



# Ariseaema

## Michigan Botanical Club State Newsletter

<http://michbotclub.org/>

### Corresponding Secretary's Report

In this issue, we have the information you will need to register for the 2019 Foray. The State Board has put together a wide range schedule of field trips, workshops and speakers.

This year's Foray is being organized by the State Board. This hardworking group keeps the club moving forward, bills paid, minutes kept, rules followed and now they have taken on the foray with gusto with a huge number of outstanding field trips!

Please take a moment to read the message from our club's president and note the articles at the end of the newsletter about the Isobel Dickenson Award and "Amazon Smile".

Enjoy and see you at the Foray!  
Respectfully Submitted,

Sheila Bourgoin

Ariseaema Editor and Corresponding Secretary

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### Spring Foray and Fall Meeting Schedule

YEAR	SPRING	FALL
2019	State Board	White Pine Chapter
2020	Southeast Chapter	State Board
2021	Southwestern Chapter	Southeast Chapter

### MICHIGAN BOTANICAL CLUB

The Michigan Botanical Club, the native plant society of Michigan, promotes through its aims, the understanding, enjoyment and preservation of our Great Lakes flora, and the conservation of our natural heritage. The Club is a 501(c)(3) non-profit organization founded in 1941.

#### AIMS

- Conservation of all native plants.
- Education of the public to appreciate and to preserve plant life.
- Sponsorship of research and publications on plant life.
- Sponsorship of legislation to promote the preservation of Michigan native flora.
- Establishment of suitable sanctuaries and natural areas.
- Cooperation in programs concerned with the use and conservation of all natural resources and scenic features.

## President's Report

### President's Report

Winter seemed to hold on way too long this year. And while we are usually eagerly anticipating a Memorial Day weekend foray, our MBC Summer Foray will be in the far north country, necessitating a later date for our main field event—July 12–15, 2019—being staged at Northern Michigan University with a wonderful array of field trips and lectures. The event is highlighted in this issue of the *Arisaema*, so check out the field trips and register early.

In my view, the field trips and forays organized by the various chapters, are a great strength of the Michigan Botanical Club. So, mark your calendar for the Fall Mini-foray—October 5, 2019, located in the Yankee Springs area of West Michigan, hosted by the White Pine Chapter.

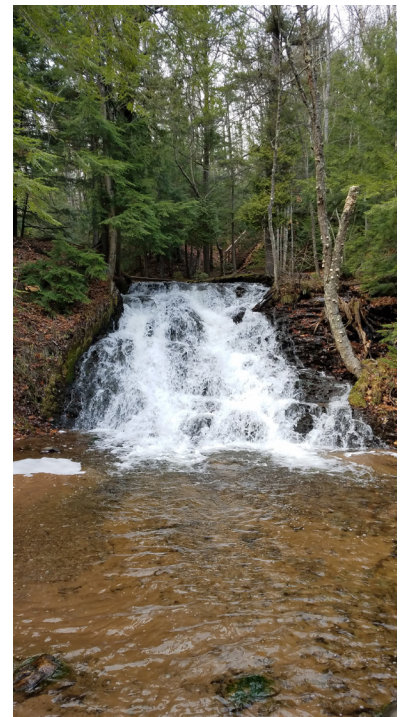
Thanks are due to the Huron Valley Chapter for hosting our Fall 2018 Mini-foray at the Eddy Discovery Center in the Waterloo State Recreation Areas. T'was a beautiful autumn day with about 50+ in attendance. In the morning Robert Ayotte led a trip focusing on Pleistocene derived landforms and their associated woody plant communities along the Bog Trail and Tony Reznicek led people on an exploration of lycopods of the Waterloo area, while the MBC Board was sequestered indoors attending to business of the Club. After lunch I had

the privilege an illustrated talk on an 1888 botanical exploration by covered wagon across northern Michigan from West Harrisville on Lake Huron to Frankfort on Lake Michigan taken by M.A.C. professors W. J. Beal, Liberty Hyde Bailey, and C. F. Wheeler, with 2 student assistants. The account was based on a publication in *The Michigan Botanist* by Ed. Voss and Garrett Crow (1975), which included first-hand newspaper accounts by reporters from the *Detroit Free Press* and the *Tribune*. Foray field trips in the afternoon included a trip to a kettle-hole bog led by Bill Brodovich, and Bob Ayotte repeated his morning trip. Many thanks to the HVC volunteers who also contributed to making this Mini-foray a success: Neal Billetdeaux, Larry and Sarah Nooden, Sheila Bourgojn, Irene and Tim Eiseman, Dana Wright, Lynn Kirkpatrick, Toni and Ken Spears, Julie Caroff, Amanda Klain, Jeff Moore.

Certainly, getting people out in the field to see nature's wonders is perhaps the greatest strength of the Michigan Botanical Club. Hope to see you at the Foray in July in Michigan's Upper Peninsula.

Garrett Crow

President, Michigan Botanical Club



photos by Robert Kahl

## Welcome to the MBC 2019 Summer Foray in the Upper Peninsula July 12–15

Spring, or at least the flowering season, comes a bit later in the Upper Peninsula of Michigan, especially along the shores of Lake Superior. Hence, the selection of Northern Michigan University as our staging ground, the landscapes and natural areas around the Marquette area as our focus of this year's MBC Foray, necessitated a shift to offering our premier field event in July instead of our usual Memorial Day weekend. But mid-July is perhaps the best time for exploring the wonderful array of natural landscapes available in this picturesque portion of Michigan. With 22 field trips (8 All-day trips and 14 ½-day trips) it may well be difficult to settle on which trips to register for. There will be some easy-access trips, as well as some that require more rugged hiking. Yet, all of them have much to offer attendees of the UP Foray.

Much of Michigan—at least in the southern Lower Peninsula where the land-based Chapters are located—are quite familiar with plants adapted to soils with limestone as bedrock. Bedrock has had an enormous influence on the development of our soils since the retreat of the Wisconsin Ice Age glaciers. But this Foray will allow us to experience a flora that is more adapted to the acidic soils that form on the granitic bedrock of the Lake Superior region. The phytogeographic affinities are strongly boreal, and the landscape will remind me of what was typical of the granitic bedrock influence on the flora of New Hampshire and Maine (especially the cold rocky coast) while I was teaching botany at the University of New Hampshire. And although we have plenty of dune and bog habitat in the lower portion of Michigan, expect to see a decidedly more northern aspect to peatlands in the Marquette area.

Founded in 1849, Marquette (pop. 21,355) has long been a major port on Lake Superior, known for its shipping of iron ore since the discovery of iron deposits in the area, causing a mining boom in the late 1800s–early 1900s. You may want to select a field trip to visit the Cliffs Mine Shaft Museum and take the Republic Mine Tour (half-day Sunday afternoon). You might even wish to take a self-guided visit to the Michigan Iron Industry Museum, which is just 8 miles west of the city and open daily. The climate has four seasons that are strongly moderated by Lake Superior. The area is decidedly located in the snowbelt region with an average snowfall of 149 inches, much of it falling as lake-effect snow. Lake Superior is just slow to warm, causing us to “wait a while” for staging our UP Foray until July; the average range of temperatures for July is 58.6–74.5. So that is perfect weather for field trips, but you'll still want to bring along something for chilly days and nights.

Of course, Marquette is also well known as home to our host, Northern Michigan University (enrollment ca. 8,000). And when was the last time you stayed in a university dorm? Even that is likely to be a new experience for many of us. By choosing Northern Michigan University as our staging

grounds, lodging and meals, this foray will be “easier” on the pocketbook, as well as put us back in touch with those ole college days of yore. Dining facilities are no longer cafeterias. Academic cuisine is surely different these days. For convenience, we are going with the “buffet” style of dining, and our evening lectures will be right there where we eat—The University Center (also referred to as the UC). Lodging will be in the newly renovated Woods Complex; you can take a tour of The Woods by clicking here: <https://www.nmu.edu/housing/new-residence-hall-communities>.

**Garrett E. Crow, President**

### Registration and Important Information

The foray is being held on the campus of Northern Michigan University in Marquette.

**LODGING:** The new Woods Residence Hall Complex, <https://www.nmu.edu/housing/new-residence-hall-communities>, has been open less than two years. The layout is suites of two two-person rooms sharing a bath but with in-room sinks. Linens and towels are included.

**MEALS:** Full meal plan (3 dinners, 2 box lunches, 3 breakfasts): \$104

Use the registration form for your Foray registration. Select your preferences for field trips. These are issued as the mail-in registration forms are received.



*Clintonia borealis* - bluebead lily  
Photo by Robert Kahl



## Summer Foray 2010 Directions and Map

Marquette is strategically located midway across the upper peninsula on the sunny shores of Lake Superior. Driving distance is about 160 miles from the bridge at St. Ignace, MI and 146 miles from Ironwood, MI. If you are coming from the Lansing area, driving is about 400 miles. Marquette is the largest city in the UP with a population of 20,600.

### Driving Directions to Northern Michigan University

#### From Western UP:

- Follow US-2 to Wakefield, MI
- Turn left onto M-28 in Wakefield
- M-28 merges to US-41 leading to Marquette
- Follow the “Junction Business 41” and “Downtown – Left Lane”; signs.
- US Business 41 becomes Washington Street. Proceed east on Washington Street until you reach Seventh Street.
- Turn left (north) onto Seventh Street and proceed to NMU’s campus.

#### From the lower peninsula MI:

- Take I-75 north to exit 344B to merge onto I-75-BL/US-2 W toward Escanaba/Manistique
- Continue to follow US-2 to M-117/Country Ave. (about 65 mi.)
- Turn right onto M-117 to M-28 (about 17 mi.)
- Go left on M-28

- Continue onto BUS US-41/Front Street in Marquette.
- Proceed on Front Street to Washington Street.
- Proceed on Washington Street five blocks to Seventh Street.
- Turn right onto Seventh Street and proceed to NMU’s campus

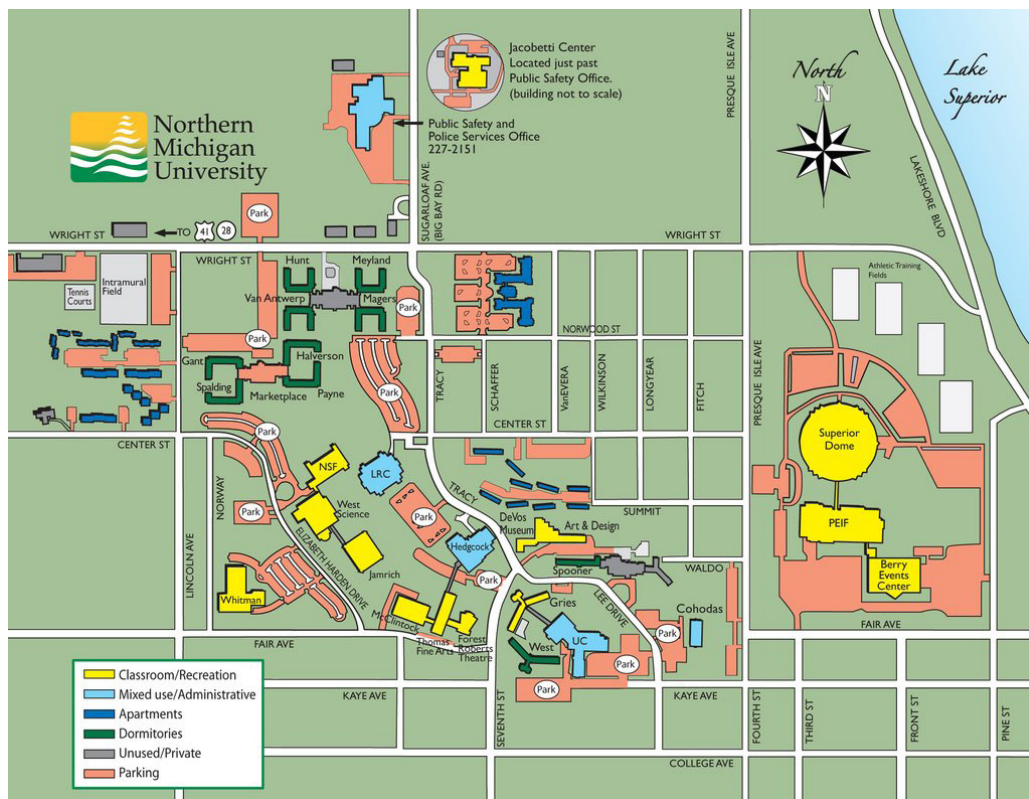
We will be staying at the Woods Residence Complex, 25 Center St, Marquette, MI 49855. When you arrive at the Residence Complex look for Michigan Botanical Club signs for the dormitory for Registration.

**Marquette Visitors Guide:** There are many things to do in the Marquette area. A good place to start is by visiting the online Travel Guide [www.TravelMarquette.com](http://www.TravelMarquette.com) It contains an list of events, places to eat, stay, shop, hike, tour, and how to enjoy the outdoors to the fullest. Many maps are included.

Did you know that Marquette County is home to the most waterfalls in Michigan? The online Waterfall Guide from Travel Marquette highlights 12 of the most popular and accessible waterfalls. You can take a convenient 4-falls tour from Marquette, all in one afternoon! Visit: <https://www.travelmarquettemichigan.com/four-falls-one-afternoon/>

**Best wildflower trails near Marquette :** <https://www.alltrails.com/us/michigan/marquette/wild-flowers/photos>

**Birding Trails:** <http://birdingtrails.com/upper-peninsula/birding-marquette-county-hotspots-near-ishpeming-marquette>



## Schedule of Events ~ Summer Foray 2019

### Friday, July 12

- 3:00-7:00 p.m. . . . . Room check-in – The Woods Residence Center
- . . . . . Registration – University Center
- 6:00-7:00. . . . . Dinner Buffet – University Center
- 7:30 . . . . . Welcome and Orientation – University Center
- 8:00 . . . . . Speaker: Steve Baker “Botanical Road Trip Around Lake Superior”

### Saturday, July 13

- 6:30-8:00 a.m. . . . . Breakfast Buffet – University Center until 8:00 a.m.
- 7:15. . . . . Pick up Boxed Lunches – Northern Lights Dining Hall
- 8:30 . . . . . Departure for All-Day and Morning Half-Day field trips
- 12:00-12:45 p.m. . . . . Box Lunches in the field or on your own
- 1:00 . . . . . Departure for Afternoon field trips
- 4:00 . . . . . All field trips returned to NMU campus
- 4:00-6:00. . . . . Free time
- 4:30-6:00\* . . . . . Michigan Botanical Club Board Meeting – University Center
- 6:00 . . . . . MBC Group Photo (location will be posted)
- 6:30-7:30 . . . . . Dinner – University Center
- 7:30 . . . . . Announcements, Awards, and President’s remarks – University Center
- 8:00 . . . . . Video: UP Land Conservancy - “The Dead River Community Forest Project”
- 8:15. . . . . Speaker: Ryne Rutherford and Sue Trull -
- . . . . . “New Discoveries and the Unique Floristic Composition of the Ottawa National Forest”

### Sunday, July 14

- 6:30-8:30 a.m. . . . . Breakfast Buffet – University Center open until 8:00 a.m.
- 7:15. . . . . Pick up Boxed Lunches University Center
- 8:30 . . . . . Departure for All-Day & Morning Half-Day field trips
- 12:00-12:45 p.m . . . . . Box Lunches in the field or on your own
- 1:00 . . . . . Departure for Afternoon Half-Day field trips
- 4:00 . . . . . All field trips returned to NMU campus
- 4:00-6:00. . . . . Free time
- 5:00-6:00\* . . . . . Great Lakes Chapter Members’ Meeting - Meet and Greet – University Center
- 6:00-7:00. . . . . Dinner Buffet – University Center
- 7:30 . . . . . Announcements, Awards, and President’s remarks – University Center
- 8:00 . . . . . Speaker Don Drife - “The Milkweed Community: More Than Monarchs “

### Monday, July 15

- 6:30-8:00 a.m.. . . . . Breakfast Buffet – University Center open until 8:00 a.m.
- 8:00 TBD\* . . . . . MBC State Board Meeting continues – University Center if needed
- 9:00. . . . . Departure, Heading Home Field Trips
- 12:00 p.m. . . . . Check out time

\*Denotes specialized meetings for MBC Board or Great Lakes Chapter members



*Lilium philadelphicum* - wood lily  
Photo by Robert Kahl

## Speakers—MBC Summer Foray 2019

### FRIDAY EVENING SPEAKER

**Steve Baker, a photo presentation**

**A Superior Botany Adventure- A loop of Lake Superior with seven friends, eight days,**

36 native orchids, 100+ sedges, numerous ferns, a host of other natural wonders from waterfalls to mosquitos.

In July of 2018, a group of botany friends met in Michigan's eastern Upper Peninsula to embark on a circumnavigation of Lake Superior, botanizing and camping along the route. Native orchid habitats were the priority as we explored bogs, forests, rocky shorelines, and dunes, often in National, Provincial, and State Parks. Ferns, disjuncts, other rare and unusual plants were sought, and the Sedge-heads in our group identified over 100 sedge species. All this in the rugged beauty that surrounds this greatest of lakes.

Steve Baker is a retired veterinarian from Indian River with an interest for all things in nature. Fifty years of birding passion has expanded into botany since seeing Striped Coralroot for the first time. He now enjoys exploring the Mackinac Straits region, mainly for native orchids and ferns, and has never met a bog he didn't love. Other interests include kayaking, hawk watching, photography, hiking, and is looking forward to learning about Tardigrades, (Moss Bears).

### SATURDAY EVENING SPEAKER

**Ryne Rutherford of Biophilia, LLC, and Sue Trull of the US Forest Service**

**"Plant and Habitat Rarities and Specialties of the Western Upper Peninsula"**

Join Ryne Rutherford of Biophilia, LLC, and Sue Trull of the US Forest Service for a slide presentation on botanical rarities and specialties of the Western Upper Peninsula. The presentation will include species restricted, statewide, to the western Upper Peninsula; western disjuncts; species with large range gaps across Michigan; and some recent discoveries that may represent migration northwards. Habitats, life histories, and conservation threats will be discussed.

Susan Trull is a botanist for the U.S. Forest Service, stationed on the Ottawa National Forest in Ironwood, MI, and previously on the Tongass National Forest in Sitka, Alaska. Sue holds a B.A. in biology from Carleton College and an M.A. in plant ecology from the Univ. of Montana. She has previously led MBC trips at the Houghton foray and Bergland mini-foray and is a regular trip leader for the North Woods Native Plant Society.

### SUNDAY EVENING SPEAKERS

**Donald Drife Evening Talk Description and Bio**

**The Milkweed Community: More Than Monarchs** (but Monarchs are cool!)

Everyone knows about the Monarch Butterfly and its need for milkweed plants in order to survive. But many other insects and some non-insects also make their home in the Milkweed community. Join naturalist and photographer Don Drife as he presents a program on the many organisms which feed on and among the different species of milkweeds, and those that make passing visits.

Donald Drife has been studying native vegetation in Michigan for over 40 years, and is a longtime member of the Michigan Botanical Club and a life member of the Michigan Audubon Society. Don works as a machine designer. He blogs at MichiganNatureGuy/blog and presents programs about the natural world for local nature groups. Don also serves as the botanist for the Royal Oak Nature Society, identifying plants in the city's two nature parks.

**Field Trip Information**

Field Trips will be staged in the parking lot outside of the Residence Hall. Arrive at least 15 minutes before the departure time! Each field trip will have a designated Leader and Facilitator who will provide driving directions and arrange car pooling. Please be sure your car has sufficient fuel.

Bring sturdy walking shoes, long pants, jacket, hat, sunscreen, insect repellent, water bottle, notebook, field guides, hand lens, and day medications. Remember to bring your lunch with you. Extra water for water bottle refills will be provided. Cell phone reception maybe unavailable in some areas.

Trip leaders have previewed the locations and are prepared to give a guided tour of the plants. Facilitators are along to make sure everyone stays together. If you leave field trip for some reason before the end, you must let the facilitator know.

This year's foray will take us through a variety of habitats and walking conditions. Be prepared for sun, wind, and rain while walking on dry trails or wetland areas. The average high temperature in July is 71° and low is 57°. Check the weather forecast.

**Saturday, July 13**

Duration	Trip Leader	Title
ALL DAY	Alex Graeff & Rob Routledge	Northern natural communities in the Hiawatha National Forest
ALL DAY	Andy Bacon & Brian Murphy	Echo Lake Nature Preserve – TNC Braastad Nature Sanctuary -
ALL DAY	Derek Shiels & Steve Waller	Waller Research Area
ALL DAY	Ryne Rutherford	Lichens and natural history of granite bedrock glades and granite bedrock lakeshore. Hogback Mt., Wetmore Landing and Echo Lake Nature Preserve – TNC
MORNING	Brad Slaughter	Gwinn Outwash
MORNING	Andrea Denham	Tory's woods
MORNING	Don Drife & Joyce Drife	Nature Photography (Easy-Access) Presque Isle Park
AFTERNOON	Scott Namestnik & Joseph Kurtz	Aquatic plants - Harlow Lake
AFTERNOON	Adina Daar	Vielmetti-Peters Conservation Reserve
AFTERNOON	Judy Kelly	Art as a way of knowing (Easy-Access) Presque Isle Park

**Sunday, July 14, 2019**

ALL DAY	Alex Graeff & Nate Martineau	McCormick wilderness
ALL DAY	Tony Reznicek	Goose lake (tentative)
ALL DAY	Don Drife & Joyce Drife	Nature Photography
ALL DAY	Scott Namestnik	Yellow dog watershed preserve
ALL DAY	Bob Clark	Cliffs Shaft Mine Museum, Ispeming and Republic Mine tour
MORNING	Brad Slaughter	Gwinn Outwash
MORNING	Bev Walters	Botany at Presque Isle Park
MORNING	Barry James	Michigan Iron Industry Museum, Negaunee (Easy-Access)
AFTERNOON	Sue Trull	Elliot Donnelly Tract/Little Garlic River
AFTERNOON	Bev Walters	Wetmore Pond - Boreal Forest and Bog
AFTERNOON	Adina Daar & Martin Reinhardt	Chocolay Bayou Nature Preserve (Easy-Access)

**Monday, July 15, 2019**

MORNING	Nate Martineau & Steve Baker	Grand Marais Dunes
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## Saturday, July 13 Field Trips

## Northern natural communities in the Hiawatha National Forest

**Date and Trip Length:** Saturday, July 13 – ALL DAY LIMITED TO 15 PARTICIPANTS

**Trip Leader:** Alex Graeff and Rob Routledge

**Trip Description:** This trip will explore a variety of northern communities, with a patterned fen emphasis! Our first site will feature wooded and open wetlands in the central UP in the western portion of the Hiawatha National Forest. This stop will take us on a short (approx. 1/10 mile) hike from mesic northern forest through a gradient of conifer swamps into a patterned fen. The transition from northern forest to patterned fen occurs quickly, which will allow us to observe several community types in just a short distance. We will discuss the string (low ridges) and flark (linear pools) topography which typifies the patterned fen natural community, and thoroughly explore the vegetation associated with the unique microtopog-



*Aquilegia canadensis* - wild columbine  
Photo by Robert Kahl

raphy present. Common and site-specific vascular plant rarities will be highlighted as well as some of the common bryophytes and lichens present. Wetland plant indicator status will be highlighted throughout. In both the open and forested wetlands, we will encounter a variety of woody plants, sedges - including many *Carex* species - as well as a number of ferns, and certainly some showy wildflowers!

We'll take a roadside lunch and then explore

the typical vegetation and some potential site rarities of dry-mesic northern forest nearby our first stop. From there, we will drive back toward Marquette and make a quick stop along M-28 at Scott Falls for a couple of botanical goodies. If time allows, we will visit Presque Isle in Marquette upon our return, which features a number of botanical highlights.

**Trip Notes:** Bring your bag lunch, loupes, and a sense of adventure. Waterproof boots or old tennies recommended at the main site (it will be wet) otherwise sturdy shoes or hiking boots for the remainder. Parking at the main site will be along a narrow forest service road. Drivers with all-wheel drive and high clearance vehicles preferred, though most passenger vehicles will probably be OK.

**Difficulty:** The main site is off trail and will require some bush-whacking through conifer swamp. The dry-mesic northern forest and Scott Falls stops will be short distance and easy terrain. Presque Isle, while short distance, involves a rocky, uneven shoreline which may present difficulty for some.

**Restrooms:** Gas station in Shingleton, about 10 minutes from main stop, which we will pass to and from the site.

**Biographies:**

Alex Graeff was inspired during the 2012 Michigan Botanical Club Spring Foray as a sponsored student from Grand Rapids Community College and has maintained a passion in botany and ecology in the years since. He finished his bachelor's degree in biology with ecology emphasis at Northern Michigan University. He went on to receive a master's degree from NMU researching plant communities in the expansive patterned peatlands at Seney National Wildlife Refuge. Alex is a seasonal field biologist whose work has brought him to Rhode Island, southern Florida, several locations in northern Michigan, and northern Wisconsin. During the growing season he spends most of his free time botanizing and naturalizing while exploring northern Michigan. In the winter months he enjoys ice fishing and identifying lichens.

Rob Routledge is a Professor in the Natural Environment & Outdoor Studies Department at Sault College in Sault Ste. Marie, Ontario. He has explored the Eastern Upper Peninsula extensively when time allows with a special interest in ferns, lichens, sedges, and site-specific rarities. He has a B.Sc. in Fisheries and Wildlife Management (Lake Superior State University, '95), M.Sc in Wildlife Biology (Laurentian University, '00), B.Ed. (Nipissing University, '09), and numerous certifications (e.g., Ontario Wetland Evaluation System, Ecological Land Classification, Ontario Tree Marking). His strong academic background combined with over 9 years of field experience has given him extensive knowledge and skills across the fields of plant and wildlife biology and ecology, forestry, and ecological monitoring. Always being prepared, organized and ready for any situation has definitely helped him in being successful. His continual learning philosophy reflects his strong appreciation and passion for education.



**Rob Routledge**

Photo by Lynn Kirkpatrick



## Michigan Nature Association Projects – Echo Lake Nature Preserve and Braastad Nature Sanctuary

**Date and Trip Length:** Saturday, July 13 – ALL DAY

**Trip Leaders:** Andrew Bacon, Michigan Nature Association

**Brian Murphy, The Nature Conservancy - Michigan Chapter**

**Trip Description:** The 480-acre Echo Lake Nature Preserve is owned by The Nature Conservancy and protected by a conservation easement held by the Michigan Nature Association. This unique area provides an excellent diversity of for plant and wildlife species and features Echo Lake, a twenty-five acre natural lake that is surrounded by a landscape of dramatic relief with high bluffs of exposed bedrock and is the primary water source of Harlow Creek. The preserve protects significant stands of Northern Hardwood/Eastern Hemlock forest types (generally dominated by red oak, yellow birch and sugar maple). The Preserve also contains large areas of relatively treeless open granitic balds dominated by a stunted white pine/red oak forest community type. Included within the granitic bald areas, that comprises roughly 25% of the Property, are excellent quality examples of several targeted plant communities that include: Igneous Moist Bluff/Cliff and Northern Igneous High Bluff/Cliff.

Located in the north-central Upper Peninsula, the 238-acre Braastad Nature Sanctuary was donated to MNA in 1981 by the Braastad family. Frederick Braastad was a significant businessman and politician in Ishpeming's early history. The sanctuary is located to the south of the Dead River Basin and is composed of the old family farm which contains riparian habitat along Barnhardt Creek with numerous natural communities, variable habitat structure and a variety of plants and animals; particularly insect-eating birds. Natural communities include regenerating northern mesic and dry-mesic forests, red pine forest, and leatherleaf bog.

**Trip Notes:** Long pants and comfortable shoes are recommended.

**Difficulty:** Medium difficulty, both sanctuaries are relatively dry and the hikes will stay in dry areas, however there will be an option for volunteers to get their feet wetter. There are slopes and uneven terrain along the Echo Lake Preserve trail system and there will be off-trail hiking at Braastad Nature Sanctuary.

**Restrooms:** There are no restrooms at the sanctuaries. We will be able to stop for a restroom break during lunch as we carpool between sanctuaries.

**Biographies:** Andrew Bacon oversees the conservation programming for the Michigan Nature Association and has been doing so for the past 9 years. Michigan Nature Association is a state-wide land conservancy which targets conservation programming toward rare species, imperiled natural communities,

and unique geological features. Prior to working with MNA, he worked in northern Illinois overseeing the stewardship program of a regional land conservancy, the Natural Land Institute, with the primary project being the complete restoration of a 721 acre preserve from farm fields to wetlands and prairie. Additionally he has worked with various other conservation groups including the Hamilton County Park District in Cincinnati, the Milwaukee Zoo, and Whitefish Point Bird Observatory.

Brian Murphy is the new Preserve and Outreach Assistant for The Nature Conservancy, Michigan Chapter overseeing the Echo Lake Nature Preserve in 2019. Brian is a retired high school science teacher specializing in Earth and Environmental Science and loves spending time outdoors birding.

### Waller Research Area

**Date and Trip Length:**

Saturday, July 13th — ALL DAY

**Trip Leader:** Derek Shiels & Steve Waller

**Trip Description:** The site is 80 acres of rugged forest in the foothills of the Huron Mountains. The site has not been logged since about 1920. It includes a trout stream, a small meadow (meadow ticks should be gone by July). There are several steep rock faces both in shade and direct sun and forest wetlands that drain into a steep wooded valley.



Derek Shiels  
Photo by Sheila Bourgoin

The best list of available plants on site for botanists is in iNaturalist on the Waller Research Area page <https://www.inaturalist.org/projects/waller-research-area> A great number of flora are not documented yet. New discoveries are very welcome.

Ferns, lichens and mosses are abundant. The dominant forest trees are Red & Sugar Maple, Red Oak, White & Yellow Birch, Hemlock, White Pine, White Spruce & Balsam Fir with lesser amounts of Aspen, Basswood & Beech.

There is a good variety of forbs, sedges and grasses. The stream offers some interesting Odonata and Lepidoptera.

**Trip Notes:** The site is about 40 minutes from downtown Marquette, MI. There is space to park several cars. There is a solar powered home available for lunch if desired. Good hiking shoes are required. Muck boots are recommended for those wanting to explore the wet areas, but it is easy to stay dry.

**Difficulty:** In many places the land is rugged but not

treacherous. Be prepared to walk up and down rocky hills that require as much effort as slowly climbing a flight or two of stairs. Depending on how ambitious you are, a walking stick is very useful. Most of the area is dry but there are occasional wet/muddy areas.

**Restrooms:** Facilities are available in the home on the property.

**Biographies:** Derek Shiels is the Director of Stewardship at Little Traverse Conservancy (LTC), a non-profit regional landtrust serving northern Michigan. This year, Derek, started a term as president of the Great Lakes Chapter of the Michigan Botanical Club and he is spearheading the Michigan Botanists' Big Year Challenge on iNaturalist, which is open to all Club members. Prior to working with LTC Derek was with the Leeanau Conservancy, a graduate student at Central Michigan University, and with the Missouri Department of Conservation.

Steve Waller-Steve and his wife Cathy own the land and created the Waller Research Area. They are actively trying to document the variety of life forms that occupy the site. For 8 years, Steve was a wilderness guide in the Quetico Provincial Park in Ontario Canada and formerly was an education associate for the Chicago Academy of Sciences in Chicago. He spent most of his life as a technical training specialist but is now retired and teaches renewable energy classes at Northern Michigan University in Marquette.

### *Lichens and Natural History of Granite Bedrock Glades*

**Date and Trip Length:** Full day with options to leave early (7:30 am- approx. 5 pm)

**Trip Leader:** Ryne Rutherford

**Trip Description:** This field trip will be 2 parted with the first part focused mostly on lichens and the later part at Echo Lake will be more general ecology. We'll start off at the Wetmore Landing parking area (approx. 6 miles NW of Marquette) and do the 1.8-mile hike to the top of Hogback Mountain. The granitic exposures on the top of Hogback Mountain contain Rhizocarpon species that may be over 1000 years old in addition to arctic disjunct species such as Arctoparmelia centrifuga, several rock tripes (Umbilicaria) and many more species that are rare or absent elsewhere in the state. Interesting plant and animal life, geologic history and natural disturbance regimes will also be discussed. After we hike back we'll explore Granite Bedrock Lakeshore communities at Wetmore Landing which contains an interesting assortment of unique lichens distributed in three distinct zones along the lakeshore.

The second part of the day (2-5 pm approx.) will be at Echo Lake Nature Preserve. A large expanse of Granite Bedrock Glades provides an excellent opportunity to understand

this unique natural community. I also hope to find Edward's Hairstreak at its only U.P. locality which I discovered here in 2009.

**Target lichens (Hogback Mountain):** *Rhizocarpon grande*, *R. subdiscrepans*, *R. lecanorinum*, *Arctoparmelia centrifuga*, *Umbilicaria deusta*, *U. mammulata*, *U. muehlenbergii*, *Lasalia papulosa*, *Melanelia hepatizon*, *Diplochites scruposus*, *Aspicilia cinerea*, *Stereocaulon saxatilis*, *Xanthoparmelia somloensis*, *Acarospora fuscata*, *Dimenela orienea*

**Target lichens (lakeshore)-***Staurothele fissa*, *Lecidea tessellata*, *Dermatocarpon luridum*, *Rhizocarpon geographicum*, *Xanthoria elegans*, *Rhizoplaca chrysoleuca*, *Lecanora argopholis*, *Phaeophyscia sciastra*, *Ephebe lanata*, *Xanthoria elegans*, *Lecidea atrobrunnea*

**Target Plants:** *Woodsia ilvensis*, *Arctostaphylos uva-ursi*, *Calystegia spithamea*, *Dryopteris marginalis*, *Asplenium trichomanes*, *Corydalis sempervirens*

**Target Animals:** Five-lined skink, Edward's Hairstreak

**Trip Notes:** Pack plenty of water, lunch and snacks, a hand lens is helpful, but not mandatory

**Difficulty:** Moderately difficult with steep terrain. A fairly high degree of physical fitness is required.

**Restrooms:** None available

**Biographies:** Ryne Rutherford is an ecologist at Biophilia, LLC and specializes in conducting multi-taxa species surveys and monitoring throughout the Midwest, but mostly in the U.P. He has done extensive field work on plants, reptiles, amphibians, birds, insects and lichens. He conducted his Master's thesis work "A Multi-scaled Habitat Analysis of Lichens in the Huron Mountains" at some of the sites that will be visited on this field trip.

### *Gwinn Outwash*

**Date and Trip Length:** Saturday, July 13 – AM; Sunday, July 14 – AM

**Trip Leader:** Brad Slaughter

**Trip Description:** Let's avoid getting off to a rocky start by exploring the ecosystems and flora of the Gwinn Sandy Terrain and Delta Lowlands physiographic regions in southern Marquette County. We will encounter a variety of natural communities with an emphasis on open and wooded peatlands. In addition to enjoying the native flora, we will examine and discuss



Brad Slaughter  
Photo by Sheila Bourgoin

peatland landforms, soils, and hydrology. Who knows what we'll find?

**Trip Notes:** Wear comfortable footwear appropriate for both wet and dry ground. While we will not encounter much in the way of topography, we will be walking through thick coniferous understories (consider protective eyewear) and attempting to maintain balance on hummocky, wet terrain. Biting insects may be present with severity depending on spring and early summer precipitation and temperatures.

**Difficulty:** Moderate. Expect hummocky topography (but no significant hills) and thick areas of vegetation. Biting insects may be present.

**Restrooms:** There are no restrooms on site, but restrooms are available approximately 10 – 20 minutes away in Gwinn.

**Biographies:** Brad conducts floristic inventories, wetland evaluations and delineations, vegetation monitoring, and plant identification workshops for Orbis Environmental Consulting. Prior to his work with Orbis, Brad was an ecologist and botanist with Michigan Natural Features Inventory for 12 years. He is co-author of Field Guide to the Natural Communities of Michigan and has authored several papers and dozens of technical reports on floristics, rare plants, natural communities, and related topics. Prior to the invention of children, he was also known to seek out tasty beverages following a long day in the field. He received a B.A. in Biology from Albion College and a M.S. in Botany from Miami University.

### *Tory's Woods*

**Date and Trip Length:** Saturday, July 13th MORNING HALF-DAY

**Trip Leader:** Andrea Denham

**Trip Description:** Tory's Woods Preserve is a 230-acre nature preserve with 3 miles of trails that has several very unique characteristics that we will explore, all while focusing on the theme of forest transitions. When you look at the Preserve from above, you'll see a defined line where the hemlocks are slowly marching West to subsume the hardwoods. We'll talk about what that will look like on the macro as well as the micro level for the future in terms of flora and fauna. The North end of the Preserve trail is a fascinating mix of open hardwood forest, vernal pools, and low ephemeral creeks that wash out every spring. The South half of the Preserve boasts a quiet, enchanting hemlock forest where windthrow occasionally opens up bright sunshine spots to the forest floor, giving us plenty to discover while we learn about forest succession. Part of the Southern loop takes us through several wet, flowing areas which are full of unique sedges. While not technically a wetland, this Preserve sure does hold on to a lot of water, which makes for a wonderful exploration of a variety of life forms.

**Trip Notes:** Portions of trail may be muddy or underwater

depending on the last weeks' rain, please be prepared for insects (head net!) and wear sturdy, waterproof shoes. Be prepared to be away from modern amenities for several hours and bring a snack and a liter of water per person on top of any personal items you may need for that amount of time.

**Difficulty:** Moderate. While the trails do not have much elevation gain/loss, the trail surface is mostly made up of varied size loose Jacobsville Sandstone pieces, often covered in moss. Footing can be unsure at times. Hiking poles are highly recommended.

**Restrooms:** There are no amenities within 10 miles of the Preserve.

**Biography:** Andrea Denham: A perennial outdoor adventurer, Andrea joined UPLC in 2015 after years of travelling, environmental education, and guiding others in outdoor recreation. She's lived in Minnesota, Yosemite National Park, Alaska and has travelled many places in Europe-but is always called back to Lake Superior and the wilderness of the Upper Peninsula. With a degree in Outdoor Recreation Leadership and Management from Northern Michigan University, she brings her experience in outreach and education to UPLC as we protect the land we all love for generations to come.

### *Nature Photography at Presque Isle Park (easy access)*

**Date and Trip Length:** Saturday Morning, July 13th – HALF DAY

**Trip Leaders:** Don and Joyce Drife

**Trip Description:** You don't need a fancy camera to take great nature photos. You can take many with a phone. We will take time to set up on a few subjects, talk about composition and basic techniques to improve your photos. We plan to visit Presque Isle Park on the north side of Marquette. The park features a bog boardwalk, nature center, and a shoreline drive.

**Trip Notes:** Bring a camera and your manual. Also bring a smartphone if you have one.

**Difficulty:** The walking will be easy.

**Restrooms:** There are restrooms at the Nature Center and Main Pavilion.

### **Biographies:**

Don and Joyce Drife are accomplished nature photographers with hundreds of photographs accepted in International Photo Salons. Their work can be seen at: <http://www.michigannatureguy.com/blog>



### Aquatic Plants at Harlow Lake

**Date and Trip Length:** Saturday, July 13, 2019 – Afternoon HALF-DAY

**Trip Leader:** Scott Namestnik and Joseph Kurtz

**Trip Description:** This trip will explore the submergent and emergent aquatic plant communities at Harlow Lake, located northwest of Marquette. The lake has a large diversity of aquatic plant species with some of the more interesting species occurring at the lake including slender watermilfoil (*Myriophyllum tenellum*), narrowleaf bur-reed (*Sparganium angustifolium*), lake quillwort (*Isoetes lacustris*), small purple bladderwort (*Utricularia resupinata*), humped bladderwort (*Utricularia gibba*), and Beck's water-marigold (*Bidens beckii*). Many other common pondweed, bladderwort, and milfoil species are also present.

This trip will primarily focus on the northeastern part of Harlow Lake where the lake is semi-shallow and sandy-bottomed. We will focus primarily on finding and identifying submerged aquatic plants. We will look around the lake margin for uprooted plants and likely enter the lake itself to search for some of the harder to find species. We will also be looking in some of the streams that flow into the lake where some species are more common. If there is sufficient time available, we may visit other areas around the lake or other nearby sites. We may also investigate Harlow Creek to see if any Fawn Darners (*Boyeria vinosa*) are flying.

**Trip Notes:** No special tools will be necessary, save for a hand lens to aid in identification of some species. For those going in the lake, proper footwear is recommended. Participants should tread carefully in the lake as there are both deep and muddy spots in the lake. Bring a hat, insect repellent, and drinking water.

**Difficulty:** The trip should be relatively easy as there will be little substantial walking. Terrain will mostly be flat though there are some rocky areas and small outcrops that may be slightly more difficult to traverse.

**Restrooms:** There are no restroom facilities located at the Harlow Lake parking areas.

#### Biographies:

Scott Namestnik is a botanist at Orbis Environmental Consulting with over 20 years of experience managing projects and conducting floristic inventories, plant community mapping, quantitative flora surveys, invasive species surveys and mapping, plant species of concern surveys and mapping, and plant identification training workshops in the Great Lakes and Midwest states. Scott also participates in avian and other

wildlife surveys. He has a degree in Botany with a focus in Environmental Science and is recognized for his expertise in Midwestern/Great Lakes terrestrial and aquatic vascular plants, and his written work on the flora has appeared in several peer-reviewed journals including *The Michigan Botanist*, *The Great Lakes Botanist*, *Phytoneuron*, *Proceedings of the Indiana Academy of Science* and *Rhodora*. He currently serves as a board member for NatureCITE, Indiana Native Plant Society (North Chapter) and South Bend-Elkhart Audubon Society, is on the advisory council for Shirley Heinze Land Trust and the planning committee for the Indiana Dunes Birding Festival, and is active with the Indiana Native Plant Society (Journal Team Leader) and the Indiana Academy of Science (member of the Biodiversity and Natural Areas Committee and previously Vice-chair and Chair of the Plant Systematics and Biodiversity section).

Joseph Kurtz is currently an ecology student at Northern Michigan University. Originally from Jackson, Michigan. He is familiar with much of the state and its flora, especially in the southern Lower Peninsula and eastern Upper Peninsula. In addition to plants, he is also familiar with birds, butterflies, and odonata.



*Polygala paucifolia*-Fringed *Polygala*  
Photo by Nate Martineau

### Vielmetti-Peters Conservation Reserve

**Date and Trip Length:** Saturday, July 13th AFTERNOON HALF-DAY

**Trip Leader:** Adina Daar & local forester

**Trip Description:** The Vielmetti-Peters Conservation Reserve is a 123-acre working forest with nearly four miles of trails for visitors to explore, just on the edge of the City of Marquette. The Reserve boasts an incredibly diverse ecosystem in a small area, featuring small waterfalls at the confluence of the Wood and Spring Creeks on their way to the nearby Dead River. There are three loops of the trail system that will take you "Over the River and Through the Woods" in a variety of terrain and trail types. The Reserve is

a part of our "Forests for the Future" program--an innovative program in which we are utilizing restoration-focused forestry practices and climate science to prepare our communities and forests for the predicted effects of global climate change.

On our trip, we will walk a loop around the reserve, stopping to explore such as the natural spring and the waterfalls, with time built in for flora and fauna observations. We'll discuss the history of the area and share our approach to forest management, land conservation, and the future of the reserve throughout the guided hike. The total length of hike will be about 3 miles.

**Trip Notes:** When you park your car at the reserve, please be cognizant of our neighbors and do not make it difficult for

them to get out of their driveways. Some cars will be able to park in the turnaround and some can park on the North side of Brickyard Road.

Please be prepared for insects. Hiking poles encouraged but not required.

**Difficulty:** 2.5 / 5 For the most part, the trails we will walk are logging roads and therefore generally smooth. Expect diverse terrain, upward and downward slopes. There will be a short (¼ mile) section of moderately difficult, steep foot trail to the waterfalls.

**Restrooms:** Restrooms not available. Entrance to the reserve is close to amenities in town, there is a gas station on Brickyard road about ¼ mile from the trailhead.

**Biography:** See Adina's biography in the description for the Vielmetti-Peters Conservation Reserve trip.

### *Art as a way of knowing.*

(Easy access)

(LIMITED TO 15 PEOPLE)

**Date and Trip Length:** Saturday, July 13th – AFTERNOON HALF-DAY

**Trip Leader:** Judy Kelly

**Trip Description:** In art, using the method of intensely looking at something enables you to create a drawing or a painting of it. Through that experience, you come to feel that you truly understand what you were looking at and it becomes a method of possessing that experience in a unique way. Incorporating this technique, we use drawing as the primary method of practice during the workshop.

Below, I've listed below a few supplies I ask you to bring and if you already have something comparable, please bring them. I am not asking you to go out and purchase all new materials. This workshop is about learning the process rather than having the exact tools. I will bring some extras of the suggested pens, pencils and paper that you can borrow for the day for those who are not able to secure them before the workshop.

I instruct using black & white rather than color. I feel working first in black & white as you learn the processes puts you in more direct contact with the subject being studied. However, if you are already experienced with using color when drawing or painting in nature and want to bring your favorite water colors, color pencils or pastels, please bring them. There will be an opportunity to use them later in the day.

**Trip Notes:** Recommended materials to bring - unlined sketchbook, pencils, eraser, pencil sharpener, black fine-line pen (like a Micron pen), and a black brush pen. All these

materials could be purchased at your local craft store, such as Michael's. A three-legged collapsible stool is recommended if you like to sit as we wander around. If you have any questions about the requested art materials, please email me and I am happy to discuss them further.

**Location:** Senior Pavilion in Presque Isle Park, north of the Northern Michigan University campus.

**Difficulty:** Easy access. Walking short distances on mostly level ground.

**Restrooms:** Nearby in the nature center and main pavilion.

**Biography:** Judy Kelly is a retired community college biology professor. She taught many subjects, including Botany, Microbiology and Environmental Science....and she always

had her students draw. Her artistic journey began in high school when she designed and painted a 4' by 8' mural for the local elementary school. Over the years she has continued to enhance her artistic skills by taking numerous workshops and participating in competitions.

### *Sunday Field Trips*

#### *Birds & Botany at McCormick Wilderness*

**Date and Trip Length:** Sunday July 14 – ALL DAY

**Trip Leaders:** Alex Graeff and Nate Martineau

**Trip Description:** This trip will explore the McCormick Wilderness, one of the finest preserved areas showcasing the features of the Michigamme Highlands – a region of relatively high-elevation granite bedrock in Marquette and Baraga Counties. The McCormick Wilderness was

once owned by the family of Cyrus McCormick, who had a dwelling on the southern shore of White Deer Lake. The family willed the 16,850 acres to the U.S. Forest Service in 1967, and it was later designated wilderness in 1987.

The region contains numerous bedrock outcroppings, with lakes and swamps forming in the depressions in between. We will explore many of the natural communities typical of the Michigamme Highlands, including granite bedrock glade, granite cliff, poor conifer swamp, northern wet meadow, mesic northern forest, and boreal forest. We will see a large number of plants typical of the northern forest, as well as some rarer species special to this region. Botanical highlights will include rarities such as *Moehringia macrophylla*, *Dryopteris fragrans*, and *Dryopteris expansa*.

This area is also well-known as one of Michigan's premier destinations for boreal birding, so participants should feel free to bring along a pair of binoculars for chances to see a number of northern bird species. The outstanding habitats here host an abundance of boreal breeders, including 18 warbler species.



Bog Violet  
Photo by Nate Martineau

The ribbon of spruce-fir forest along the Peshekee River is the real highlight, however, as it is prime for such sought-after birds as Boreal Chickadee, Black-backed Woodpecker, and Canada Jay.

**Trip Notes:** Wear good hiking shoes and be prepared for the potential of some muddy places on the trail. This area is remote with nearest services about 15 miles away. Cell service will likely be unavailable.

**Difficulty:** The hike will exceed 2 miles round trip. Most hiking will occur on a maintained trail with relatively easy terrain, but some will be off-trail to access outcrops and cliffs. Accessing granite bedrock glades and granite cliffs will involve short distances of steep, uneven, and rocky terrain, which could present difficulty for some.

**Restrooms:** There is a vault toilet at the trailhead, available before we begin the trip and when we return to the vehicles.

#### **Biographies:**

Alex Graeff -See bio for Northern natural communities in the Hiawatha National Forest..

Nate Martineau is an undergraduate student studying ecology at Northern Michigan University. He became interested in natural history--especially birds--at a very young age. His fascination with plants began in high school, when he became interested in orchids and ferns. Since then, he has spent much time botanizing throughout the state of Michigan and tracking down rare plants. Although he spends his summers in southern Michigan, he prefers the bogs and forests of the Upper Peninsula: especially in the highlands of Marquette County.

#### **Goose lake forests and rock outcrops (contingent on scouting and access!)**

**Date and Trip Length:** Sunday, July 14th ALL DAY

**Trip Leader:** Tony Reznicek

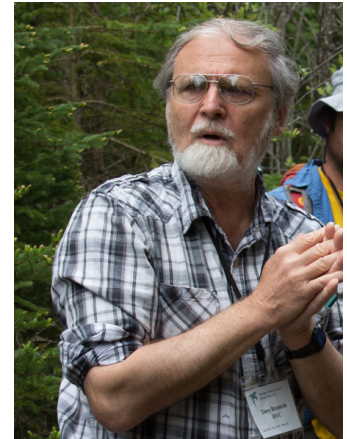
**Trip Description:** The rocks in the Goose Lake area are complex, and unlike many igneous derived rocks, some outcrops are calcareous. This gives the forests some richness, and allows for some limestone loving ferns to occur on the rock outcrops, with different species on shady, mossy outcrops and drier outcrops. While we will be looking a lot at ferns, lycopods, and horsetails – mostly in the shade of the wet to dry northern hardwoods, naturally there will be some graminoids, a few summer blooming woodland species, and a few sun loving species in openings.

**Trip Notes:** A hand lens may be useful; we won't be doing any wading, but make sure you have study footwear appropriate for a good hike, and the odd moist spot.

**Difficulty:** Hiking will be largely along trails and “woods roads,” but there will be some steep sections, a few wet places, and a relatively lengthy walk.

**Restrooms:** bushes – sorry.

**Brief biographical sketch:** I am a curator at the University of Michigan Herbarium and have had long standing interests in Michigan plants, sedges, botanical history, and even ferns, but a special focus on systematics and evolution of the large and complex genus *Carex*. I manage the Michigan Flora Online site. I am also interested in the biogeography of the northeastern North American flora, concentrating, of course, on the Great Lakes region. My primary interests here are plant migration and colonization, the origin and persistence of relict plant species and communities, and rare plant conservation. I conduct numerous workshops on plant identification, especially of sedges – but now that we have a Ferns of Michigan, this field trip seemed appropriate.



Tony Reznicek  
Photo by Lynn Kirkpatrick

#### **Nature Photography**

*See Saturday listing for details and biography.*

#### **Protected Lands at Yellow Dog Watershed Preserve**

**Date and Trip Length:** Sunday, July 14, 2019 – ALL DAY

**Trip Leader:** Scott Namestnik

**Trip Description:** We will visit several sites along the Yellow Dog River to see protected natural communities and natural waterfalls. In the 688-acre Community Forest, we will walk a trail primarily through floodplain forest and mesic northern forest natural communities. Along this short hike we expect to see rocky outcroppings and ferns growing on boulders. Once we reach the waterfall, we will return to our starting point and visit another area where we will walk through a jack pine forest to a riparian community with scattered rocky outcroppings. This hike will lead us into a steep canyon to a waterfall (Pinnacle Falls). Depending on time, we may visit additional natural areas. Expect to eat lunch in a natural setting next to the Yellow Dog River near a waterfall. We likely will not walk more than 1-2 miles total. Birders may be interested in searching for Spruce Grouse, Kirtland's Warbler, and other boreal birds.

**Trip Notes:** A hand lens, camera, and binoculars are suggested. The trails are mostly well-maintained and dry, but there may be spots where your feet could get wet, so shoes or boots for wet/muddy or dry conditions are suggested, keeping in mind that there are some steep slopes on the trail to and from



Pinnacle Falls. Bring insect repellent and drinking water.

**Difficulty:** This trip will be easy hiking overall but will be more difficult at Pinnacle Falls.

**Restrooms:** There are no restrooms at the preserve. The nearest restrooms will be at Perkins Park in Big Bay (there would be a charge to get into the park).

**Biographies:**

Scott Namestnik: see Scott's biography in the description for Aquatic Plants at Harlow Lake field trip.

**Cliffs Shaft Mine Museum and Republic Mine Tours**

**Date and Trip Length:** Sunday, July 14, 2019 – ALL DAY LIMITED TO 15 PEOPLE

**Trip Leader:** Bob Clark assisted by Gary Vidlund (Cliffs Shaft) and Dan Fountain (Republic Mine)

**Trip Description:** Cliffs Shaft Mine Museum is located at the site of a world Class underground iron ore mine that operated for ninety-nine consecutive years in the City of Ishpeming, Michigan. Housed in the former mine "dry" building, the museum exhibits offer glimpses into the history of underground iron ore mining in Michigan's Upper Peninsula, some of which go back in time for 150 years. Also housed in the same building is an excellent collection of UP and world-wide rocks and minerals. A walking tour of the grounds reveals beautiful 1860s vintage stone and mortar buildings constructed by Italian stone masons, Egyptian revival architectural style concrete head frames and a 35 feet tall former 170 ton mining production truck.

Republic Mine is the site of a 1950s vintage taconite iron ore open pit mining, concentrating and pelletizing operation in Republic, Michigan. This tour will include visits to the former mine pit filled with over 600 feet of water and plant site, rock stockpiles and tailings basins, all of which include examples of intentional and volunteer vegetative reclamation efforts.

**Trip Notes:** With the exception of the dry building, the balance of the Cliffs Shaft Mine Museum tour requires navigation of stairs, slightly uneven concrete, a well-lit tunnel and gravel roads. Access to the majority of outdoor exhibits is attainable by automobile.

The Republic Mine Tour requires an approximate 45 min. personal automobile trip to the site followed by a personal automobile tour within the site with some walking on gravel roads and uneven surfaces. The vast majority of the site tour can be accomplished by automobile. As the Republic Mine site is private property, participants will be required to sign a release of liability form and to pay a \$10 fee. Opportunity will be provided to collect local iron ore minerals.

**Difficulty:** See Trip Notes.

**Restrooms:** Cliffs Shaft Museum has two handicap accessible restrooms, while Republic Mine has none.

**An opportunity for restroom use will occur prior to the Republic Mine tour.**

**Biographies:** Bob Clark, Gary Vidlund and Dan Fountain are all retired former employees of the Cleveland-Cliffs Iron Co. Gary Vidlund has underground mining experience and serves as museum mining historian and educator. Dan Fountain has authored books on area gold and silver mines, has extensive area minerology knowledge and is involved in Great Lakes shipwreck location and identification. Bob Clark worked at the Republic, Empire and Tilden iron ore mines and has extensive experience in industrial site environmental management and reclamation.

**Gwinn Outwash:**

See the description for the Gwinn Outwash trip on Saturday.

**Botany at Presque Isle Park**

**Date and Trip Length:** Sunday, July 14th MORNING HALF-DAY

**Trip Leader:** Bev Walters

**Trip Description:** Presque Isle Park is in the city limits of Marquette and is only a short drive from NMU. This is a 323-acre forested peninsula that extends into Lake Superior, with hiking trails offering beautiful vistas. It is well known for its diversity of plants and natural habitats. We'll explore bog communities, mature forests, cliffs of sandstone and outcrops of the Canadian Shield.

**Difficulty:** The trip will mostly follow well groomed trails in the park.

**Restrooms:** At the Nature Center and Main Pavilion.

**Biographies:** Bev has experience as a field botanist both at Ann Arbor Natural Area Preservation and Michigan Natural Features Inventory. She recently retired as Collection Manager at University of Michigan Herbarium where she helped was employed for 20 years. While there she was instrumental in developing the Michigan Flora Online website. She continues to botanize and now has more time to spend gardening, hanging out with her grandchildren and volunteering both at the Herbarium and a local land conservancy. Bev's undergrad work and graduate studies were done at Michigan State



Bev Walters  
Photo by Sheila Bourgoin

University.

### **Michigan Iron Industry Museum**

**Date and Trip Length:** Open daily; 9:30 a.m. to 4:30 p.m.

**Trip Leader:** Self-guided

**Trip Description:** Amid the forested ravines of the Marquette Iron Range, the Michigan Iron Industry Museum overlooks the Carp River and the site of the first iron forge in the Lake Superior region. Through museum exhibits, outdoor interpretive trails and audio visual programs, the museum tells the story of Michigan's iron ranges and the people and communities that made Michigan an industrial leader.

Please allow one to two hours to tour the museum. Attractions include permanent and temporary exhibits, outdoor interpretive paths and a 23-minute high-definition video, Iron Spirits: Life on the Michigan Iron Range.

**Admission is free; donations are encouraged.**

**Trip Notes:** The Michigan Iron Industry Museum is located eight miles west of Marquette. Take Jackson Trace Parkway (not yet shown on map applications) off of U.S. 41, one mile west of Junction M-35; the approximately half-mile-long road leads to the museum.

The museum serves as Trail Head #6 on the Iron Ore Heritage Trail. It is a 47-mile, year-round, multi-use, interpretive trail that crosses the Marquette Iron Range in Michigan's Upper Peninsula. For a map and details about the trail visit: [ironore-heritage.com](http://ironore-heritage.com)

**Difficulty:** Both of the museum's trails are moderate grade and accessible. The Geology and Native American trails are hard packed composite of crushed limestone. The wooden walkway through the treetops behind the museum is handicapped accessible.

**Restrooms:** Modern restrooms and drinking fountain are available.

#### **Biographies:**

Elliot Donnelly Tract/Little Garlic River

**Date and Trip Length:** Sunday, July 13, 2019 AFTERNOON HALF-DAY

**Trip Leader:** Susan Trull

**Trip Description:** We will hike one mile (one way) west from the trailhead/parking area along a spur trail to waterfalls on the Little Garlic River. If time permits, we may also go east for a short distance from the trailhead along the main North Country Trail, which runs along the Little Garlic River and is less frequently used than the spur trail to the falls. We will hike through mainly hardwoods and hemlock forest and see bedrock outcropping at and near the falls. Flora will include typical Upper Peninsula species but no particularly rare plants.

The grade is gentle to moderate, hiking sticks are probably not needed. This is a family and dog-friendly hike.

#### **Trip Notes:**

**Difficulty:** Gentle to moderate 3 mile hike.

**Restrooms:** There are no restrooms at the trailhead. There is a single-use campsite with outhouse partway to the falls.

#### **Biographies:**

Susan Trull is a botanist for the U.S. Forest Service, stationed on the Ottawa National Forest in Ironwood, MI, and previously on the Tongass National Forest in Sitka, Alaska. Sue holds a B.A. in biology from Carleton College and an M.A. in plant ecology from the Univ. of Montana. She has previously led MBC trips at the Houghton foray and Bergland mini-foray and is a regular trip leader for the North Woods Native Plant Society.

### **Wetmore Pond - Boreal Forest and Bog**

**Date and Trip Length:** Sunday, July 14 AFTERNOON HALF-DAY

**Trip Leader:** Bev Walters

**Trip Description:** Wetmore Pond is located on 480 acres of Mead Paper Company property which borders a 2,500 acre tract of State Forest. We will hike an undeveloped trail through old-growth forest and around rugged rock outcroppings seeing a bounty of boreal flora along the way. A pristine bog habitat at the edge of the pond harbors many plants in the Heath Family and orchids.

**Trip Notes:** Be prepared for wet feet

**Difficulty:** Moderate, with uneven footing on the trail, distance less than one mile

**Restrooms:** None.

**Biographies:** See Bev's biography in the description for the "Botany at Presque Isle Park" trip.

### **Chocolay Bayou Nature Preserve**

**Date and Trip Length:** Saturday July 14th AFTERNOON-HALF-DAY

**Trip Leader:** Adina Daar (UPLC) & Dr. Martin Reinhardt (NMU)

**Trip Description:** The Chocolay Bayou Nature Preserve is a perfect example of community-led conservation. The Chocolay River has been a vital component of the system for transporting goods, ideas, nutrients, and people for thousands of years. Join UPLC and Dr. Martin Reinhardt from NMU's Center for Native American Studies as we talk about the history of the Chocolay Bayou and the changes it has seen--what's there now, traditional uses of the plants and river from an Anishinaabe perspective, and how things have changed since the area was

colonized. We teamed up with a class at NMU in the Native American Studies Program to design and install interpretive signage at the preserve, so this is your chance to walk with us and learn in person! The Bayou has three unique sections: the sandy point, the wetland, and the riverbank. The three together tell a story of resilience and diversity in the face of rapid change and serve as an example for our community to move into the future.

**Trip Notes:** The trail will take us along the riverbank with gently rolling slopes, down the bank and across the wetland boardwalk, and out to the sandy point in the middle of the Bayou. We will then walk along the Iron Ore Heritage trail a short distance to observe the mouth of the Chocoy River as it interacts with Lake Superior. The total length of the trip is about 1.5 miles.

**Difficulty:** Easy. One steep slope with a handrail rope.

**Restrooms:** The nearest restrooms are ½ mile away in the Michigan Welcome Center.

**Biography:** Dr Martin Reinhardt is an Anishinaabe Ojibway citizen of the Sault Ste. Marie Tribe of Chippewa Indians from Michigan. He is a tenured professor of Native American Studies at Northern Michigan University, and serves as the president of the Michigan Indian Education Council. He is the lead singer and songwriter for the band *Waawiyeyaa* (The Circle). His current research focuses on revitalizing relationships between humans and Indigenous plants and animals of the Great Lakes Region. He is a former research associate for the Interwest Equity Assistance Center at Colorado State University, and the former vice president for diversity and research for Educational Options, Inc. He has taught courses in American Indian education, tribal law and government, and sociology. He has a Ph.D. in Educational Leadership from the Pennsylvania State University, where his doctoral research focused on Indian education and the law with a special focus on treaty educational provisions. Martin serves as a panelist for the National Indian Education Study Technical Review Panel, as the primary investigator for the Decolonizing Diet Project, and as a co-primary investigator for the Indigenous Women Working Within the Sciences (IWWS) Project which is sponsored by the National Science Foundation. He has also served as Chair of the American Association for Higher Education American Indian/Alaska Native Caucus; Co-Primary Investigator for the Michigan Rural Systemic Initiative (which was also sponsored by the National Science Foundation); and as an external advisor for the National Indian School Board Association. He also holds both a Bachelor's and a Master's degree in Sociology.

Adina Daar - A lifelong learner and ever-curious naturalist, Adina grew up in Florida where love and respect for nature and wildlife were cultivated at a young age. She moved to the Upper Peninsula in 2018 and quickly became involved with

the UPLC as an 'Enthusiastic Supporter' before joining as the Office Manager. Prior to life in the UP, Adina travelled the world as a research consultant helping companies develop and improve many of the products and services we interact with every day. In 2016 she fell in love with the emerging discipline of Biomimicry (which is looking to nature for inspiration for solving big challenges) eventually receiving a degree and professional certification in the area. She brings a wide array of experience to work for the UPLC and is passionate about supporting mindful and future-focused conservation efforts.

### Monday Morning Field Trips

#### Exploring the wooded dunes of Grand Marais

**Date and Trip Length:** Monday July 15 (11am-2pm)  
LIMITED TO 15 PEOPLE

**Trip Leaders:** Steve Baker & Nate Martineau

**Trip Description:** This trip will take us down two trails that travel through northern mesic forest lush with ferns and trilliums, transitioning to drier jack pine habitats and ending in open dune settings. The Grand Sable Dunes are famous for their rich variety of native orchids, which will be the focus of the trip. Over 20 orchid species occur here, many of which will be in bloom on this date. Species we might see include large padleaf orchid (*Platanthera macrophylla*), ragged fringed orchid (*Platanthera lacera*), slender ladies'-tresses (*Spiranthes lacera*), and broad-lipped twayblade (*Neottia convallarioides*). We will also have the opportunity to see several species of moonwort ferns (*Botrychium sp.*), another plant for which these dunes are known.



*Platanthera macrophylla* ragged fringed orchid  
Photo by Nate Martineau

Other plants of interest include state-listed species like lake huron tansy (*Tanacetum bipinnatum huronense*), longstalk starwort (*Stellaria longipes*), and trail plant (*Adenocaulon bicolor*), as well as other uncommon species such as pink pyrola (*Pyrola asarifolia*), meadow horsetail (*Equisetum pratense*), and clasping-leaved twisted-stalk (*Streptopus amplexifolius*).

**Trip Notes:** This trip will meet at the west end of the Sable Falls parking lot just west of Grand Marais on H-58. Allow 2 hours of travel from Marquette in order to arrive here at 11am. Our first hike will leave from the Sable Falls parking lot, while the other will be on the north side of Grand Sable Lake. These hikes will total approximately 2 miles.



**Difficulty:** Be prepared for moderate hiking along rolling trails on loose sand. Some ducking under low branches will be required. Bring decent hiking shoes; a walking stick may also be useful.

**Restrooms:** There is a restroom at the Sable Falls parking lot.

**Biographies:** Steve Baker is a retired veterinarian from Indian River with an interest for all things in nature. Fifty years of birding passion has expanded into botany since seeing Striped Coralroot for the first time. He now enjoys exploring the Mackinac Straits region, mainly for native orchids and ferns, and has never met a bog he didn't love. Other interests include kayaking, hawk watching, photography, hiking, and is looking forward to learning about Tardigrades, (Moss Bears).

See Nate's biography in the Birds & Botany at McCormick Wilderness field trip description.

## Fall Meeting Report

Submitted by Neal Billetdeaux

The Michigan Botanical Club Fall Mini-Foray and State Board Meeting was held at the Eddy Discovery Center in Waterloo State Recreation Area on Saturday, September 29, Huron Valley Chapter hosting. There were approximately 50 or more in attendance on a beautiful Fall day. While the State Board was taking care of business in the morning, Robert Ayotte led a trip focusing on Pleistocene derived landforms and their associated woody plant communities along the Bog Trail and Tony Reznicek led people on an exploration of lycopods of the Waterloo area. After a brown bag lunch in the picnic shelter, we moved indoors where MBC President Garret Crow provided a wonderful recap of the 1975 trip that he and Ed Voss took retracing the route of an 1888 botanical exploration by covered wagon across northern Michigan from West Harrisville on Lake Huron to Frankfort on Lake Michigan. His presentation included images from the original exploration as well as current images of the same locations and was supplemented by newspaper accounts of the expedition. In the afternoon, Robert repeated his woody plant trip and Bill Brodovich led people to an off-trail kettle-hole lake and bog margin.

Many thanks to all who pitched-in: carrying, setting up, bringing refreshments, supplies, table cloths, signage, HVC display board, brochures, greeting, and cleaning up.

Volunteers included: Neal Billetdeaux, Larry and Sarah Nooden, Sheila Bourgoin, Irene and Tim Eiseman, Dana Wright, Lynn Kirkpatrick, Toni and Ken Spears, Julie Caroff, Amanda Klain, Jeff Moore and others. Everyone pitched in so we were quickly set up and cleaned up afterwards.



Kettle-hole lake field trip

Photo by Sheila Bourgoin



President Garrett Crow

Photo by Sheila Bourgoin

The next Fall mini-foray is to be hosted by White Pine. It will be held either October 5 or 12 in the Yankee Springs area.

Watch for the fall Arisaema for updates.

**Recommended Reading and Websites for the Summer Foray****Botany**

*Field Manual of Michigan Flora.* by Edward G. Voss & Anton A. Reznicek. 2012.

*Michigan Flora: Upper Peninsula 2nd Edition.* by Steve W Chadde

*A Field Guide to the Natural Communities of Michigan.* by Joshua G. Cohen, Michael A. Kost, et al. 2014

*Michigan Ferns and Lycophytes: A Guide to Species of the Great Lakes Region.* by Daniel D. Palmer. 2018

*Michigan Shrubs and Vines: A Guide to Species of the Great Lakes Region.* by Burton V. Barnes, Christopher E. Dick, et al. 2016

*Michigan Trees, Revised and Updated: A Guide to the Trees of the Great Lakes Region.* by Burton V. Barnes and Warren H. Wagner Jr. 2004

**Birds**

*A Birder's Guide to Michigan (ABA Birdfinding Guide).* by Allen T. Chartier and Jerry Ziarno. 2010

**Geology**

*Lake Superior Rock Picker's Guide.* by Kevin Gauthier & Bruce Mueller. 2007

*Mining for Michigan: The History of Mining along the Great Lakes and the Upper Peninsula.* by Charles River. 2018

*Great Lakes Rocks: 4 Billion Years of Geologic History in the Great Lakes Region.* 2019. by Stephen E Kesler (Author)

*Geology and Landscape of Michigan's Pictured Rocks National Lakeshore and Vicinity (Great Lakes Books Series).* by William L. Blewett. 2012.

*Roadside Bedrock and Mining Geology of the Upper Peninsula Michigan, United States (Roadside Geology of the Midwest) (Volume 2).* by Steven Donald John Baumann, Elisa J Piispa, Sandra Karen Dylka, Sierra D.R. Martinez. 2015.

*Michigan Rocks & Minerals: A Field Guide to the Great Lake State (Rocks & Minerals Identification Guides)* by Dan R. Lynch and Bob Lynch. 2010

*Geology of Michigan* by John A. Dorr & Donald F. Eschman

**Websites**

Michigan Nature Association <https://www.michigannature.org/>

UP Land Conservancy <http://www.uplandconservancy.org/>

Yellowdog Watershed Preserve <http://www.yellowdogwatershed.org/blog/>

The McCormick Tract <https://www.fs.usda.gov/recarea/ottawa/recarea/?recid=12361>

Hiawatha National Forest <https://www.fs.usda.gov/hiawatha/>

Ottawa National Forest <https://www.fs.usda.gov/ottawa/>

Pictured Rocks National Lakeshore <https://www.nps.gov/piro/index.htm>

Grand Island National Recreation Area <https://www.fs.usda.gov/recarea/hiawatha/recarea/?recid=13270>

By Judy Kelly

### *Isobel Dickinson Memorial Award Recipient*

We are pleased to announce that Anna Bowen is the 2019 recipient of the Isobel Dickinson Memorial Award for best student-authored paper published in the Great Lakes Botanist, Volume 57, 2018. The selected paper was entitled “Vascular Flora and Plant Community Types of the Ott Biological Preserve, Calhoun County, Michigan” by Anna K. M. Bowen and J. Dan Skean, Jr., *The Great Lakes Botanist* 57: 100-149 (3-4), 2018. The paper is based on Anna’s undergraduate Honors Program thesis at Albion College, Albion, MI, where it was supervised by the second author, and Anna was graduated Summa Cum Laude, Phi Beta Kappa in 2013. At Albion, Anna was a biology major and chemistry minor, with an environmental science concentration. She also co-authored a paper on silver nanoparticle uptake by *Brassica rapa*, which was based on a laboratory exercise that she helped develop at Albion [Metz et al., *J. Chem. Educ.*, 2014, 91(2): 264–268.] Anna also was a member of Albion’s symphonic band, and was RecycleMania coordinator for the college. She is currently a Ph.D. candidate in the Department of Ecology, Evolution and Environmental Biology at Miami University in Ohio. We acknowledge the Dickinson Award Committee for evaluation of the student papers and The Michigan Botanical Club for funding this award.

### *MBC and AmazonSmile*

The Michigan Botanical Club, being a 501(c)(3) charity, has established an Amazon Smile account that club members can use when purchasing items from Amazon.com and 0.5% of the purchase price will be donated to the club. The account was activated on February 21, 2019.

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you. When you shop at smile.amazon.com, you’ll find the exact same low prices, vast selection and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to your favorite charitable organization.

To shop at AmazonSmile simply go to smile.amazon.com from the web browser on your computer or mobile device.

AmazonSmile Program Details can be found at [https://smile.amazon.com/gp/chpf/pd/ref=smi\\_se\\_saas\\_lpd\\_spd](https://smile.amazon.com/gp/chpf/pd/ref=smi_se_saas_lpd_spd)

Judy Kelly

### *Members in the Spotlight:*

Toni Spears, Huron Valley Chapter member was honored for her stewardship work by the Huron Clinton Metroparks. Toni and her husband Ken have devoted thousands of hours to removing invasive plants from DNR lands and Metropark s. Toni has also been an advocate for less mowing of prairie

locations at the Metroparks and has kept the HVC informed about Metropark policies and meetings. Here is an article about Toni and Kens’ work: <https://www.metroparks.com/metroparks-volunteers-honored-at-mparks-awards/>



### *State Board Updates*

The state board met at Adrian College in February. Minutes of all board meetings are on the Michigan Botanical Club Website (<https://michbotclub.org/state-board-meeting-archives/>).

Ted Rueschel, the Big Tree Program Coordinator, joined the board with an update of the program. With his numerous volunteers and updated database system the big tree records are being added. A backlog has been cleared and Ted is now working on trees recently submitted for review. There are over 800 trees documented in the database, which is accessible through the MBC website. <http://www.michbotclub.org/registry>

The board met with some members joining via video conference. This technology allows us to include board members who may be traveling during the winter or may not be able to travel to the meetings.

Bylaws Committee Chair Michael Huft guided the board through the committee’s recommendations for changes to the club constitution. We all appreciate the work that was put into this effort. There will be a vote on the amendments to the club constitution at the Foray.



Michigan Botanical Club Summer Foray, July 12–15, 2019  
Northern Michigan University, Marquette, Michigan

Registration Form

Complete this form and submit with payment by June 21. Deadline: June 21  
Each individual attending must complete a separate form. No refunds after June 30.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

CHAPTER: GLC \_\_\_ HVC \_\_\_ SEC \_\_\_ SWC \_\_\_ WPC \_\_\_ OTHER: NONE \_\_\_ FB \_\_\_

I am a full scholarship student from the above chapter \_\_\_\_\_

**REGISTRATION:** The Foray begins Friday evening with a meal and program and concludes with breakfast on Monday morning. Registration fee for the Foray: \$35 \_\_\_\_\_

**LODGING:** The new Woods Residence Hall Complex, <https://www.nmu.edu/housing/new-residence-hall-communities>, has been open less than two years. The layout is suites of two two-person rooms sharing a bath but with in-room sinks. Linens and towels are included.

Indicate your room preference. Prices are per night, per person.

Double Occupancy: \$27 Thu \_\_\_ Fri \_\_\_ Sat \_\_\_ Sun \_\_\_ # of nights x \$27 = \$ \_\_\_\_\_

Name of person sharing room: \_\_\_\_\_

We would like a wall separating the beds (if available) \_\_\_\_\_

Single Occupancy: \$33.25 Thu \_\_\_ Fri \_\_\_ Sat \_\_\_ Sun \_\_\_ # of nights x \$33.25 = \$ \_\_\_\_\_

**MEALS:** Full meal plan (3 dinners, 2 box lunches, 3 breakfasts): \$104

Can't make the Friday dinner? Check this box  and deduct \$15.

If you want meals for just one day the cost is \$38.50. Circle Saturday or Sunday.

Meal cost.....\$ \_\_\_\_\_

Special dietary considerations: \_\_\_\_\_

Total enclosed for registration, lodging, and meals.....\$ \_\_\_\_\_

Make check payable to **Michigan Botanical Club**. Send registration form and payment to:  
Wayne Roussel, Registrar, 31264 93<sup>rd</sup> Ave., Lawton, MI 49065-9481

Questions? Contact Wayne at: [rousselw@outlook.com](mailto:rousselw@outlook.com) or 269-624-6647

Confirmation will be sent by Email.

Health and Safety Declarations which each person over 18 must sign and date (parents are responsible for children under 18): "I assume all responsibility for my health and safety while on the Michigan Botanical Club 2019 Foray."

Signature \_\_\_\_\_ Date \_\_\_\_\_

## Field Trip Registration

Pre-selecting your field trip preferences is part of the Foray Registration. For each day of participation, indicate your 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> choices. Field trip assignments are first come, first assigned, with priority given to current MBC members. Your field trip assignments will be provided when you check in.

NAME \_\_\_\_\_

<b>Saturday, July 13</b>		
	<b>Choice #</b>	<b>Field Trip</b>
All Day		Fen near Shingleton
All Day		Echo Lake Nature Preserve and Braastad Nature Sanctuary
All Day		Waller Research Area
All Day		Lichens and Natural History of Granite Bedrock Glades
Morning		Gwinn Outwash
Morning		Tory's Woods
Morning		Nature Photography (easy access) at Presque Isle Park
Afternoon		Aquatic Plants at Harlow Lake
Afternoon		Vielmetti-Peters Conservation Reserve
Afternoon		Art as a way of knowing (easy access) Presque Isle Park
<b>Sunday, July 14</b>		
All Day		Birds & Botany at McCormick Wilderness
All Day		Goose lake forests and rock outcrops
All Day		Nature Photography on the Lake Superior Shore
All Day		Protected Lands at Yellow Dog Watershed Preserve
All Day		Cliffs Shaft Mine Museum and Republic Mine Tours
Morning		Gwinn Outwash
Morning		Botany at Presque Isle Park
Morning		Michigan Iron Industry Museum, Negaunee (easy access)
Afternoon		Elliot Donnelly Tract/Little Garlic River
Afternoon		Wetmore Pond - Boreal Forest and Bog
Afternoon		Chocolay Bayou Nature Preserve (easy access)
<b>Monday July 15</b>		
Morning		Exploring the wooded dunes of Grand Marais

\_\_\_\_\_ I am willing to help the field trip leader by being a Facilitator on a field trip.