

GRAND TRAVERSE
REGIONAL
LAND
CONSERVANCY

Field Guide

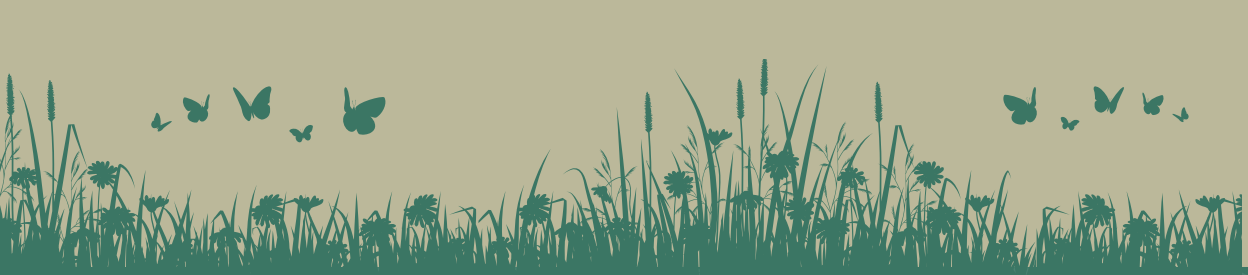
Botany Hot Spots



photo by: David Foote



Love the land. *Pass it on.*



When's the last time you stopped to smell the roses at your favorite GTRLC preserve or natural area? Ok, fine. There aren't many roses out there. But when's the last time you admired the intricacy of a rare Pitcher's Thistle or lost yourself in a breathtaking display of spring wildflowers?

While birds and various other wild things attract a lot of attention, it might be easy to overlook the stunning and expansive botanical diversity at some of your favorite protected lands. Don't! The diversity of plants at some of these places are indeed among their most special conservation values, and going to out to look at and identify these plants can be fun as a solo activity or with friends and family.

WHAT'S FQI?

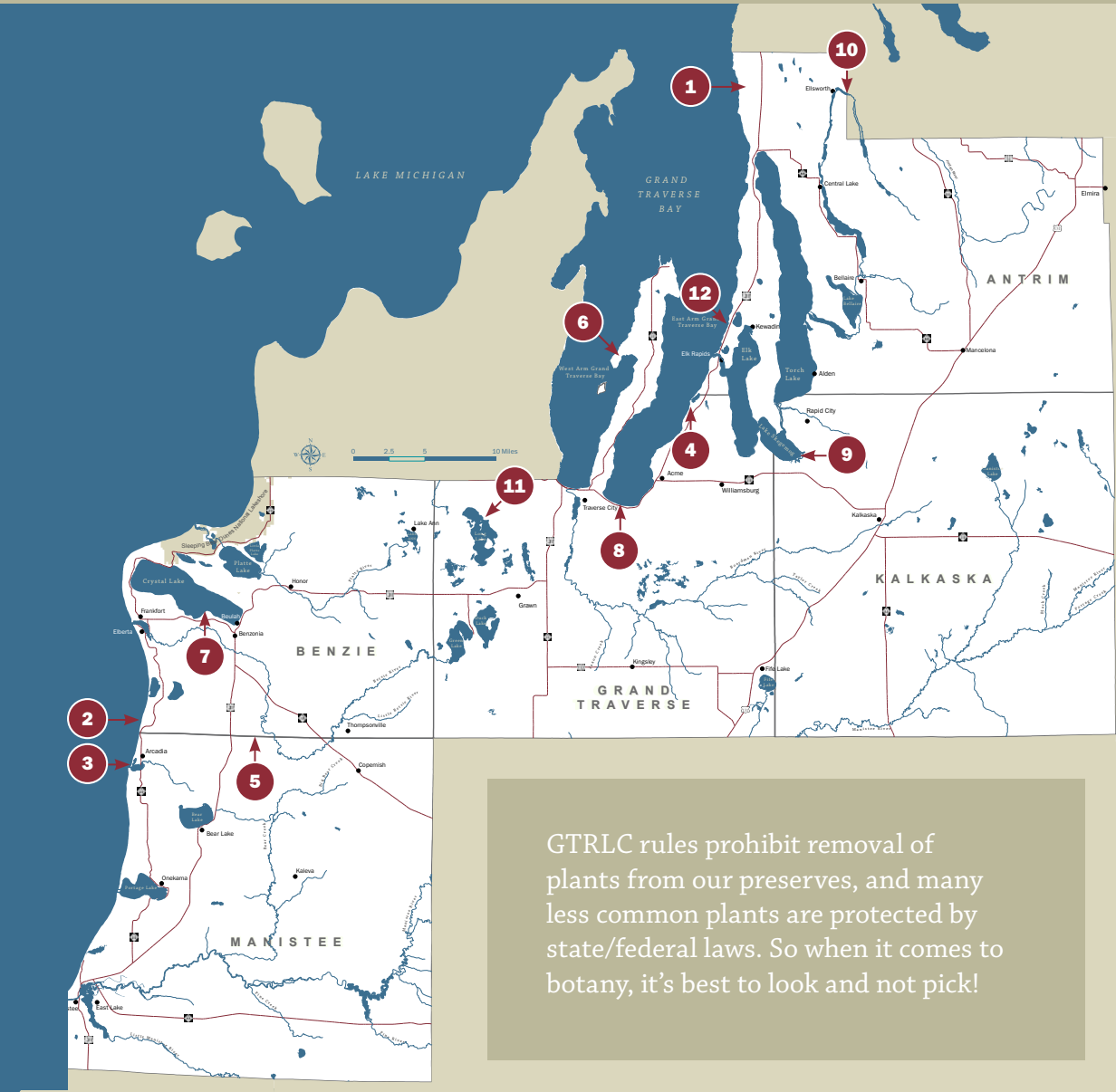
On most properties, you'll see a reference to a Floristic Quality Index (FQI) score. This score, based on detailed botanical inventories, is a way to quantify the rarity and quality of the plants found at a given site, and by extension the quality of the habitat. Every plant in the state has been given a score of 0-10 (0 being a common plant that can grow pretty much anywhere, 10 being a rare plant with extremely specific habitat requirements) from which the score is derived. The scores of individual plants combined with the overall number of species are used to derive a property's overall FQI score. The statewide average score for all sites is 20, with anything greater than 35 being considered significant. An FQI score above 50 (almost all on this list) is considered very rare and extremely significant.

What follows is a list of places known for their botanical diversity, along with some special plants you might find there.



FEATURED PROPERTIES

- | | | | | | | | |
|---|-------------------------------|---|----------------------------|---|-----------------------------|----|------------------------------------|
| 1 | Antrim Creek Natural Area | 4 | Maple Bay Natural Area | 7 | Railroad Point Natural Area | 10 | St Clair Lake-Six Mile Lake |
| 2 | Arcadia Dunes Nature Preserve | 5 | Misty Acres Preserve | 8 | Reffitt Nature Preserve | 11 | Timbers Recreation Area |
| 3 | Arcadia Marsh Nature Preserve | 6 | Pyatt Lake Nature Preserve | 9 | Skegemog Lake Wildlife Area | 12 | Wilcox-Palmer-Shah Nature Preserve |



GTRLC rules prohibit removal of plants from our preserves, and many less common plants are protected by state/federal laws. So when it comes to botany, it's best to look and not pick!



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1 ANTRIM CREEK NATURAL AREA

Location: Antrim County

Size: 156 acres

Habitats: Dune, coastal forest

FQI: N/A

Number of Species: N/A

Focal Species: Pitcher's Thistle



Pitcher's Thistle



Protected by GTRLC in 1993, the Antrim Creek Natural Area is comprised of an incredible array of landscapes including hardwood forest, forested wetland, conifer swamp, shrub thicket, wet meadow, coastal dune and a portion of its namesake creek as it enters into Lake Michigan. The ancient glacial lake shoreline is still visible from the top of the trail loop where the ridge overlooks the forested treetops below.

While this habitat diversity means there's no shortage of plants to see here, this is one spot where you should definitely take a look for Pitcher's Thistle, a federally protected plant endemic (which means it is found nowhere else in the world) to the shorelines of the Great Lakes region. This plant only blooms once, at up to eight years old, then dies. This thistle is pollinated by a wide array of insects including many species of native honeybees who can be seen hovering around the lightly fragrant flowers. The flowers are a light pink color, and quite large.

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ARCADIA DUNES: THE C.S. MOTT PRESERVE

Abby's Woods and Pete's Woods

Location: Benzie and Manistee Counties

Size: 3,600 acres

Habitats: Northern mesic forest

FQI: 70

Number of Species: 288

Focal Species: Wildflowers and other spring ephemerals



Large-Flowered Bellwort

If you've been associated with GTRLC even casually over the years, you've probably heard about Volunteer Preserve Steward Paula Dreeszen's seemingly world-famous wildflower hikes at Arcadia Dunes. This is because Paula is wonderful, of course, but it's also because this place is known for its truly jaw-dropping displays of spring wildflowers in the forests in May, and a less dense but equally beautiful display of dune wildflowers well into the summer.

If you can only come one time of year, come in the spring for the show stopping displays of wildflowers that complete their life cycle before the maples even fully leaf out. Pete's Woods is a relatively untouched forest (some sections not being logged for more than a century) and is considered secondary old-growth, a very rare habitat in our region. This makes the wildflower displays here very diverse and all the more appreciated by those who soak up their beauty.

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ARCADIA MARSH NATURE PRESERVE

Location: Manistee County

Size: 273 acres

Habitats: Great Lakes coastal marsh

FQI: 44

Number of Species: 200

Focal Species: Tussock Sedge

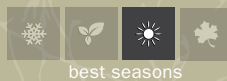


photo by: David Foote

Tussock Sedge



photo by: Angie Lucas

At Arcadia Marsh, the Great Lakes coastal marsh habitat is extremely rare and highly variable, largely because of fluctuating Lake Michigan water levels. One species that is well adapted to these fluctuations is Tussock Sedge. This large native sedge species, which can at first glance look like a grass, is an important marsh plant that builds itself into tall hummocks of organic material over the years. As it does this, it forms structure for many species of plants and animals. Because of this it is considered an “ecosystem engineer” as it designs or influences the plant communities and associated fauna around it.

The tall hummocks it creates, sometimes 3 feet high, can withstand flooding to a certain point and are a refuge for important insects. These hummocks in turn become feeding areas for many species of secretive marsh birds like rails, wrens, bitterns and others as they forage for the insects by picking them out of their hummock hideaways.

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4 MAPLE BAY NATURAL AREA

Location: Grand Traverse County

Size: 452 acres

Habitats: Dune, coastal forest

FQI: 58

Number of Species: 244

Focal Species: Lake Huron Tansy, Kalm's St. Johnswort, Shrubby Cinquefoil



Lake Huron Tansy



Relatively few areas of Grand Traverse County offer a natural shoreline along with high-quality natural communities like those found at the Maple Bay Natural Area. This natural area is an important component of ecosystem diversity as well as a very popular place to relax and enjoy the splendor of Grand Traverse Bay.

In addition to being another spot where you can find the previously described Pitcher's Thistle, Maple Bay is a known location of the uncommon Lake Huron Tansy, a state-threatened plant species that only grows along Great Lakes dune and beach habitats. It blooms in July or August with bright yellow-orange button flowers.

Other late summer bloomers at Maple Bay and Petobego include two unique native shrubs — Kalm's St. Johnswort and Shrubby Cinquefoil. These beautiful native shrubs have bright yellow flowers and are adapted to grow in the interdunal wetlands and sandy habitats along the shoreline. They are also excellent nectar sources for many native pollinator species.

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MISTY ACRES: THE BORWELL PRESERVE

Location: Benzie and Manistee Counties

Size: 627 acres

Habitats: Mesic northern forest, riverine, vernal pool

FQI: 61

Number of Species: 219

Focal Species: Ferns

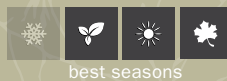


photo by: Angie Lucas

Oak Fern

photo by: Charles Peirce

Misty Acres and the associated Helstrom Quiet Area are woodland gems situated along the banks of a significant stretch of the Betsie River. It's a short but gorgeous hike here, overlooking steep ravines that lead down into feeder creeks and the river itself. In the spring, vernal pools – small, seasonal ponds that dry up by mid-year – play host to frogs, salamanders and many types of insects.

Along the shores of these pools, and indeed throughout the entirety of Misty Acres, one can find a variety of beautiful fern species covering the forest floor. Take the time to stop and study these unique plants, including the complex collection of sori – spore producing structures – on the underside of each leaf or on separate fertile fronds. Of particular interest here are the Rattlesnake Fern, Evergreen Woodfern, Clinton's Woodfern and Oak Fern.

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PYATT LAKE: THE BILL CARLS PRESERVE

Location: Grand Traverse County

Size: 159 acres

Habitats: Wooded dune and swale, wetland, forest

FQI: 68

Number of Species: 270

Focal Species: Swamp or Whorled Loosestrife, various water lilies



Swamp Loosestrife



GTRLC's first nature preserve is a little slice of heaven. Want diversity? This is your place. It was previously identified by Grand Traverse County as one of the most botanically diverse properties in all of the county, largely because of the high quality undisturbed habitat found here.

Pyatt Lake, included entirely within the preserve, is composed of submergent marsh and emergent marsh communities that are visible from an observation deck. The shallow depth of the lake enables the submergent marsh community to be contiguous throughout Pyatt Lake. The dominant cover species is the Yellow Pond Lily, with significant populations of White Water Lily interspersed throughout. Also of note is the fact that the submerged plants here include two carnivorous species: Common Bladderwort and Flat-Leaved Bladderwort.

The dominant species along the edge of the emergent marsh community is a unique and noticeable plant called Swamp or Whorled Loosestrife. This summer bloomer has distinctive arching stems that float on the water with leafy tips and has glowing purple-pinkish flowers in whorls. This native plant also benefits many species of pollinators including bumblebees, honeybees, butterflies and other insects.

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7 RAILROAD POINT NATURAL AREA

Location: Benzie County

Size: 207 acres

Habitats: Mesic northern forest

FQI: 48

Number of Species: 193

Focal Species: Trillium



Trillium



No discussion or guide of flora in our region would be complete without mention of the Common Trillium, an iconic native spring plant species throughout our region. Railroad Point is one of several spots (the woodlands at Arcadia Dunes are also a sure bet) to see these striking flowers. Walk the beloved Mary Margaret Johnson trail and look for them in the spring.

There are 10 species of trilliums in the state. Many are very rare and all are protected. Besides its intrinsic beauty, Common Trillium is interesting as it exemplifies many connections in nature we tend to overlook. Although not unique to trilliums, they are a species that changes color after pollination to let pollinators (mostly bees, but many other insects as well) know their state. When the flower turns pink, it lets insect pollinators know to move along to the next flower so that they don't waste precious time visiting that flower.

Additionally, its seeds have a pocket of nutrients (known as an eliasome) attached that act as a reward for ant species to carry back to their nests. Once the ants are done eating, they toss it out as their garbage, which helps sow the seed in a new location for the trillium. These eliasome or "ant-treats" are one of the many traits that contribute to this plant's ability to carpet large areas of northern forests.

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REFFITT (GEORGE AND ADA) PRESERVE

Location: Grand Traverse County

Size: 106 acres

Habitats: Wooded dune and swale, wetland

FQI: 59

Number of Species: 264

Focal Species: Trailing Arbutus



Trailing Arbutus



Located in the Mitchell Creek watershed just outside of the Traverse City limits, this “urban” preserve offers a quiet respite for those not looking to travel far for nature’s splendor. It is a remnant of a much larger dune and swale complex that once stretched all along the southern edge of East Grand Traverse Bay and in other areas, including Old Mission Peninsula.

The critical wetlands protected at Reffitt are full of biodiversity and are interspersed with dry dune ridges that are home to unique plant species that require acidic soils of pine forests. Trailing Arbutus, an uncommon plant, is a low sprawling vine with a very fragrant flower that is visible in the spring months. Its fragrant flowers grow in dense clusters that are often nearly hidden on the ground beneath the leaves of this and other plants. They open early in the spring, with some lingering until June.

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SKEGEMOG LAKE WILDLIFE AREA

Location: Kalkaska County

Size: 3,300 acres

Habitats: Various wetlands — bogs, swamps

FQI: 59

Number of Species: 172

Focal Species: Tamarack



best seasons



photo by: Angie Lucas

Tamarack



photo by: Kim Stringer

One of the largest protected lands in northern Michigan is the Skegemog Lake Wildlife Area, owned by the State of Michigan and managed by GTRLC. This wetland complex has long been known as a statewide gem from a biodiversity standpoint and is home to a wide abundance of plant and animal species. If you visit this unique property during the fall, you can see tamaracks light up in their brilliant golden color. Tamarack is known as the only deciduous (loses its leaves in winter) conifer native to Michigan, so it sheds its needles along with maples, oaks and other hardwoods.

As they fall to the ground, the acidic needles decompose and create an acidic soil environment that prohibits competition from surrounding plants and creates an environment conducive to the growth of future tamarack seedlings. This contributes to dense stands of this unique and beautiful tree.

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ST. CLAIR LAKE - SIX MILE LAKE PRESERVE

Location: Antrim and Charlevoix Counties

Size: 255 acres

Habitats: Riverine, forested wetlands, shrub swamps, marsh

FQI: 47

Number of Species: 228

Focal Species: Buttonbush and Cardinal Flower (both hummingbird plants)



photo by: Dana Vannoy

Cardinal Flower



photo by: Angie Lucas

This nature preserve is the result of a grassroots land protection effort and is immensely treasured by locals, and for good reason. It encompasses much of the Sinclair River and St. Clair Creek (themselves between the two bodies of water the preserve is named for), which are part of a much larger and critically important watershed known as the Chain of Lakes.

The new Mary Behrens Sorrell trail here meanders through a northern shrub swamp and offers up-close viewing of many beautiful native wetland plants, offering just a snippet of the amazing floristic diversity of wetlands within our region. In addition to shrubs like Winterberry, Dogwood, Tag Alder, Swamp Rose and herbaceous species like Joe Pye-Weed, Swamp Milkweed, SCL-SML also is a great place to view Buttonbush and Cardinal Flower. The former has fragrant white globe-shaped flowers visible in mid-summer, and the latter has a striking red flower and is particularly associated with hummingbirds.

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Location: Grand Traverse County**Size:** 250 acres**Habitats:** Mesic northern forest, open field, wetlands**FQI:** 41**Number of Species:** 167**Focal Species:** Cinnamon Fern

best seasons

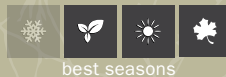


Cinnamon Fern

Everyone loves this popular and diverse recreation area located in Grand Traverse County's Long Lake Township. Did you know that Long Lake, and by extension all of Timbers, is within the Platte River watershed? Fern Lake, contained entirely within Timbers, is the upstream limit of this watershed.

Speaking of ferns, many fern species thrive along the shores of the lake named for them. One such species is the striking Cinnamon Fern. Science tells us that this very ancient fern has been around in its current form for about 180 million years, making it one of the oldest species in our region. It likes to grow in high quality natural habitats and prefers more acidic wetlands like bogs and swamps. The unique cinnamon colored fertile frond, which arises from the center of a vase-like arrangement of leafy fronds, is how this plant gets its name.

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Location: Antrim County**Size:** 41 acres**Habitats:** Beach, coastal forest**FQI:** 57**Number of Species:** 205**Focal Species:** Beach or Marram Grass*Marram Grass*

The primary reason for the original donation of this preserve to the Michigan chapter of the Nature Conservancy (it was later transferred to GTRLC) was to protect the high quality Lake Michigan shoreline habitat found here. That protection has meant ongoing excellent habitat for a variety of plant and animal species.

Lake Huron Tansy and Pitcher's Thistle can both be found in this undisturbed habitat, but this is also a great spot to thoroughly study another species of note. Marram Grass (Marram, interestingly, is an old Norse word for sea grass) is a hardy native plant that thrives on sandy shorelines and is critical for preventing erosion on wind-swept landscapes. It is widely regarded as the most crucial species for initial dune stabilization is sometimes called an "ecosystem engineer," as it is usually the first to colonize open sandy areas and can tolerate being buried by sand.

This grass grows in large colonies and is uniquely suited to survival on sand dunes as it spreads by a series of long roots which grow vertically and horizontally. It is only found in habitats with actively moving sand and actually grows better when periodically buried by a layer of sand.

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*Protecting significant natural, scenic and farm lands, and advancing stewardship —
now and for future generations.*

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