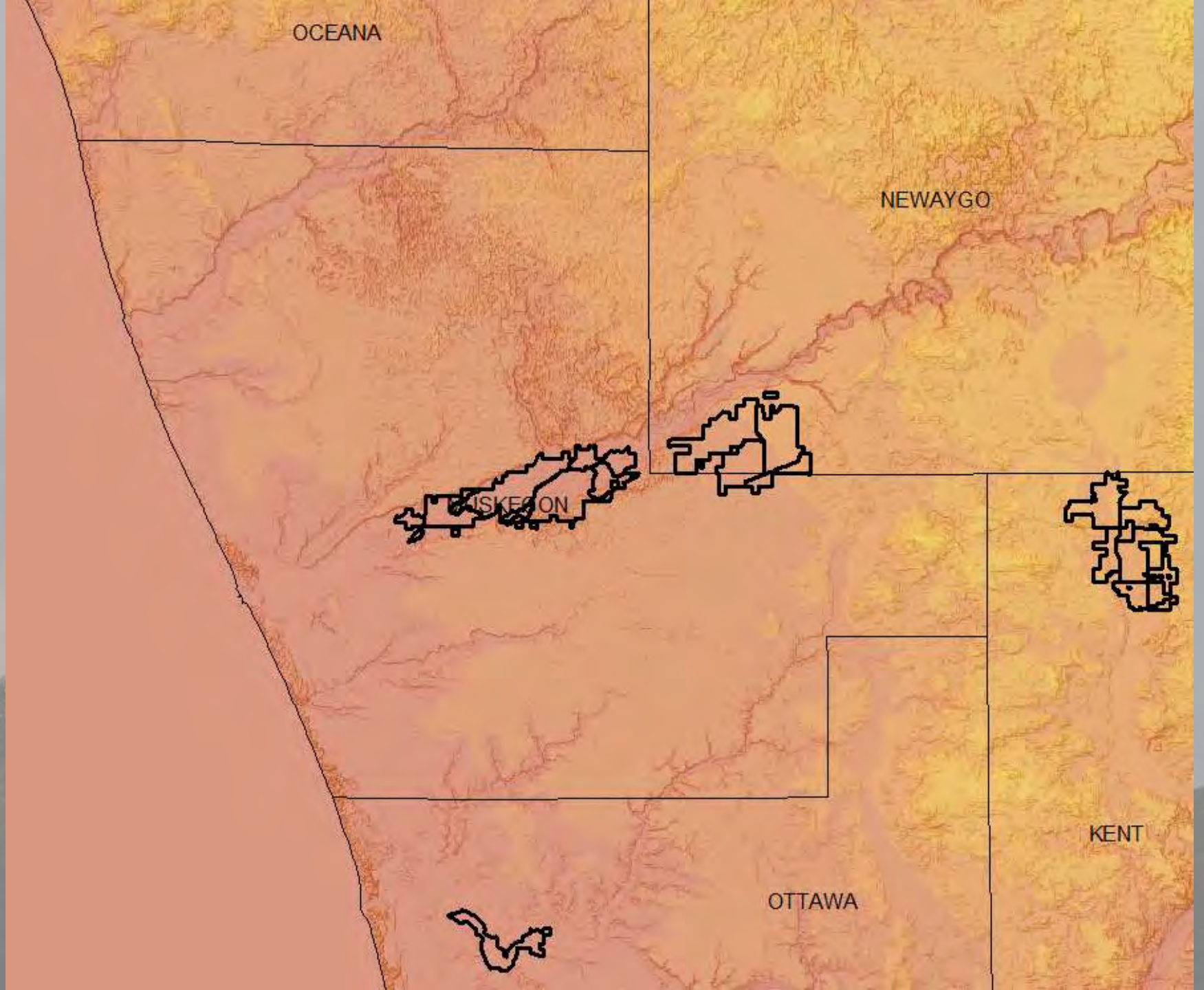
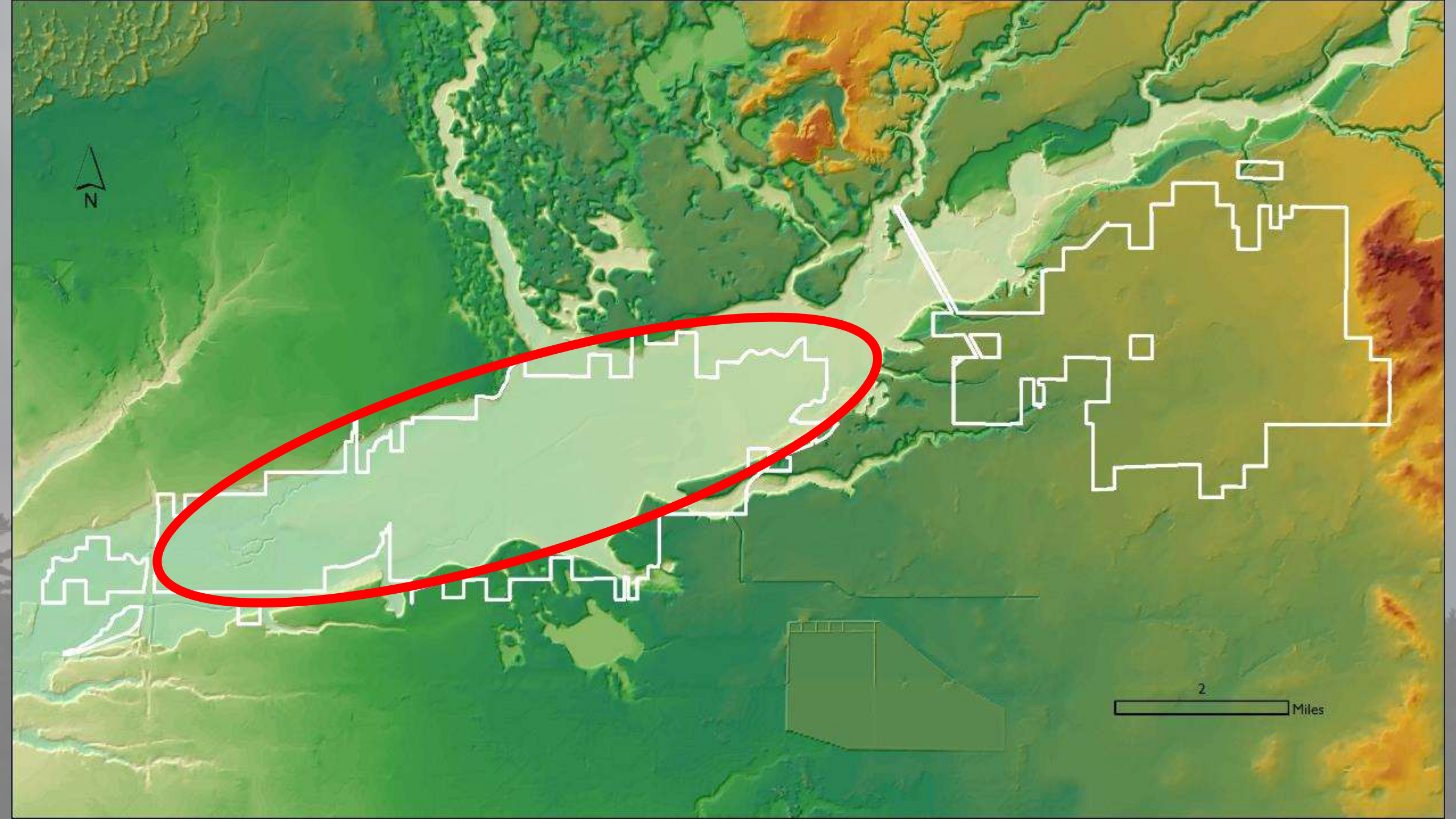
NEWAYGO
MUSKEGON
KENT
OTTAWA


OCEANA
NEWAYGO
MUSKEGON
KENT
OTTAWA

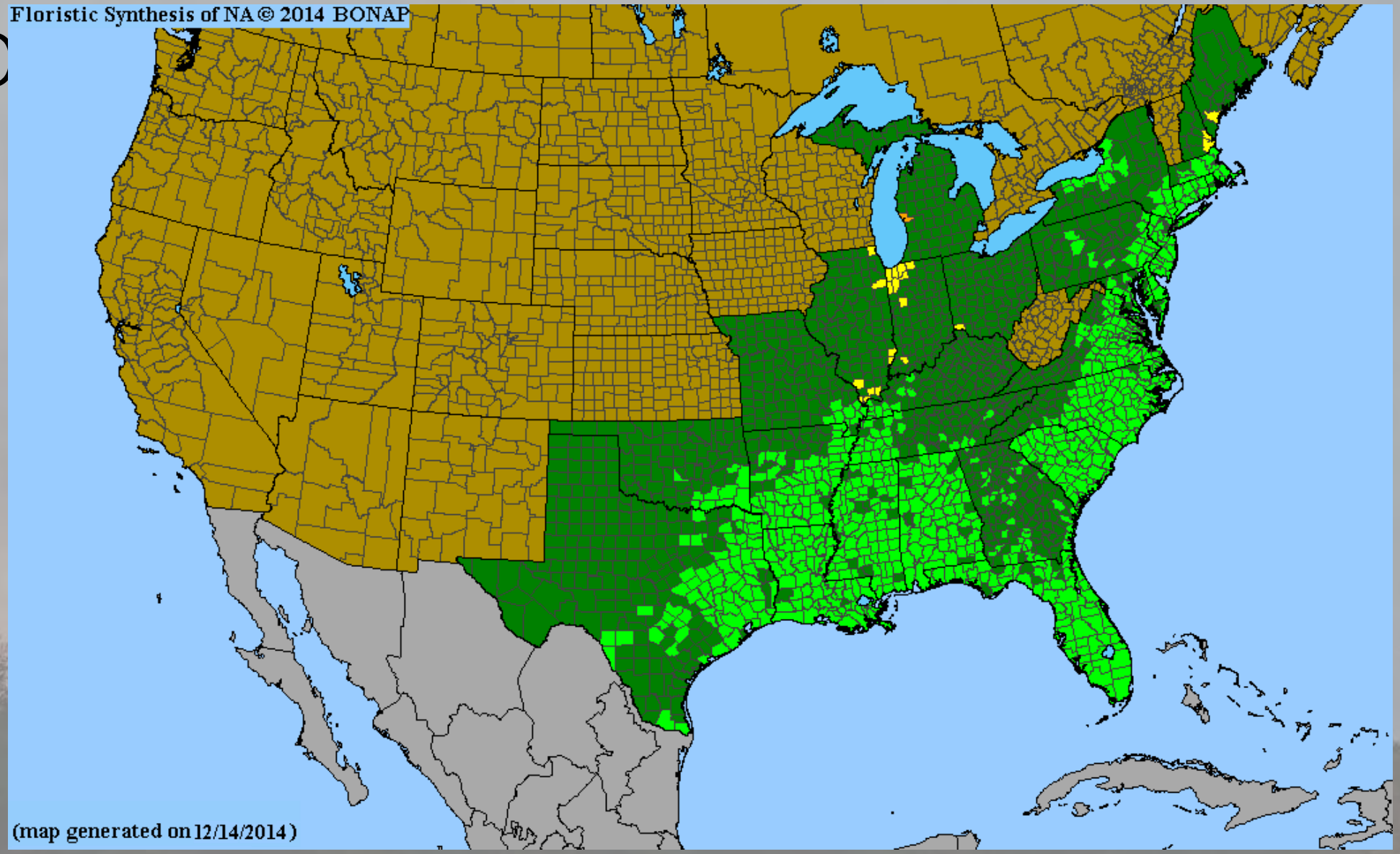

N
2
Miles

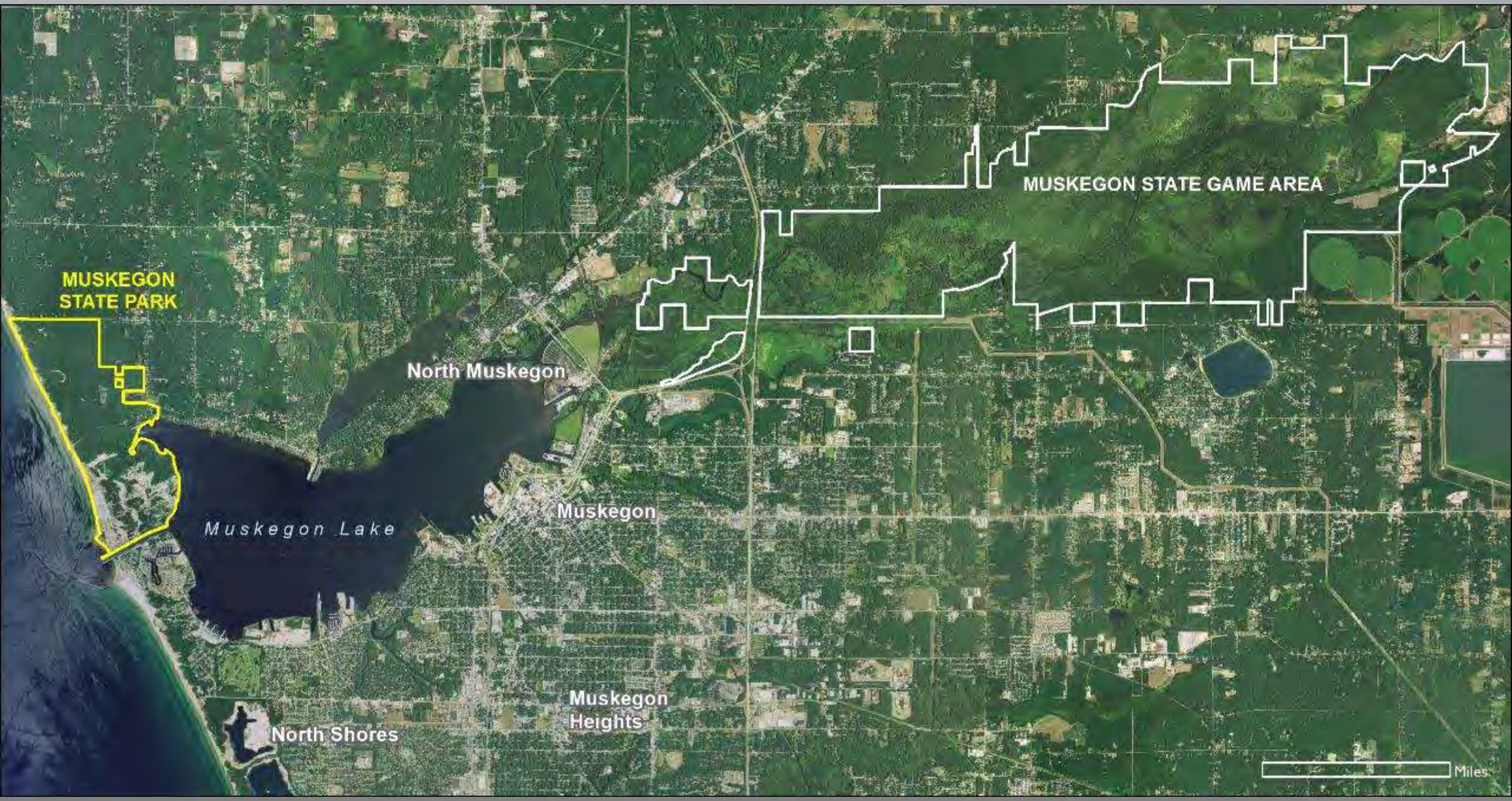
Mikania scandens (L.) Willd.

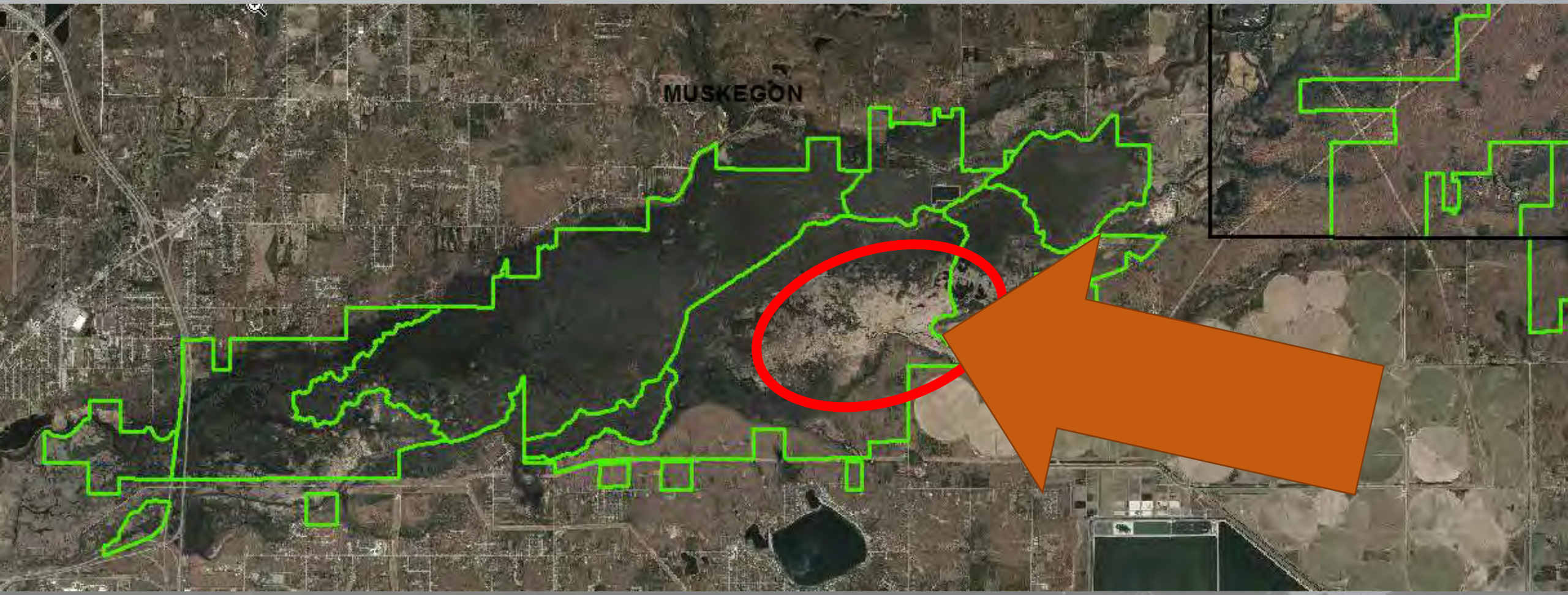
Common Name: CLIMBING HEMPWEED
Coefficient of Conservatism: 6
Coefficient of Wetness: -5
Wetness Index: OBL
Physiognomy: Nt P-Vine
Status: T

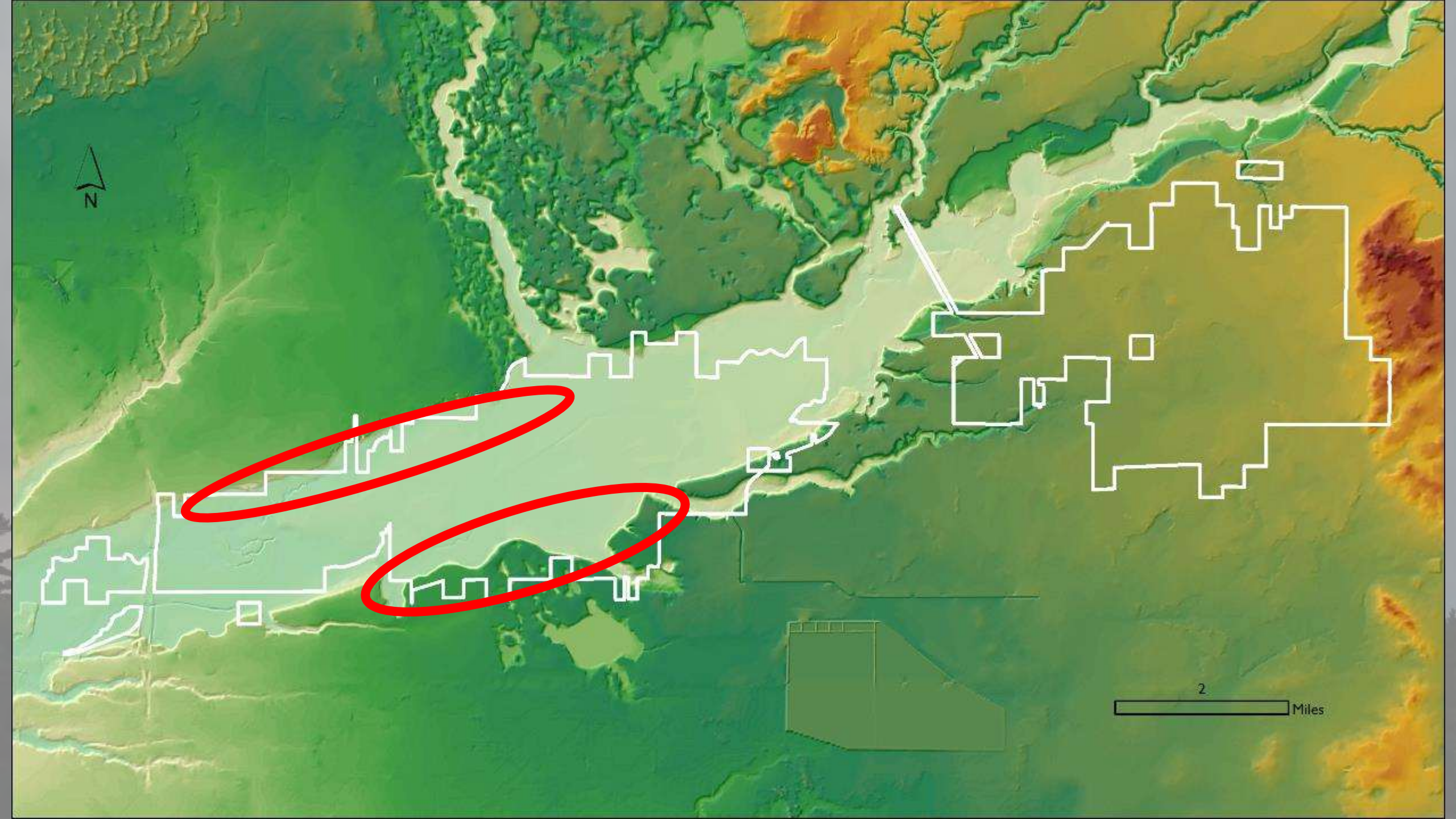
Mostly on the Coastal Plain, north to Massachusetts and northern New York in the East and in the interior to southern Illinois; disjunct northwards, including into Michigan. In 1894 the species was brought to the attention of C. D. McLouth, an accomplished botanist of Muskegon. He collected the plant, and attempted to learn all he could about its history in the wetlands of what is presumably now part of the Muskegon State Game Area, and determined that the plant had apparently been abundant there since at least the middle of the 19th century. It has not been collected since McLouth.

BC


Floristic Synthesis of NA © 2014 BONAP
(map generated on 12/14/2014)


MUSKEGON STATE GAME AREA
MUSKEGON STATE PARK
North Muskegon
Muskegon Lake
Muskegon
Muskegon Heights
North Shores
Miles


MUSKEGON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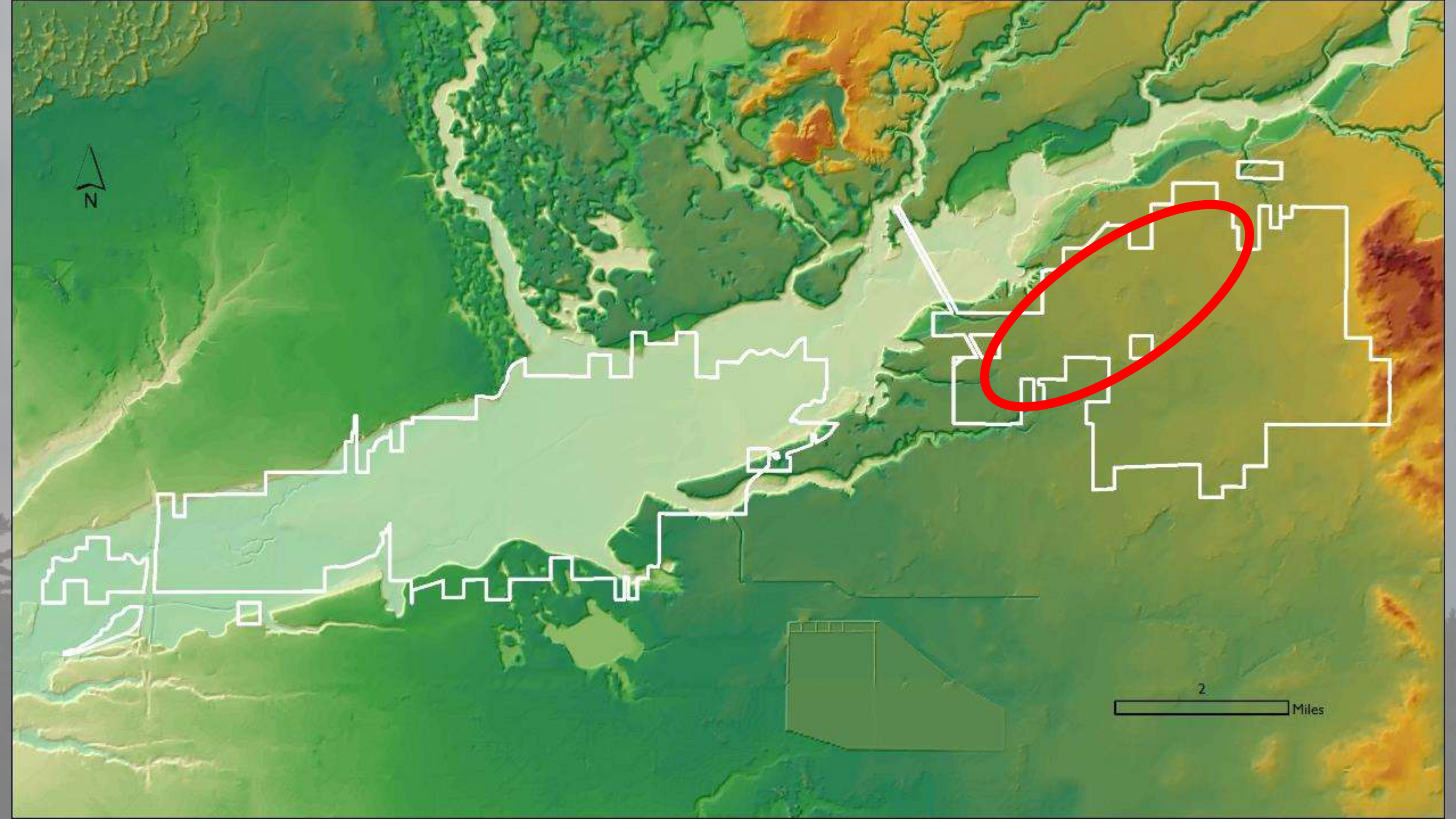
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Miles

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DISCUSSION

Natural Communities

Prioritization of stewardship actions within the game area should focus on the highest quality examples of the rarest natural community types and the largest sites. Biodiversity is most easily and effectively protected by preventing high-quality sites from degrading and invasive plants are much easier to eradicate when they are not yet well established and their local population size is small. Within Muskegon SGA, we recommend that management efforts to maintain ecological integrity be focused in natural communities that provide potential habitat for numerous rare plant and animal species. We also recommend the prioritization of stewardship in sites located along riparian corridors and in forests that include vernal pools and other wetland inclusions. Priority natural communities meeting these criteria include the Muskegon Floodplain (Floodplain Forest, EO ID 3752), Muskegon Prairies (Wet-Mesic Sand Prairies, EO ID 15729), Fitzgerald Barrens (Oak-Pine Barrens, EO ID 20566), and Comstock Prairie (Dry Sand Prairie, EO ID 20595) (Table 11).

We provide the following general management recommendations for your consideration below and specific recommendations in Table 12. Land management in an area as ecologically significant as Muskegon SGA requires careful prioritization of stewardship efforts in the most critical ecosystems to protect native biodiversity and ecosystem functioning. We believe the primary management needs in order of importance are to: 1) prevent alterations to hydrology within the floodplain forest and other high-quality wetlands throughout the game area; 2) prevent fragmentation and maintain the canopy closure of high-quality forests, particularly floodplain forest along the Muskegon River; 3) continue to implement landscape-scale prescribed fire; 4) control invasive species in high-quality natural communities; and 5) monitor these activities to facilitate adaptive management.

Prioritize Management Recommendations

Habitat Type	Community Types	Management Recommendations
Forested Wetlands	Floodplain Forest Hardwood-Conifer Swamp Southern Hardwood Swamp	• Avoid fragmentation and maintain an intact buffer of natural cover surrounding forested wetlands • Protect hydrology in and around wetlands by avoiding damming, ditching, and diking • Avoid heavy equipment on saturated soils, especially in wetlands adjacent to high-quality areas • Estabilish forested buffer between logging activities and high-quality natural communities • Allow trees to continue maturing in high-quality forests • Monitor for invasives and treat new or isolated populations when practical
Non-Forested Wetlands	Coastal Plain Marsh Intermittent Wetland Wet-Mesic Sand Prairie	• Prevent ORV access • Retain intact buffer of natural cover surrounding wetlands • Apply prescribed fire to reduce woody encroachment • Vary seasonality of burns • Treat invasive species when practical • Monitor for fire effects, invasive species, and deer herbivory
Fire-Adapted Uplands	Dry Sand Prairie Oak-Pine Barrens Forested Uplands	• Prevent ORV access • Retain intact buffer of natural cover surrounding high-quality sites • Apply prescribed fire to reduce woody encroachment • Vary seasonality of burns • Mechanically reduce canopy of prairie and barrens • Treat invasive species when practical • Prevent supplementing with additional plant species to maintain status as valuable reference areas • Mow subcanopy in the winter to reduce sassafras and cherry • Monitor for fire effects, invasive species, and deer herbivory

Hunter numbers continue decline in Michigan

AS BABY BOOMERS STOP HUNTING, YOUNGER PEOPLE ARE NOT REPLACING THEM

Bob Gross, Port Huron Times Herald

Published 12:39 p.m. ET Nov. 14, 2018 | ***Updated 2:23 p.m. ET Nov. 14, 2018***


SAVE THE DEER

- Instruction from experts
- Facilities
- Training of state employees

Michigan
CONSERVATION STEWARDS
Program

- Develop a culture of conservation
- Keep up to date with the newest science

Michigan
CONSERVATION STEWARDS
Program

- Proactive relationship with public
- Continue to expand work beyond game species

- Help the state protect the most important public land
- Help ensure continuation of public lands

- Managed by statewide organization
- Collaborate with other conservation groups
  - Audubon
  - Michigan Botanic Club
  - Regional Land Trusts
- Buy a seat at the table
- Help prepare for RAWA

Program

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