

19. Tahquamenon, Waiska and St. Marys

HEALTHY WATERS REPORT CARD

OFFSHORE	NA	ISLANDS	A
NEARSHORE	C	COASTAL WETLANDS	C
EMBAYMENTS & INSHORE	C	COASTAL TERRESTRIAL	A
TRIBUTARIES & WATERSHEDS	C	OVERALL B-	

Report card denotes general condition/health of each biodiversity target in the region based on condition/stress indices. See introduction to the regional summaries.



A Very Good	<i>Ecologically desirable status; requires little intervention for maintenance</i>
B Good	<i>Within acceptable range of variation; may require some intervention for maintenance.</i>
C Fair	<i>Outside of the range of acceptable variation and requires management. If unchecked, the biodiversity target may be vulnerable to serious degradation.</i>
D Poor	<i>Allowing the biodiversity target to remain in this condition for an extended period will make restoration or preventing extirpation practically impossible.</i>
Unknown	<i>Insufficient information.</i>



The mouth of the Tahquamenon River. Photo provided by William Taft. Photo credit: David Kenyon/ Michigan Department of Natural Resources

Summary/ Description

The Tahquamenon, Waiska and St. Marys region (HUC 04020202, HUC 04020203 and HUC 04070001) extends from Emerson to Sault Ste Marie and the Michigan/Ontario border at the St. Marys River. It is 2,939.00 km² in size, including the associated nearshore waters. It is part of Subregion 0402 – Southern Lake Superior-Lake Superior. The Bay Mills Indian Community is located in this regional unit. Waiska River and Bay, also known as Waishkey River and Bay, were originally named after an Ojibwe chief who signed several treaties on behalf of his band. His name was recorded on these documents variously as 'Wayishkey' and 'Wayishkee'. The descendants of this chief are still present in Bay Mills area and spell their name 'Waishkey'. The reservation of the Sault tribe of Chippewa Indians is also located in this regional unit. The Tahquamenon, Waiska and St. Marys regional unit is part of the territory ceded in the Treaty of 1836. The signatory tribes retain rights to hunt, fish, and gather within the regional unit (A. McCammon Soltis, pers. comm., January 5 2015). These watersheds are dominated by forest cover. Coastal habitats include sand beaches and coastal wetlands, with scattered rocky shores.

TABLE 19.1: Tahquamenon, Waiska and St. Marys BY THE NUMBERS

Land and Water Cover	Region (km²)	Region %	Lake Superior Total (km²)	Notes
Agriculture	42.97	1.30	1,441.07	
Developed	3.14	0.10	389.55	
Forest	2,567.93	77.77	107,747.13	
Associated Nearshore Waters	437.60	13.25	17,868.03	
Other	231.69	7.02	8,227.57	
Water (inland)	18.45	0.56	9,473.05	
Total Area	3,301.80	100	145,146.40	
Coastal Features	Region	Region %	% of Lake Superior Total for Coastal Feature	
Coastline (km)	115.64	NA	1.98	Based on SOLEC shoreline
Sand Beaches (km)	39.32	34.00	6.11*	*% of Lake Superior Total Sand Beaches
Coastal Wetlands (km ²)	89.75	53.82*	8.14**	*% of Regional Coastal Area ** % of Lake Superior Total Coastal Wetlands
Natural Cover in Coastal Zone	156.65	93.94*	2.54**	*% of Regional Coastal Area ** % of Lake Superior Total Natural Cover in Coastal Area
Number of Islands	16	NA	0.6	
Condition	Region	Region %	% of Lake Superior Total	
Population Density (persons/km ²)	4.35	NA		
Road Density (km/km ²)	0.47	NA		
Number of Dams and Barriers	305	NA	1.3	
Artificial Shoreline (km)	29.62	25.61	13.00	
Land Ownership & Protection	Region (km²)	Region %	Regional Area (km²)	
Private	1,273.71	44.48	2,863.65	Regional area based on landmass
Public/Crown	1,479.03	51.65	2,863.65	
Tribes/ First Nations	10.80	0.38	2,863.65	
Parks & Protected Areas (total)	100.12	3.50	2,863.65	
Parks & Protected Areas (coast)	13.75	8.25*	166.76**	*% of Regional Coastal Area **Regional Coastal Area (km ²)

Important Biodiversity Features

Nearshore and Inshore Waters

- The Tahquamenon, Waiska and St. Marys regional unit contains sites of Important Habitat for Lake Trout and Lake Whitefish (Lake Superior Binational Program Habitat Committee 2006) (Figure 19.1).
- Whitefish Bay is noted as a Lake Superior embayment important for Lake Sturgeon (Auer 2003). In the Tahquamenon, Waiska and St. Marys regional unit this embayment and the nearshore zone, which provides corridors for movement, are identified as critical management areas for Lake Sturgeon in the Lake Superior basin (Auer 2003).

Coastal Zone and Islands

- This region has extensive coastal wetlands in Whitefish Bay and the mouth of the St. Marys River.

Tributaries and Watersheds

- Historically 21 tributaries in Lake Superior had Lake Sturgeon spawning runs. The Tahquamenon River is one of these historical spawning tributaries, and is located in the Tahquamenon, Waiska and St. Marys regional unit. The Tahquamenon River population status is extirpated (Golder Associates Ltd. 2011).
- A Lake Sturgeon Rehabilitation Plan for Lake Superior (Auer 2003) identifies the Tahquamenon River as one of the seventeen tributaries to Lake Superior in which there should be a focus on Lake Sturgeon rehabilitation.
- This regional unit contains two Important Habitat Areas and one Important Habitat Site (Lake Superior Binational Program Habitat Committee 2006) (Table 19.3, Figure 19.3).

TABLE 19.2: Tahquamenon, Waiska and St. Marys CONDITION AND TRENDS

Target (Data Source)	Condition	Trends
Offshore ¹	NA	
Nearshore ¹	C (0.41)	
Embayments and Inshore ^{1,2}	C (0.47)	
Coastal Wetlands ^{2,3}	C (0.590)	
Islands ⁴	A	
Coastal Terrestrial ³	A (0.840)	
Tributaries and Watersheds ²	C (0.52)	

A: Very Good	<i>Ecologically desirable status; requires little intervention for maintenance</i>
B: Good	<i>Within acceptable range of variation; may require some intervention for maintenance.</i>
C: Fair	<i>Outside of the range of acceptable variation and requires management. If unchecked, the biodiversity target may be vulnerable to serious degradation.</i>
D: Poor	<i>Allowing the biodiversity target to remain in this condition for an extended period will make restoration or preventing extirpation practically impossible.</i>
Unknown	<i>Insufficient information.</i>

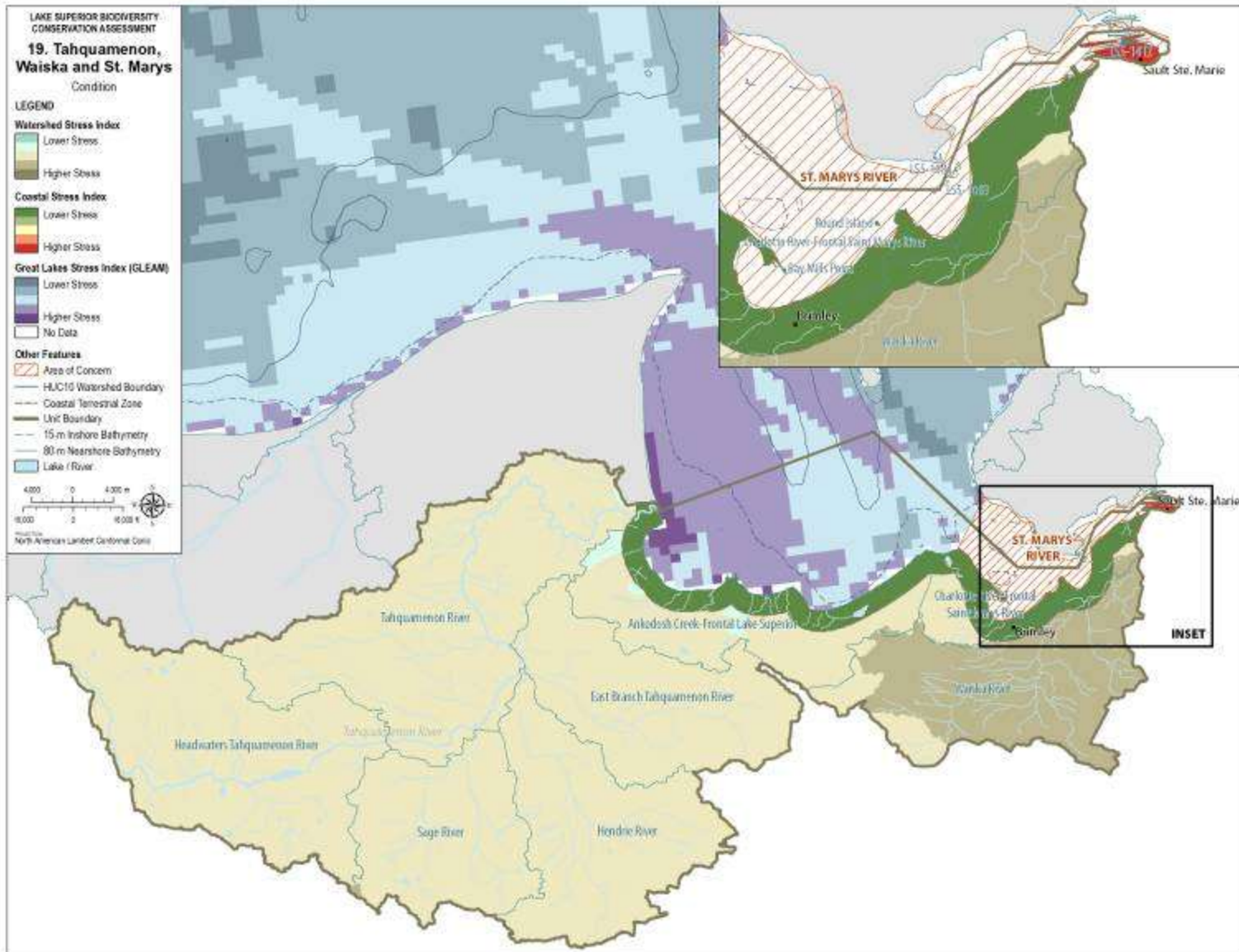
1: Great Lakes Cumulative Stress (GLEAM 2012, Allan et al. 2013)

2: Watershed Stress Index (GLEI 2013)

3: Coastal Condition Index (developed for this report)

4 : Island Condition Score (Henson et al. 2010)

Figure 19.2: Tahquamenon, Waika and St. Marys - Condition



Important Issues & Threats

- The presence of Emerald Ash Borer (EAB) has been detected in counties in the Tahquamenon, Waiska and St. Marys regional unit. The area is now under a number of quarantine measures, including Federal EAB quarantine and Michigan state quarantine (Cooperative Emerald Ash Borer Project 2013).
- Forest fragmentation through real estate development is an emerging concern in the Upper Peninsula Lake Superior watersheds. Large tracts of forest lands owned by corporate land holders are being sold to companies which run real estate investment trusts; smaller parcels are then developed (W. Taft, pers. comm., February 25, 2013).
- The St. Marys River Area of Concern (AOC) is located between two regional units, the Goulais and Tahquamenon, Waiska and St. Marys regional units. A number of point and nonpoint sources have contributed to beneficial use impairments, and sediments are contaminated with arsenic, cadmium, chromium, copper, cyanide and lead. Ten beneficial use impairments were identified in the St. Marys River AOC (U.S. EPA 2013a).
- The Cannelton Industries Inc. Superfund site is located just inside the boundaries of the Tahquamenon, Waiska and St. Marys regional unit. This site consists of 75 acres along the St. Marys River. Soils, sediments and surface water in the river were contaminated with heavy metals from tannery operations and general wastes. A number of cleanup activities have been undertaken and the EPA plans to remove the site from the National Priorities List within the next several years. A restrictive covenant and easement for the property was signed in March 2013, to ensure the continued management of contaminated materials on the property (U.S. EPA 2013q).

Conservation In Action

Parks & Protected Areas

- Brimley State Park
- Hiawatha National Forest
- State Forest – Sault Ste. Marie Management Unit
- Tahquamenon Falls State Park
- Bay Mills Indian Community Wetland Preserve

Existing Programs & Projects

- The Bay Mills Indian Community Wetland Preserve was established by the Bay Mills Indian Community in 1996. It is 460 acres in size and inhabited by many species that are culturally important (e.g., Black Ash, Northern White Cedar). The Wetland Preserve also contains coastal wetlands. The area is essentially undisturbed other than a few trails (snowmobile, logging) and Lakeshore Drive, which bisects the preserve in generally a north-south direction (Inter-Tribal Council of Michigan 2012).
- Segments of the East Branch of the Tahquamenon River have been designated as portions of the National Wild and Scenic Rivers System (Interagency Wild & Scenic Rivers Council 2012)
- Under the Michigan Water Quality Standards (WQS), portions of the Tahquamenon River (Chippewa County) are designated as Outstanding State Resource Waters (OSRW). Also under the Michigan WQS, all surface waters of the Lake Superior basin that are not identified as OSRWs are designated as Lake Superior basin - Outstanding International Resource Waters (LSB-OIRW). Under the above designations, additional anti-degradation controls are applied for new or increased pollutant loadings (Michigan DEQ 2013a).

- The State of Michigan has identified exceptional areas of fish and wildlife habitat along its coastline, connecting waterways, and rivermouths. Designated as Environmental Areas (EAs), certain uses within these areas require state review and approval (Michigan DEQ 2013b). One EA is located in the Lake Superior waters of Chippewa County (at Tahquamenon Island), in the Tahquamenon, Waiska and St. Marys regional unit (Michigan DEQ 2013c, 2013d).
- The Kirtland’s Warbler Management Units & Guide’s Rest IBA is a Global Important Bird Area located in the Tahquamenon, Waiska and St. Marys regional unit (National Audubon Society 2013, 2012).
- A number of State Important Bird Areas (IBAs) are located in the Tahquamenon, Waiska and St. Marys regional unit. These IBAs are Sault Sainte Marie Clay Plain IBA, Sleeper Lake burn IBA, Raco Plains & Wilwin Wetland IBA, Dollarville Flooding IBA and Tahquamenon Falls State Park and Munising Moraine IV LTA IBA (National Audubon Society 2013, 2012).
- The Eastern Upper Peninsula Cooperative Weed Management Area is a partnership of city, county, state, federal, and tribal officials who have joined together with local citizens, landowners, and not-for-profit groups to share invasive plant management resources. Their goal is to facilitate cooperation and coordination networking across jurisdictional boundaries (M. Preisser, pers. comm., May 31 2013).

TABLE 19.3: Tahquamenon, Waiska and St. Marys IMPORTANT HABITAT SITES AND AREAS

<i>Code</i>	<i>Site/ Area</i>	<i>Important Habitat Site/Area Name</i>	<i>Key Features</i>
MI-028	Site	Tahquamenon Bay	Rare plant habitat, rare animal habitat, wooded dune and swale complex
MI-045	Area	Delirium Wilderness Area	Representative natural plant communities
MI-047	Area	Tahquamenon Falls State Park	Representative natural plant communities
ON-128	Area	St. Mary's River	Fish spawning area.

Figure 19.3: Tahquamenon, Waika and St. Marys - Important Habitat Sites and Areas

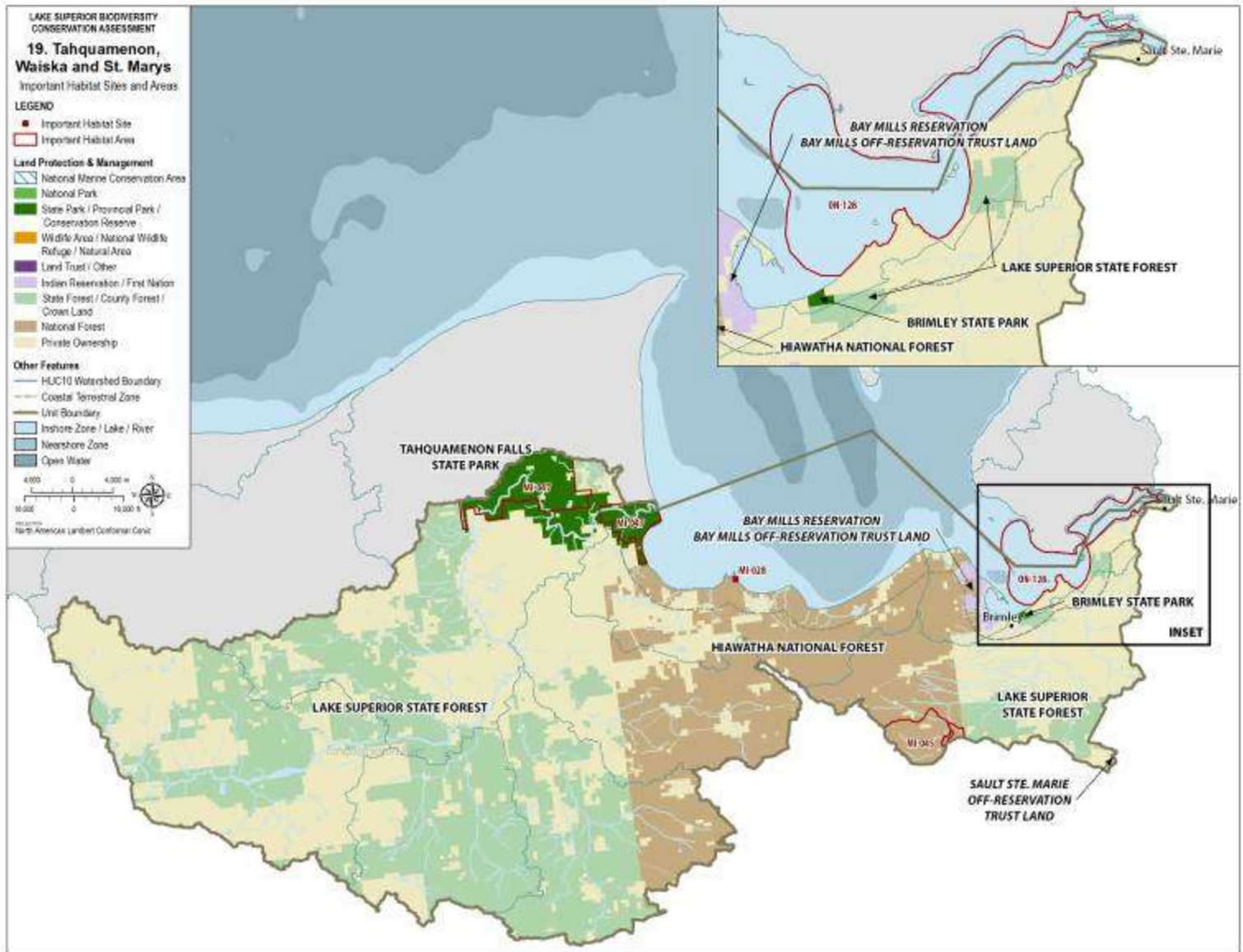


TABLE 19.4: Tahquamenon, Waiska and St. Marys LIST OF SPECIES AND COMMUNITIES OF CONSERVATION CONCERN

At least 65 species and communities of conservation concern have been documented in the regional unit. 51 of these have viability rankings which indicate the species or community is currently present, or was at the date of last sampling. The viability rankings of these species varies from A to E (A – Excellent predicted viability, B – Good predicted viability, C – Fair predicted viability, D – Probably not viable, E – Verified extant). 12 species and communities were once known to occur here, but have current conservation ranks of F (Failed to find), H (Historical), or X (Extirpated). A further 2 species and communities of conservation concern are known to occur in this regional unit, but are currently not ranked for viability.²³

<i>Present Records (Viability Rankings of A to E)</i>	
Scientific Name	Common Name
Accipiter gentilis	Northern goshawk
Bartonia paniculata	Panicled screwstem
Bog	
Boloria freija	Freija fritillary
Boloria frigga	Frigga fritillary
Botrychium hesperium	Western moonwort
Buteo lineatus	Red-shouldered hawk
Callitriche hermaphroditica	Autumnal water-starwort
Calypso bulbosa	Calypso or fairy-slipper
Carex novae-angliae	New England sedge
Carex wiedgandii	Wiegand's sedge
Cave	
Coregonus artedi	Lake herring or Cisco
Cottus ricei	Spoonhead sculpin
Dendroica kirtlandii	Kirtland's warbler
Dry Northern Forest	Dry Woodland, Upper Midwest Type
Emydoidea blandingii	Blanding's turtle
Falciennis canadensis	Spruce grouse
Falco peregrinus	Peregrine falcon
Galium kamtschaticum	Bedstraw
Gavia immer	Common loon
Haliaeetus leucocephalus	Bald eagle
Hardwood-Conifer Swamp	
Huperzia selago	Fir clubmoss
Intermittent Wetland	Infertile Pond/marsh, Great Lakes Type
Ligumia recta	Black sandshell
Listera auriculata	Auricled twayblade
Lycopodiella subappressa	Northern appressed clubmoss
Mesic Northern Forest	
Muskeg	Scrub Bog, Upper Midwest Type
Myriophyllum alterniflorum	Alternate-leaved water-milfoil
Myriophyllum farwellii	Farwell's water milfoil
Northern Fen	Alkaline Shrub/herb Fen, Upper Midwest Type

²³ Data included here were provided by the Michigan Natural Features Inventory of Michigan State University, and were current as of August 1 2014. These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present.

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Northern Wet Meadow	Wet Meadow, Upper Midwest Type
<i>Oryzopsis canadensis</i>	Canada rice grass
<i>Pandion haliaetus</i>	Osprey
<i>Picoides arcticus</i>	Black-backed woodpecker
Pine Barrens	Barrens, Upper Midwest Type
Poor Conifer Swamp	
Poor Fen	Poor Shrub/herb Fen, Upper Midwest Type
<i>Potamogeton confervoides</i>	Alga pondweed
<i>Rhexia virginica</i>	Meadow beauty
Rich Conifer Swamp	
<i>Rubus acaulis</i>	Dwarf raspberry
Sandstone Cliff	
Sinkhole	
<i>Somatochlora incurvata</i>	Incurvate emerald
<i>Tanacetum huronense</i>	Lake Huron tansy
<i>Tympanuchus phasianellus</i>	Sharp-tailed grouse
<i>Vertigo elatior</i>	Tapered vertigo
Wooded Dune and Swale Complex	
Historical Records	
Scientific Name	Common Name
<i>Acipenser fulvescens</i>	Lake sturgeon
<i>Alces americanus</i>	Moose
<i>Botrychium mormo</i>	Goblin moonwort
<i>Chlidonias niger</i>	Black tern
<i>Crataegus douglasii</i>	Douglas's hawthorn
<i>Elymus glaucus</i>	Blue wild-rye
<i>Falco columbarius</i>	Merlin
Great Blue Heron Rookery	Great Blue Heron Rookery
<i>Juncus vaseyi</i>	Vasey's rush
<i>Lanius ludovicianus migrans</i>	Migrant loggerhead shrike
<i>Salix pellita</i>	Satiny willow
<i>Sterna hirundo</i>	Common tern
Unranked Records	
Scientific Name	Common Name
<i>Anzia colpodes</i>	Lichen
<i>Botrychium spatulatum</i>	Spatulate moonwort